TCPM

TRACKING THE CREATIVE PROCESS IN MUSIC

Fourth Edition

University of Huddersfield

September 14-16, 2017

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Inspiring tomorrow's professionals

CeReNeM

Welcome to Huddersfield for the fourth edition of the *Tracking the Creative Process in Music* conference. Following TCPM events in Lille (2011), Montreal (2013), and Paris (2015), we are delighted to host the 2017 conference in Yorkshire. The issue of Creative Process continues to grow in significance and we are pleased that at this conference the range of musics and musical activities represented continues to expand.

Huddersfield has a long-standing reputation as a music department which places creative practice alongside theoretical study. It is, for example, home to the Huddersfield Contemporary Music Festival (hcmf), this year celebrating its 40th anniversary as one of the world's leading festivals of new music. The department is also home for the Centre for Research in New Music (CeReNeM), a leading centre for contemporary music studies, which is co-sponsoring this conference. Performance is another strength of the department, as is early music and our evening workshops reflect some of the research going on here in contemporary music, organology, performance and early music, investigating creative practice in these areas.

We are delighted to welcome as keynote speakers Dr Laudan Nooshin (City, University of London), whose areas of research include creative processes in Iranian music, music and youth culture in Iran, music and gender, neo/post-colonialism and Orientalism, and music in Iranian cinema; and Professor Gianmario Borio (Università di Pavia and Institute of Music of the Giorgio Cini Foundation), who is a leading authority in 20th century music composition, music theory, and aesthetics.

On the final afternoon of the conference we travel to the Yorkshire Sculpture Park for our final paper sessions, as well as providing an opportunity to visit the park and see outcomes of creative practice in the visual arts. Those who have booked will remain there for the conference banquet in the evening. We hope you will find the conference programme stimulating and thought provoking, helping to forge links between the practical and the theoretical, the aural and the visual. We wish you an enjoyable stay in Huddersfield.

Michael Clarke, Nicolas Donin, Frédéric Dufeu

About the TCPM conference

The TCPM international conference brings together researchers interested in artistic creativity and the study of processes of musical and sound creation of the past and present. Researchers working on this cluster of problems from a wide variety of disciplines (history, music analysis, psychology, philosophy, cognitive science, sociology, ethnomusicology, anthropology, dance, theatre, film, amongst others) are invited to assess the different methodologies developed in the last thirty years in their respective areas from an interdisciplinary perspective. Each approach contributes in its own way to the advancement of our understanding of the procedures, techniques, knowledge and know-how employed by musicians involved in creative projects.

Following the epistemological paradigm shifts that musicology underwent at the end of the last century, the notion of 'creative process' has been enriched. Sketch studies have extended their scope beyond notated works of art music. Today this field includes all contemporary musical repertories as well as the oral, technological and collaborative dimensions of the creative process in music. There is growing interest, for example, in the function of improvisation and of gesture in the creative process, in the collective and collaborative dimensions of artistic work, in the redefinition of the roles of the composer and the performer, or in the art of studio production and in the strategies of documentation, transmission and future performance of works involving technology. The complexity and the multidimensionality of this field of study require new analytical tools and new research methods at the crossroads of analytical musicology, the social science and humanities and other academic disciplines.

This broadening of the field also provides a new context for the study of works and composers from the Western musical canon. Whether based on historical archives or on the collection of empirical data, studies of the creative process in music share many of the same methodological requirements, descriptive vocabulary and models of creative action. This conference therefore aims to be a forum in which the most recent findings from a broad range of research agendas can be presented, discussed, and assembled.

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The organising committee wishes to thank the volunteer team
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Contents

Keynote Lectures

The Elephant and the Blind Men: Myth-Making, Musical Tracking and the Creative Process

Laudan Nooshin
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In the ancient parable of the elephant and the blind men, each man attempts to describe the elephant through feeling a different part of its body - the smooth tusk, the long trunk, the rough skin, and so on – and each reaches a very different understanding of the nature of the animal. Tracking creative processes in music often feels rather like this: each of the methodologies commonly used by scholars working in the various branches of music studies – whether ethnographic, analytical, psychological, and so on – touches on and seems to reveal quite different things about the creative process. In this keynote, I explore some of the themes and issues that have arisen within ethnomusicological studies of musical creativity, through the prism of my own work on Iranian classical music, a tradition in which the performer plays a central creative role and which is therefore usually described as 'improvised'. I will consider some of the myth-making that surrounds musical creativity in this tradition - and the purpose that such myths serve - as well as exploring the ways in which younger musicians are developing new discursive frameworks for their creative practice. Ultimately, I'm interested in the methodological challenges in bringing together the different parts of the elephant in order to describe and understand creative processes in music more holistically.

Laudan Nooshin

Laudan Nooshin is Reader in Music and Head of the Music Department at City, University London, UK. Her research interests include creative processes in Iranian music; music and youth culture in Iran; music and gender; neo/post-colonialism and Orientalism; and music in Iranian cinema. Recent publications include the monograph, *Iranian Classical Music: The Discourses and Practice of Creativity* (2015, Ashgate), and two edited volumes: *Music and the Play of Power in the Middle East, North Africa and Central Asia* (ed. 2009, Ashgate) and *The Ethnomusicology of Western Art Music* (ed. 2013, Routledge). Between 2007 and 2011, Laudan was co-Editor of the journal *Ethnomusicology Forum.* She is currently a member of the Royal Musical Association Council and on the advisory board of the Institute of Musical Research.

The 'Serial Generation': Compositional Process and Theoretical Discourse

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A comparative reading of the studies of the creative process accomplished since the 1990s in different archives highlights an operational approach common to a large number of composers born in the 1920s. This can be observed on many levels: in the consensus on the main issues of compositional technique; in their identification within a long-range historical processes; in the shared terminology and cultural environment; in certain working methods and sometimes even in the reciprocal influence. The commonalities in the creative behaviour and aesthetic goals allows us to speak of a "serial generation", opening a different perspective on events and works composed during the 1950s and 1960s. The tangencies emerging from a comparative investigation of primary sources help focus on certain questions which can be considered as the kernel of the historical process. In my lecture I will outline some of these questions, discussing manuscripts and sketches by Luciano Berio, Jean Barraqué, Pierre Boulez, György Ligeti, Bruno Maderna, Luigi Nono and Henri Pousseur.

Gianmario Borio

Gianmario Borio is Professor of Musicology at the Università di Pavia and director of the Institute of Music at the Fondazione Giorgio Cini (Venice). In 1999 he was awarded the Dent Medal by the Royal Musical Association. He has been visiting professor at various institutions in Europe, Canada and the USA. In 2013, he was Distinguished Visiting Professor at The Italian Academy for Advanced Studies in America. His publications deal with several aspects of composition in the 20th Century, music theory and aesthetics.

Talks and Workshops

Session 1A
Writing and reporting the creative process

"In the beginning, there was nothing…": Genesis and creation myths

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In the beginning, there was nothing. Then there was not light, but sound: "I stepped into the rowing boat, and at this moment my mind began to work; everything I thought, saw and felt was doing 'ta – tatata – tatata'." This is how Gustav Mahler described the birth of his Seventh Symphony to the writer William Ritter: according to this narrative, a whole symphony in five movements grew out of this original rhythm, which is first heard at the very outset of the work. In a similar way, Richard Wagner tells us in his autobiography that he conceived the beginning of *Das Rheingold* while dozing on his couch, dreaming that he was drowning in E flat. In both cases, an initial watery chaos is shaken by a unifying sound, which triggers the creative process and gives birth to a new world *ex nihilo*.

Mahler and Wagner both claim that their compositional process was stimulated by a blinding inspiration for the beginning of their works – in other words, that they began composing at the *actual* beginning of the work. Of course, these autofictions do not always correspond to the conclusions that can be drawn from other evidence, such as sketches and drafts.

Other examples of such compositional narratives abound, particularly in the nineteenth century. So which function can they have in a genetic reconstruction? Should we treat them as "lies" meant to manipulate the biographies of the works, in order to show both the composer and his output in a more coherent light (Walton 2014)? From this perspective, sketch studies might appear to be more reliable than these autofictions, granting us access to a "truth" or "authenticity" that composers' words would not possess (Zychowicz 2009, Kinderman 2013).

However, while compositional narratives do not necessarily help us write the chronological history of the creative process, they still emphasize something that was significant for the composer; a "trigger moment" that allowed the work to progress. Even though Mahler had already composed two movements of the Seventh before stepping on the boat, in his narrative he insisted that this particular moment – when chaos took the shape of a rhythm – gave him the impulse he needed to complete the symphony.

Far from suggesting that we should take these narratives at face value, I propose to reevaluate their place within genetic reconstructions. As autobiographical reinterpretations, these words belong to the genetic history, just as the reception of

a work cannot be easily disentangled from its "content." The main function of these autofictions might be fully grasped by comparing them to creation myths: they do not aim to describe a creative act in chronological terms but rather to establish the cosmogony of the work. Just as creation myths explain the present state of the world by narrating its birth (von Franz 1972), these compositional narratives can be seen as foundational myths supposed to justify the "order" of the work, offering us a unique insight into the composer's inner world.

Anna Stoll Knecht

Anna Stoll Knecht is a British Academy postdoctoral fellow at the University of Oxford (Jesus College), engaged in research on Mahler's interpretation of Wagner, both as a conductor and as a composer. Her publications include a forthcoming monograph on Mahler's Seventh Symphony (Oxford University Press, *Studies in Musical Genesis, Structure & Interpretation*); book chapters in *Rethinking Mahler* (ed. Jeremy Barham, Oxford University Press, 2017); *Texts and Beyond: The Process of Music Composition from the 19th to the 20th century (*ed. Jonathan Goldman, Ad Parnassum Studies 8, 2016); *Naturlauf: Scholarly Journeys Toward Gustav Mahler. Essays in Honour of Henry-Louis de La Grange for His Ninetieth Birthday (*ed. Paul-André Bempéchat, Peter Lang, 2016); and a study of Henri Dutilleux's *Métaboles* (*Annales Suisses de Musicologie*, 2006).

Writing and its Various Contexts in the Creative Process

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There is no disagreement that forms of explicit knowledge and forms of tacit knowing are interrelated. However, the contexts of artistic activities vary and the kinds of relations between different forms of knowledge are volatile, ambiguous and contested among different theorists. I will address this topic by focusing on the multiple varieties of writing during the creative process. (Please note that by "writing" I do not mean just the genuine creation of a musical score but also other activities internally related to the creative process.)

My presentation is based on the results of an extensive research project on composing practices in contemporary art music (see also http://www.mdw.ac.at/ims/ kompositionsprozesse). In this empirical qualitative study my team conducted five case studies to document composition processes *in actu*, that is to say from the beginning of the work up until the last rehearsal before the first public performance. The data set includes diaries, sketches, interviews, photos and in some cases observation protocols and videos of rehearsals. Additionally, we carried out one-off interviews with another 23 composers (11 women, 12 men). The coding and analysis of the empirical data was done according to Grounded Theory.

Although my research data is qualitative and not at all representative, I assume that the majority of western composers do some writing – not only in musical notation

systems but also in their ordinary language. This is not surprising, since they are deeply anchored in a literary culture. Thus a broad range of discursive and reflective practices – such as reading, noting something down, verbalizing and reformulating, recounting and discussing – are integral parts of contemporary composing practices. A closer look at the writing circumstances – what (content) composers write, as well as when (time and site), how (style but also materials used), and for whom (purpose, rhetorical strategies) – gives a quite differentiated picture of the function and direction of writing activities. For instance, composers may aim to

- stimulate their creative process and therefore sketch out or design ideas that may support inspiration: the *generative* function of writing;

- elaborate their ideas and use writing to try things out: the *experimental and elaborative* purpose of writing;

- express ideas about the artwork, for instance for the public: the *communicative* purpose of writing.

Additionally, since composers use different symbolic systems (e.g. ordinary language, musical notation, mathematical signs), different materials (e.g. various sorts of paper, writing tools, colours) and finally different practical accomplishments (writing by hand or on a computer), the writing processes vary. This may sound self-evident and therefore somehow trivial, but it is not, because the cognitive outcomes have a practical significance. Arguing on the basis of the practice theory I will elaborate the dynamic nexuses between cognitive tools, writing materials and the engagement of the composer's body in the process of writing.

Tasos Zembylas

Tasos Zembylas holds a PhD in Philosophy and since 2003 has been Professor for Cultural Institutions Studies at the Vienna University of Music and Performing Arts. His research specializations lie in the sociology of artistic practices, the institutional analysis of art worlds, and public funding of the arts. Recent publications: Zembylas, T. (ed.) 2014. Artistic Practices: Social Interactions and Cultural Dynamics. London: Routledge; Zembylas, T. and Niederauer, M. 2017. Composing Processes and Artistic Agency: Tacit Knowledge in Composing. London: Routledge.

What about the Muse? An investigation of composers' reported experiences of influences beyond their conscious control

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Drawing on composers' descriptions of their creative processes, this study aims to identify and describe those aspects composers feel they do not consciously control, and then look at the interrelationships of those experiences with aspects that they felt were under their conscious control.

Within all major theories and models of the creative process there is an element of the unknown. Researchers have described cycles of exploration and working out (Ward, Finke & Smith; Mace & Ward), illumination stages (Wallas, Sawyer), pervasive inspiration (Harvey), flow (Csikszentmihalyi), peak experience (Maslow), the Other (McGilchrist), cross-era collaboration (John-Steiner) and the spiritual/liminal (Boyce-Tillman).

Descriptions and explanations of the composition process have often neglected these issues, giving more attention to conscious problem-solving processes. Perhaps due to concerns about inhibiting the creative process or inaccurate reporting by artists, only a handful of studies (e.g., Collins) have investigated real-time creative processes in music composition by expert composers. Composition tasks set by researchers are unlikely to engage a need for inspiration, nor are they likely to be complex enough for the composer to engage in the intricacies of real-life commissions.

Even though notated art music composition processes are not yet well-understood, in recent years, such studies have been somewhat sidelined as research has embraced the inclusion of the many other ways of making music. Yet, the lengthy process of taking ideas through to notated, communicable forms offers this study an advantage over orate and improvised traditions in that discriminations between conscious and less-conscious control are potentially more discernible.

The study has two components: 1) a review of contemporary composers' retrospective accounts and generalized descriptions of their creative processes and 2) an autoethnographical study of author's compositional process. Composers' accounts revealed experiences ranging from unexpected coincidences to divine inspiration. Autoethnographical data included written reflections after composing sessions followed by further reflections after completion of the work through reviewing sketches, drafts and the first reflections. The autoethnography offers an additional body of less tangible information with which to interpret the experience of creating new work–experiences which, since they are exploring the new, may not be easily conveyed right away.

The inductive analysis process involved repeated readings of creative process accounts for common and salient themes. In an exploratory study of creative processes, outliers may be as important as common themes to indicate directions for further research.

The analysis suggests that the experience of 'otherness' may facilitate some composers' creative processes by reducing self-criticism, encouraging openness and persistence, and shifting from needing to prove oneself to serving others – the performers, audience or inspirer (which may increase commitment to perfection).

This paper reports on the second of two pilot autoethnographic studies, trialing an approach to understanding composers' creative processes. Further research could include a larger sample of composers who identify at different places along the 'conscious control'—'conduit of the muse' continuum. With better understandings of the process we should be better able to support learning composers who experience 'otherness' in their creative process.

Karlin Love

Karlin Love is a free-lance performer, composer, and teacher. Her research work includes University of Queensland studies of musicians' professional development and independent investigations of composition and creative practice. Her BMus (clarinet) from the University of Washington included composition study with William O. Smith and Kenneth Benshoof; her M.A. (hons) (University of Wollongong) developed scoring analysis strategies, and her PhD from The University of Queensland, supervised by Margaret Barrett and Robert Davidson, investigated advanced composer development. In 1989 Karlin commenced teaching woodwinds, theory, composition and improvisation at the University of Tasmania in Launceston, Australia, until 1997. She is a represented composer at the Australian Music Centre. Her works have been played in Australia, Europe, China and the USA by student, amateur, and professional performers. Her music has been recorded by Clarity quartet, University of Tasmania Wind Orchestra, The Chordwainers, and broadcast on ABC and local radio.

Session 1B
Cognition

Roles, works and reflexivity: reproducing and reconfiguring creativity in Western art music

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This paper presents the results of a study of the creative processes surrounding two recent multi-person collaborative projects, both of which combine Baroque music with new compositions. The first project, Voyage to the Moon, is a contemporary pasticcio opera, which toured throughout Australia in early 2016. The second project, Pleasure Garden, is an outdoor sound installation inspired by 17th century composer and musician Jacob van Eyck, which was premiered in the colonial era garden of Vaucluse House, Sydney, in January 2016.

The paper draws on ethnographic work in a range of settings, including the *Voyage to the Moon* rehearsals, workshops and performances; the installation of *Pleasure Garden* in outdoor and concert spaces, and the mixing of the associated CD; as well as interviews with the creative teams. Through sketches of key moments in their respective creative processes, we examine how these projects engaged in both the reproduction and destabilisation of conventional attitudes towards creativity in Western art music culture. They were, we suggest, firmly embedded within and constrained by particular cultural norms and institutional settings, yet can also usefully illustrate widespread tensions at stake in Western art music culture, which they, in some cases, actively sought to reconfigure from the inside. In *Voyage to the Moon*, for example, the creative team's re-engagement with the pasticcio genre – combining pre-existing arias by multiple Baroque composers with newly-written recitatives – entailed the renegotiation of roles usually imagined as fixed (such as composer, librettist and performer) and provoked a flexible attitude towards past musical works which departed from typical understandings of *werktreue*. In *Pleasure Garden*, a similar fluidity regarding roles and the "work" was compounded by the installation's interactive elements, which, in responding sonically to the audience's movements, were intended also to reframe listeners as active participants in the creative process and to reimagine the "work" itself as processual rather than fixed.

Beyond tracing these aspects of the creative processes underlying both projects, we also discuss what we see as a crucial and often overlooked reflexive dimension of musical creativity, namely the ways in which musicians deploy or respond to ideas about the creative process in order to achieve particular artistic, social and cultural ends. We consider how musicians instrumentalise particular models of "creativity" as a resource for their own creative negotiations by, for example,

claiming or disavowing specific roles or attributing agency to others (including long-dead composers). We also examine how artists use "creativity" and allied notions to communicate with live audiences and wider listening publics in a way that encourages critical engagement with questions about Australia's European musical heritage and, more broadly, the place of Western art music within contemporary society.

Joseph Browning

Joseph Browning is an ethnomusicologist specialising in ethnographic approaches to Western art music, the Japanese shakuhachi and central Javanese gamelan. He received his PhD in 2015 from SOAS, University of London, and was a part-time Postdoctoral Research Fellow at the Australian Research Council's Centre of Excellence for the History of Emotions from 2015-2017. His work on the shakuhachi has been published in the *Journal of Musicology* and *Ethnomusicology Forum*.

Jane W. Davidson

Jane W. Davidson is Professor of Creative and Performing Arts at the Faculty of the Victorian College of the Arts and the Melbourne Conservatorium of Music, University of Melbourne. She is also Deputy Director of the Australian Research Council's Centre of Excellence for the History of Emotions. She has more than 100 publications, including five books, all focused on the topic of performance studies, with the scope ranging from the development of musical skills through to the factors contributing to expressive musical performance from contemporary to Baroque performance. She was active as an opera singer for twenty years and now devotes time to directing for the stage.

Associative Listening as a Creative Act in Composition, Improvisation, and Analysis

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Composing and improvising music often involves the creation of relatively complex rhythms and textures by gradually embellishing texturally simpler harmonic or contrapuntal frameworks (Berliner, 2009; Crook, 1991; Katz & Gardner, 2011; Palmer, 2016). Conversely, transcribing and analysing music often involves the reduction of complex rhythms and textures into texturally simpler representations of the most structural elements of their harmonic and voice-leading content (Schachter, 1976; Temperley, 2011). It is possible that previous extensive engagement with embellishing and simplifying textures and rhythms allows composers, improvisers, and analysts to better imagine fully fleshed-out textures from unembellished structures. Our research studies such ability by asking listeners with different musical backgrounds to identify famous pieces of music from harmonic reductions in an open-set identification task (i.e., without a list of pieces to choose from). In the first experiment, we asked musicians and non-musicians to

identify classical pieces and popular songs from their harmonic reductions. In the second experiment, we asked jazz musicians with varying levels of training to identify jazz standards from harmonic reductions. Our research demonstrates that identifying music from a harmonic reduction in an open-set task is a challenging task that is significantly easier for musicians with extensive experience composing, improvising, and analysing music than for other types of listeners. Musical factors such as rhythmic similarity (exp. 1), melodic similarity (exp. 2), and harmonic-rhythm similarity (exp. 1 and 2) were also found to have a significant influence on the experimental task. These results suggest that extensive experience with analysis, composition, and improvisation can develop listeners' ability to mentally add missing surface elements (e.g., melody, rhythm, timbre) to a musical reduction. We propose that a similar types of creative listening is at work when composers and improvisers elaborate unembellished structures during composition and improvisation and when analysts aurally explore subtle connections between events in a piece of music or between compositions. Although our study suggests that the ability to identify music from harmonic reductions in an open-set task seems to be facilitated by listeners' ability to elaborate unembellished structures, we propose that, paradoxically, the fact that the former task is considerably challenging and tightly constrained by resemblance between surface and structure, facilitates composition and improvisation by increasing the chances that composers and improvisers will initially perceive unembellished structures as tabulae rasae as opposed to reductions of already existing musical surfaces.

Ivan Jimenez

Dr. Ivan Jimenez is a visiting researcher at the Sibelius Academy, UNIARTS, Helsinki, Finland, working in collaboration with Dr. Tuire Kuusi on a 3-year music cognition project funded by the Kone foundation. Their current project studies the ways that different types of listeners remember chord progressions and other types of harmonic structures. Dr. Jimenez has taught music theory and contemporary music at the University of Pittsburgh, US, and the Pontificia Universidad Javeriana, Bogotá, Colombia. He has presented his work on music theory, music theory pedagogy, and music cognition at numerous national and international conferences. His papers have been featured in the Proceedings of ICMPC and the *Journal of Music Theory Pedagogy* and he has acted as a reviewer for the journal *Psychology of Music*.

Tuire Kuusi

Dr. Tuire Kuusi works as the Vice Dean, responsible for research and doctoral education, and as a supervisor of doctoral students at the Sibelius Academy, University of the Arts, Helsinki, Finland. Her doctoral dissertation examined theoretical models of similarity. Her research interests are in music-theoretical concepts and their concrete representations in music. In addition, she has carried out research on musical emotions, tune recognition, and topics related to teaching and supervising university students. She has published numerous research articles (in *Music Perception*, *Psychology of Music*, the *Journal of New Music Research*, and *Musicae Scientiae*, among others) and acted as a reviewer.

Music information entities in composer's thinking. Composing as information processing

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This paper discusses the paradigmatic musical behaviour of composition from epistemic perspective: how are different music information types reflected in composer's thinking in action? Literature of musical semiotics constitutes music information as different types (e.g. audial, visual, verbal) that can be presented through varied sign systems, such as drawings, musical notation and writings on and about music. In this paper compositional process is elucidated as creative process, where different kinds of information are being utilized: new information is generated, elaborated and refined, already existing information retrieved, different types of information are transformed into another types, until everything has been inscribed within a musical notation system, i.e., a complete score (or an audio recording). This paper takes a novel approach where reflections of different categories of music information are identified form composers verbal accounts of a composition process. This creates new knowledge regarding the roles of music information entities within the process of musical composition.

Music information is approached through a typology that categorises music-related information types according to their level of abstraction: (1) The enactive types of music making and music listening; (2) the iconic type of music notations; and (3) the symbolic types of technological (music theory and analysis) and ideological (e.g. philosophical and educational) models. These information types and their utilities were identified and elucidated from the composer's verbal protocol and manuscript data disclosing his compositional thought, gathered in stimulated recall interviews not a fortnight later than the actual happening.

In the composer's thought, the enactive types were reflected as, for example, concrete instrumental actions of music making and as abstract inner musical action, which can be metaphorically described as the motion of the music, or in another words, as the performative force of music. The reflections of the iconic type comprised visual perceptions (e.g. some of the germinal ideas of the piece, such as 'whiteness', or 'glacier'), and drawings (e.g. depicting the formal structures of the emergent piece of music). The reflections of the symbolic types comprised the whole notational apparatus incorporated in the compositional production (manuscripts) and product (score) as well as the verbal manifestations of musical tradition: philosophical, music analytical texts and composition companions. The composer also converged information from one type to another and amalgamated different types of music information. This paper showcases that different music information types are reflected in composers thinking and that information seeking and processing may be seen as an integral part of the composition process. The results bridge domains of information seeking and composition research in novel ways.

To further understand composing as information processing, refinements into the used information typology, particularly to the enactive and iconic information types, are presented.

Ulla Pohjannoro

Ulla Pohjannoro holds a MA in musicology from the University of Helsinki, a degree on piano pedagogy, and a DMus (scholarly) from the University of the Arts Helsinki Sibelius Academy. Currently, she works as a senior adviser and part time teacher at the DocMus Doctoral School at the Sibelius Academy. She has published papers on composers' intuition and reflection, musicians' future competencies, intercultural music education, among others. Besides research, her career includes management in art organizations (orchestras, festivals) HE, and musicians' continuing education.

Antti M. Rousi

Antti M. Rousi is a PhD candidate at School of Information Sciences, University of Tampere. He graduated from University of Tampere as MLIS in 2010 with a minor in musicology. He has published music-related studies in Information science's leading journals.

Session 1C
Ethnomusicology and Studio Production in the Digital Era

Studio Improv as Compositional Process Through Case Studies of Music Production in Accra

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This study is an examination of the music and working practices of two Ghanaian music producers, Appietus and DJ Breezy—as in much non-Western music, the definitions of composition and improvisation continuously disrupt each other. The studio highlights this blending of processes where the hardware and software can form both the instruments and compositional tools. Hip-hop and electronic dance music rely heavily on improvisation through studio techniques that are idiomatic to the genre, including sampling, sequencing and looping new musical ideas or material from an existing recording. Text and rhythm in Hip-hop are well documented but compositional process involving harmonic and melodic analysis, as well as close sonic study of new production techniques are often overlooked. The music of minority composers of new genres is under represented in scholarship. Therefore, this article focuses to a greater extent on musical analysis and studio, improvisation and compositional processes, with supporting observations on broader cultural context.

The methodological approach in this article centers on transcriptions and music analysis, as well as research through interviews with the producers in Accra, Ghana. This blending of interview material and musical analysis (through transcription, reduction and ecological acoustics) examines distinct threads of Ghanaian and international music styles, their paths through different formal and informal networks of education and the environmental affects on their process. In the case of Appietus' music, transcriptions show Ghana's unique highlife harmony and its idiomatic harmonic tendencies, whilst interview material on his process shows his unique methods of vocalization in combination with production tools that are informed by local formal and informal educational networks and the Internet. DJ Breezy's vertically sparse, minimalist Hip-hop influenced afrobeats No. 1 hit, 'Tonga,' is analysed using ecological acoustics. In order to focus this paper, I argue that firstly, we rethink the relationship between improvisation and composition through the work of these producers, secondly, that we cannot analyze the music of these producers outside of context, we need to change the way in which we read the context, and thirdly, that we stop using a type of ethnography that exacerbates essentialism.

Leila Adu-Gilmore

Leila Adu-Gilmore is a New Zealand composer-performer-producer of Ghanaian descent who has performed her compositions with bands, orchestras, gamelan and chamber ensembles, and composed for the NJSO, Brentano String Quartet and So Percussion. Performing original songs at venues and festivals worldwide, she has six record releases, as well as collaborations and improvisations. She has produced a short-film and documentary soundtrack with screenings on BBC Knowledge and Fox Networks, performed solo on the BBC World Service and with Luscious Jackson on *MTV* and *Letterman*. Over the past year her article "Studio Improv as Compositional Process Through Case Studies of Ghanaian Hiplife and Afrobeats" was published in peer-reviewed journal, *Critical Studies in Improvisation*, and she presented at Body Music Cross-Cultural Music Conference in Hangzhou, China. Adu-Gilmore completed post-grad at Victoria University Wellington, NZ and is completing her music composition PhD at Princeton University.

Musical creation and recording studio in ethnomusicology. A reflection from Bamako (Mali)

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Since the very beginning of the 21st century, the digital revolution has generated major changes in the musical ecosystem of Mali. The number of recording studios has increased all over the country and most musicians, from the local "griot" to the World Music star, via the "cantatrices" and the religious praise singers, record their own music to make it circulate freely on the social networks and the platforms of free streaming. In a national context where there is no record label, where distribution is massive but less official, and where the legislation on intellectual property is barely known by musicians and rarely applied, recording guarantees professional recognition and advertising. These two criteria allow musicians to practice their art in private parties, ceremonies and concerts and, possibly, to be spotted by Pop or World Music producers.

In this context, recording in studio brings major changes to the process and technics of musical creation: by redefining the roles of the various protagonists of the production (composer, interpreter, arranger, producer); by jeopardizing the "knowledge-power" relationships (Foucault, 1977) from elders to youngers; by putting digital technologies at the center of the creative action; by opening creativity to experimentation; by narrowing the time between improvisation and music writing; and also by bringing the music into a mass consumption based on a fast renewal of songs.

In this paper, my analysis of this set of transformations will be based on an ethnography of the "ordinary studios" of Bamako, carried on since 2010 throughout several long fieldworks. The filming of complete sessions of studio recording and post-production, followed by interviews and focus groups conducted through the

viewing of these films will allow us to understand, from the inside, how music is made today in Mali.

This study of recording studios will lead us to a wider reflection upon the multiple forms of appropriation (diversion, bricolage, customization, etc.) of globalized digital technologies, upon the relationships of the musicians with these technologies and the new imagination that arise from them. This study will reveal daily aspects of today Africa, made of both constraints and local intelligence, where the question of the access to digital resources remains central, but without hindering individuals' agency.

This paper will finally be an opportunity to initiate a conversation between musical engineering and ethnomusicology, in particular on the status of recording in the practice of these disciplines, on digital audio technologies as part as improvisation and composition technics and on the dialectics between standardization and diversification, routine and innovation, in the uses of these technologies.

Emmanuelle Olivier

Dr. Emmanuelle Olivier is a French ethnomusicologist, Senior Research Fellow at CNRS (Georg Simmel Research Center) and Lecturer at EHESS (Paris). Her research in Southern and Western Africa focus on musical practices which express a social reality, esthetic choices, knowledge and know-how locally and historically situated, while participating in the global economy of cultural property. She is currently working in Mali on the making of popular music, by questioning the changes brought about by the digital revolution on the actors, practices, places, knowledge-power relations, and collective imagination. She has directed several International projects on Musical Creation in the South and on Listening Music in the Digital Era and is the author of many articles and books on these topics.

Incorporating improvisation processes into the art of studio production

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Free improvisation as an artform challenges the purpose of studio production. According to Canonne (2017), capturing improvisations goes against the instantaneous nature of the artform that is created in the moment, to be heard only once when recordings are meant to be repeated. However, as Oliveros stated, "Improvisation developed in parallel with radio broadcast and recording technology. [...] Recording is the memory and documentation of improvisation" (2008, p. 120). Moreover, audio playback frees improvisers from performance habits and help them to reach their voice (Pras & Lavergne, 2015), as John Coltrane explained, "I mainly work with a tape recorder, which allows me to control my research" (Delorme, 2011, p. 62, our translation).

In his recent ethnography of the Berlin's Improvised Music Scene, Arthurs reported on improvisers who "released up to ten albums each year, […] however this recorded activity almost always came with the caveat that it should be considered separately to their live work" (2015, p. 246). Nevertheless, these improvisers constantly refer to live performance while making editing and mixing decisions. They also keep the control of the sound quality and the music content, thus following a similar production approach to Tzadik, a label founded and defined by John Zorn as "a catalogue", for which musicians keep the control of the production process apart from professional mastering to homogenize the sound quality across albums (Féron, 2016). In contrast, Manfred Eicher, recording producer of the legendary label ECM is involved in all the decisions of his productions (Vitali, 2016, p. 34).

I designed a production approach that requires sharing ideas collaboratively and equally between musicians and studio professionals. This approach allows for deep experimentation that treats the studio as a laboratory and goes beyond taking performance risks: the session flow includes the use of audio playback and creative editing to transcend improvised performances. Moreover, mixing gestures incorporating improvisation processes give rise to innovative outcomes, sonically and musically. I will illustrate this approach through excerpts of *The Constant* by Jim Black Trio (Intakt Records, 2016), produced after the completion of a two-year field research and creation project within the alternative jazz scene of New York City (Pras, 2015).

In individual semi-directed interviews with twelve New York-based professional improvisers (Pras, 2016), all interviewees reported being strongly "connected" while improvising, a "connection" that can be weakened by judgmental thoughts and analytic pressure. In this view, they all agree that leaving complete freedom to their ensemble members is key to the success of an improvised performance. My approach works when musicians give the recording producer as much freedom that they give to their ensemble members, which includes the possibility of describing the ideas that they hear during the recording process, of proposing edited versions of the different performances according to their intuitions, and performing mixing as an artistic gesture without constant analytic feedback from the musicians.

This work takes place in the digital era where recordings have become accessible to most musicians without the constraints of the industry, though with a danger of musical and sonic uniformity. Derived from research about recording production practices and improvisational processes, as well as professional studio experience, this work bridges the artistic gaps between musicians and studio professionals.

Amandine Pras

Dr. Amandine Pras is starting a new position in Digital Audio at the University of Lethbridge (AB) and she teaches online research classes in the Advanced music production program of the Paris Conservatoire. She carried out her PhD thesis at McGill in Montreal (QC) about best practices for studio recording in the digital era. She then conducted postdoctoral research within the free jazz improvisation scene of New York City at the New School for Social Research. Graduate from the Paris Conservatoire, she pursues a career as a recording producer for alternative jazz, experimental, electroacoustic and new music productions.

Session 2A
Stravinsky

The many voices of Stravinsky's *Babel* (1944)

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The purpose of this proposal is to track Stravinsky's creative process for *Babel* (1944), a section of a larger collaborative work, entitled the *Genesis Suite,* inspired by Nathanial Shilkret who had the idea of inviting composers, including Arnold Schoenberg, Darius Milhaud, and others to contribute to the suite, which premiered in November 1945 by the Janssen Symphony Orchestra (Los Angeles) (for an account of Shilkret's early inspiration for this work, see p. 196 of his *Sixty Years in the Music Business*, ed. Shell and Shilkret. Lanham, Maryland, Toronto, and Oxford: The Scarecrow Press, Inc., 2005). *Babel* is one of Stravinsky's lesser known compositions, in which the biblical text in English is to be spoken by a narrator, except for the "words of God" that Stravinsky insisted would "be sung by a Greek chorus" (see Shilkret 197).

Babel can be thought of in four sections (R = Rehearsal #):

> 1. Beginning–R-8
> 2. R-8–R-16
> 3. R-16–R-27
> 4. R-27–End (R-31:5)

A motivic network evolves from a series of six-note patterns in mm. 1–5, introduced by cello and double bass. The way in which Stravinsky treats the intervallic content of these motives suggests that he was experimenting with his unique compositional approach to rotation.

The narration begins at R-1 with the text "And the whole earth was of one language, and of one speech . . ." and extends up to R-8. Stravinsky superimposes the text above a diverse instrumental texture as if to dramatize "the many voices of Babel" in which he begins by layering: (1) an upper line (oboe) that is defined by an oscillating 5th and other melodic intervals, (2) a harmonic block that combines three flutes with one trombone, (3) as the cellos and double basses focus on one of the introductory motives, imitated by the upper strings to set the stage for Stravinsky's appropriation of the passacaglia and fugato. Thus, the notion of fugue as "a loose covering practice" (John Butt, in his book *Bach's Dialogue with Modernity* [Cambridge: Cambridge University Press, p. 251, fn. 19], citing Laurence Dreyfus in *Bach and the Patterns of Invention* [Cambridge: Harvard University Press, 1996], pp. 135-41) provides a valuable backdrop for tracking Stravinsky's compositional process for *Babel.*

At the Paul Sacher Stiftung in Basel, there are five oversized sketch pages for *Babel*. Stravinsky's *modus operandi* for these sketches is to write basic motivic ideas as incipits within his sketches – often at the top of the page and sometimes summarized as a thread at the bottom. He then progresses to continuity drafts of segments of the work. It is possible to give approximations of the five sketches in relation to the published score as follows:

> 1. R-16, R-1 up to R-8
> 2. R-16, R-18, R-19
> 3. R-19 up to R-25
> 4. R-19
> 5. R-30, R-31, and opening measures

The presentation will include excerpts from diplomatic transcriptions of the sketches together with tables that show how the motivic network evolves and with audio excerpts from the original recording.

Maureen A. Carr

Maureen Carr received her Ph.D. from University of Wisconsin–Madison, and currently holds the post of Distinguished Professor of Music Theory at The Pennsylvania State University. Her works examining Stravinsky's use of Neoclassicism include *Multiple Masks: Neoclassicism in Stravinsky's Dramatic Works on Greek Subjects* (University of Nebraska Press) and her most recent book, *After* the Rite: *Stravinsky's Path to Neoclassicism (1914–1925)* (Oxford University Press). Her current project, *After* Apollo*: Stravinsky's Path Through the Models of Bach (1929–1965)*, is under contract with Oxford University Press. She is also the author of *Stravinsky's* Histoire du soldat*: A Facsimile of the Sketches* (A-R Editions, 2005) and *Stravinsky's* Pulcinella*: A Facsimile of the Sources and Sketches* (A-R Editions, 2010), for which she won the Citation of Special Merit from the Society for Music Theory. A volume she co-edited with Severine Neff, Gretchen Horlacher, and John Reef, The Rite *at 100*, is now available from Indiana University Press. A new article about *The Rake's Progress* is in the collection *Faust in Music* (ed. Lorna Fitzsimmons), currently in production with Oxford University Press.

Compositional process in Stravinsky's *Requiem Canticles*: a shift in his attention from parts into a whole

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Igor Stravinsky (1882-1971) made many fragmentary sketches with small pieces of paper in the early stages of his compositional process, especially for his late works. Elliott Carter (1908-2012) recollected visiting Stravinsky's work room like as follows: "[He] showed me a large book of blank pages onto which short fragments of musical sketches, roughly torn out of larger sketch-pages, had been pasted….He proceeded

to explain how he chose fragments from his sketches, tore them out, shuffled them in different orders until he found one that satisfied him, and then pasted them down." It appears that Stravinsky created his compositions from small fragmentary sketches. However, just reordering parts does not guarantee the construction of a whole. We should ask at which stage of the process his conception of the work as a whole arose from these fragments? How was what is called a Stravinskian sound built with these fragments?

In this presentation, I will focus on the *'Interlude'* from the *Requiem Canticles* (1965-66). I analyze its primary sources in Paul Sacher Foundation to reveal how Stravinsky created the work by piecemeal. I will classify the following five steps:

- Step 1: Before specifically writing any notes, he decided the general length of time and where text for vocal works would be used, thereby setting in place a framework for the piece.

- Step 2: He wrote down musical ideas on small pieces of paper. At this stage, he gave nearly no thought to the overall time structure.

- Step 3: He reordered the paper fragments and taped them onto a separate sheet of paper. Or, he would gather motifs among the fragments and rewrite them as a larger fragment on a separate sheet of paper. At this stage, he would begin thinking about the overall time structure.

- Step 4: He would consider the order of the many parts taped together and write a draft with longer, connected sections. With the draft, he would give further thought to the overall time structure and, in some cases, replace sections. His consideration of the time structure would shift his attention to the work as a whole.

- Step 5: He created a small score. At this stage he would reconsider the time structure and come to a final, fixed structure.

From these steps, I would like to point out that Stravinsky's attention was being shifted part to whole. In the first step, it seemed that Stravinsky did not consider where the fragments to be placed in the whole work. Moreover, he paid attention to the overall time structure only at the final compositional stage. Furthermore, we can see what is called Stravinskian sound by "interspersed arrangement of repeated fragments" at the final stage. In other words, this characteristic repetition arising from shuffled strips of paper functions to give the inner-intertextuality in the piece.

Mai Ikehara

After majoring in piano at the performance department of Toho Girls' Senior High School and the music department of Toho Gakuen College, Mai Ikehara switched to the musicology course to study compositional theory, completing all the required courses at Toho Gakuen College's graduate school. She obtained a doctoral degree in musicology from Kunitachi College of Music. She has researched Stravinsky's manuscripts at the Paul Sacher Stiftung in Basel. Her doctor dissertation is "Compositional Process of Stravinsky's "Requiem Canticles." Currently, she is an assistant professor at the Global Education Center, Waseda University and a visiting researcher at Kunitachi College of Music Research Institute

to study 20th-century American music. In the autumn of 2015, she received the Waseda University Teaching Award from the University President.

Session 2B
Parametric Approaches

Timbre Analysis
in the Mirror of Compositional Process:
A Case Study of Chopin's Berceuse Op. 57

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Timbre is one of the most fascinating dimensions when considering the creative process in music: Potentially inscribed in the *written object* constituted by the score, however only actualized through *sound objects* achieved by instrumental execution – to use Delalande's terminology –, timbre may be considered not only as the colour of sound, but as a metadimension integrating all musical parameters (Dufourt). Timbre-oriented analysis has strongly developed in recent years, but generally regardless of the consideration of the compositional processes themselves. However, to which extent can a timbral formal structure be considered as the result of a compositional strategy – whether implicit or explicit? How can analytical representations of a piece's timbral organisation shed light on some aspects of the composer's representations and processes in the elaboration of musical forms?

These questions will be discussed through a case study of Chopin's Berceuse Op. 57, composed in 1843–44 and published in 1845. The sources and data will include, besides the Berceuse's score (ed. Ekier), several pre-texts (*avant-textes*) such as an autograph clean fair copy and, above all, an autograph draft (see Kobilańska, 1977) showing, by means of rewriting and erasure marks, Chopin's reorganisation of the piece's overall form – originally conceived as a series of four-bars "*variantes*" – through a succession of modifications affecting the different sections' order. On the basis of the reconstruction of the piece's genesis, scores for the different stages of the piece's composition will be elaborated, as well as recordings of these preliminary and final versions, specifically produced for the present research in collaboration with pianists from the Conservatoire of Strasbourg.

This written and sound material will serve as a basis for a timbre-oriented analysis of the Berceuse's formal elaboration process. It will be particularly interesting to examine the successive reconstructed versions of the piece by means of a timbre-oriented analytical method called Gestaltist analysis, developed following Roy (2003) and Thoresen (2015). Based on comparative sonogram representations and transcriptions elaborated using software like Acousmographe, this method reveals in particular a striking and unusual timbral overall structure of the Berceuse's final version organised around a central axis of symmetry. The analysis of the progression, throughout the piece, of timbral factors like horizontal density,

harmonicity, or the number of simultaneous polyphonic parts, in conjunction with their pianistic realisation examined by means of audio descriptors, will also underline several formal processes oriented towards timbral climaxes at local and global levels, as well as their compositional elaboration from the preliminary to the final versions of the piece.

Finally, through this case study, this talk would like to discuss the contribution of timbre-oriented analysis in the examination and understanding of compositional process – in particular by Chopin – and, more generally, the role and function of timbre in the creative process itself, at the boundary of musical notation and instrumental realisation. Some further conclusions will also be drawn as regards the compositional relevancy of analytical representations of formal structures, as well as the function of instrumental performance within the general process of timbral and formal creativity.

Nathalie Hérold

Nathalie Hérold holds a PhD in Arts speciality Music from the University of Strasbourg, a French music conservatory teaching diploma in Piano, and a bachelor's degree in Mathematics. She is currently a postdoctoral research fellow at the GRÉAM (Experimental Research Group on Music in Act) 'Laboratory of Excellence' of the University of Strasbourg, where she is pursuing a research project concerning the role of timbre within musical form in the context of 19th and 20th century music. She published articles in music journals like *Analyse musicale*, *Nineteenth-Century Music Review*, *Nuove Musiche*, and *Sonus*, as well as in several collective books. As a teacher, she has taught both music analysis and music history at the universities of Strasbourg and Grenoble. She is also Secretary of the French Society for Music Analysis (SFAM) and member of the Organising Committee of the 9th European Music Analysis Conference (EuroMAC 9).

Tracking the performer's creative space: Tempo, rubato and expressive timing in Recordings of Alexander Scriabin's Early Piano Preludes

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As it comes to the act of creation, performing musicians claim a rather specific role and position compared to other artists (e.g., composers, film makers, photographers). A role which could be described as 'co-creating' the composer's musical ideas. Despite its level of detail, the musical score is inevitably an inherent incomplete representation of the music itself. The uncertainties and ambiguities introduced by the score require a creative artistic decision-making process in order to develop a personal interpretation: the performer's '*creative space'*.

My doctoral research examines tempo, rubato and expressive timing in recordings of Alexander Scriabin's early piano preludes, dating from 1910 until 2010. The database consists of in total 1417 recordings of the 53 early preludes by 106 pianists. A comparative analysis of the recordings aims at mapping the differences and communalities in the pianists' artistic decisions, providing insight in a century of performance history. The recording analysis employs a combination of aural analysis methods as well as analyses using audio-software tools and statistical data analysis techniques such as analysis of variance, regression, (hierarchical) clustering and principal component analysis). The analyses are two-fold: on the level of the preludes, performances are compared per prelude (= mapping interpretations); on the level of the performers, performances are compared over several preludes (= mapping playing styles). By taking into account parameters as the pianists' educational background and the period of recording, this comparative study is looking for tendencies and singularities in the performance history of the preludes.

Preliminary results show that, in this by nature particularly short compositions of the prelude-genre:

> 1) pianists do take remarkably high degrees of freedom concerning their basic tempo choice (average tempo) in relation to the tempo markings notated by Scriabin, overall, independent to the period of recording. But, several differences can be observed related to the type of prelude and to the pianist's educational background (e.g. 'Russian piano school').

> 2) pianists demonstrate a huge variety of rubato styles and expressive timing playing techniques, however, the use of certain types of rubato playing as well as expressive timing playing techniques, such as dislocation and unnotated arpeggio's, seems to have been changed gradually over time, some of which have been almost completely falling in disuse.

For today's pianists this knowledge opens up opportunities to relearn, assimilate and incorporate some of these nowadays rather unfamiliar playing techniques and enrich their personal playing style. Insights in the performance history enable performers to make interpretative choices more consciously and deliberately in relation those of others. A full awareness of their own 'creative space' enables performers to take a well-informed and more grounded position within this spectrum of interpretations and performance traditions.

Stijn Vervliet

Stijn Vervliet is coordinator of the research group Performance Practice & Composition and coordinator of the master research program of the instrument department at LUCA School of Arts, Leuven (BE). He holds a Master's degree in music, piano (2007). His main research interests are performance analysis, historical informed performance, and more recently, musical communication and interaction processes. He is currently PhD researcher at the Faculty of Arts, KU Leuven. Since 2010 he is affiliated researcher and researcher in the arts at the Faculty of Arts, KU Leuven. Besides his research activities, he worked as a piano teacher at several music academies throughout Flanders over the past ten years.

Session 2C
Songwriting

Observing and Theorising the Songwriting Praxis through Autoethnography

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This paper will present a methodology to observe and theorise the embodied knowledge and skills that contribute to the ideology and decision making processes of commercial songwriting. This methodology will be based on a phenomenological definition, derived from the work of Merleau-Ponty (1945), from which to discover a true primacy of the praxis. Developing from the methodology deployed by Bennett (2014) to observe and theorise the externalised processes and actions of songwriting teams (limited to duos), this research will differ as it does not seek to answer *what* songwriting is but instead *how* we, as artists, create songs.

Developing from Bennett's methodology (*ibid*) this research will use a Verbal Protocol Analysis based on the work of David Collins (2001, 2005, 2007), whereby the practitioner verbalised his actions and thoughts whilst engaging in his practice, which will then be coded, categorised and theorised. Unlike Collins (yet similar to Bennett) the practitioner of the research is also the researcher, and further to Bennett's method (wherein the dialogue between collaborators became the primary data) this research will be developing a method whereby the artist-researcher is able to observe and theorise his own unique practice. Being based on the phenomenological method of Merleau-Ponty (1945) this research will also be informed by hyper-reflection through which the practitioner-researcher will develop knowledge and skills as a reflective practitioner in both aspects of artist and academic researcher.

The following three aspects locate this research and its significance: There is an abundance of research from the past three decades on popular music from the perspective of the sociologist and the music analyst, which is based upon the product and its interaction with society but there is much less research on the creative processes that create these products: There is a growing body of knowledge in artistic research (practice-as-research, research-as-practice, practice-based- research etc.), which can inform of us the creative process but is still in its infancy and predominantly centred around high art: And commercial artists seldom engage in academia as it provides no benefit to their practice (although a growing number of commercial practitioners are now gaining employment in the academy). These three aspects create a Venn diagram in which this research sits as a practice-based-research of commercial music, the significance being the soft power of commercial music. The weight of research into commercial music indicates the

importance of the art but the lack of research into the creative practice is often overlooked for reasons of authenticity, reliability, intentionality and potential impact. As the academy engages further into the training of commercial musicians it becomes a necessary requirement to develop our understanding of the practice beyond the mechanisms, addressing the philosophy and ideology, which is present in creating these culturally significant objects. This paper provides one such methodology through which this may be achieved.

Chris Whiting

Chris Whiting is a third year PhD candidate as of the conference at Newcastle University whose thesis title is currently *Observing and Theorising Songwriting Practice through Autoethnography*. He was formally a lecturer of songwriting and popular music at Newcastle College (circa. 2011-15) where he designed the foundation degree (FdA) in Songwriting and contributed to the FdA DJ & Electronic Music (2013). He completed his MMus Songwriting with Bath Spa University in 2014 and is currently releasing music under the pseudonym #... (HashtagEllipsis) as well working on other collaborations and projects. Other topics of interest to Chris are: songwriting in education, creative practice, authorship, imagined audience, ethics of culture and cultural practices, and culture as a semiotic language.

"Always Keep a Diamond in Your Mind": Musical Genesis, Lyric Distillation, and Inebriated Travelogues in Tom Waits

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One of the more salient features of popular music is that it often does not have a written score to act as a visual text. Music analysts, who often rely heavily on the written text, have been able to work around this by means of transcription and treating the finished sound product as the primary text (Moore, 2003). While these methods have produced valuable analyses, transcription and the sound product can only go so far and may not always provide as many insights as a Beethoven autograph score for example. In other words, one of the primary areas where these popular "texts" fall short is in tracking the creative process of songwriting.

While work has been done to examine how albums are constructed (Everett, 2002), these projects most often deal with the song in its final, recorded form, using interviews with musicians as the primary source of uncovering their creative process. However, artists are often unable to articulate what exactly their creative process is beyond a simple phrase such as "lyrics first" or "music first." In a recent interview at the Library of Congress, songwriter Randy Newman was somewhat clearer about his creative process saying "I start at the piano…What I have usually done is sit at the piano until something that I stumble upon musically elicits some kind of a lyric response…. something that triggers something." He goes on further to

say that he has "musical…licks first" and then elaborates when asked specifically about his song "It's Money That I Love" stating "I was doing just those vamps which I've done before – those very same sort of chords." These statements have several implications: First, that Randy Newman, and perhaps other songwriters, begins his creative process by drawing from a personal musical vocabulary and playing fragments of musical material that he has used before; and second, that the musical material itself implies certain lyric themes or elicits responses from the songwriter.

While it is difficult to tap into the musical aspects of the creative process, there is often even less explanation as to how lyrics come to be constructed. While some songs have specific stories behind them or lines are constructed purely on sonic qualities such as rhyme scheme, the words themselves are often described as coming to the writer as if out of thin air. Using the work of Tom Waits as a case study, this paper explores this phenomenon of gathering phrases from the ether and putting them into song – a process that I label "lyric distillation." Through the examination of songs in compositional chronological order (in both studio and live performances), this paper explores one of Tom Waits's common musical "licks" and the lyrical responses it elicits as well as investigates the genesis of lyric material and argues that one method of the lyric writing process works in similar ways to Randy Newman's musical process: many words and phrases come from material that the author has used before and these lyrics may elicit a specific musical accompaniment.

Jake Arthur

Jake Arthur is a second-year doctoral student in music theory at the University of Michigan. His primary area of research is the music of American singer/songwriters, specifically Tom Waits and Bruce Springsteen.

Session 3A
Early Music

Across four centuries and a cultural divide – Engaging in co-creativity with Monteverdi

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The author, a singer/composer from Southern India specialises in Raga and ornamentation in Carnatic Music. Inspired by the melismatic expressivity in composer Claudio Monteverdi's writings for Early Opera, she seeks to understand and recreate through her own language, a microcosm of his musical world. This presentation follows her journey in re-imagining a particular aria, the prologue of '*La musica'* from the opera *L'Orfeo*. The creative process leads the listener into emotional and musical realms as experienced by the author. Vital markers within the process, namely, the act of examining a set of phrases in the *aria* consciously, taking simple notes, allowing the music to settle-in while engaging in seemingly mundane day-to-day activities like going for a long walk, living with it, internalising and memorising the original 'tune', having dream-spells of 'blankness' in between, and finally, awaiting the 'eureka' moment to burst forth, are all unpacked, as the author delves into her own compositional practice. Communicating with a non-living but musically omnipresent force, Monteverdi, as a co-creator, and the challenges that such a relationship presents are candidly expressed. The 'generative-cycle' of 'singing-recording-reflecting-reworking-singing' that is used here as a compositional tool is demonstrated phrase-wise and is carried over to a larger section of the music. The method draws on the Gestalt theory of creativity in looking at a work holistically while re-engineering it. Technology is used not only to document the various stages in the artistic process in the form of audio and video recordings, but also to preserve the rawness in the process that is often overshadowed in the light of the finished shiny product. The versions that are generated when the singer infuses the Monteverdian phrases with her own interpretation from the Carnatic idiom are improvisatory and spontaneous in nature, necessitating post-recording critical analysis. Streamlining of the versions is done using a 'refining cycle': assembly of the generated musical data, overall evaluation based on comparison and aesthetics, elimination of certain phrases after further reflection, followed by reassembly. The micro-modules of the 'refining cycle' form the building blocks of a macro-module that could weave in other musicians as participant 'doers' into the creation.

A thorough examination of Monteverdi's original manuscript by routinely referring to them, reflective analysis using recorded accounts of the author's attempts at re-composing, and the use of audio-video recordings to observe and self-monitor the process, are methodological tools in the study. The author allows the cultural,

temporal, historical and musical divides between Monteverdi's sonic paradigm and her own to surface and wrestle with each other throughout the creative process. The result of the study is presented in the form of recordings that include excerpts from the 'generative' and 'refining' cycles, 'think-aloud' protocols, and short bursts of narrative. The multi-modal outcomes invite the listeners to step into an artistic researcher's gestational cocoon.

Charulatha Mani

Charulatha Mani is currently engaged in doctoral studies at the Queensland Conservatorium Griffith University, Brisbane, Australia. She holds a Masters degree in music and is a torchbearer of the tradition of Carnatic music of Southern India. Her research on Indian Raga modes and their emotive appeal have been published and acknowledged widely in print as well as visual media. Her doctoral project will see her presenting selected arias from Claudio Monteverdi's opera *L'Orfeo* as artistically informed re-imaginations that draw on historical vocal practices of the 16th and 17th centuries.

Exploring the evidence of the compositional process in 17th century Portuguese vernacular repertoire – the case study of a *romance* in Musical Manuscripts 229 and 235 of the Coimbra University General Library

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The Coimbra University General Library in Portugal (Biblioteca Geral da Universidade de Coimbra – RISM: P-Cug) holds among its important collection of musical sources, 16 manuscripts written between circa 1642 and 1663, most probably at Santa Cruz de Coimbra Monastery. These manuscripts are bound together in volumes containing one or more *cartapácios*, a Portuguese word which in its 17th century meaning is applied to workbooks. The music is mostly notated in open score format presenting itself, as has been noted before, without particular care for neatness (Brito, 1979). However, an analysis of the musical content reveals, in our opinion, the work of thorough and knowing hands. Of the many intriguing peculiarities of this vast collection is the fact that some works have multiple occurrences within the collection, either as full concordances of music and text or as different treatments of the same musical ideas and motifs. This paper is focused on one such case: a musical treatment of a romance (one of the most representative poetic genres of the Iberian *siglo de oro*), *Bullicioso entre las flores.* This particular piece presents itself in three different versions in manuscripts P-Cug MM229 and P-Cug MM235: two settings for 7 vocal parts and instrumental bass, and one setting for 3 vocal parts. A close observation of the two 7 part settings reveals heavy editing and revision in the MM235 version, while in MM229 a cleaner

copy is present, incorporating many of the changes applied to the former version. Our hypothesis is that these two versions may correspond to two successive stages in the compositional process of the piece before it was copied out into parts for performance (which have not, until now, been located). As methodology, we undertook a thorough and systematic survey of the editing and revision gestures present in both sources and a comparison of their musical content. We propose a categorization of these gestures and possible explanations for their occurrence, attempting to interpret the resulting compositional options in relation to poetic text and musical-historical context, especially under a musical-rhetorical perspective (Haynes, 2007) (Cano, 2012). We also propose to establish a chronology of the creative process according to the stages proposed by Owens (Owens, 1997).

Hugo Sanches

Hugo Sanches is MMus and BMus in Musical Performance (early music, lute and classical guitar) by the Oporto College of Music, Portugal (Escola Superior de Música e Artes do Espectáculo - ESMAE). He also holds a post-graduate degree in Music Psychology by the Faculdade de Psicologia e Ciências da Educação da Universidade do Porto. He performs regularly both as a soloist and with ensembles specialized in historically informed performance of renaissance and baroque music. He is currently finalizing his PhD in historical musicology at the University of Coimbra (Portugal), being also a member of the Centro de Estudos Clássicos e Humanísticos of that same university. He is guest professor at ESMAE's Early Music department where he teaches historical performance practice and theory, lute, and chamber music. He directs *O Bando de Surunyo*, which he founded in 2015, an ensemble specialized in the performance of 17th century Portuguese music.

Session 3B
20th Century

After the dodecaphonism: Dutilleux's free writing in *Tout un monde lointain* and *Timbres, Espace, Mouvement*

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This presentation aims to reveal the compositional thinking that was developed in the course of the composition of *Tout un monde lointain and Timbres, Espace, Mouvement* by examining their drafts and other related documents kept at the Paul Sacher Foundation in Basel and the Médiathèque Musicale Mahler and Bibliothèque Nationale de France in Paris.

Dutilleux composed these two works after *Métaboles*, which was centrally concerned with the incorporation of the dodecaphonism in its harmonic language. The technical issue of the dodecaphonism here gives way to passion for expression, as suggested in the works' titles. "Tout un monde lointain" cites the poem of Baudelaire: tout un monde lointain, presque défunt comme un foret aromatique. *Timbres, Espace, Mouvement* has the subtitle "La nuit étoilée," which is the name given to a painting by Van Gogh. Guided by these impetuses from beyond the musical world, Dutilleux attained a sort of free writing (écriture libre) of atonality, which was much sophisticated by his experience of the dodecaphonism in *Métaboles*.

In this respect, the second section of *Tout un monde lointain* presents an interesting example. This section, now known as "Regards," was originally entitled "Vertige (Dizzy)," and Dutilleux sought to produce a "dizzy effect" with it. The accords accompanying the melody here were deduced in a sophisticated way from the twelve-ton row exposed in the work's first section, which presents the reason why the first notation of the opening bars was to be transposed "un ton plus bas (one tone lower)," as indicated in the draft. As consequence of this re-writing by one tone lower, the accords are now deduced from the eighth transposition of the twelve-ton row, whose first nine notes constitute an enneatonic collection (the same as Messiaen's third mode); its eighth transposition (as well as fourth), therefore, retains the set of nine notes in the original position in a different order. This creates the harmonic continuity between the first and second section in a more assured but dizzy way.

Concerning *Timbre, Espace, Mouvement,* Dutilleux described the link between Van Gogh and his composition as follows: "an almost cosmic swirling effect [of Van Gogh's paint] could produce its musical equivalent [in this work]." He repeated these

words when he offered a draft relative to Rehearsal Number 13 of the work to the Médiathèque Musicale Mahler. It is almost certain that its intricate swirling figures were freely derived from the opening "Mélodie de timbre" of twelve tons, which swirls by itself. The draft attests that Dutilleux tried to deduce harmonies from it, but he also noted, "but, do not stay only on these harmonies, and immediately look for something else." In effect, while he used various forms of "Mélodie de timbre" (transpositions and inversions) throughout the composition, the way in which he deduced harmonies from it was far from systematic. This sort of ductile construction on the part of harmonies illuminates one aspect of the free writing Dutilleux attained through his experience of the dodecaphonism.

Shigeru Fujita

Shigeru Fujita is an associate professor at the Tokyo College of Music and teaches history, theory, and analysis of contemporary art and music in several institutions in Japan. He graduated from Université de Paris, Sorbonne and received his Ph.D. in musicology from the Tokyo University of Arts. In addition to presenting in international musicological conferences, he has published his articles in peer-reviewed journals or books, for example, "Des canyons aux étoiles: Messiaen's rational thinking in the designing of musical form" (2010); "*Interlocking-Directional tonality* : la conceptualisation d'une nouvelle organisation tonale dans les ballades de Chopin et de Liszt" (2013); and "Le Quatuor pour la fin du Temps d'Olivier Messiaen ou la naissance de la narrativité tournante" (2017). He has also translated *Introduction à la musique tonale* by Henri Gonnard (Paris, Champion, 2011) into Japanese.

Rsch: Escenas - Eusebius.
A collage by Gerardo Gandini

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Among the manuscripts that comprise the Fund Gerardo Gandini in the Argentinian National Library an unexpected one was found, which documents, presumably, a step in the composition of an unfinished piano piece. The manuscript is inscribed on two unbound sheets from an unidentified Italian edition of Robert Schumann's *Davidsbündlertänze* op. 6 for piano, with their recto leaves, corresponding to the piece no. 14, profusely written in pencil. This particular piece was subject to a series of compositional re-readings by Gandini, as in two movements of *Rsch: Escenas* for piano and orchestra (1983-84); *Eusebius. Four nocturnes* for piano (1984) and for orchestra (1985); *Rsch: Testimonios*, for narrator, piano and tape (1984); and the late *Eusebius II* for piano (2006).

Schumann's piece is not subject, in any of those works, of fragmentary quotations, but provides in its totality a framework from which, by means of different processes of subtraction, based on a principle of filtering, the new work is composed. Four types of pencil marks over the printed score correspond to each one of the filters

which produce the nocturnes of *Eusebius*, what allows to interpret the annotations as a draft of the latter.

The document in its present form reveals that Gandini returned afterwards to the draft with the idea of transforming it in something different. The draft turned into a collage as a result of the interpolation of twelve autograph fragments, stuck with adhesive tape. These fragments originate in a broken fair copy of *Rsch: Escenas*. The placement of the fragments in the score does not allow a determination of how they interact with the music of Schumann, or if they do it in relation to any of the filterings written in the score. The manuscript turned up as a complex palimpsest, both constructively and symbolically.

The uncertainties which the manuscript poses, related to its chronological origin, its musical configuration, and its compositional purpose, does not prevent, nevertheless, to take its aesthetic significance into consideration. While in *Eusebius* the re-writings of the number 14 rest on different kinds of subtraction, the work made in *Rsch: Escenas* with borrowed materials results from a type of proliferation, i.e. the generation of more complex structures from textual fragments of another work.

Collage, as a genetic category, could be applied to this manuscript not only literally, as reference to the juxtaposition of fragments, but also in a more abstract and technical sense, as reference to heterogeneity regarding the transformational operations applied to non-original materials. *Rsch: Escenas - Eusebius* documents both Gandini's compositional craftsmanship as well as an unusual combination of diverse derivational procedures from non-original materials developed and applied by him from the 60s onwards.

The paper analyses the multifarious musical aspects of the compositional processes. It also reviews pieces of documentary evidence that would help to establish the chronological organization of the works involved in this genetic constellation. It considers, lastly, the significance of the exposed creative processes to the development of Gandini's compositional poetics.

Pablo Fessel

Pablo Fessel is CONICET researcher at the Institute of Theory and History of Arts (University of Buenos Aires) and Professor of Music History at the University of Buenos Aires, Argentina. His research interests include the theory of texture and the history of Argentine contemporary music.

Session 3C
Technological Setups

Prioritising performance:
Technology, tradition and a performer-composer

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This paper is a reflexive analysis of the creative process of composition, interface design, coding, performing, and recording of music for harp and live electronics.

I am an Irish traditional harper who performs with computer, manipulating sound via motion sensor and pitch detection. The combination of a well-established folk music tradition with new technologies and experimental practices is a complex process affected by creative, social, political and cultural concerns. These are discussed from the point of view of a practitioner from within this tradition, who is both affected by it and contributing to its change and development in radical ways. A similar continuum exists in my relationship with technology. In coding pieces and designing the interfaces, I determine how the computer sounds. However, as a user of the hardware and software, they determine to some extent my actions and reactions in performance and composition.

I discuss to what extent my creative process is both affected and driven by my relationship with technology, both from the point of view of control in performance with live electronics, and in the recording of the pieces.

All of the compositions involve some aspect of indeterminacy, chance, or improvisation. I investigate the tension between the ontology of a recording as a fixed representation of music, vs my attempt to preserve some of the potential of indeterminate live performance, even in recording. The indeterminacy in my pieces is shown to be at different times a challenge, interest, or expansion of the recording process.

Being performer, composer and improviser gives a different perspective on what affects this creative process than if I were separately one or the other. A methodology is presented which takes into account practical elements of performance, technological considerations of control, interface design and software programming, as well as musical concerns, when writing. All of these proceed in parallel. I adopt a compositional process in which it is necessary to address these elements in tandem rather than sequentially.

This paper tracks the creative process over several months, describing issues encountered in writing software patches with a focus on live performance, and the merging of traditional music with new technologies, from the point of view of a performer-composer.

Úna Monaghan

Úna Monaghan is a harper, composer and sound engineer from Belfast. She is currently a Junior Research Fellow in Music at Newnham College, Cambridge. Her research examines the intersections between Irish traditional music, experimental music practices, improvisation and interactive technologies. Her recent artistic work has combined traditional music with bronze sculpture, sound art and movement sensors. She has a PhD in New Technologies and Experimental Practices in Contemporary Irish Traditional Music, and has held artist residencies at McGill's Institute for the Public Life of Arts and Ideas, Montreal and the Centre Culturel Irlandais, Paris. She performs with harp and computer, and her debut album, *For*, will be released in November 2017.

The Use of Metaphor in Interactive Systems for Singer-Songwriters

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Working with interactive systems for creation and performance of popular music offers several advantages to singer-songwriters. Such systems function as a partner in composition, allowing habitual patterns to be broken and extending the songwriter's 'idiolect' as well as their virtuosity. In performance, interactive systems afford expressivity, spontaneity and polyphony. Visual presentation of the system allows audiences to relate to the performance of the machine partner and invites deeper engagement.

The use of metaphor provides a starting point for shared understanding between composer/performer and audience, as well as serving to create a field of possibilities for the composer at the start of the composition. The metaphor opens up several pathways for further development of creative ideas, through software programming, lyric-writing, creating visuals as well as musical composition.

This study relates to theories and models of composition involving the generation and refinement of possibilities (Eno, 2004), collaboration with tools (Prior, 2009), working with interactive systems (Chadabe, 2007) the use of metaphor in music (Emmerson, 2007) and the relationship between composing music, writing lyrics, creating software and performing live.

Popular music (and increasingly art music) involves the consideration of its reception (Landy, 1994; Reeves et al, 2005) by an active, creative audience (Small, 1988; Joeonwon and Song, 2002). Central to the development of this work is considerations of how the audience will relate to the piece, particularly through the 'liveness' of the performance (Emmerson 2007, Sanden, 2013).

This study involved the exploration of singer-songwriter creative process when using a metaphor as the basis for both an interactive system and the composition itself. The selected metaphor was a physical model – as this provides an immediate

point of shared understanding between performer and audience (Johnston, 2013), while complex interactions and polyphony ensure that some mystery and intrigue remains. The use of live instruments and voice with an interactive system allows the exploration of combining human and machine sounds, as well as the space between them (Estibeiro, 2015). While much current work in art music and human-computer interaction focusses on improvisatory systems, the use of interactive systems in the creation and performance of popular music remains relatively unexplored.

This study is part of a PhD project looking at the relationships between singer-songwriting, interactive music systems and liveness. The study uses a practice as research methodology (Nelson, 2013) that involves literature/media review, composition, system-building and performance.

A simple, physical metaphor was realised in software, and its behavior mapped to live input from a guitar. This allowed generation of musical ideas through improvisation. Further compositional developments took place with iterative stages of play involving software exploration and refinement, followed by further improvisation. Lyrics were generated that are rooted to the metaphor, along with additional output sounds. Score following algorithms allowed the system behaviour to evolve in real time during the piece, and reinforce its narrative and emotional message. Insights were also gained into the balance of real-time and non-real time agencies of the system and composer-performer.

Si Waite

Si Waite (aka National Trevor) is a singer-songwriter. He has written, performed and recorded in bands and as a solo artist since his teens. His research focuses on the creation of interactive audio-visual systems that function as a co-writer and co-performer. Si's work has been presented at Sonorities (Queen's University, Belfast), New Interfaces for Musical Expression, Noisefloor (Staffordshire University), Leeds International Festival of Artistic Innovation, Code Control (Leicester) and the MTI concert series (De Montfort University, Leicester). Si is nearing the completion of a PhD at De Montfort University under the supervision of John Richards and Bret Battey. He is a Senior Lecturer in Music and Sound at Staffordshire University.

Session 4A
Dance

Dissolving Boundaries:
The Choreographer-Composer Duo
Jonathan Burrows and Matteo Fargion

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Between them, since their first collaboration in 1989, the choreographer-composer duo Jonathan Burrows and Matteo Fargion have dissolved the boundaries between the traditional artistic methods used within their respective artforms, certainly more thoroughly than most other collaborating artists. Indeed, there is doubt here whether the labels choreographer and composer, or dancer and musician, have much purpose any more. Jonathan, who was ballet-trained and once danced with the Royal Ballet, sometimes plays an accordion, while Matteo, trained in university music departments, sometimes teaches choreography. Both studied composition with composer Kevin Volans, a conceptual, cognitive method that works for both dance and music. Dressed in casual daywear, under basic lighting, they both talk, sing, make pedestrian steps and hand gestures, sometimes sit at a table, always in close intimate relationship with their audiences, both dance and music audiences. They are drily funny, lightly political. Jonathan, provocatively, while removing himself from the dangers of dry formalism, sometimes describes what they do as 'music'. On the other hand, he insists that their projects are not *about* music and dance at all.

Yet my presentation reveals a number of ambiguities, even contradictions, lying between what these two artists say about their work (they already disagree), the documentation of their work by others and by themselves--in line with today's technologically-driven intensification in the sharing of process information--and the live performance of their works. For a start, although this is unsaid, their collaborative method owes a great deal to that of Merce Cunningham and John Cage, in terms of separate creative process within shared time structures (e.g. Cage's *Lecture on Nothing*, or the ancient La Folia repetition form). Furthermore, both note that the documentation of their work on the Motionbank website is marked by the producers' digital presentation style. Including the scores of both music and dance, scanned pages from their personal notebooks, this has had a powerful effect on the reception of their work: a kind of 'fetishisation' of scores intended originally as tools for remembering material.

My paper also highlights my own position as viewer and analyst, cross-referencing my understanding of the work itself with the process information surrounding it. I claim too that 'choreomusical' relations, especially rhythmic conversations, are still

integral to the significance and power of their work, even if Jonathan, for understandable reasons, is currently wary about stressing this point.

My methodology involves surveying the duo's repertory, including detailed analysis of selected excerpts, examining the published process material already mentioned and conducting my own interviews with each artist. Theoretically, I respond to creative process and related interpretation issues raised in my forthcoming article 'Atomos EChOs and the Process-ing of Dances' (co-author Anna Pakes). My paper is illustrated by film clips and pages from music and dance scores, e.g. of *Both Sitting Duet* (2002, a rhythmic conversation using hand gestures) and *Body Not Fit for Purpose* (2014, at a table, Jonathan performing hand gestures and speaking, Matteo singing and playing the mandolin).

Stephanie Jordan

Stephanie Jordan is Research Professor in Dance at University of Roehampton where, until 2011, she was Director of the Centre for Dance Research and of student research programmes in Dance. Her professional and academic experience in both music and dance contributes to her current research in choreomusical studies. Jordan's publications include four books: *Striding Out: Aspects of Contemporary and New Dance in Britain* (1992), *Moving Music: Dialogues with Music in Twentieth-Century Ballet* (2000), *Stravinsky Dances: Re-Visions across a Century* (2007, covering modern/postmodern dance as well as ballet), and *Mark Morris: Musician-Choreographer* (2015), all published by Dance Books. She has also directed two analytical documentaries, with the George Balanchine Foundation and New York City Ballet, *Music Dances: Balanchine Choreographs Stravinsky* (2002) and with The Royal Ballet, *Ashton to Stravinsky* (2004). In 2010, Jordan received the award for Outstanding Scholarly Research in Dance from the Congress on Research in Dance.

Artistic Research
in Interdisciplinary Collaborations:
The Challenge of Counterbalanced Dialogues

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In his trilogy *Im (Goldenen) Schnitt* (1989) [*In the (Golden) Section*] the Berlin dancer and choreographer Gerhard Bohner (1936–1992) clearly reflects and stages different phases of an artistic research process. Refering to Pakes (2009) discussions on a specific choreographic practice as research I will present three modalities through which Bohner explored the possibilities of an interaction between music and dance by way of experiment, in order to explain this choreographer's musicianship and the musical implications of a creative process in choreography. My analysis of the choreography is focussed on the question how listening can influence our watching of movement (dance) – and the other way around: how watching can transform our listening –, which should be essential for choreographic

creativity including music. The respective reflections are based on methodologies developed by Stephanie Jordan (2000, 2007, 2015) within the framework of a specific choreomusical research and further contextualized by theories on embodied music cognition (Leman 2008/2016, Larson 2012, Cox 2016).

The common point of reference of the three parts in this choreographic work are selected preludes and fugues of J.S. Bach's *The Well-Tempered Clavier,* which Bohner developed as solo performances for himself. The trilogy's first part is choreographed to a recording by Keith Jarrett, the second part to a live performance by the pianist Heidrun Holtmann, who specialises in classic concert repertory, and the third part to a transformation of Bach's music into an electronic-acoustic sound-space installation by Roland Pfrengle.

Starting with an detailed investigation of Bohner's extensive sketches and notes, which are kept in the archive of the Academy of the Arts in Berlin, together with video recordings and supplemented by an interview with Pfrengle, I have been able to reconstruct the creative process of Bohner's choreomusical research. Similar to Bach's systematically structured 'walk' through the sound space of an equal temperament (the circle of fifths), Bohner's movements were based on 24 choreographed basic elements "across the body, across the space" (subtitle of the choreography). Each of these basic elements was associated with one prelude or fugue respectively, in order to examine its movement potential in combination with the musical structure. Despite the fundamentally identical original material – choreographic basic elements from which movement themes and motifs are developed and intertwined contrapuntally – the choreography's three parts still diverge tremendously, since Bohner carefully re-assembled the preludes and fugues on the basis of number symbolism similar to that in Bach's compositions. This effect is further enhanced in the last part, in which Bohner's movements were transformed into signals by means of sensors, and then transmitted to a computer in order to mix them with concrete sounds recorded during the rehearsals and to process them on the basis of serial and variation procedures. Additionally Pfrengle interspersed the movement-sound-interactions with live improvisations on a keyboard. Against this background an installation resulted that generated and manipulated sounds from bodily movements. All in all this choreography points to postmodern narrative strategies in dance through (at that time) very innovative processes of musicalizing movement.

Stephanie Schroedter

After completing her PhD on changes in the art of dancing around 1700 (Salzburg 2001, awarded with the "Tanzwissenschaftspreis Nordrhein-Westfalen") Stephanie Schroedter has been active in dance studies and musicology. She worked as a research assistant at the University of Salzburg's Department of Musicology and became afterwards a research fellow at the University of Bayreuth's Department for Music Theatre Research. Fellowships from the German Academic Exchange Service (DAAD) and the Deutsches Historisches Institut Paris (DHI) enabled her to pursue research in Paris for a project on "Music in Motion", from 2008–2012 subsidized by the DFG (German National Academic Foundation). 2015 she finished her second monograph entitled *Paris qui danse. Bewegungs- und Klangräume einer Großstadt der Moderne* (*Movement and Sound Spaces in a Modern City*). In general her publications look at interactions between dance/movement and

music/sound in theater performances/installations as well as in video dance/screen dance productions.

From Music to Dance: How George Balanchine Begins Ballets

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George Balanchine is known for his musical choreography. A well-trained musician, he analyzed musical scores and wrote piano transcriptions in order to familiarize himself thoroughly with a musical work before setting steps to it. Studies of music-dance (or, "choreomusical") relationships in his ballets (Randel 2004, Jordan 2000, Stilwell 1994, Hodgins 1992) have shown that Balanchine set dance sometimes to coordinate with music and at other times to conflict with it. This study brings greater specificity to this claim by showing that a typical strategy that Balanchine employs at beginnings of ballets or sections thereof is to map the rhythmic pattern and melodic contour of a musical line to the rhythmic pattern and vertical spatial contour of a dancer's steps.

The first part of this paper will present examples to support this claim. The direct mapping of parameters from music to dance will be illustrated using both annotated video excerpts and choreomusical notation, a music-based notation system developed by this author for the transcription of dance. Choreomusical notation presents music and dance in congruent representational systems on a single score that offers views across both time and media. The examples will be taken from the ballets *Concerto Barocco* (1941), *Symphony in C* (1947), *Theme and Variations* (1947), and *Tschaikovsky Pas de Deux* (1960), set to the music of J.S. Bach, G. Bizet, and P.I. Tchaikovsky.

The second part of this paper will show that there is a discrepancy in the timing of the opening steps of *Theme and Variations*—one of Balanchine's most famous works—among (1) current performances, (2) a little-known Labanotation score notated in 1960, and (3) the version taught by Alicia Alonso, the ballerina on whom Balanchine first choreographed the work. Based on an analysis of how music and choreography relate to each other in each version, and based on the typical choreographic strategy just illustrated, this paper argues that the 1960 score likely represents the original 1947 version as danced (but misremembered) by Alonso. This is because Tchaikovsky's music features a metrical shift in the placement of accents, which the 1960 score imitates. In contrast, current performances and Alonso's teaching versions disagree with the 1960 score in opposite ways. I conclude that Balanchine's later version simplifies the choreography by eliminating the accent shift while Alonso insists on a music-dance accent coordination throughout the opening section that should occur only in the second half. All three versions, produced by manipulating the audio-visual synchronization of a single contemporary performance, will be presented for consideration by conference attendees. This case study will show that an understanding of Balanchine's creative

process can help to produce musically- and historically-informed staging choices for contemporary performances of his ballets.

Kara Yoo Leaman

Kara Yoo Leaman is an Assistant Professor of Music Theory at Oberlin College Conservatory. She received a Ph.D. from Yale University with a dissertation that examines music-dance relationships in George Balanchine's choreographies to Tchaikovsky's music. Her research develops analytical tools for works of dance with music, and it advances the recognition of dance as a musical activity. As an advocate for the close reading of movement with music, she co-founded the Dance and Movement Interest Group of the Society for Music Theory. Her previous degrees include a master's in Music Theory from Queens College at the City University of New York and a bachelor's in Economics from Harvard University.

Translator, Architect and Creator: a study of piano response to the *Ballet of the Nuns*

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Keyboard arrangement in the 19th century is probably one of the most controversial genres in Western Music History. Based on a preexisting tune, it is criticised by current scholarships as "bastard and obsolete genre, the worst crimes". Nevertheless, the value of this genre in the 19th-century Parisian musical life cannot be denied. It reached a wider public than the actual orchestral or operatic works did, which, to a large extent, increased the public's knowledge and appreciation of the source works. In this paper, I will shed new light on the significance of this genre and explore how arrangers transform the visual image of an opera with the medium of a solo piano, which this creative process also contributes to reconstruct the different roles of transcribers. As case studies, I choose three arrangements based on the *Ballet of the Nuns*. This ballet has become one of the most sensational and memorable parts in Meyerbeer's *Robert le diable* since its Parisian premiere in 1831. With a group of deceased nuns rising from tomb and dancing seductively, this scene makes this opera not only for hearing but more for watching. The three arrangements inspired by this dance are Joseph Ascher's *Illustration de Robert le Diable pour piano*, Félix Godefroid's *L'opéra au piano, 12 Illustrations, Robert le Diable No.1* and Sydney Smith's *Robert le Diable fantaisie dramatique pour piano sur l'opéra de Meyerbeer.* They were published around 1870s-1880s, a period where most believed that virtuoso and opera-based works were in decline. In this paper, I also aim to display the lesser-known virtuoso and their arrangements are worthy of study in both scholarship and performance. With respect to the methodology, I will analyse and compare these three pieces with the original ballet in terms of musical materials, dramaturgy and performance to solve the research questions as follows: what elements are altered or created from the perspective of

musical materials and dramaturgy in the process of arrangement? How did composer-arrangers reconcile the 'other' (the original work) with the 'self' (their own compositional styles) in the arrangements? How are the visual images of ballet transformed in the process of changing mediums? Furthermore, partial performance of the three arrangements will also be included, which is conductive to illustrate the aesthetic loss of the visual dancing scene and creative gain in musical languages and narrative. As a result of the research, the three composer-arrangers reconstruct their roles as transcriber and render the original dance with different interpretive codes in terms of musical materials, theatricality and performance gesture. Smith mainly transcribes the tune and demonstrates high fidelity to Meyerbeer's work, acting as a musical translator; Ascher deconstructs Meyerbeer's tunes and reorganizes it, demonstrating himself as a musical architect; while Godefroid combines the ballet theme in Act 3 with the ballade tunes in Act 1 by assuming the role of a creator.

Nana Wang

Nana Wang accomplished her bachelor degree (Music Theory) in Nanjing Normal University in China and Master degree (Musicology) in the University of Bristol in UK. She is a current PhD student of music department in Southampton University. Her project is "Demonic Imagination: A study of piano pieces based on Meyerbeer's *Robert le Diable* from 1830s to 1880s", which is supervised by Prof. Mark Everist and Prof. David Owen Norris. Funded by the Humanities of Southampton University, she visited Bibliothèque nationale de France and the British Library to assemble keyboard arrangements of *Robert le diable*. To illustrate this genre in live performance, she has already given a research-related recital 'The Piano Sings' in Turner Sims Concert Hall and plan to hold another evening concert featured with keyboard arrangements. She also gave concerts in and outside university, including St. Michael's Church and Romsey Abbey.

Session 4B
Performance Practice of Technology

From disc to stage: creative and re-creative stakes in Nosfell

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The recording allowed a double existence of the music, which is not without raising ontological questions. This double existence is intrinsic in the field of Popular Music. Indeed, the studio work leading to the creation of the disc object (or more widely to the recorded object) develops a creative and technical process in which, today, everything seems possible (adding virtual musicians, spatialization, effects of any kind, etc.). The concert, or the stage performance, has other creative constraints, linked in the first place to this mode of live broadcast where musicians and technology can not reproduce the recorded format. The challenge here is to measure the creative process created between these two supports.

The subject of this study is the French multi-instrumentalist and performer Nosfell. I will refer here to the album *Pomaïe Klokachazia Balek* (released in 2004) and the live versions of the songs from the album contained in the DVD Live in Brussels (2006). Alone on stage or accompanied by a cello player using a classic looper, Nosfell uses a special loop system to build his sound universe. The sampler used by Nosfell was created by Mathieu Pavageau at the artist's request: Repetito. It is an interactive software allowing to create loops in multitracks that can integrate arrhythmias, to evolve the samples thanks to sound treatments etc. Besides, Nosfell uses a tailor-made Damico guitar that incorporates a Joe Barden humbucker microphone to facilitate the amplification of the percussion on the guitar.

The aim is to present the degrees of re-creation of the Nosfell pieces from one medium to the other and to understand what creative processes are involved in performing this performative and interpretive transposition. By re-creation scenic, I mean an object comparable to an existing object (the recorded work) but manufactured differently. That is to say that an object is created and that by a process bringing into play the tools of creation, this object will be transformed without moving away from the essence of the piece.

For this purpose, my study will rely on comparative musicological analyzes between studio version and live version based on a methodology developed in my previous work.

The results of this study are related to other extra-musical parameters such as the staging and the performance of the protagonist, the link to the text and the meaning of the work studied.

Julie Mansion-Vaquié

Doctor in musicology, specialist of the Popular Music, Julie Mansion-Vaquié is Lecturer at the University Nice Sophia Antipolis. She is particularly interested in the scenic re-creation, the performance, the interpretation and the creation as well as in the various supports of existence in the field of the Popular Music. Member of the laboratory CTEL, she participates in the university network on the Song (Les ondes du monde). At the same time as her university program, she is a member Octandre associations and Instrumental Studio, and studied to the academy of Bordeaux (baroque flute, oboe, bassoon, MAO, instrumental and electroacoustic composition). Holder of a DEM of electroacoustic composition for which she received a prize SACEM, finalist of the competition Klang! 2015 her works are regularly programmed in France and abroad. She is besides a composer for short films.

When technology meets the orchestra to manage dramaturgy: the example of *Maria Republica*, "opera for seven singers, fifteen musicians and technology" (François Paris, 2016)

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On the 19th of April 2016 took place in Nantes, France, the premiere of the opera *Maria Republica* written by François Paris (head of the CIRM, Nice). The libretto is an adaptation of the novel by Augustin Gómez-Arcos published in 1976. It is a violent criticism of the 1960's Francoist regime, for which the Church was a formidable weapon. In his work, the composer made use of technological tools to report dramatic situations driven by a central theme, vengeance, that leads to the climax. First, it allows him to put extra-musical elements within the plot, such as an electric arc that is triggered at strategic moments. This "narrative dissonance" is perceived as a foreign element by the characters and forces the spectator to keep his distance from the action. Secondly, the composer employs microtonality to illustrate the degree of intimacy of the textual content the singers render. The larger the intervals, the more general the content is and the less personal the text is. Thirdly, the composer uses the machine to distort musical timbres. For example, the organ *glissandi* metaphorically represent a corrupted church, a holy place where the "Mère Révérende" is not a believer and where the negation of God is one of the precepts. The creative process *Maria Republica* begun in 1991 when François Paris asked the author to adapt the novel to an opera. He then experimented some technological tools whitin two main pieces. The first one is called *Les confessions silencieuses* (for "virtual piano" and voices, 1996), where the composer focused principally on variations of microtonal scales using two M.I.D.I. keyboards. The second one is named *Rosa* (2012), in which François Paris used the same virtual piano as in *Maria Republica* – which is able to emulate sympathetic vibrations and

therefore help the singers to be more comfortable with microtonality. In these works, the technological tools already serve to compose dramaturgy. This allows the composer to reinterpret the classical topics of the history of the opera, such as "double" (especially in *Les confessions silencieuses* in which the machine metaphorically forms an important part), which later becomes "ghostly double". A recent program (*Antescofo*, IRCAM, 2011) enabling the conductor to take control over the whole electronic process allowed François Paris to introduce external or unusual elements that can emphasize the main events of the story which lead to the climax of the opera: Maria, an ex-prostitute who is forced to become a nun, locks everybody in the convent and sets it on fire. By melting them into the action, François Paris took advantage of technological evolution during twenty years of practice to outline the violent political criticism supported in a progressive drama. *Maria Republica* represents the final step of an operatic work in progress, with a very directed musical form, that he dedicates to "those who fight against all fascisms".

Cyril Délécraz

Cyril Délécraz was born in 1988 in Nice. He received a M.S. in Mathematics from the University of Nice Sophia-Antipolis in 2011. He then decided to pursue his studies in Musicology in order to commit himself to research. He currently is a third-year Ph.D. student under the supervision of Jean-François Trubert (C.T.E.L. lab, Université Côte d'Azur), whose field of research deals with the analysis methodology of the musical gestures. For his research, Cyril mainly uses Rudolf von Laban's theory, with the influence of Schaeffer's spectromorphology, and applies it to a scenic musical repertoire where gestures hold dramaturgic functions. Cyril regularly performs as a disc jockey, but also as an "electronist" within the alternative-provençal band called *Dart Lab*. He also graduated from the *Conservatoire à rayonnement régional* of Nice with a degree in electroacoustic composition.

Brian Ferneyhough's *Time and Motion Study II*. Possibilities and limitations of a gestural realisation in live electronic context – a practical observation

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Departing from sketch and gesture studies, this presentation aims to consider the way the elaboration of an informed performance practice within the specific domain of live-electronics becomes itself a creative process. Ferneyhough's sketches (PSS) are full of indications concerning gestalt qualities: figures act as the main criterium to distinguish between "structures" and "sequences". Distributional strategies of the "figure types" are sketched with rigour but also in a sufficiently general way to enable local interpretations during the compositional stage. The score is notated

with great precision and one should imagine that a strict conformity to its prescriptions would generate a perfect interaction between the live playing cellist and the electronics, so that a record produced by adding the electronic part during postproduction would seem acceptable.

Since its premiere in 1976, the piece has been played with variable technological environments, either simulating the original situation or automatizing diverse levels of the electronic part (pedals or selection of fragments to be delayed). During the workshop with cellist Arne Deforce, the decisive role of the electronic part became obvious since the reactions of the electronics have not only technical but also psychological incidences on the cellist (Godøy, 2006) causing the necessary internal tension (Levinson, 2015).

The features with the most outstanding incidences are dynamics and temporal interaction: the cellist must overcome his natural tendency to play louder than the electronics since an ever increasing dynamic level destroys the polyphonic qualities of the intended interactions; on the other side, as precise as might be the score (given delays for example appear systematically within silences of the cellist's part), the slightest difference in timing (with regard to the sound production or the moment when the pedal is pressed down) has significant consequences on the evolution of a sequence since such differences sum up to generate an ever increasing "desynchronization" between the parts. The question is not one of (in)accurate playing but of margin for interpretative decisions (Cook, 2014). Indeed, the score contains a limited number of multiparametric musical cells forming a network of self-reflective features. These musical cells support the coherence of phrases, sections and even the general unity of the piece at different structural levels through "micro-cyclic procedures", including such thin levels as interval relations or rhythmic cells (Josephson, 1995). The integration of these micro-cyclic events allows then to stress musical sense within an embodied phrasing. When a "desynchronization" occurs, this could put the entire coherence of the phrase in jeopardy.

Based on a workshop with the Arne Deforce, this paper demonstrates that it is only through meticulous experimenting that the performer becomes aware of his possibilities of "playing" with the electronics in the sense of constructing a real dialogue between his output, the machines' actions and the consequences on his own playing. Using source studies, analyses as well as the video material from the recording sessions, we will show to what extent the performance of a musical work with electronics involves real creative and experimental statements in order to be achieved.

Pascal Decroupet

Since 2005, Pascal Decroupet is professor at Université Côte d'Azur (Université Nice Sophia Antipolis), research laboratory CTEL EA 6307. Studies at Liège, Ph.D. at Tours (Ramifications of serial thought: Boulez, Pousseur and Stockhausen). From 1994 to 1996, member of a research-group at Humboldt Universität zu Berlin about the Darmstadt Summer Courses (*Im Zenit der Moderne*, Rombach, Freiburg i.B., 1997). Publications concerning the music of the 20th century, with special focus on sketch-studies of composers Berio, Boulez, Kagel, Pousseur and Stockhausen as well as on historic electroacoustic music (1940s to 1960s). Editor of two volumes of writings by Pousseur (Mardaga, 2004 and 2009) and of the sketches and

manuscrits of Boulez' *Marteau sans maître* (Schott, 2005). Presently developing a theory of sound based instrumental music from Varèse to Ferneyhough.

Jean-François Trubert

Jean-François Trubert is Professor in Music, Head of Art Department and of Program for Music Education at the University Côte d'Azur (Université Nice Sophia Antipolis). He has been granted by the Kurt Weill Foundation (New York) and the Paul Sacher Foundation (Basel, Switzerland). His main research interest deals with music dramaturgy and New Music Theatre, including Kurt Weill, Hanns Eisler, Luciano Berio, Mauricio Kagel and Georges Aperghis. He gave lectures in Cardiff (UK), Logroño (Espagne), Dessau (Germany) and Venezia (Italy), and has been published in peer-reviewed books and journals (*Contemporary Music Review, Brecht Yearbook*, *Loxias, Agon*, *Dissonance*). He is now coordinator of "Avant-Gardes" collection at publisher Delatour. He is member of the scientific board of the IDEX-ANR granted project "Reading Avant-Gardes" at the University Cote d'Azur.

For a phenomenological approach to interactive musical gesture. Embodied metaphors and multimodal feedbacks in digital mediated creative processes

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Over the last years, motion sensing technologies have considerably enlarged the vocabulary of musical performance. Although electronic media, and especially digital devices, still represent a remarkable constraint for human corporeal expressiveness, novel paradigms in musical gesture studies, like embodied music theories (Gødoy, 2003; Leman, 2007), allow us to reflect on how to rethink technological environment within a phenomenological perspective. Recent researches on this subject support the idea that an "ecological" understanding of musical gesture (Jensenius, 2010; Miranda, 2015) can inform "interaction sound design strategies" and thereby enhance our bodily involvement with music.

Within this theoretical framework, I will present a practice-based contribution aiming to provide some new insights about creative processes in a digital mediated context. In this purpose, different interactive applications - based on the combined use of optical detection, motion sensing devices and bio-feedback sensors - will be presented trough a live demonstration. The presentation will focus on how a bottom-up strategy can be used, within the creative process, in order to built up straightforward connections between sound morphology, motion capture system and gesture execution. Main features of this method are "embodied metaphors" and multimodal feedbacks. In this phenomenological approach, body movement is not simply considered as a source of data for live coding and sound interaction. Corporeality is, first of all, a source of meaningful images that can be integrated

within the technological context. Therefore, sensorimotor qualities can be used as a rich metaphor able to implement several algorithm's functions (for example, dynamic images, such as contraction or relaxation, can well inform both qualitative and quantitative thresholds). Similarly, sound design can take into account textural proprieties of the movement in order to bring out the tactile qualities of the sound. An analogous principle is used in gestural interpretation. In order to reach a higher level of interaction, "inner visualization" has proved to be a useful practice allowing the performer to express structural properties of music by means of body movements. This kind of "sound visualization" is not a mere mental representation. It can be defined as "chiasmatic" interaction (Merleau-Ponty, 1968; Bernard, 2001), that is a proprioceptive integration of sound morphology. This kind of deep incorporation leads the performer to transduce aural qualities in muscular tonus, respiration and sense of gravity. In so doing, musical gesture is understood as an emergent effect of the interaction because of its dynamic feedback/feedforward relation : movements produce sound, sound proprieties affect gesture and so alter the corporeal conditions from which the next sound comes up.

Andrea Giomi

Musician, digital artist and PhD Candidate in Music and Performing Arts at University of Côte d'Azur / CIRM (Nice, France). He obtained his MA in Aesthetic Philosophy at Università degli Studi of Milan, where he also earned a Diploma in Electronic Music. His work focuses on audio interactive technologies applications in performance and digital arts. Main themes of his research are: embodiment theory, multimodality and sound body paradigm. As artist, his major interests involve improvisational processes in electroacoustic music and new media performances. He is also sound designer in Kokoschka Revival theatre company, and electronic music producer. His music is currently released on RXSTNZ, ADN, Communion and Syntheke Records.

Session 4C
Jazz

Creativity and Professionalization
on Jazz Musicians

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The present investigation focuses on the artistic work of jazz musicians and their processes of professionalization and creativity. It is argued that the artistic careers of professional jazz musicians are generated in a musical scene marked by a high index of intermittency of their laboral practices (Guadarrama, 2014) and the need of multiactivity to sustain them (Menger, 2006; Perrenoud, 2009). The specific characteristics of the artistic field of jazz condition an environment where live performance and improvisation play a crucial role in shaping the music scene and so influence the processes of professionalization and artistic-creative practice of their members. The methodology used in this investigation is qualitative and is based on semi-structured interviews conducted between 2015 and 2016 with professional musicians specialized in jazz from the current Barcelona and Boston music scenes.

The presentation aims to analyze different variables that have a direct impact on the processes of managing creativity and artistic practice when it comes to building an artistic career in the cultural space. Some of them will be related to the versatile strategies that most of the musicians will adopt, combined with the set of entrepreneurial skills that will help them to manage and expand the different challenges and work options they will find on the cultural field. Other important aspects will be those related to the importance of the establishment of professional networks between their members and the different synergies and collaborative relations that will take place throughout the development of their artistic careers. As the creation and production of art works will usually require a complex structure of different agents, also in jazz worlds the constitution of a good network of contacts will be one of the variables that will facilitate and encourage the growth of both musical projects and musicians trajectories.

Marta Casals Balaguer

Marta Casals Balaguer is PhD Candidate at the University of Barcelona, developing a research on processes of professionalization and artistic work in jazz musicians. She is a member of the Centre for Cultural Studies, Politics and Society (CECUPS) and develops teaching and research work at the Department of Sociology (Faculty of Economics and Business, UB) as a pre-doctoral fellow (APIF-UB). Her main academic interests are in the framework of the sociology of artistic professions and the sociology of culture and the arts, within which she has made various research

and presentations at international conferences. She has a degree in Music Education (UAB, 2007/10), an MA in Cultural Management (UOC, 2010/13) and an MA in Humanities: art, literature and contemporary culture (UOC, 2013/16). In parallel, she is a musical artist, a teacher and a cultural manager.

Self-portraits in Jazz

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The practice of jazz has developed over the years to include various stylistic elements and forms, not least because of its open interpretation based on improvisational concepts. Despite (or rather, because of) the ambiguity of jazz and its definition, there are musical signifiers of jazz performance – such as form, groove, and harmony – that are deeply ingrained in practice. However, the creative process of jazz is linked to social aspects as much as it is linked to musical aspects. Improvisation which plays a central role in jazz is often used as a vehicle of self-expression, and therefore, most revealing of self-identity. Furthermore, the collaborative nature of jazz performance leads to mutual explorations of identities in the creative process in which difference is constantly negotiated and represented. I follow Stanyek's observation of intercultural improvisation through the 'reflexive use of… cultural difference as a basis for collaboration' that 'juxtapose[s] different histories without sacrificing identity' (2004, p.89).

Thus, I will present 4 pieces of original material and reworked jazz standards as a series of 'self-portraits' in jazz. Understanding that the pieces themselves hold particular identities, I seek to bridge the gap between the perceived construction of jazz practice and a musician's creative process of that practice. My investigation is based on the concept of identity construction in performance and how it is a multi-faceted process of negotiation, an improvised condition. I am interested in the interagency of collaborative relationships and how that is furthered when performing either a self-composed work or a standard repertoire.

My discussion will encompass the temporality of a jazz performance work and how it gives rise to the versatility of identities. That is, each performance embodies an improvisatory moment where the shape of the whole performance in determined spontaneously despite following a pre-determined arc. Referencing Stuart Hall's theory of cultural identity in which identities perpetually undergo transformation through the process of 'being' and 'becoming' (1990, p.225), I will discuss how the collective identity of an ensemble represents the collaborative act of 'being' while the performance represents a creative output that is 'becoming'.

Pei Ann Yeoh

Pei Ann Yeoh started her musical endeavours at the age of four and has since received her Fellowship Diploma from Trinity College London in both Solo Piano and Violin Performance. Following that, she pursued a Bachelor of Music at Queensland Conservatorium, Australia and Masters of Music at Birmingham

Conservatoire, UK majoring in jazz violin performance. Comfortable in both Classical and Jazz styles, Pei has had the opportunity to work with renowned musicians such as Dave Holland, Chris Potter, James Morrison, and composers Louis Andriessen and Frederic Rzewski. She performs in London with the King's Brazilian Orchestra, London Improviser's Orchestra, and leads her own ensemble, TriYeoh. In 2015, Pei was granted a joint scholarship by the Malaysian government and Universiti Teknologi MARA (UiTM) to undertake a PhD at King's College London. Her research focus area is on gender and ethnicity in jazz performance.

Session 5A
Ethnomusicology

Creative processes in generating music for plays in Kenya

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Research on tracking creative processes among composers of music has been carried out mostly in music education, and in the Western context. In these studies scholars track creative or composition processes among individuals or groups of composers, with some working within precise time limits and within predetermined frameworks. In most of the studies, scholars have adapted Wallas' (1926) stage theory of creative thinking, taking the stance that the composition process takes place in stages (preparation, incubation, illumination and verification). However, these perspectives may not adequately address the creation of specific genres of music in the African context, such as music in plays, whose creation processes are collaborative, and highly dependent upon the play's context and oral culture. The music is a fluid and eclectic genre which poses a myriad of characteristics. The processes in its creation are continuous with and embedded in the plays, whose creation processes are influenced by the practical, organisational and societal factors.

This study departs from viewing the creative process as thinking process and instead regards it as creative agency by probing conscious actions and processes used by practitioners and novice musicians in creation of music for plays in Kenya, and specifically at the Kenya National Drama Festival (KNDF). The study draws on a synthesis of creative process theories which include theories relating to inspiration as espoused by Harvey (1999) and the creative theory for performance in African music by Nzewi (1997) among others. Using an ethnographic approach, the study pays special attention to the discourses and creative actions of these practitioners and their music within the context of creation. The study uses a combination of data collection techniques: interviewing, participant observation, and document analysis. The creative processes are assessed during preparation (pre-scripting and scripting), rehearsal and staging of the plays. It discusses these creative acts and argues for a new conceptualization of these creative processes within selected plays in the KNDF context. The study found that the creation of music goes through both micro and macro processes, and that apart from being processual (taking place in overlapping stages), they are also iterative and contextual (takes place a natural environment). The main contribution of the study is a framework for understanding creative processes in generating music for plays. It is hoped that this study will offer insights into techniques, ideas, procedures, and aesthetic

possibilities for creating music in Kenya and other contexts, as well as other genres and creative spaces other than the play.

Jacqueline Zinale Bullindah

Jacqueline Zinale Bullindah is a PhD candidate at the Stellenbosch University's Music department, where she is specializing in creation of theatrical music. Jacqueline holds an MA in Music Composition and a Bachelor of Education (Arts), both from Kenyatta University. She is also a lecturer of Music at Maseno University's department of Music and Theatre studies, in Kenya. As a composer, conductor, educator, and director, she has been involved in the production of musicals, plays, choral, and instrumental music both with professional and non-professional groups. Jacqueline has also taken part in important festivals and cultural projects in Kenya. Her research interests include composition, theatre music, festivals, research methods (CAQDAS), and interdisciplinary research in music.

The compositional practice
of Irish singer-songwriters.
A grounded theory in ethnography

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The urgency to explore "the process or act of musical composition" due to its lack of scholarly attention is highlighted by Collins (2012) which he attributes to an emphasis on object over "object maker". Adopting a constructivist approach, the current work evaluates and interprets the compositional practices of Irish singer-songwriters by way of qualitative participatory investigation. The Irish *singer-songwriter* is an artist who draws inspiration from pan-temporal and multicultural sources. A representative sample of participants (n = 15) is critically appraised until such time as a comprehensive image of the songwriting process emerges. The study encapsulates the practices of established artists born between 1942 and 1982, conducted over a two-year period. Based on individual perceptions and independent of genre, compositional practices are conceptualised by way of grounded theory in ethnography. The collective use of ethnography and grounded theory are adopted largely due to the systematic strategy of the former and the naturalistic emphasis of the latter.

Firstly, the *lived experiences* of Irish singer-songwriters are evaluated by way of field studies. While largely informed by in-depth interviews and memos, consideration is also given to artefacts such as song texts and recordings. Findings are further supported by songwriting workshops and seminars. Following initial coding, an axial coding paradigm was developed from conceptual maps around the central phenomenon of artistic discipline. As expected, there are many aspects of songwriting practice which are not unique to Irish artists. While the implication of contextual factors including writing environments and musical traditions are

significant, the songwriting process is dominated by structural hierarchies, Irish melody and a tendency to compose while removed from accompanying instrument. In addition to re-encoding their contemporary aesthetic there is still much evidence of fusing ancient melody and poetry together with practices which some view as a continuation of the bardic tradition. Results are illustrated with examples of what participants consider their most memorable songwriting processes. In the majority of cases such songs were demonstrative of Irish localities, experiences and identity manifested through an Irish accent in preference to a universal western voice. It is concluded that while a grounded musical tradition may certainly be viewed as a privilege, much of the Irish songwriter's compositional practice is driven by autotelic factors, culminating in a disposition to (re) examine one's process periodically.

Donnacha M. Toomey

Donnacha M. Toomey is a lecturer within the Creative Media Department at the Institute of Technology, Tralee, Ireland. His research interests include songwriting, songs of social protest, and musical identity, areas in which he has published internationally. He is a member of ISTR (Irish Society for Theatre Research) for which he has presented performance based research on the blues in contemporary Irish culture. He is also a member of the Popular Music and Popular Culture Research cluster at the University of Limerick. Donnacha has been a songwriter for most of his life having produced a number of critically acclaimed recorded works including Level Crossing (2012) and Carnival of Colours (2009). Prior to this he worked at Ireland's cultural and arts radio station RTÉ Lyric FM.

Session 5B
Sketch Studies

'Scriptural recycling' as creative act in music writing

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Musical autographs, from sketched notes to drafts, Particells, or master copies have different values for genetic concerns. Text genetic process in a narrowed understanding for my approach means the way of writing a musical text: Writing, in the sense of 'writing scenery', different modes of 'textualisation', a temporal 'materialisation' of musical thinking in the context of notational iconicity and the elaborating mind. The 'final autograph' of one piece, the master copy by the author, seems to be a quite fixed, as well as 'finished' source in the evolutionary concept of music philology. In general one would expect that this specific source comes up with a clear text, and a fixed musical content, or rather musical shape. Addressed to a reader next to the author such as the copyist or publisher the source should appear without textual, notational, or musical ambiguity. Faced to such sources, one would not expect any traces of creative processes, but looking at the master copies of Max Reger one will be surprised. In my talk I will present an approach that introduces 'scriptural recycling' as a concept of creative acting in holographs.

My approach puts the scripture, as well as the act of writing into the focus of my research interest. Reger's autograph scripture, in particular his master copies, are well known for a beautiful and clear type face. His idiosyncrasy in black and red inked handwriting is based on the suggestion of his first publisher to ensure an unmistakable reading of the holographs. From that point Reger strove towards an unambiguous handwritten type face. Struggling with this ambitious aim, the amount, as well as the tempo of composing he had to work out musical details in the master copy. Looking at the scriptural details of his scripture, one can observe a creative process on micro chronological levels of the textualisation. Reger e.g. used different ways of, otherwise'-writing, and ,over'-writing to find solutions for compositional problems. In particular cases he made use of parts of the primary text by adding textual elements (e.g. heads, dots, stems etc.), as well as erasing textual parts (e.g. Flags, heads, stems etc.). These (re)-writing modes can be applied to simple error corrections, or generate new musical components.

In my paper I will demonstrate a text genetic approach to Reger's master copy of *Variationen und Fuge über ein Thema von Beethoven* op. 86 for two pianos (1904). Here, one can convincingly reconstruct the elaboration of 'musical elements' from the process of writing, or let's say from the 'moment of textualisation'. Scriptural

interventions range from minimally rhythmical or pitch changes in single voices to structural shaping of the composition. From that perspective one can detect different values of generative potentiality of various writing settings, thus we might reconstruct compositional processes on diverse layers of the text genesis, and develop concepts of creative acts in music notating. Concerning that, and faced to Reger's autograph, I will discuss the idea of 'scriptural recycling' as creative act in music notating.

Fabian Czolbe

Fabian Czolbe studied musicology, history of art and philosophy in Berlin. In 2008 he received a Ph.D. scholarship of the Deutsche Forschungsgemeinschaft in the research training group 'Notational Iconicity' and completed his Ph.D. in 2011 with the thesis: "Sketch Studies in the Context of Notational Iconicity. A discourse of approaches exemplified by sketches of Henri Pousseur". In 2012 he got a postdoc grant, is frequently lecturer at the Institute of Musicology and Media Studies at Humboldt-Universität zu Berlin and writes critics for musical journals. Since 2015 he is postdoctoral research fellow at University of Music Franz Liszt Weimar/Friedrich Schiller University Jena with a project on the genesis of Max Reger's Mozart- and Beethoven-Variations. Research interests: sketch studies, music notation, theory of scripts and writing, contemporary music theatre, Klangkunst/Sound Art, and electroacoustic music.

Creating connections.
The sketches for Max Reger's
Sonata for violin and piano op 139 (1915)

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My contribution will approach the creative process from a mainly philological point of view, taking written sketch materials preserved in the Max-Reger-Institut (Karlsruhe) as a basis for a detailed study of Max Reger's (1873–1916) compositional process.

A first version of Reger's *Sonata for violin and piano* op 139 was composed in December 1914 at Reger's Meiningen home. Having already finished the sketches for movements I, II, and III, Reger suddenly stopped the composition halfway. However, some months later he came back to the piece: The first movement was now replaced by a more convincing version, and a new variation finale was added which is closely linked to the former movements by the use of subtle collage techniques of motific material. In a letter to his friend Fritz Stein, Reger announced the new sonata version as a fine example of his "completely new style", relating this new style to his new home town Jena (the so called "freier jenaischer Stil"). The new sonata version, however, includes a lot of material taken from the older version, e.g., the second and third movement which only interchanged position within the formal sonata layout.

It was only in the year 2005, that pencil sketches of the sonata's first and second version (so called "Verlaufsentwuerfe", containing pencil notes to almost every bar of the later piece) have been made accessible to research. The pages are amongst a larger bundle of sketch materials which are now preserved in the Max-Reger-Institut Karlsruhe. Concerning the *violin sonata* op 139, there are 12 pages of *Verlaufsentwuerfe* for the first version of the piece, and 19 pages for the final version. A close analysis of this extensive material contributes to get a better understanding of Reger's composition process – the conversion from a sketch to the final score. For this aim, an Edirom application of both versions was created facilitating the comparison of the versions and the reconstruction of smallest compositional details.

One striking detail is the way Reger created a connection between the movements (which is generally received as the "completely new style"): He used a tight net of quotations, not only directed backwards but also as "forward" allusions to motifs which come to great importance only at a later time within the sonata. For example, the characteristic variation theme (movement IV) is hinted at already in the first movement. What is more important: these allusions can clearly be seen in the *Verlaufsentwuerfe.* Already at this very early stage within the compositional process, Reger seems to have strategically planned motific connotations between the different movements. The analysis of the sketches and their close inner connections shows that, what may seem to be "arbitrary" in Reger's sonata, appears to be a highly sophisticated, artfully linked net of allusions and quotations.

The result of the research: A detailed analysis of the sketch material of Reger's *Sonata* op. 139 using new digital methods such as an Edirom application greatly helps to get a new understanding of Reger's compositorial procedure and techniques in general, and may serve as a model for further sketch studies of the works of other composers.

Stefanie Steiner-Grage

Dr phil Stefanie Steiner-Grage graduated at the Technical University of Dresden with a study on large scale vocal music of the beginning of the 19th century (*Zwischen Kirche, Buehne und Konzertsaal. Gross besetzte Vokalmusik von Haydns Schoepfung bis zu Beethovens Neunter*, Baerenreiter-Verlag, Kassel 2001). She was working in several projects at the Max-Reger-Institut/Elsa-Reger-Stiftung: from 2001 to 2007, she collaborated in the project *Reger-Werk-Verzeichnis*, a new catalogue of Reger's works (2 vols., Henle-Verlag, Muenchen 2010). In 2008, she joined the board of editors of the new *Reger-Werkausgabe*, a digitally enriched new edition of Reger's works (until now, 7 vols., Carus-Verlag Stuttgart 2010 –). Since 2007, she is a lecturer for music edition and digital methods of editing at the University of Music Karlsruhe and held teaching assignments at the universities of Zurich, Tuebingen, and Freiburg.

Cross-readings of Schoenberg's sketches for op. 16 and Varèse's functional diagrams for *Amériques.* Figural and formal developments toward a pitch-space based "free atonal" compositional theory

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This contribution investigates the extent of direct and indirect interactions between structural and compositional procedures in Schoenberg's *Fünf Orchesterstücke* (1909) and Varèse's *Amériques* (first version, 1918-21). As is well known, Varèse alludes to the No. 4 of Op. 16, *Peripetie*. Nonetheless the relationship between the two pieces goes far beyond a simple quotational level and into a structural one. To use the Bloomian image of *tessera*, *Amériques* can be regarded indeed as Varèse's "completing link" to Schoenberg's Op. 16 (thus both a critical transgression and an enriching feedback). This notion of "completion and antithesis" can furthermore be transposed to the theoretical and analytical approach itself.

The assumption of a non-systematic nature of the compositional procedures in the "free atonal" period still holds considerable weight in scholar considerations, often labelling such pieces as being resistant to analysis. The method adopted here takes into account the actual musical figures in their sonic reality, considering simultaneously their pitch content and registral distribution, and examines the materials' treatment with reference to transformations in time. From this emerges a structural, figural and formal coherence within and between these pieces beyond the surface resemblances.

The inquiry develops on three dynamically interacting layers.

1) A set of referential figures from Schoenberg's pieces, which Varèse assumes as *Grundgestalten* for *Amériques,* is selected. They share a high chromatic potential and can be categorized into three variants of "chromatic constellations": semitonal (in close position), expanded (through octavization) and diatonized (with interpolated non-chromatic intervals). These figures generate specific shapes with primary status in both composers' musical language: the chromatic *Grundidee* develops into variable harmonic spaces to sustain a general dynamic process of development.

2) Pitch and contour analysis of the musical material of both works reveals shared practices and theoretical principles. On a microscopic *structural* level the common ground emerges in the treatment of pitches both vertically and horizontally; on a middle *morphological* level, the modification of the "physiognomy" of the melodic and harmonic shapes is realised through repetition and accumulation to generate more developed phrases, polyphony and autonomous textures; the *formal* macro-level combines both structural

and morphological modifications to build a cohesive, directional form. This principle of similarities between microscopic and macroscopic is what Varèse coined as "crystallization".

3) The autograph sources on which the present "crossed" interpretation is based are of two different types. On the one hand, the sketches of Schoenberg's Op.16 (ASC, Vienna) confirm the generative role the generative ideas of *Peripetie* play for the whole opus. On the other hand, Varèse's diagrams for pitch and interval organization, partially unpublished (PSS, Basel) and constantly re-elaborated throughout his career, not only help to explain the primary function of specific intervallic constellations in *Amériques* but retroactively also increase the analytical insight for Schoenberg's composition.

The results of the present study invite to broaden the focus to develop a more comprehensive theorization of the "free atonal" compositional methods with respect to such central an aspect as temporal pitch distribution expressed through morphological and figural constellations.

Federica Di Gasbarro

Federica Di Gasbarro has received her PhD in *Cotutelle* at the Universities of Rome 'Tor Vergata' and of Basel with a dissertation on Edgard Varèse's *Amériques*. She was academic staff member in the project "Performance Practice of Electroacoustic Music" at Institute for Computer Music and Sound Technology (ZHdK, Zurich). She held research fellowships from Swissuniversities, for her study on Varèse at the Paul Sacher Stiftung (Basel), from Centro Studi Luciano Berio (Florence), for research in the archive of RAI-Radiotelevisione Italiana, and from Fondazione Giorgio Cini (Venice), working on the reception history of Stravinsky's music in Italy (from 1915 to 1951). Her publications deal also with XXth century music in Italian radio and television.

From the sketches to the scene:
Exotica für aussereuropäische Musikinstrumente by Mauricio Kagel (1971-72)

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Commissioned for the *Weltkulturen und moderne Kunst* of Munich (1972), *Exotica für aussereuropäische Musikinstrumente* is composed for six classically trained performers and a conductor playing with several extra-European instruments on the basis of an open score containing alternate indeterminate features. The two existing recordings under the artistic supervision of the composer (1972 and 1992) display divergent interpretations of the proposals contained in the score and Kagel's archives (PSS) hold a total three montage plans. What might seem discrepancies

between sources actually appears to be mere variations on the æsthetical idea of *model - imitations*. This reading is supported by the basic compositional sketches.

Indeed, one intriguing paradox concerning Kagel's instrumental theaters is the directness of the performance, often engaging or even charming its public, and the resistance of those works when confronted to analytical approaches. Often compared with the Absurd Theater, it seemed for too long almost pointless to try to understand the compositional logic behind it. As it has been recently shown by Jean-François Trubert, this common place can be transgressed when taking into account the genetic sources for both the compositional and performative processes (Trubert, 2015). *Exotica* marking the beginning of the composer's exploration of questions related to cultural identities and Otherness, topics to be found in successive works such as *Mare Nostrum* (1973-75)*, Tango Aleman* (1978), *Aus Deutschland* (1977-80) or *Die Stücke der Windrose* (1988-91), most of the scholarship existing on *Exotica* mainly focus on its semantic aspect, being its critical position whether towards musical colonialism or musical identities (Pelinski, 1995; Wilson, 2000; Andraschke, 2004; Heile, 2006). Nevertheless, Otherness can be regarded as a proper musical dimension justifying specific analytical tools.

While I do recognize the importance of such discussion for the understanding of the piece, Kagel having been the first one to discuss those aspects in his writings, the goal of this paper is to argue that *Exotica* can be understood through the lens of its musical implications regarding both the compositional and performative choices. Following the lead of Claus Raab (Raab, 1981), the only scholar that offered an analytical insight of the piece, I will show that serial principles can be found at the basis of some parts of the composition, precisely as one way to organize the general relationship between a model and its imitations/transformations. Also, approaching the different performances of the piece with that principle in mind, the musical material to be imitated might not be the real object of attention. Reminding of Stockhausen's intuitive music, *Exotica* could be thought of a processual music. This reading is confirmed by Kagel's own transgression in his recording of 1992, where the domain of "exotic" sources includes also real-life sounds such as running water. Acknowledging this new understanding of *Exotica* will have decisive impact on performative choices today: should *Exotica* be re-enacted to remind "historical exoticism" or can it be an invitation to an actualize questioning of Otherness in a globalized world?

Mylène Gioffredo

Mylène Gioffredo is currently a PhD candidate in Music Theory at McGill University (Canada). Her researches focus mainly on musics from the 20th century, which she studies through the lens of the compositional process, musical and political relationships and the impact of multiculturalism on compositional gesture. Her publications deal with works of Dallapiccola and Berio.

Session 6A
Collective Performance

'… a solo or a part in an ensemble, symphony, or concerto': documenting performer perspectives on John Cage's
Concert for Piano and Orchestra (1957–58)

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The graphic notations of John Cage's *Concert for Piano and Orchestra* (1957–58) are among the most intricate and abstract that he ever wrote; and the piece's formal instructions (that the thirteen instrumental parts can be played in any combination, including with other pieces) offer seemingly endless performance possibilities. Yet, while the premiere of the *Concert* is notorious for being disrupted by the behaviour of the orchestral musicians, who, in Cage's words 'introduced in the actual performance sounds of a nature not found in my notations, characterized for the most part by their intentions which had become foolish and unprofessional' (Cage, 1968, pp. 135–36), surprisingly little scholarly attention has been given to the instrumental parts—how they function, and their implications for performance.

This paper considers the questions that the instrumental parts of the *Concert* raise for performance and what they might bring to a discussion of creativity. We explore the creative possibilities that are afforded by the notations and how musicians respond to their complexities and ambiguities, and consider how these perspectives might contribute to a developing performance practice surrounding the work and to the performance of indeterminate music more widely. We present material from a major data collection event taking place between January and July 2017 with musicians from the ensemble Apartment House, which documents performances of the thirteen solo parts, the conductor part, and the piano part (both as separate works and as a whole), and includes a recording of the culminating *tutti* performance. Audio recordings of the separate performance parts will be embedded in an interactive website, which will allow the user to 'play' with the recordings to create infinitely variable versions of the piece. In addition, the website will present audio-visual footage of performance activities and semi-structured interviews with the participants, enabling current and future performers to draw upon the ideas and practices of other musicians and thus to inform future performances. Extracts from

the recordings and aspects of the website will be presented as work-in-progress as part of the presentation.

Conceptually and methodologically, our research builds on previous studies that document the creative processes of performance in 'contemporary' musics, (see, e.g., Bayley, 2010, 2011; Clarke, Doffman, & Lim, 2013; Clarke, Doffman, & Timmers, 2016) but it develops this work further in two significant ways: by grounding the research historically in detailed analysis of various archival sources relating to Cage's work and the premiere and subsequent performances of the *Concert*, alongside interviews with musicians who have performed the piece in the years since its premiere; and by developing innovative methods to disseminate data and findings in an accessible manner through the website, a unique tool for performative and musicological understanding. Moreover, since the process of embedding the performance materials in the interactive element of website itself represents an act of creative decision-making, the research raises broader methodological questions about the nature of creativity in digital musicology.

The paper is an output of the AHRC-funded project, 'John Cage and the *Concert for Piano and Orchestra*', based at the Universities of Huddersfield and Leeds. See www.cageconcert.org for further information.

Philip Thomas

Philip Thomas is Professor of Performance at the University of Huddersfield. He performs regularly as a solo pianist and with the ensemble 'Apartment House', specialising in experimental music from the UK and North America. He has published essays on subjects relating to performance and especially the music of Christian Wolff.

Martin Iddon

Martin Iddon is Professor of Music and Aesthetics at the University of Leeds. His musicological research has largely focused on post-war music in Germany and the USA. His books *New Music at Darmstadt* and *John Cage and David Tudor* are both published by Cambridge University Press.

Christopher Melen

Christopher Melen is a Postdoctoral Research Assistant working on the AHRC project 'John Cage and the *Concert for Piano and Orchestra*'. His main role within the project is the development of an interactive website. Christopher studied music at Cardiff University, where he was awarded a PhD in Composition.

Emily Payne

Emily Payne is a Postdoctoral Research Assistant on the AHRC project, 'John Cage and the *Concert for Piano and Orchestra*', at the Universities of Leeds and Huddersfield. She undertook her Doctorate at the University of Oxford, employing ethnographic methods to examine the creative processes of clarinet performance.

Silence and sound as notional trust: Bayesian games in networked music performance

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This paper investigates the notion of trust in the context of networked music performance, via the author's original implementation of a Bayesian game piece for improvising musicians. Games of this type are used in problems or scenarios where a cause (or a *prior*, in statistical terms) is not observable but is instead deduced from the current state of knowledge or belief with respect to the evidence available (the effect). Inferential reasoning of this kind is also a paramount feature in the interaction amongst improvising musicians. While Bayesian inference is normally reserved for either game theoretical or artificial intelligence applications, where agents are assumed to be rational, it is here instead explored as a tool for structuring large groups of improvisers' musical output. By electing inferential reasoning as the shaping factor for musical relationships, the author's game piece fosters decentralisation and learning, suggesting a novel interpretation of the dichotomy sound/silence. Such binary is thus explored as a representation of pairwise trust (or lack thereof) over a network of players. Paradoxically, if a shared notion of trust was learnt amongst the participants, abiding by the simple action space of the game, this would manifest as a sparse sonic tapestry, thus challenging pre-constituted ideas about collaboration and interactivity in a creative setting. The author's model for systemic improvisation presented here is primarily a game piece designed for accomplished improvisers and not an analytical tool. More specifically, the author is not seeking to solve the game via means of Bayes Nash equilibrium, but rather to design an improvisational framework which can be simultaneously open and structured, composed architecturally while improvised in content. Two instances of the proposed game piece are discussed, where thirteen players participated and submitted evaluation forms relative to parameters including perceived novelty, satisfaction with the musical outcome, sense of form and multi-layered musical interactions, sustained dynamics and textures. Both instances allowed for ample familiarisation periods, with scheduled rehearsals. In both cases, participants presented the author's music game on network at sonic arts festivals on the day following the rehearsal/collection of data. Given the small sample, this study does not claim to be statistically significant or conclusive, but it rather suggests a possible area of multidisciplinary research, by offering a novel insight into creative collective practices and processes, weaving emergent and formalised musical structures into a seemingly coherent output.

Stefano Kalonaris

Outlier of a long running family tradition in architecture, indiscriminately curious, Stefano Kalonaris takes a good look at everything life throws at him. Life-long undecided, lately decided (!!!) to focus on decision-making processes and Sonic Arts. He is a seasoned performer and avid researcher of a myriad musical styles and cultures. Stefano is particularly keen on sound (including its absence),

mathematics (including counting calories), languages (including programming ones), and good dark chocolate. Stefano is currently a PhD candidate at the Sonic Arts Research Centre, Queen's University Belfast, UK.

Session 6B
Electroacoustic Music

Reinterpreting Koenig's Funktion pieces: historic reconstruction and recontextualisation

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Gottfried Michael Koenig's *Funktion* series of pieces written in the late 1960s used voltage control to realise his ambitions for greater automation of the realisation process of electronic music. His realisation score for this piece allows the possibility for the Funktion pieces to be recreated, but because the score is divided into two main sections – realising the raw materials, and assembling each Funktion version – it is possible to develop one's own version, based on the same raw materials.

This paper springs from my own realisation of Koenig's raw materials using a combination of historic and contemporary technologies, combined with interview and archival data to examine the more ambiguous areas in the score and how that relates to the idea of interpretation and performance practice in the studio.

My own version incorporates my own practice in live electronics and improvisation by means of 4 individual performances in London, Edinburgh, Stuttgart and Karlsruhe, followed by a 4 channel fixed media performance made using recordings of each improvised performance occupying an individual track.

Using analogue equipment in live performance similar to that used by Koenig in the studio, coupled with Max-for-Live plugins based on models of some of the analogue equipment enables Koenig's highly planned and structured compositional ideas to be reinterpreted through improvisation in an unplanned and intuitive manner. This project remains as faithful as possible to the composer's methods for creating the raw materials, and tries to retain that faithfulness even in the creation of new algorithms for live performance.

The resulting piece *Funktion CMYK* can then serve as subject matter for all kinds of analysis, with interesting questions about how much of Koenig's style is evident in the new piece, and how much the different technologies used in the realisation have affected its reception. The paper also provides an insight into different strategies for researching historical practice, as well as situating such practices within a contemporary compositional and performance practice.

Sean Williams

Sean Williams is a practice-led researcher in the field of electronic music and performance. He has published research on a range of electronic music practices across genres, specializing in the Cologne studio and the music of Karlheinz Stockhausen, as well as Jamaican dub producer King Tubby. He designs and builds instruments, incorporating them alongside early electronic devices in historically informed performance practice. He has performed electronic pieces by Hugh Davies, Karlheinz Stockhausen, David Johnson and others, as well as having performed his own music internationally both as a DJ and live performer. After completing his PhD in Creative Music Practice, supervised by Martin Parker and Simon Frith at the University of Edinburgh, he was awarded DAAD funding for several months research in Germany, followed by a 3 year Leverhulme Early Career Research Fellowship. He is currently lecturer in Music at the Open University and also teaches at the University of Kent.

Origins, dynamics and evolution of collaboration at the Studio di Fonologia della RAI in Milan (1955-1983)

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Electroacoustic music is a very good example of music in which technologies engender new creative processes as a network, a collective of human agents organised within a collaborative system. I've been studying this collaboration for some time now, driven by the desire to unveil the role of those people who helped composers in the making of musical pieces now considered to be milestones in the history of electroacoustic music.

In this communication, I will address the origins, dynamics and evolution of collaboration at the Studio di Fonologia della RAI (hereafter SFM) in Milan (1955-1983). I have been working with a systematic analytic approach of different kind of sources which covers the role played not only by Marino Zuccheri – chief sound technician and music assistant/collaborator of Luciano Berio, Bruno Maderna, Luigi Nono, Henri Pousseur among others – but also by physicist Alfredo Lietti, who "designed" the technical equipment at SFM in 1955, and a plethora of other persons working in the broadcasting company RAI at the time involved in the recording process, installation, studio wiring and cabling.

In 2008, Umberto Eco presented his insights as regards the role sound technician Marino Zuccheri could have had to play in achieving many of the musical pieces: he suggested that Zuccheri's contribution was so strong that in some cases electronic pieces going under other names were really his. As he recalled "all the protagonists of Neue Musik used to pass by there and it is fair to recall that, since many of them were in Milan to study with scholarships and had to present a complete composition at the end of their term, and the period had not been long enough to master all nine

oscillators secrets, great Marino Zuccheri would put together an acceptable composition with a couple of moves, thus many of electronic music incunabula are his and not from those authors who signed them" (Eco 2008).

In their writings and statements, composers who worked at the SFM in those days, did recognize the presence and contribution of musical assistants and technicians. However, it is more difficult to reconstruct the dynamics of this collaboration and the mode of thoughts. Other than a lively interview with Zuccheri with interesting remarks on the work methods he used with composers (published in De Benedictis – Rizzardi 2000), not much has remained specifically dedicated to the topic of collaboration. My research tries to combine a comparative study based on heterogenous sources, in order to reconstruct Zuccheri and other technicians' interventions, and some of those collaborations occurred at the SFM with John Cage, Luciano Berio, Bruno Maderna, Karlheinz Stockhausen, the Prix Italia. I will report findings based on archival research, unpublished sources (written, oral and video) and administrative documents, conserved now at NoMus Association in Milan (director: Maria Maddalena Novati). Moreover, writings published over the past 60 years dedicated to the SFM are also useful when mentioning collaboration at the SFM, although in a dispersed and fragmented way, as in (Zuccheri 1962; Lietti 1956; Scaldaferri 1997; Vidolin 1998; De Benedictis – Rizzardi 2000).

The observation of the collected data can give an understanding, at least the attempt to understand, of the protocol collaborative process: synchronicity, diachronicity, areas of expertise, problems, communication, coordination, mode of thoughts of the protagonists at the SFM.

As I will also ascertain, this research introduces a parallel level of historiographical investigation. The history of the scattered "studies on Marino Zuccheri's collaborations" – which led to the publication and the organization of some events during the 2000s – generates some interesting remarks based on lost documents, a symposium and many *stories that were never recorded*.

Laura Zattra

Laura Zattra obtained her PhD at Sorbonne/Paris IV and Trento University. She collaborates with research centres, archives and universities (Padova, De Monfort, Calgary, Sorbonne). Research Associate at the Analysis of Musical Practices Research Group, IRCAM-CNRS (Paris) and IreMus (Paris-Sorbonne). Her research interests cover the interaction of music and technology, collaborative artistic creativity, the analysis of compositional process, women's studies and music. She is currently Lecturing at Padova University, Parma and Rovigo conservatoires (Italy).

Tracking the creative process of musical works with 3D sound spatialisation: the case of Natasha Barrett's *Hidden Values* (2012)

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Natasha Barrett's *Hidden Values*, created in November 2012 at Ircam's Espace de Projection, was the major musical outcome of the composer's residence within the institute's *Composer in Research* scheme. This acousmatic work, composed for a 3D Ambisonics spatialisation system, is one of the nine case studies investigated within the TaCEM project – Technology and Creativity in Electroacoustic Music – funded by the United Kingdom's Arts and Humanities Research Council from 2012 to 2015 and led by the three authors of this communication. This project interrogates the relationship between contemporary composition and technological innovation in the electroacoustic repertoire, and led to significant software developments implementing an Interactive Aural Analysis approach. Undertaking and disseminating research on the basis of dedicated software enables a direct aural engagement with the materials, processes, and structures at play in the works. Each case study of the project raises a focus on specific creative processes, and, given Barrett's long-term artistic research into an advanced two and three-dimensional spatialisation of sound, the TaCEM investigation of *Hidden Values* tackles this important aspect of her compositional approach.

As for most of Barrett's work, the exploration of sound spatialisation was central through all of *Hidden Values*'s creative process. Principally based on two categories of materials, voices and percussions, respectively recorded with soprano Evdokija Danajloska and percussionist Gilles Durot, the piece also includes outdoor recordings, captured with specific soundfield microphone sets. From these materials, Barrett engaged with a number of compositional techniques, such as spatial counterpoint, transformations from points to masses, illusion of a motion through the centre of the listening space, or spatial re-contextualisations. While composing, she explored transformations of sound images, as well as gestural-controlled motions. In the final version of the work, a variety of techniques support a large vocabulary of three-dimensional images and motions, fully integrating the spatialisation into the resulting dramaturgy.

To account thoroughly for the creative process leading to *Hidden Values,* the study undertaken within the TaCEM project incorporates a software application which can be used in a studio with a complex spatialisation setup, but also on a standard personal computer, in which case the spatial movements are encoded for an appropriate stereo rendering. The software enables the user to explore the different

spatialisation techniques used in the work and through different stages of its elaboration, and to evaluate their roles within the final musical structure. Interactive modes of dynamic visualisation have been developed to facilitate the understanding of spatial fields and motions and their musical interactions. Such an Interactive Aural Analysis approach of *Hidden Values* also incorporates filmed interviews with the composer herself, discussing the genesis of the work, demonstrating her techniques, and commenting musical excerpts. A filmed discussion with the members of the *Room Acoustics* team at Ircam completes this documentation on a musical work in which 3D spatialisation is the focus of an advanced interaction of technological innovation and artistic creation.

Michael Clarke

Michael Clarke is a Professor of Music at the University of Huddersfield, UK where he is currently Dean of the School of Music, Humanities and Media. He is a composer, developer of software for music and a music analyst. Much of his work is in the field of computer music and many of his recent compositions feature multi-channel 3D spatialisation. In the analysis of electroacoustic music he has pioneered a new approach 'interactive aural analysis', using software to engage with the music and its underlying technology. He has won international prizes both for his compositions and his software and has spent extended periods of time working at major studios abroad: EMS, Stockholm, IRCAM, Paris, Simon Fraser, Vancouver and SARC, Belfast.

Frédéric Dufeu

Frédéric Dufeu is Research Fellow in Music and Music Technology at the Centre for Research in New Music (CeReNeM) of the University of Huddersfield (United Kingdom). He has been working on the AHRC-funded TaCEM project (Technology and Creativity in Electroacoustic Music) led by Michael Clarke (University of Huddersfield) and Peter Manning (Durham University), and is currently pursuing research on and development of innovative software tools for musical creation, sound experimentation, and interactive analysis. He previously worked as Teaching Assistant in Computer Music and Electroacoustic Music Studio Manager at Université Rennes 2 (France), where he completed a Master's degree in Arts and Digital Technologies supervised by Bruno Bossis (2007) and a PhD in Music supervised by Antoine Bonnet (2010).

Peter Manning

Peter Manning is Emeritus Professor of Music at Durham University. His primary area of research is the development of electroacoustic music from its birth to the present day, embracing the evolution of the associated technology, the ways in which composers and performers have embraced its possibilities, and the scope and nature of the resulting repertory. The central focus of his current work is the technical and musical considerations that have shaped the background and influenced the creative processes associated with each of the case studies in the Huddersfield/Durham TaCEM project.

Session 7A
Contemporary Music

Technomorphic Transcriptions
in Philippe Leroux's *M* (1997), *m'M* (2003),
and *AMA* (2009)

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This paper introduces a triptych of works by French composer Philippe Leroux as a case study for examining the transcription of electronic sounds and processes into the acoustic domain. The first work of the set – *M* (1997) for two pianos, two percussions, and electronics – contains several features that are inherently technological, such as cross-synthesized harmonies, sequenced loops, spatialized sounds, and reversed morphologies. Due to the presence of these technologized tropes, a fascinating compositional quandary arises when Leroux recycles the entire form and content of *M* in two of his later instrumental works: *m'M* (2003), a concerto grosso for two orchestras, and *AMA* (2011) for solo piano. How are the technological models from *M* transcribed to fit these new instrumental contexts? And what are the broader aesthetic consequences of this cross-mapping between electronic and acoustic sound worlds?

By analyzing the transcription process at play in these works, I aim to shed light on the emergence of *technomorphism* as an important compositional model in Leroux's work, as well as in the wider field of contemporary music. Conceptually, technomorphism can be understood as a digital reboot of the outmoded *mechanomorphism*, a mid-century psychological reference to "the interpretation of human behavior in terms of concepts and processes characteristic of machines" (Waters 1948).

Applied to a musical context, technomorphism typically denotes the interpretation of acoustic sounds in terms of an underlying technological model. The term has only recently surfaced in musical parlance, most notably in discourse surrounding French spectral music. An early instance of its use appears in a 1989 article by Peter Niklas Wilson, in which the author describes Gérard Grisey's use of ring modulation to generate harmonies as evidence of *une écriture technomorphe*. Building on Wilson's observations, this paper highlights two types of situations that can be addressed by an aesthetics of technomorphism: first, the cross-mapping of generative compositional procedures from the electronic music studio to an acoustic medium, and second, the simulation of electronic sounds and processes using instrumental forces. These generative and mimetic models provide a productive framework for thinking about the role of technomorphism in the ongoing post-spectral milieu.

In the case of Philippe Leroux, the importance of technomorphic models to his musical aesthetic has been well-documented (Leroux 2008, Donin 2009), and the composer's affinity for recycling old materials into new works presents a unique opportunity for observing the migration of sounds across the electro-acoustic threshold. In short, the fixity of musical form in the M-triptych provides a steady frame for making comparisons. Drawing on detailed analyses of these works, as well as an examination of Leroux's written sketches and related software documentation, this paper illuminates the composer's creative process by showing how technological features from *M* are transcribed into instrumental language.

Landon Morrison

Landon Morrison is a course lecturer and PhD candidate in music theory at McGill University in Montreal, Quebec. In addition, he serves as a research axis student coordinator at the Centre for Interdisciplinary Research in Music Media and Technology (CIRMMT). His dissertation examines the relationship between technologies and contemporary compositional practices, focusing on the impact of computer-based models and techniques on instrumental works in the post-spectral genre. Other research focuses on the development of analytical approaches to *musique mixte*, the effects of new media on popular music culture, and the role of digitization in reshaping traditional conceptions of musical time. In a forthcoming chapter to be published in the *Oxford Handbook of Time in Music*, Morrison historicizes the pervasive practice of rhythm quantization in contemporary popular music by examining its attendant technologies, its enabling structures of music-theoretical knowledge, and its reception within the context of various genres.

Creating with Gérard Pesson: a performer's account

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The creation of a new work by French composer Gérard Pesson is observed and analysed by the dedicatee all along a seven years process. Adopting an "auto-ethnographic" point of view and a "naturalistic approach", the research draws upon a data collected since the project's premises, by recording exhaustively the interactions between composer and performer. Over 1000 emails, 15 hours of interviews and workshops, 6 hours of ensemble rehearsals and documents including composer's diary and notes, instrumental tables and recordings, scores, sketches and annotations, are used for this doctoral research. Quantitative and qualitative analysis methods are applied to the amount of verbal data, and crossed with musical analysis of the scores and recordings.

This research project echoes to French works on creative process, especially the Ircam based projet MuTeC, as well as performance studies oriented researches, where many British studies have observed the performer's creative role over the last 15 years. The creative process is considered here as the evolutions of the

musical work between four interconnected stages: work as project, work as score, work as sound production and work as sound perception, along which the nature of the interactions between actors evolves constantly. One of the main purposes of the research is to focus on all four stages, especially on the "first" one, work as project, where interactions are less documented by previous studies (score-based studies have a more important focus on second stage, and performance-based ones on third).

The project is still on-going, Gérard Pesson's work *Blanc mérité* (title referring to French-Polish artist Roman Opalka) for saxophone and ensemble will be premiered in Paris in May 2017, but first tangible results are already available: the data analysis allows to connect early interactions with written and performed music, enlightening the process with different – and sometimes contradictory – evidences than what the musicians' discourse carry. The study begins to draw a genetic of interactions, which, hopefully, can contribute to define how performers can participate to the understanding of musical creative processes.

Clément Himbert

Clément Himbert is a French saxophone player. He studied in Paris National Superior Conservatory (CNSMDP) where he graduated in instrument, chamber music and pedagogy. International award winner as soloist and chamber musician, he performs in various contexts and collaborates with symphonic orchestras as well as contemporary music ensembles. His research interests lie in the fields of interpretation and creation; he defended a performer's doctoral thesis in 2017 *Between composer and performer: analysing a process of creating a new work*, under the supervision of Professor Jean-Marc Chouvel (Sorbonne University) and Claude Delangle (Paris Conservatoire). The projects' main case study is the creation of a new work for saxophone and ensemble, result of a long term collaboration with composer Gérard Pesson.

Session 7B
Improvisation

Protocols in collective invention
with heterogeneous groups of improvisation

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This paper is centered on developing a collective invention in improvisation with heterogeneous groups of participants: musicians belonging to different networks of music making, people working in different artistic domains, people having different status, learners with no strong common background, etc. The logic for such a situation is double, even contradictory:

a) Recognizing and respecting and preserving each player's specificity.

b) Insisting that it would not be just a superimposition of discourses, but a collective creation.

Contrary to the so-called "free" improvisation model, this idea of collective invention in heterogeneous groups depends on a development over a long time basis, of common materials. Models exist already in this domain (Cardew's Scratch Orchestra, Pauline Oliveros Deep Listening Institute, my own work with KIVA (1975-1991) and Génération Chaos (1993-2000), and more recent research on collective improvisation). Democratic values and social interactions come into play within artistic processes. Four conditions or concepts seem in operation:

a) The notion of the "sound embodiment" in the gestures of individual players, that needs to be re-elaborated in a collective way, while still retaining a freedom of personal expression.

b) A reflection and practice on what is involved in the elaboration of materials (like timbre production in music) from the point of view of the performer.

c) A stability and continuity over time of the group, without excluding confrontations with other groups.

d) The presence of protocols of action and of schemes of action (as defined by Michel Foucault under the term of "dispositif") for determining the framework of the participants' collective preparation, and maintaining the possibility of the unplanned character of the performance.

The methodologies proposed within these four interactive conceptual areas – in accordance with the idea of improvisation – are fairly informal: they are contained within the practice itself, orientated towards particular contexts, pragmatic in their unfolding, and tend to not separate artistic endeavors from communicating research. Experimental situations are realized through a Lyon collective of artists in

existence since 2011: PaaLabRes ("Pratiques Artistiques en Actes, Laboratoire de Recherche"). Several ongoing projects are in operation:

> - A small group of improvisators meet to propose protocols for developing common material for a given collective. These protocols are tested by this group of professionals, they are discussed and then tried in a number of workshops addressed to the largest range of participants (professionals, amateurs; beginners and advanced students; musicians belonging to different musical categories, styles and traditions).

> - Regular meetings of PaaLabRes musicians with Maguy Marin's Company dancers with the aim of developing common materials between dance and music in improvisation.

> - Through the digital space www.paalabres.org a reflection on the definition of artistic research, situated in between formal academic research and artistic practices, between various artistic domains and diverse aesthetic expressions, in between pedagogy and performance on stage.

A number of examples of this current experimentation will be presented.

Jean-Charles François

Jean-Charles François studied at the CNSMD in Paris. He was a freelance percussionist in Paris during the 1960's. Between 1965 and 1969, he was the co-director of the *Centre de Musique,* at the *American Center* in Paris. Between 1972 and 1990, he was a member of the music faculty at the University of California San Diego. In 1975 he founded the experimental improvisation group *KIVA*. He has published numerous research articles. His book *Percussion et musique contemporaine* has been published by the Editions Klincksieck (Paris) in 1991. In 1994 he obtained his Doctorate at University Paris VIII. Between 1990 and 1997 he was the director of the CEFEDEM Rhône-Alpes in Lyon. He is a member of the contemporary music ensemble *Aleph*, Paris, of *PFL Traject,* Lyon, and PaaLabRes collective.

Improvising a *modus operandi:*
an ethnographic study of a collaboration
between a composer and an improviser collective

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The *Sillon* project brought together composer Karl Naëgelen and five improvisers from the Umlaut collective (Pierre-Antoine Badaroux, Sébastien Beliah, Antonin Gerbal, Ève Risser, and Joris Rühl) – one of the most dynamic ensembles from the Parisian improvised music scene. The goal was to "take on a treacherous challenge: to compose a piece of music together," as stated in the concert announcement. Indeed, the relation between composers and improvisers is not as

clearly defined as the composer/performer relationship, since improvisers can be seen, depending on the context, as instrumentalists with fancy sonic techniques and/or developed extemporization abilities (see Clarke, Doffman, and Lim 2013) or as full-fledged composers (see Rose & MacDonald 2012) who simply work in a different medium than "traditional" composers, i.e. real-time sound production instead of notated scores.

The *Sillon* project emerged from the "democratic" idea of putting improvisers and composers on equal footing, which is clearly reflected in the fact that all of the six musicians involved in the project were referred to as "composers" in the program notes. How, then, can these different ways of composing (and different conceptions of what it is to compose) co-exist in the collaborative creative process? How do the musicians manage to blend them together, if at all? What is the influence of the institutional context on shaping the relationship between the musicians involved?

To answer these questions, I conducted an ethnographic study of the creative process underlying the *Sillon* project, with video documentation of every rehearsal that preceded the public performance, from the first meeting (February 2016) to the last sound-check (May 2016). Such comprehensive documentation is precisely what was lacking in a previous study on so-called "comprovisational" processes (see Canonne 2014), in which I could only analyse the collaborative process in light of retrospective interviews, recorded improvisations, and the composer's many sketches. Here, the documentation of the *dynamics* in the interaction between the composer and the improvisers allows me to shed light on both the compositional aspects of improvisation (in the improvisers' shaping of a well-defined group "sound") and the improvisatory aspects of composition (in the oral or written *scripts* quickly formalized by Karl Naëgelen in response to the improvisers' performances). But this documentation also reveals how radically different improvisation and the performance of a pre-existing composition (even a rather undetermined one) can be, in terms of the generative processes underlying them – which is evident when musicians attempt to "mix" the two in the course of a given performance.

Beyond the preparation of a public performance or the composition of a new piece of music, what is at stake here is the invention of a *modus operandi*. As is typical with many improvisatory practices, the emphasis is indeed placed on the *process* rather than on the result: and it is precisely this discovery process – finding a way to co-compose in the heat of a rehearsal – that will be the focus of the present communication.

Clément Canonne

Clément Canonne is a CNRS Researcher in the Analysis of Musical Practices team at Ircam. His research is mainly focused on the contemporary forms of collective improvisation, with recent publications including papers in *Cognition*, *Psychology of Music*, *Journal of New Music Research*, and *Revue de Musicologie*.

Session 8A
Collaborations

The Collaborative Compositional Processes of Michael Daugherty and Jennifer Higdon

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In 1876 George Henschel recorded words of Johannes Brahms in his personal recollections:

> That which you would call invention, that is to say, a thought, an idea, is simply an inspiration from above, for which I am not responsible, which is no merit of mine. Yea, it is a present, a gift, which I ought even to despise until I have made it my own by right of hard work.

Brahms's comment invokes divine inspiration, a kind of collaboration between God and artist marked by a transfer of a creative thought. It works in one direction: God gives the composer a musical idea, which the composer diligently works out and expands upon in his composition.

An alternative model for composition works in two directions. Instead of waiting for inspiration from a divine source, composers can engage performers in creative dialogues. Such dialogues allow for the exchange of thoughts and ideas, creating works that showcase a deep understanding of instruments, ensembles, and performers' strengths. American composers Michael Daugherty and Jennifer Higdon regularly work with performers during the compositional process, resulting in collaborative works that not only highlight talented musicians and the capability of their instruments, but also foster a sense of shared ownership. Discussing these practices adds to recent discourses by Margaret Barrett, Pamela Burnard and Karlin Love, thus enriching our understanding of composer-performer collaborations.

Examination of interviews and scores indicates that both Daugherty and Higdon frequently solicit the expertise of musicians, extending beyond basic communication to include lore (Love and Barrett, 2014). In interviews from 1999 and 2008, Daugherty describes inviting musicians into his studio to play passages of his works in progress. During these sessions, he often invited musicians to improvise, and used recordings of these improvisations to revise and improve his works. Higdon also maintains a close relationship with musicians by consulting with them while writing new music. In fact, her second version of *Concerto 4-3* (2007) contains performance notes directed to individuals of the premiering group, providing insight into her compositional methods.

Analyses of musical scores also reveal that Daugherty and Higdon include improvisatory passages in selected concerti. Some of these passages allow for free

improvisation, placing no restrictions on the performers, while others indicate one or more boundaries such as specific rhythms, contours, or ranges. Yet even with boundaries, improvisation offers the performer creative license within the context of the composer's work. Daugherty and Higdon ask performers to put their stamp on the performance, inviting collaboration and ownership between the performer and the composer. Such practices also suggest that composition is fluid (Burnard, 2012).

These methods of working closely with performers, incorporating their expertise into new works, and providing passages for improvisation, produce a highly collaborative environment that values both composers and the musicians who perform their works. Composers are necessary in that they create music for performers, but performers also become essential resources and partners as composers strive to create exceptional music.

Laura Dallman

Laura Dallman is a musicologist and pianist residing in northeastern Indiana (USA). She received a Bachelor of Music in piano from Ball State University in 2007 and a Master of Arts in musicology from Indiana University in 2009. She is scheduled to complete her Ph.D. in musicology in 2017, also at Indiana University, and her dissertation addresses accessibility in regards to the symphony and symphonic works by Aaron Copland, Michael Daugherty, and Jennifer Higdon. Laura currently teaches courses in music appreciation and class piano at Indiana University-Purdue University Fort Wayne. She has also taught courses in music history and piano at Trine University. Laura has presented her research in the United States and Ireland and is an active accompanist in Fort Wayne, Indiana. In her spare time she likes to do various outdoor activities, including running, hiking, and gardening.

Technical intermediaries in music production

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In 1979, the Sociology of work and occupations journal issued an article of Edward Kealy accounting for the existence of a very strong link between the musician-technician working relationship during music recording, and the kind of aesthetic outcome (Kealy, 1979). For him, the decentralization of the profession lead to the emergence of new forms of collaboration, that beyond supporting the emergence of rock music, paved the way to a revolution in music production : it is in that period that concerts started to be produced in function of recorded music, while the opposite process had been applied since the beginnings of recorded music (Maisonneuve, 2009 ; Tournès, 2008).

Despite the important implications of such a result, and the existence of theoretical frames accounting for the collective aspects of musical production (Becker, 1984 ; Peterson et Anand, 2004), the role of technicians in the creative process in music stays marginally studied (see Horning, 2004 ; Leyshon, 2009 ; Le Guern, 2004).

One reason might be that their role is quite difficult to conceptualize : they are neither artists, neither audiences, neither gatekeepers and not really cultural intermediaries. To characterize their role in the creative process, we propose to conceptualize them as technical intermediaries. They are close to cultural intermediaries in the sense that they are implied in the framing of goods, carry a specific expertise, and have an impact in the production process (Smith Maguire, 2008). But on the contrary of many studied cases of cultural intermediaries (Franssen & Kuipers, 2013 ; Moor, 2008) they may appear less involved in marketing concerns, and their mediation is more situated between the actors of the production process, rather than between the artists and the audience.

With this conceptual toolkit, we are currently conducting an empirical study designed to expand the findings of Kealy to the contemporary context of France and the Netherlands. Using ethnographic methods (interviews and participant observation), we will study two groups of sound engineers in Paris and Amsterdam, tracing their careers, social properties, and working relationships. We will try to understand how the role of technical intermediaries in music production can vary with symbolic boundaries such as music genre and musical aesthetics (Lamont & Thévenot, 2000), as well as with social boundaries such as the presence of absence of a protective social security system (such as the "intermittence" system in France (Menger, 2011)) or the level of common social properties in actors of the production nexus. This study intends to 1. understand the current musician-technicians modes of collaboration and their links to contemporary musical aesthetics, 2. understand how social protection systems and social composition of art worlds influence working practices, and 3. build a conceptual category that would properly describe the role of technicians in cultural production. The first results issued from the fieldwork will be presented.

Andy Battentier

After a Licence degree in performing arts in the University of Grenoble, Andy Battentier starts to work as a sound technician in 2010. He works on various projects both in music and drama for a couple of years, and decides to go back to university to pursue a master's degree on the topic of "what defines the quality of an artistic work?". This research pushed him in sociology, in which he graduates from Sciences Po Toulouse in 2014. Since 2016, he is a PhD student in double degree in the universities of Milan and Amsterdam. He investigates the role of technicians in musical productions.

A case study of distributed creativity in electronic dance music: High Tone's versioning strategy for composition

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Dub originates in Jamaica in the 1960s and is directly related to the multitrack recording technology (Williams, 2012). Sound engineers then began to explore the possibility to create manifold instrumental instances of the recorded songs, muting tracks while highlighting others, and/or adding effects such as filters, reverberations and delays through the mixing desk, eventually recreating a different versions of a track each time they played (or recorded) it. During the 1980s, a few UK producers—most notably Adrian Sherwood—contributed to renew, actualize, and spread out the genre by using digital technology to produce dub. From the 1990s onward, dub influences could thus be detected in EDM subgenres, such as techno, drum'n'bass, breakbeat, and hip hop—to name a few—eventually gaining a worldwide popularity.

This communication will deal with the creative process of High Tone, a French dub band that consists of five musicians. Since 1998, High Tone released over 20 studio albums and LPs, mixing various influences, from Jamaican reggae to drum'n'bass, techno, and hip hop. High Tone's creative process is well established: it always begins with a collective, digitally recorded improvisation. Each musician is then free to rearrange the track and submit it to the other members, who will in return discuss it, contingently exchange sounds, and modify what they play accordingly, until they reach an agreement and professionally record the track for a public release. This is somewhat akin to what (Zattra, 2006) calls the electroacoustic music network: several actors create music in a joint effort, each of them taking up a specific musical aspect during the process.

Recorded music conveys a body of information (Clarke, 2002), and we emphasized the crucial dimension of sound fixation, from dub's origin to High Tone's process. This contribution, based on an ethnographic study, aims at unveiling the band's creativity through a thorough analysis of different versions of the same track. Therefore, we will compare seven consecutive versions of the draft (gathered in May 2010), the studio version of the track (released on the *Outback* album in 2010), and a live performance of the track, filmed on stage during a music festival in August 2015. This approach is inspired by genetic analysis of mixed music (Tiffon and Sprenger, 2011) and its documentation (Goldszmidt and Boutard, 2012) but the shift in the studied repertoire leads to explore other research areas, most notably the issue of self remixing and the ontologies of the provisional work, as named by [Butler, 2014]. High Tone's musicians also heavily rely on hardware and software affordances offered by musical technology to improve the previous version of the track. As a result, their procedure for creating music falls under the scope of distributed creativity in a technological environment, which can be retraced through the versioning strategy of the band.

Baptiste Bacot

Baptiste Bacot is a PhD candidate at the School for Advanced Studies in the Social Sciences (EHESS), currently assigned to the research group 'Analyse des pratiques musicales' (APM) at Ircam. His work on electronic music is based on an ethnographic approach and is at the crossroads of organology, aesthetics, technology, creation, and performance in contemporary music, popular music and audiovisual works.

Session 8B
Electronic and Electroacoustic Music

The importance of the electronic component in seeking creative processes in music

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Constança Capdeville was a composer and one of the most prominent figures in Contemporary Portuguese Music. She also stands out as the most representative example of the music-theatre genre, which saw its most intense period of activity in Portugal peak in the 1980's. Some of Capdeville's works have also been composed within a context of combining electroacoustic music on magnetic tape and instrumental music. These different dimensions of her compositions mean incorporating a new electronic component, which requires new approaches not only as regards the appropriate analytical processes but also the preservation strategies necessary to retaining the media.

The usage of magnetic tapes was very important for Capdeville's works since, for example, inputs from the magnetic tapes or certain actions performed in the scene served to provide indications for each moment, so the performer could be guided by sound signals. The music, through incorporating an electronic component, completely changes the way of making music and, thus, different approaches to analysing such kinds of music have correspondingly emerged. Capdeville applied new symbols in her graphic scores, creating her own particular language in order to conduct performers, even with regard to interactions between the performer and the electronic component, particularly in her recourse to magnetic tape. She also left handwritten parts with several annotations, explanatory scripts about movements, lights and interpretation. All such facets need gathering in conjunction with the sound content included in tape recordings in order to build any new performance. Those aiming to re-perform the works of Constança Capdeville therefore need to understand the meaning of these metadata she herself created.

New technologies have altered the nature, methodologies and limits of musical creation, and due to both different dimensions of this kind of music and the "ambiguity" of their material outcomes, the study of the process of composition must be applied to the tape, score, composer notes, testimonies and so forth. There is a clearly identified need to explore and study this domain; musical analysis has sought out some options, nevertheless these still require improvements and adaptation to the needs of each case, whence new experiments and new theories are required.

This paper intends to reflect on a methodology appropriate to perceive how we can, or cannot, re-perform Capdeville's music works in the future by preserving not only

the magnetic tape media, but also their performance as well as analysing some of these works within a musicological context, thus also new strategies of documentation are required in order to facilitate the access to future transmissions and performances of works involving technology. Both works *FE...DE...RI...CO* (1987) and *Silêncio Depois* (1990), composed by Capdeville, serve here as our case study to better understand our aforementioned purposes.

Filipa Magalhães

Filipa Magalhães (Coimbra, 1979) started her musical studies at the National Conservatory of Lisbon, studying voice with Filomena Amaro. In 2006, she concluded a degree in Musicology at FCSH — Universidade Nova de Lisboa. In 2013, she has completed a master degree in Musical Arts: Music and Technology, under the theme "Survey of magnetic tape collections: evaluation of their state of conservation". During that research period, she attended an internship in the Phonogrammarchiv — Austrian Academy of Sciences, conducted by Nadja Wallaszkovits. Currently, she is attending a PhD Program in Musicology — Music as culture and cognition at CESEM — FCSH/NOVA, funded by FCT (Fundação para a Ciência e a Tecnologia), focusing in the restoration, digitisation and archiving of magnetic tape collections. She is particularly interested in studying electroacoustic music, which includes magnetic tape, seeking for new methodologies to improve the study of such works in a musicological context.

On the trace of the creative processes inscribed on electroacoustic music

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The creative process in musical composition is usually complex, nonlinear and elusive. Even in the cases where the composer keeps a trace of its own process, he will go, at least in some moments, forward, backward or around his own process during the act of composing, he will change, correct, erase, add elements an enormous amount of times before considering that the work is finished. As Nicolas Donin explains that "each draft, deletion or legible alternative is then interpreted as a possible window into both the composer's mental processes and the variation space surrounding each musical element included in the final work." (Donin, 2012, p. 2) For a musicologist, or more specifically, for an analyst, to try to find the traces of the creative process directly from the finished musical work is not an easy task. And Donin remarks: "In order to analyse composition as a creative act, documents drawn from the creative process should not only be considered with respect to the final musical product; they should also be viewed as temporary components of a cognitive act-in-progress, as they interact within a specific, constantly evolving environment."

Moreover, in the case of electroacoustic music a set of additional issues are present. "Mostly works do not have a visual support or score and when the music as

a score […] [it] is usually written as a form of code and understanding relations between signs and sound is complex," as Pierre Couprie says (Couprie, 2016, p. 170). So, what can we retrieve in the musical work itself that put us in the way of the creative process? How can we find relevant elements concerning the creative process that the composer uses throughout the compositional work? What kind of elements can we find? Are there technological marks?

In this paper, we intend to present two different and complementary points of view concerning the track of the traces of the creative process that the composer has inscribed on his musical works. In fact, we will discuss it form the point of view of the composer as well as from the point of view of the analyst. In order to do so, we will examine some aspects of our own analytical approach to François Bayle's "La Fin du Bruit", "Paysage, Personnage, Nuage" and "Match Nul", that allowed us to find some of his creative processes. After that, I will embody the point of view of the composer by showing an example of a creative process from the inside through the presentation of how the creative ideas, musical intentions and states of mind were inscribed on "Pulsars".

Isabel Pires

Composer and performer of acousmatic music, Isabel Pieres has a PhD in *Esthétique, Sciences et Technologies des Arts - Spécialité Musique* from Paris VIII University. Teacher at Universidade Nova de Lisboa, she is a CESEMs researcher, director of the "Musical Arts: Music and Technology" Master degree, and director of LIM (Laboratory of Computer Music). Her research is focused on the cognitive auditory perception and the sound as physical phenomena relationship in musical contexts, as well as focused on the notions of space in music composition, contemporary music analysis and music recordings preservation. Her musical works include instrumental, acousmatic music, instrumental and mixed-media music and has been presented mainly in Europe.

On Documentation:
Rediscovering the creative process of *Libera me*

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Musicological/historical accounts are often confined to music that has been documented. This is a problem for music which does not fit into the well-established standards, and specifically for those works that are interdisciplinary, multiple, with custom-made instruments and that intermingle with various other disciplines (such as the visual arts, dance, and theatre). Thus, preservation is intimately linked to history. So, if we intend to foster the presence of the past in the music of the present and today's music in future compositions it is urgent to take the question of documentation seriously. No one talks about, researches upon, teaches or listens to music that is not documented or preserved, simply because that music does not have any material support with which to dialogue. Without documentation, it will

disappear. Our memory is volatile and precarious, hence the need for the establishment of a musical notation or other sort of documentation capable of materializing the immaterial, which allows musical works to pass on from past to present and future.

To illustrate this theoretical assumption, the documentation process of *Libera me* (1977, 1979, 1981) created by the choreographer Vasco Wellenkamp, the composer Constança Capdeville (1937-1992), and the artist Emília Nadal (b. 1938) is presented and explored. A process that embraced the analysis of all published and unpublished information on the work along with the production of a complementary documentation based on information gathered through the collection of testimonies from some of the authors and other performers and interpreters. Departing from this process it was possible to realize that *Libera me* had a life of multiple forms that enriched its meaning and significance, which turned the work to be much appreciated at the time. Further, *Libera me* existed in three versions: 1977 – ballet version; 1979 – concert version; 1981 – concert & ballet version. Over the years, however, *Libera me* has been primarily remembered in its concert version from 1979 wherein the musical part composed by Constança Capdeville turned to be independent: a work by itself enlarged upon to accommodate electroacoustic music recorded on magnetic tape, plus live instrumental/choral music. The ballet was not a part of this version. By recovering information on those three versions, nevertheless, it was possible to trace the creative process of this work back to 1977. One that departed from an interdisciplinary enterprise, since *Libera me* was initially conceived as a collaborative work on dance, music and the visual arts. In this case, the electroacoustic music recorded on magnetic tape composed by the Portuguese composer Constança Capdeville served as the musical environment for a ballet designed by the Portuguese choreographer Vasco Wellenkamp to be interpreted by the Gulbenkian Ballet. The Portuguese artist Emília Nadal was responsible for the scenography props and costumes.

In sum, the aim of this paper is to demonstrate that documentation as a preservation methodology is fundamental for future generations to engage with the legacy of the past. In this case including information on the works' creative processes.

Andreia Nogueira

Andreia Nogueira is a PhD fellow at the Department of Conservation and Restoration, Universidade Nova de Lisboa. Her PhD research focus on the preservation of the Portuguese electroacoustic musical heritage through its documentation. She is also interested in reflecting on the concepts of authenticity, memory and archive. Between 2011 and 2013 she was a researcher on the project "Documentation of Contemporary Art". During that period, she had also completed her master degree in Conservation and Restoration at the same university with the dissertation "Documenting: why, what, how and when? The preservation of Francisco Tropa's oeuvre".

Session 9A
Source Criticism

Bruno Maderna's electronic works in motion. The creative process of the different version of *Dimensioni II/Invenzione su una voce* and of the electronic parts of *Hyperion*

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The talk is focused on the creative process of *Dimensioni II/Invenzione su una voce* and of the electronic parts of *Hyperion* by Bruno Maderna. The two works are closely related and the creation of their numerous versions took more than ten years (from 1960 on).

To compose *Dimensioni II/Invenzione su una voce*, Maderna drew inspiration from a sequence of phonemes, chosen *ad hoc* by Hans G. Helms. Without specific reference to any language, the phonemes, intoned by the voice of Cathy Berberian, were articulated for creating an expressive tension between live music and voice recorded on tape. The piece was possibly originally intended as development of the project, started with *Musica su due dimensioni*, aimed at establishing a dialogue between electronic component and 'natural' dimension; this then gradually changed: its duration was reduced, the title changed to *Invenzione su una voce,* there was no dialogue with the live voice. Starting from 1964, there is also evidence of the tape of *Dimensioni II/Invenzione su una voce* being added, totally or in part, to other music by Maderna: *Ages* (1972), *Tempo libero* (1972), but especially in all the versions of *Hyperion* with electronics (from 1964 on).

Despite the common belief of an 'original' version, a systematic study of sources shows a surprising number of author's variants: the audio documents attributable to *Dimensioni II/Invenzione su una voce* and *Hyperion* prove that an unimaginable amount of work has been done on the recordings; each source innovates, creates diversity, evolves, introduces variants; none of them can thus be ignored or underestimate considering it a 'copy'; they are all witnesses of one of the possible states of a 'work in motion'. To avoid misinterpretations of the composer's work based on prejudices not supported by documental evidences, it is therefore necessary: to historically reconstruct the 'technological world' in which the works were created; to survey the editing praxis of the time; and, most important, to develop a critical methodology able to compare different audio sources, guided by awareness of the internal and external history of such documents. Only reviewing the history of the works following the audio evidences (sources now preserved in many European Archives) allows to reconstruct the salient moment of the creative

process of the works and to discover the specificity of Maderna's electronic music production: the distinctive traits of Maderna's compositional work in studio don't lie as much in the attempt of combining phonology and electronic music, but rather in a new interpretation of the interaction between composer and electronic equipment. The composer soon realized that electronic technology did not necessarily lead to *opera aperta*, but rather it paved the way for the creation of a new form of 'work in motion' and of a new connectivity among different works, i.e. a 'global work' In the cybernetic age, it would be essential to preserve the integrity of the musician's Self, and this would become possible thanks to a creative act joining in a single ongoing process the interpretation and deconstruction of the composition.

Luca Cossettini

Luca Cossettini is a researcher in Musicology and History of Music at the University of Udine (Italy). He studies the influences of audio technology in the compositional processes of the second half of the 20th century, with the aim of developing a methodology capable of interpreting, analyzing and critical editing electronic and mixed music.

Creative process and writings forms in formalized mixed music. *Jour, Contre-jour* by Gérard Grisey

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The talk is focused on the analysis and the reconstruction of the creative process of *Jour, Contre-jour* by Gérard Grisey. After having completed *Modulations*, part four of the large cycle called *Les espaces acoustiques*, in 1978 Gérard Grisey composed *Sortie vers la lumière du jour*, for electric organ and 14 musicians, followed by *Jour, Contre-jour*, for 13 musicians, electric organ and 4-track magnetic tape. The similarity between the two scores thus leads to conclude that the two compositions might be the result of the same project; but in *Jour, Contre-jour* the composer changed the marking of time and revised the time structure of the second part of the work. Furthermore, the choice of adding an electronic component recorded on tape makes *Jour, Contre-jour* a different piece of music precisely as regards the salient aspect of timbre structuration.

In the composer's sketches (preserved at the Paul Sacher Foundation in Basel) one can find a lot of calculations – often disorganized and revised – used by Grisey to define the temporal structure of the work. Their study permitted us to reconstruct the genesis of the work and to formalize it as mathematical expressions, organized in a more elegant way. Grisey developed a single compositional model and then he 'transcribed' it in two different media: a notational system and an analogical sound recording system. The transfer of numeric parameters to traditional musical notation have not upset the model; it is therefore possible to reconstruct the structure based on the final drafting of the orchestral score. On the contrary for the electronic part

non-linearity of the equipment, noise, performance imprecisions (both instrumental and technological) become ingrained in the tape and, as such, an integral component thereof; they caused deviations in terms of length and intonation between tape and model.

An important contribution to the understanding of the creation process of the electronic part and for the interpretation of its deviation from the model is given by a study of the preliminary tape, on eight tracks, kept in the archives of the TU which includes a pre-mix of many preparatory audio materials. Evidence of this mixing work can also be found in a performance score, handwritten by Folkmar Hein following precise instructions from Grisey, which includes the procedures required to play the preliminary tape. It was therefore possible to recognize any errors in terms of analogue channel transmission and to propose a *regeneration* of the 4-track tape made possible: a) by reconstructing the theoretical model according to Grisey's sketches; b) by the mixing patterns provided by Folkmar Hein; c) by the 8-track recording kept at the Elektronisches Studio of the Technische Universität in Berlin.

Angelo Orcalli

Angelo Orcalli is a Full Professor in Musicology and History of Music and Scientific Director of MIRAGE audio restoration Lab at the University of Udine (Italy). His research fields are: Theory and Technique of Contemporary Music, Methodology for Audio Restoration, Critical Editing of Electronic and Mixed Music, Aesthetics of Music, History of Music Theory.

Mixed music and digital sources.
The reconstruction of the creative process
of Fausto Romitelli's *EnTrance*

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The talk is focused on the creative process of *EnTrance* (1995) by Fausto Romitelli, mixed music for ensemble, soprano and electronics, composed during his stay at IRCAM as *Compositeur en recherche*. The work is inspired by the Tibetan book of the dead – from which a single mantra of 15 syllables used as text is taken – and refers to some rituals that aim to induce a state of trance.

EnTrance was created in a peculiar moment in the evolution of new electronic means for music composition. As a matter of fact, in the last decades of twentieth century, the relationship between composition and technology took a new and ever-changing path. The versatility of the digital domain, supported by an exponential growth of the computational power, has led to the development of a large amount of computer tools (e.g. computer aided composition, sound synthesis) and sound recording systems. This has resulted in a proliferation of heterogeneous sources. Studying this repertoire can be challenging: the obsolescence of reading systems

and hardware/software environments poses a problem in terms of access and recognition of the sources. If extended to the secondary sources, this condition also involves analytical aspects: patches, libraries and software, along with traditional sketches and drafts, are of paramount importance for the comprehension of the creative process.

Reconstructing the creative process of *EnTrance* implied moving on different tracks at the same time: the study of written and digital texts and audio sources (preserved at the IRCAM Archive); the survey on the programming languages; the information provided by Laurent Pottier – who assisted Romitelli in the creation of the 4-track electronic part. All these sources of information made it possible to trace the steps that brought Romitelli from the generation of the harmonic material to the finished score and tape: *Common Lisp* scripts, paper sketches, *Patchwork* patches, *Csound* scores generated by *Patchwork*, *Protools* sessions.

The talk will present some composition techniques adopted by Romitelli for the creation of *EnTrance*, with particular regard to the interconnections between the two different musical writing forms he adopted (the score and the electronic part); furthermore, a sample of analysis of a specific section of the work will be provided. As the composer cleared stated out in his presentation of the work, he sought for a maximum coherence between instrumental and electronic part. Nevertheless, the analysis shows some evident incoherencies in the editing and mixing process of the electronic part. The reconstruction of the creative process allows us to 'locate' the stage where this basic idea has not been respected, and audio preliminary materials, together with other digital secondary sources, permit to propose an example of regeneration of the electronic part devoid of any incoherence with the instrumental part.

Alessandro Olto

Alessandro Olto received his PhD in Art History and Audiovisual Studies at the University of Udine (Italy). His research concerns the analysis and the critical editing of electronic and mixed music, the relationships between composition and technology, the preservation and restoration of musical works.

Session 9B
Acousmatic Interpretation

Technologies and methods
to analyse acousmatic interpretations

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For 10 years, I have been developing analytical methods of electroacoustic music based on representation and transcription. Acoustic representations are designed from low level audio feature extractions like intensity, spectrum, spectral centroid, energy, flux, inharmonicity, etc. These representations can be combined to create composite (or complex) representations and associated with manual transcriptions. These transcriptions have also proven their pertinence and their efficiency for the composition, the musical analysis the musical presentation, and the pedagogy of music.

Since October 2015, the Research Institute in Musicology (IReMus) co-operates with MotusLab to develop techniques, representations and analytical methods in the field of acousmatic interpretation. The first step consisted to develop a recording system which includes software created in Max and 4 webcams with night vision. The software (MotusLab Recorder) records motions of one or two digital mixing tables (up to 50 channels), video from webcams, and stereo audio from the composer's work. This system allowed our objectives to record more than 40 acousmatic concerts for the first year 2016-17. Our goals were not to record and study gestures of musicians like with motion sensors or video tracking but to record traces of interpretations through movements of faders and body postures through video. The second step was to analyse these recordings to extract interpretation techniques. The second software was developed (MotusLab Reader) in Max to read recordings and to support the musical analysis. This software represents motions from mix tables in a timeline synchronized to a video and an audio player. It also included an acousmonium map to visualize the distribution of sounds for each loudspeaker. Both programs are available as open source packages for Max (https://github.com/pierrecouprie).

While Nathanaëlle Raboisson, researcher and musician at MotusLab, started to analyse interpretation with her methods, I started the third step: studying relation between interpretation and musical analysis of works from my previous research methods. In order to achieve this goal, I must adapt computer-aided software I developed for musical analysis:

>   - iAnalyse was developed for 10 years to support researchers and teachers to create listening guides.

- EAnalysis was developed for the MTIRC of De Montfort University to support analysis of electroacoustic music.

Both of them are available as free software (http://logiciels.pierrecouprie.fr). During this talk, I will introduce the next iAnalyse version which integrates iAnalyse and Eanalysis in one package. Through graphical, acoustical, and data visualizations, I will present analyses of interpretations recorded with MotusLab Recorder.

Pierre Couprie

Ph.D. in musicology, Pierre Couprie is an associate professor in digital pedagogy and a researcher at Paris-Sorbonne University (Institut de Recherche en Musicologie). His research fields are the musical analysis and representation of electroacoustic music and the development of tools for research (iAnalyse, EAnalysis) or musical performance. He is also a member of the steering committee of Musical Analysis French Society (SFAM) and Musimédiane online journal. He collaborates with the Music, Technology and Innovation Research Centre (MTIRC) of De Monfort University since 2004 on musical analysis projects. In 2015, he won the Qwartz Max Mathews Price of technological innovation for his musical analysis software. As an improviser, he is a member of The Phonogénistes and The National Electroacoustic Orchestra (ONE).

Understanding performance gesture in acousmatic interpretation

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Since May 2015, MotusLab has led research into acousmatic interpretation on acousmonium (loudspeakers orchestra). The goal is to investigate how an interpretation is verbalized and which parameters and methods a performer use for expression.

Before this research, very few practical or analytical tools exist to study and conceptualize acousmatic interpretation. In 2015, we recorded 40 concerts of acousmatic music performed on acousmonium. Since October 2015 MotusLab and Pierre Couprie of IReMus collaborated in developing the tools to give access and to study large amount of recorded data related to these performances using only Motus's acousmoniums.

Acousmatic interpretation on acousmonium involves listening to several sounds sources in a specific space. Existing recording equipment is not able to provide us with a complex three-dimensional sound environment reproduction. Consequently, to analyse an acousmatic performance, we must record and build on multiple traces of the performance, including playing scores, video and audio recordings of the performance, data collected from the musical interface (i.e., the console), and the disposition and specification of the acousmonium. Subsequently, interviews with composers and performers give critical elements for the analysis of the piece and

performers' choices.

First, based on the expertise of the researcher who is also a professional interpret, we selected the relevant performance information for the analysis: use of specialized loudspeakers, use of rings of loudspeakers, use of located loudspeakers, frequency of loudspeakers use, duration of loudspeakers use, gesture, scores. Second, we analysed the performances based on these multiple dimensions: statistics, performers comments confronted to their concert's video (such as verbalizations of weaknesses and errors), performers comments of their scores, and comparative analysis of several interpretations of the same piece by the same performer. Third, we analysed the working habits of performers.

Motus's performers have similar working methods. The formal analysis of a piece and the performing manners are directly linked to listening and sounds references (intensity, sound spectrum, density and space). These sound references characterize also the expressive possibilities provided by the technology. The comparative analysis allows us to study the most relevant moments of expressive choices and examine the parameters and specific gestures a performer uses for interpretation at these specific moments.

This talk will present the first results of the research. Specifically, during this talk, I will first present the methodology and then the analysis of two performances of the same piece by two performers. From this perspective, I will bring to light the way the performer constructs his interpretation, focusing on these moments where the performance becomes more personal. Finally, I will present future developments in relation to this research.

Nathanaëlle Raboisson

Composer, performer, and teacher, Nathanaëlle Raboisson collaborates with the musical company Motus and the Futura festival since 2004. Musicologist and PhD in aesthetics of digital arts, she created and is director of Motus Lab (http://motus.fr/recherche/). She is also administrator of Motus, Futura, and Syntax.

Crossed perspectives on automated re-enactments: studying the creative process of acousmatic performances

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In instrumental art music, performers create a concrete realisation, for a potential public, of a composed abstraction, the score. Performers, by proposing their own vision of the piece, contribute, thus, to the creative process. In the case of an acousmatic piece, the work is entirely composed in a studio and fixed on a support. The movement is from the concrete material to the abstraction of the work. Still –

especially in relation to the emergence of the loudspeaker orchestra (acousmonium) at the beginning of the 1970s – a new kind of performance activity emerged, consisting in the diffusion of the fixed music on this orchestra with the audio console. Some performers specialized in the interpretation of acousmatic music, either for their own works or for the repertoire. Barrière (1997) reminds us that, contrary to preconceived notions, the performance of this repertoire is different with each performance; yet, this activity has received scant empirical attention. What are the goals and the means of interpretation for these performers? How could we describe, document and analyse the creative process that pertains to the acousmatic performance?

To address these legitimate questions, the authors initiated in 2014 a research aiming at studying acousmatic interpretation over a two phases mixed-methods research design. The first phase consisted in interviewing twelve francophone musicians engaged in this activity, with a broad range of stylistic affiliation and a renowned experience. The collected material was analysed according to grounded theory (Féron & Boutard, 2015). The second phase, which will be the primary focus of this presentation, relied on an empirical study building on a methodology proposed and implemented by Boutard (2016) for the study of mixed music interpretation. This methodology was adapted to the specific case of acousmatic interpretation.

Four composers/performers of acousmatic music, grouped by pairs, were invited during a public workshop to interpret the same musical excerpts (2 different excerpts for each pair). The acousmonium was configured according to MOTUS principles, requiring a minimum of two rings of loudspeakers and multiple diagonals (Prager, 2012). A digital console was used for the sound projection and the signal was recorded in MIDI files. The day after the workshop, each performer was individually confronted in situ to his own interpretation: this re-enactment situation allowed him to comment on his performance while the midi signal was fed back to the console. This process was then reiterated with the two performers of each pair collaboratively commenting on each others' work. This 'cross-self confrontation' situation brings to the surface the choices made by each performer during the interpretation of the same excerpt, and makes explicit the creative process that would not be accessible by mere observations.

During this presentation, we will bring together the quantitative data of the console recordings and the qualitative data of the verbalizations, enlightening the discursive strategies of participants to relate to the activity of acousmatic interpretation. This connection will show the poly-dimensionality of the activity beside the realisation of a performance and how it impacts our means of documenting and analysing a creative process in such a context. We will further put these outcomes within the broader perspective of the complete two-phases research project.

François-Xavier Féron

François-Xavier Féron holds a Master's degree in music acoustics (Paris VI – Ircam) and a PhD in musicology (Paris-Sorbonne). He taught for two years at the university of Nantes, before working at CIRMMT (McGill University, 2008-2009) as postdoctoral researcher. From 2009 and 2013, he contributed, within the Analyses des Pratiques Musicales team at Ircam, to the ANR projects MuTeC and GEMME,

both aiming at documenting respectively the creative processes and the notion of gesture in contemporary music. In 2013, he became CNRS researcher and joined LaBRI / SCRIME in Talence. He became member of CIRMMT in 2015. His research focuses on contemporary music and interactions between art, science, and technology.

Guillaume Boutard

Guillaume Boutard is an assistant professor in the École de bibliothéconomie et des sciences de l'information at Université de Montréal. His research interests include digital curation and creative process documentation methodologies. He holds a Ph.D. in Information Studies (McGill University), a M.Sc. in Computer Science (Pierre et Marie Curie University-Paris VI), a M.Sc. in Geophysics (Pierre et Marie Curie University-Paris VI), and conducted a two-year postdoctoral research in the Faculté de Musique at Université de Montréal. He previously worked at IRCAM (Institut de Recherche et Coordination Acoustique/Musique) as an engineer from 2001 to 2009.

Session 10A
Examining the creative process of Hans Tutschku's *Zellen-Linien* for piano and live electronics (2007)

From performance to composition and back again

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Traditionally the study of the creative process in music focuses on the composer's atelier and ends with the completion of the written score. The first and subsequent performances of the composition are usually not considered part of the creative process. This approach, which favours the study of written documents over the analysis of music as a sounding event, was foundational for development of sketch studies in the nineteenth century and continues to form the basis of the more broadly defined critique génétique in the twentieth century. It proves to be inadequate when attempting to deal with music that cannot be set in conventional notation.

An example of this problem is Simon Emmerson's analysis (2016, 333-54) of Hans Tutschku's *Zellen-Linien* for piano and live electronics (2007). In his study, Emmerson uses on two sources: the performance score prepared for the pianist (Tutschku 2013) and a YouTube recording of a performance (https://www.youtube.com/watch?v=VJzM260yoFI). The analysis is irredeemably flawed because neither source can adequately represent the music. First, the performance score only shows what the pianist is instructed to do. The musical outcomes produced by the electronics, which make up at least half of the work, are missing. Second, the YouTube recording is inadequate because it flattens the performance, which involves the spatial deployment of sound, to a stereo version. The object of Emmerson's study (*Zellen-Linien*) is based on a figment of the analyst's musicological imagination: the analytical results obscure, rather than elucidate the music.

We will examine *Zellen-Linien* as a performance event, rather than as a 'work consigned to paper', because the creative process did not end with the writing of the piano score. On the contrary, the composition arose out of performance practice and creative process can only be completed with each performance. Work on *Zellen-Linien* goes back to a prior composition: *Das bleierne Klavier* (1999) for piano and live electronics that Tutschku composed for himself as a recitalist. Consequently, Tutschku has never written a full piano score for *Das bleierne Klavier*. In response to requests from other pianists to perform *Das bleierne Klavier*, Tutschku wrote *Zellen-Linien* in 2007. In other words, the latter is a written out

version of the former for performers other than the composer. Our project will follow Tutschku's creative path from the composition and performance of *Das bleierne Klavier* through to an examination of a recording of a performance of *Zellen-Linien* using ambisonic technology (see below). I will be examining Tutschku's working documents pertaining to the composition and performances of *Das bleierne Klavier* and *Zellen-Linien* conserved in his personal archives during the spring of 2017 and report on these findings in the proposed paper. This information will be combined with a study of audio-visual data collected from a recording that enables us to capture the sound field generated by a performance of *Zellen-Linien*. In our view, an enlarged study of the creative process that embraces performance will enable us to understand music, which to date has escaped adequate musicological examination.

Friedemann Sallis

Friedemann Sallis is Professor at the School of Creative and Performing Arts, University of Calgary. Recent publications include *Music Sketches* (Cambridge University Press, 2015), the co-edition of *Centre and Periphery, Roots and Exile: Interpreting the music of István Anhalt, György Kurtág and Sándor Veress* (Wilfrid Laurier University Press, 2011), as well as numerous articles on twentieth-century music. An edited collection entitled *Live Electronic Music: Composition, Performance, Study* (Routledge, 2017) is forthcoming. His areas of research include the study of the creative process, the music of the second half of the twentieth century (notably live electronic music), and the relationships that arise between music and place. He has obtained fellowships from the Paul Sacher Foundation and six research grants from the Social Sciences and Humanities Research Council of Canada.

Capturing a musical performance using ambisonic technology

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In order to capture the sound field created by a musical performance, we will use ambisonic recording technology. This will permit a more holistic documentation of the presentation, enabling a more detailed analysis of the sound field created by a performance of a composition.

Gerzon (1973) first proposed Ambisonic technology as a technique capable of recording/encoding and accurately recreating/decoding a three-dimensional imprint of sounding events at a single location in a performance space. This kind of recording captures the sound at the location of the microphone array from all directions, allowing the analyst to virtually listen into any direction, rather than just two as in traditional stereo recording.

Zattra et al. (2011) employed first order ambisonic technology to study a performance of Luigi Nono's *A Pierre* (1985) in order to link a traditional recording with the visualisation of spatial events. A first order ambisonic microphone array

consists of four microphones "listening" in four different directions, which means that directional information has low directional resolution. This information would be the sonic equivalent of recognizing a reconstruction of a digital picture using only four pixels. We will be using a fourth order spherical microphone array with 32 microphones (em32 EigenMike), which enables listening in 32 directions rather than 4 resulting in higher directional resolution. This means that we will be able to capture 16 times more (directional) information than from a stereo recording. Another benefit of the em32 EigenMike is its compactness and ease of use. The 32 microphones are all contained in a single sphere and mounted on a single microphone stand. This permits easy and convenient travel and setup - the setup is equivalent to setting up a single microphone. Thus, not only is the EigenMike more cost efficient than the complex microphone arrays used in waveform analysis, it also allow us to investigate the multiple sonic environments of real concert halls.

The study of spatial diffusion is an important aspect of contemporary music analysis and ambisonic recording technology allows us to purposefully record and listen for this component and make informed assertions. The purpose of my paper will be to demonstrate the kind of data that is collected from an ambisonic recording and how it can be interpreted and used to understand spatial components that have so far been unavailable for in-depth analysis. A variety of examples will be provided to show how the analysis of recordings created by the em32 EigenMike can be used to visualize and interpret different kinds of musical complexities. This technique allows us to capture aspects of a musical performance that escapes most conventional notation as well as conventional recording techniques. It has therefore been nearly impossible to adequately address spatial components in musicological discourse to date. We hope that this first step will open doors and allow musicologists and theorists to re-examine the importance of spatial renderings in contemporary art music.

Martin Ritter

Martin Ritter is interested in the intersection of music, technology, and performance. This includes musicological research in electronic music and how it can be analysed and understood with the aid of computational tools. He is a composer of electronic and acoustic works, which have been performed across North America and Europe. He has been published in the proceedings of NIME, ICMC, EMS, and eContact!. He actively participates in new music festivals such as the Darmstadt, Impuls, and ComposIt where he has had the opportunity to study with Roger Reynolds, Mark Andre, Klaus Lang, Gerd Kühr, Joshua Fineberg, Philippe Leroux, and others. Currently he is pursuing a PhD in Computational Media Design at the University of Calgary with Drs. Friedemann Sallis and Jeffrey Boyd.

The study/interpretation of recorded audio data using computer vision technology

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Zattra et al. (2011) demonstrated the use of ambisonic recording to display and analyse a performance of Luigi Nono's *A Pierre* (1985). In doing so, their analysis transcended the conventional use of the score as the central artefact for the study of music and replaced it with a digital representation of the live performance. However, the mere display of recorded data, even with the three-dimensional visualizations made possible by ambisonic recording, is not sufficient. The raw signal data show only low-level information. But just as a simple video stream of events in front of a security camera does not in itself explain who is in the picture, where they are going, or what they are doing, a compact disc or mp3 recording of music cannot innately tell you about the pitch, timbre, or rhythm. Instead, we want to *decompose* a performance. For example, the TIAALS system (Clarke et al. 2013) represents one approach to decomposing musical entities from an audio signal, relying on a human expert to segment the audio in a spectrogram.

In our current research, our goal is to extrapolate the decomposition paradigm by doing the following.

> 1) We want to reduce the reliance on manual treatment of the data to the maximum extent possible. This is, in essence, a computer vision and artificial intelligence problem – we want a machine to do what we must otherwise rely on an intelligent person to do.

> 2) We want specifically to handle spatial elements of a performance in our analysis and high-level representation. This is a response to the growing importance of spatial elements in composition and performance.

To this end, we will produce a high-level, symbolic representation of the as an extensible markup language (XML) document. This approach has precedents. Schacher et al. (2014) proposed XML as one way to score spatial elements of a composition. Boyd et al. (2004) demonstrated a system that produces a stream of XML documents describing the activity in a scene viewed by a camera.

We face two major challenges in this work. The first is the complexity of audio scenes. Within the field of computer vision, there has been significant progress in the development of systems that see and understand visual scenes. While much of this work may help with audio scenes, audio represents particular challenges with respect to the complexity of scenes, especially as sound reflects, refracts, and resonates in ways that light does not. The second (related) challenge is in the acquisition of reliable spatial data from an audio scene. Advances in ambisonic recording technology help to address this, but scene complexity issues compound when one adds spatial analysis to the problem. We will present progress towards our goals in our presentation.

Jeffrey Boyd

Jeffrey Boyd is currently an associate professor in the Department of Computer Science at the University of Calgary. He was previously at the Visual Computing Laboratory at the University of California, San Diego, TRIUMF, and the Department of Computer Science at the University of British Columbia. His research interests include computer vision, video, optical flow, motion, and interactive art. Jeffrey completed his PhD in the Computer Science Department at the University of British Columbia in 1994. He completed his BSc and MSc in Electrical Engineering at the University of Calgary in 1983 and 1986 respectively. From 1996 to 1997 Jeff held an NSERC postdoctoral fellowship while he studied at the Visual Computing Laboratory at the University of California, San Diego.

Session 10B
Social Interactions

Developing an intercultural performance practice from creative interactions surrounding notated and oral traditions

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One strand of the project 'Beyond East and West: Developing and Documenting an Evolving Transcultural Musical Practice' (2015-2020) explores the chasms between notation-based and oral performance traditions with a view to developing creative ideas across perceived cultural boundaries. An emphasis on practice focuses on developments of sound and instrumental technique. Ethnographic methods allow differences in musical approach to be observed through a series of workshops and rehearsals with members of the Hezarfen Ensemble and players of the ney, kanun, kemençe, bağlama and kaval. Data collected from audio and video recordings of 10 days of workshops in Istanbul in April and November 2016, and May 2017, enable creative processes to be analysed when musicians from different traditions are confronted with new sounds and new notation.

The extent of pre-existing knowledge or experience of each other's traditions, whether trained in Western classical music, Turkish art music (from the Ottoman Empire) or Anatolian folk music, is different for each instrumentalist. Workshops provide an ideal opportunity for capturing cross-cultural interaction when musicians begin to venture outside their familiar repertoires. Their interactions reveal specific ways of dialoguing and musicking that can help to develop a model of sustained, intercultural performance practice. Sharing and exchanging ideas include developing skills in unfamiliar areas such as rhythmic patterns, ornamentation, reading notation, learning makams, following a conductor, and ensemble work on tuning and balance. Nuances of interplay between composer, score and transmitted oral traditions observed from workshops and rehearsals reveal a wide range of notated and aural approaches within a 'continuum of creative practice' (Nettl, 1974), between what remains fixed in a score or performance, and what can be spontaneously moved or varied.

The research draws upon theories and methodologies from ethnomusicology, network analysis and music analysis (both score analysis and aural analysis) while also developing methods for analysing composer-performer interactions (Bayley 2011), rehearsal processes (Rossmanith 2009; Bayley 2011) and cross-cultural collaborations (Brinner 2009; Bayley and Dutiro 2016; Bayley forthcoming). Interviews with the musicians contribute to an understanding of the way day-to-day micro-practices of rehearsal are intimately connected to broader historical and

traditional, macro-institutional contexts to create what Alfred Schutz terms, a 'stock of knowledge' (Schutz and Luckman 1989).

Investigation will reveal the predicates that determine collective creative activity when aspects of historical knowledge of communities are shared. Observing the use of non-verbal means and cultural tools, including musicking, helps us to understand and characterise collaborative creativity as part of a long-term working process. Analysing interactions between musicians and their navigation of different approaches to performance will contribute to a rehearsal model for intercultural ethnography, thereby leading to an increased understanding of performers' interactions in a variety of situations.

Amanda Bayley

Amanda Bayley is Professor of Music at Bath Spa University where she leads an interdisciplinary research group on Intercultural Communication through Practice. She is editor of *The Cambridge Companion to Bartók* (2001) and *Recorded Music: Performance, Culture, and Technology* (Cambridge University Press, 2010) for which she received the Ruth A. Solie Award from the American Musicological Society in 2011. Her research focuses on composer-performer collaborations, rehearsal analysis and creative processes across repertoires and in intercultural contexts. Recent publications include a co-authored chapter, 'Developing Dialogues in Intercultural Music-making' in the Routledge *International Handbook of Intercultural Arts Research* (2016). She is humanities editor for the *Journal of Interdisciplinary Music Studies* and Co-Investigator on two ERC-funded projects.

Distributed creativity in pre-compositional situations: cognitive metaphors, long-term genesis and micro-social dynamics

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Since January 2016, Hèctor Parra has begun to work together with astrophysicist Jean-Pierre Luminet and Ircam computer-music assistant Thomas Goepfer, joining forces to conceive a large new work for a soloist ensemble (Ensemble intercontemporain), a symphony orchestra (National Orchestra of Catalonia) and live electronics (Ircam). For thirteen months, they have organized several work meetings both in Marseille and Paris –Parra and Luminet, January 2016; Parra and Goepfer, June, July and October 2016; the three of them, January 2017–, a distributed creativity context that is decisively paving Parra's way to afterwards compose his piece.

Our talk will only focus on these pre-compositional periods, that is, the preparations and the discussions that have taken place before Parra has written any musical note or definitively arranged any electronic treatment. We may highlight that such a

restricted approach in schedule terms is quite unusual within the genetic criticism of music, a field that usually studies sources that contain traces of the actual compositional process. For that purpose, *in vivo* tracking methods and devices have been displayed to keep record of the listed meetings of Parra and his collaborators.

A sample of this obtained material will be laid out and analysed in our talk so as to reach three main research goals, namely:

> 1) To discuss the cognitive dynamics allowing three people specialised in different knowledge fields to make fruitful exchanges. In that sense, cognitive linguistics –Conceptual Metaphor and Conceptual Blending– will help to discuss the topic. This methodological approach is chiefly inspired by Lawrence Zbikowski's theoretical works.

> 2) To show how "long-term" genetic criticism –for instance, the comparison with previous science-inspired Parra's pieces– can be important in order to understand some decisions and choices that were made during the meeting. This approach will combine sketch studies with analysis of ethnographic data.

> 3) To partially analyse the dynamics of this three-people micro-society and its impact upon the creative process. Indeed, we have found that their roles and hierarchies during the process have been set depending not only on musical criteria, but also on elements from symbolic interactionism –the branch of sociology which makes special emphasis on meaning construction during social interaction– which must be borne in mind in order for this goal to be achieved. This sociological standpoint has already reached contemporary music studies by an author such as Joseph Kotarba.

Finally, we will try to provide a synoptic abstract model of the interaction encompassing the three aspects mentioned above.

José L. Besada

José L. Besada has studied composition (Real Conservatorio Superior de Música de Madrid) and mathematics (Universidad Complutense de Madrid). He obtained a PhD in musicology (Universidad Complutense de Madrid and Université Paris 8 Vincennes- Saint Denis). He has been postdoc researcher within the APM team at Ircam in 2015-2016. Among his recent scholarly production, we may highlight his forthcoming book *Metamodels in Compositional Practices: The Case of Alberto Posadas's* Liturgia Fractal (Delatour FRANCE, Ircam Centre-Pompidou), an accepted paper in *Perspectives of New Music*, and the co-edition –with Dan Albertson– of a forthcoming double special issue in *Contemporary Music Review*, around the Spanish contemporary music.

Vulnerability, Trust and the Social Dynamic in Creative Musical Collaboration: An Arts-Based Research Perspective

Wendy Spitzer

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In the basic emotional exchange of vulnerability, one party chooses to risk potential judgment by opening up to another. When the other party rewards that risk by responding positively, this leads to human connection. Vulnerability is also the prerequisite psychological state necessary for trust. As trust is highly dynamic, the agents in the relationship continually manage risk, reward and control, moving along a continuum of trusting.

I propose that creative collaborations likewise involve risk and trust, and the interpersonal connection between collaborators can affect creative output. Collaboration and its social dynamics have been studied in fields as diverse as business, organisational management and education. In research specifically on creative collaboration, the roles of connection, trust and the social relationship in co-creative partnerships have been identified as gaps in the current knowledge.

For my MMus thesis (Goldsmiths, University of London), I sought to fill these gaps using an arts-based research methodology. Acting as both co-researcher and co-practitioner, I formed three musical partnerships with fellow music students. The projects were conceived and executed in the summer of 2016, and culminated in a live performance of new works. In-depth interviews were conducted before, during and after the co-creative sessions, which were also video and audio recorded for future analysis. By analysing the interview and video data, readings, and my own written reflections, I examined the collaborative process and its output in relation to concepts of 'flow,' 'group flow' and emergence. I also offer a framework for how vulnerability, risk, trust and the social dynamic may function within creative collaborations, as well as a few best practices.

Wendy Spitzer

Czech-Canadian by birth and North Carolinian by upbringing, Wendy Spitzer is a composer/performer of music that incorporates elements of experimental, classical, and pop styles. She currently performs under the moniker Felix Obelix (http://felixobelix.com) and has released two albums on the Pox World Empire and Potluck Foundation boutique labels. She has toured extensively in the United States in collaborative groups, in addition to teaching, film scoring, and studio session work. Her projects have been funded by the North Carolina Arts Council, the Crosshatch Center for Art & Ecology, and the Strowd Roses Foundation, among others. She holds a BMus degree in oboe performance from the University of North Carolina at Chapel Hill (2002) and an MMus degree in Creative Practice from Goldsmiths, University of London (2016), both with distinction. Her research into trust and vulnerability issues in creative musical collaboration formed the basis of her master's dissertation.

Session 11
Film / Video

"Do Not Pass Go…":
Identifying layers of verification and refinement in the composition and production of three short film scores

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In order for a musical composition to come into being, it must pass the rigours of its creator's demands, but what are these demands? The creator could be creating for someone else, a director or game developer, they could be writing for a specific ensemble with a specific skill set. They may be writing for some form of media or a particular venue/performance. This paper aims to identify, in a specific smaller-scale film composition project, how the composer navigates these issues and, fundamentally, how these impact the creation. Furthermore, the paper, through this investigation, examines and explains the effectiveness to which a creator can trace and discuss his own creative process through various heuristic techniques.

The project in question includes three-short film scores. All of which were composed for a single Hull2017 event at the Hull Maritime Museum (*The Bowhead Whale Exhibition*). It involved 14 student volunteer collaborators: 11 performers, 2 recording engineers and 1 mixing and editing engineer. I took on the role of composer, orchestrator, producer, conductor and editor.

Using handwritten sketches, dated Sibelius files, printed and annotated rehearsal/recording scores, multiple studio sessions, correspondence (primarily supervisor advice in this instance), informal blog posts, creative diary/Twitter feed posts and the recollection of certain events and processes these artifacts may ignite. The paper concerns itself not with the finished creative product but the sketches and revisions made during its creation. For example, the advice to write more texturally so that the student performers could perform the work with greater ease, with the limited rehearsal and recording time available, came from my PhD supervisor. This also made the writing process much more efficient and much more wary of these limitations. This, naturally, had a huge impact on the end product.

The paper capitalizes on recent publications in the field, most eminently Mark Slater's work in tracing his own studio projects (2015 & 2016). It also intrinsically provides further resource on the extra-musical (Katz, 2012), through the music being for picture. Additionally the paper also identifies the impact of modern computer technology on the writing process. Coming, in this instance, in the form of modern engraving software (Sibelius 7.5/8), sound sets (Note Performer) and

production technology (Pro-tools 12) (Burnard & Delalande, 2007; Miranda, 2012) and how these further empower the composer's ability to compose right until the very end.

George Marshall

George Marshall (b. 1992, Scunthorpe) is a composer, audio designer, arranger, and conductor of concert, film and video game music. He is also studying for his PhD in music composition at the University of Hull, for which he holds a scholarship. His music has featured in film festivals across the globe: California to Arkansas, as well as in Cork and York. More recently he entered the world of video-game music. Working with local developers, *BetaJester*, he competed in both *Tranzfuser* and GGJM 2017, for which the team won the award for overall best game. In concert music George recently completed a work for Octet (*1642 Overture*) and has completed a number of commissions in the past. He is currently working on two video game scores, two short(ish) film scores, a work for solo cello and a work for piano (*In Memory*), with pianist and fellow PhD student Graziana Presicce.

Conceptions of sound, silence, material and authorship through experimental music and video art: reconsidering *A Tribute to John Cage* by Nam June Paik

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Nam June Paik's *A Tribute to John Cage* (1973 [re-edit 1976]) is a well-known video art piece. It has been scrutinized many times and even recently it has been subjected to important close reading, e.g. by Richard R. Brown's in *Zen for TV? Nam June Paik's "Global Groove" and "A Tribute to John Cage" (1973)*, and has been discussed in many articles, such as Dieter Daniels' *John Cage and Nam June Paik 'Change your mind or change your receiver (your receiver is your mind)'*, and *Silence Expanded: The Legacy of 4'33"*.

This proposal aims at giving an analysis of the piece, at reinterpreting some of its main features, and at scrutinizing its creative process through the analysis of the sketches. Cage's reception and Paik-Cage diverging/converging ideas on many topics will be the centre of my attention.

This research is based both on the analysis of the video – newly restored by *Electronic Arts Intermix* –, and on the examination of the available pre-compositional sources. These are the sketches of the piece accessible at *Nam June Paik Archive* (*Smithsonian Institute* – Washington), the Paik-Cage correspondence held at *John Cage Collection* in Evanston's *Northwestern University*, and the initial project of the piece, an interesting script that Jud Yalkut – former Paik's assistant – has provided to me.

Especially the compared analysis of the versions of the piece – that of the initial script and the *Fassung letzter Hand* – will enable me highlighting Paik's conceptions of sound, music, and audiovisual material, as well as his ideas about the roles that technology and mediation play in the artistic work and in the coeval society. All these ideas – discussed also taking account of the coeval Cage-Paik correspondence – led him towards a vision on artistic authoriality and on aesthetic individuality different than that of Cage, and fully integrated into the coeval serialized forms of media.

Moreover, I will also focus my attention on Paik's understanding of silence, showing how he deliberately reworked the audio of 4'33", engendering a re-mediated version of the background noise that conveys a fully subjective reinterpretation of Cage's original idea. Lastly, I will compare Paik's elaboration of silence with the way Bill Viola worked on the idea of silence (and presence) in his coeval video *A million Other Things (2)* (1975). This final comparison of the two videos and of their main features will allow me pointing out opposite ideas that the two video artists had with regard to authoriality, to spectatorship, to the compositional process, to the relationship between sound and image and to the function of noise and background: these contrasting perspectives came out of two totally different ways of both adopting and acknowledging Cage's legacy. Thus, the reception and reinterpretation of Cage's ideas in 1970's video art will constitute the core of this paper.

Giacomo Albert

Giacomo Albert is postdoctoral researcher in dramatic theory and computational modelling of drama at CIRMA – University of Torino. He also teaches audiovisual communication at Cuneo Conservatory. Moreover, he is member of the research group *Luciano Berio e la multimedialità*, and member of the editorial boards of the journals «Gli Spazi della Musica» and «Nuove Musiche». He gained a Ph.D in Musicology at University of Pavia, and held research fellowships from University of Torino, Paul Sacher Stiftung and Fondazione Giorgio Cini afterwards. Giacomo has published essays in peer reviewed journals as «AAA•TAC», «ACT», «Nuove Musiche», «Interactive Storytelling», «Archival Notes», «philomusica», and many book chapters. His fields of studies are XXth/XXIst century music, drama and storytelling, computational ontologies, creative process in contemporary music, electroacoustic music, sound art, film music and video art. He is also sound artist and electroacoustic music composer/performer: his works have been played in Italy, French, Denmark, UK, Spain, Portugal, Germany, USA and Australia.

Session 12
Tracking the Creative Process in Howard Skempton: a tripartite methodological study

Origins and archaeologies of Howard Skempton

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In the old days, studies of the compositional process were studies of sketches, and sketches, it was thought, were records of the composer's decision making and intention. This outwardly positivist approach was largely determined by disciplinary conventions — the now fabled hegemony of the musical work and its formal properties, and barely questioned the fetish of the autonomous great male author. In the wake of more recent theories of the human subject and of representation, however, all that former excitement about Beethoven's sketch books can seem to have serviced magical beliefs about the possibility of seeing inside the artist's mind. Subsequently, particularly via the new musicology, scholars have constituted creativity differently, sharing the love with performers and with interpretive communities of listeners, with the effect that creativity is decentered across the field of music making and sense making. Today, the category 'creative process' has lost all self evidence, nor, in multidisciplinary contexts is it obvious how it might be researched. This paper offers one possible answer: a composer's autobiographical discourse is likely to describe how they and their music came to be, offering something like a sketch, but one that relates decisions about musical technique to broader questions of personal experiences, decisions and values. Howard Skempton's conversations with Esther Cavett about his early years, and how he became a composer present more than biographical facts and fictions — they distill an essentially musical account of finding a place, a way of proceeding, a mode of survival. In this case at least, autobiography is not only a form of creation, but an allegory of the compositional process. As he tells it, Skempton's early life involved gently turning away from external imperatives about what should happen next (go to university, get a job, or compose music that responds to the coercive music-historical plots and moral panic of high modernist complexity). As a person and composer, Skempton did not adopt the national and nationalist identity of some new British music, exploring instead the local, the regional and the eclectic. His response to his social and historical moment was itself creative, involving a return (at its best, free of nostalgia) to sensory experience. How do I sound, his music asks, what next, how are we feeling? Skempton's is in every sense a life in music.

Matthew Head

Matthew Head is Professor of music at King's College London. He is the author of two books: *Orientalism, Masquerade, and Mozart's Turkish Music* (RMA 2000), and *Sovereign Feminine: Music and Gender in 18th Century Germany* (California UP, 2013). He has recently published an article on C. P. E. Bach's gout (the painful swollen kind) and musical body language, in the journal *Eighteenth-Century Music*. He is an amateur flute player and keyboardist.

Influencing:
Howard Skempton as teacher of composition

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Composition has always been Howard Skempton's main preoccupation but alongside it he has taught composition. Skempton has said (private conversation), "This is a distinct area of this project, yes, but there is a continuity in that I suppose I teach as Cardew taught. I must have shown him one or two things at the beginning which reasonably impressed him and persuaded him to take me on. Immediately he involved me in putting on concerts and his approach and the first things he had to say were about notation and about presentation. About what it is to be professional. This is how I teach now. I didn't do composition teaching in earnest until I became well established".

I will, as a composer and teacher of composition, reflect with reference to Skempton's own processes of teaching composition and also archival teaching material from his associates in the 1970s and later. My starting point will be to compare and contrast 'free' versus 'strict' (or 'soft' versus 'hard') pedagogical approaches in the 20th century — probably using, as an example, Philip Glass's reflections on being taught by Nadia Boulanger as an example of the 'strict' approach, and Steve Reich and Louis Andriessen's reflections on being taught by Luciano Berio as representative of a much 'freer' approach. Boulanger focused on aspects which could be taught, such as method, discipline and technique. Berio on the other hand took a more holistic approach. Andriessen once said that what he learnt from Berio was how to cook. This remark may not be as glib as it sounds. Berio was more interested in teasing out those traits which would eventually become markers of individuality. Berio once said to Reich, "if you want to write tonal music — why don't you?" Berio had therefore grasped in an instant what it was that the young Reich needed to do to progress as a composer. I will look at Skempton's approach to teaching composition in relation to the two approaches outlined above in order to see whether he draws from one or the other of these 'traditions', or indeed approaches the subject from a completely different angle.

Pwyll Ap Siôn

Pwyll ap Siôn is Professor of Music at Bangor University, Wales. His publications include *The Music of Michael Nyman: texts, contexts and intertexts* (Ashgate Press,

2007), *Michael Nyman: Collected Writings* (Ashgate Press, 2013) and *The Ashgate Research Companion to Minimalist and Postminimalist Music* (Ashgate Press, 2013), the latter co-edited with Keith Potter and Kyle Gann. In 2014 he co-edited with Lauren Redhead a special issue of *Contemporary Music Review* on *Musical Borrowing and Quotation in the Twentieth and Twenty-First Centuries*.

The interviewer and the interviewed:
Howard Skempton's
narratives and compositional strategies

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Say you were someone who enjoyed a composer's music, and that you had an opportunity to talk to that composer at length about his music and his views on composition, and you had his permission to share the transcripts of those conversations with others, as objects for further reflection. What might you learn from that process?

Howard Skempton's account of his creative development and processes provides a rich resource for musicians, for those who are interested in creativity more generally and for those interested in narrative, and the discourse we use to help make sense of our lives.

In *The Psychology of Personal Constructs* (1955), George Kelly puts forward a new approach to psychology which viewed people as actively constructing their worlds. As he put it: "There are always some alternative constructions available to choose among in dealing with the world. No one needs to paint himself into a corner; no one needs to be completely hemmed in by circumstances; no one needs to be the victim of his biography" (Kelly, 1955, p. 15). As Matthew Head has noted, Skempton's early life involved "gently turning away from external imperatives" about what should happen next in order to facilitate his chosen path. Skempton reflects that he seemed to purposefully cut down his options, so as to paint himself into a corner.

Reflective practice is at the heart of learning. Our work with and about Skempton contributes to the development and "thickening of preferred stories" told within his interviews with me. Stories give meaning to people's lives and their relationships, privileging some and making others invisible. The same applies to the description of creative process, and how that is assumed to be shaped by the environment it inhabits.

Ultimately our sense of self is 'performed'. Narrative, then, provides a structure, a plot which is co-created between teller and listener, writer and reader, the audience, the performers and the composer. We will model this unfolding of experiences in the conference session, where Skempton will act as respondent to our views on his views on himself. A further aspect is the witnessing of our delivery by an audience

with its own richness of experience and response, which will lead to yet further conversations.

With such a wide frame of reference, it would be foolish to claim academic authority or seek definitive answers, but the final paper in this trilogy has a more modest aim, which is to reflect on the 'negotiation' of voices facilitated and contained within the book we are writing and the conference session and to surface some of their narrative strategies and constraints.

Esther Cavett

Esther Cavett is Senior Research Fellow in music at King's College, London. She has published on Mozart and music theory and analysis and more recently on various coaching-psychology related topics. She is currently working with others on a book on Howard Skempton, composer. Her career as a musician was interrupted for 25 years by being a City lawyer, specialising in corporate finance trusts. She has been deputy chair of Trinity Laban conservatoire of Music and Dance and trustee of other musical charities; she is now a pianist and administrator for Water City Music, which puts on concerts involving children playing with professional musicians in unusual places.

Posters

LS Live:
Towards an extended and interdisciplinary contemporary percussion performance

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Searching new ways for staging contemporary music within new contexts and formats reflects the awareness of a discrepancy in the concert experience between performers and the audience. Efforts to reduce this often lead to interdisciplinary performances combining multiple art-forms and artistic concepts: new music for an existing film, a composition with a newly created choreography, etc. Caution is needed when combining multiple artistic concept, as they may interfere with the concert experience: spectators could get distracted if they lose the connection between the different elements. However, if all presentations originate in one artistic concept which is successfully translated into different artistic expressions, the audience might become immersed in a complete artistic world created by the performer. Because one artistic concept supports all the presentations, the performance accentuates and enlarges the fundamental concept, which may lead to a reinforcement of the concert-experience.

Living Scores Live assesses the on-stage performance of contemporary percussion music. This PhD explores how repertoire-study might generate the necessary knowledge for extending contemporary percussion performance. Case studies based on compositions by Philippe Hurel and Iannis Xenakis illustrate on the one hand how the compositions may be used as the fundament for different interdisciplinary collaborations and on the other hand how studying, analysing and practising the music with the support of new technologies may lead to new performance formats.

In order to create interdisciplinary performances, the percussionist should not only use his knowledge – gathered through repertoire-study – to play the music, but also to extend it into different presentation formats and other fields of art. This requires a good understanding of how different media in an interdisciplinary artwork interact. Multiple authors have approached this subject from an analytical perspective, referring to concepts such as metaphor theory (Cook, 200) and conceptual integration networks (Zbikowski, 2002). LS Live build upon these ideas with an active perspective towards creating new interdisciplinary performances.

While studying and performing the selected repertoire, elements in the artistic process of the composition are detected which are difficult to perceive in an audio-only representation. These elements may then be translated into non-auditory presentations (visually, spatially, etc.) via collaborations with different artists in an interdisciplinary context. The resulting artworks and their genesis will be scrutinised with the aim to define effective strategies for translating and communicating artistic knowledge between the performers. Next, both traditional and extended performances will be presented in focus groups representing different types of

audiences – ranging between high-skilled and unskilled listeners – to gain insight into the impact of extension on the perception of the performance.

Vincent Caers

Vincent Caers is a percussionist, electronic musician and artistic researcher. He obtained master degree's in percussion, chamber music and contemporary music performance before becoming research assistant at the LUCA School of Arts, KU Leuven. He is currently working on his PhD Living Scores Live, in which he explores new strategies for contemporary percussion performance and their impact on the concert experience of the audience. His main interest is combining contemporary percussion and experimental electronic music in collaborations with multiple artists in an interdisciplinary context. Together with percussionist dr. Tom De Cock he created the Living Scores Learn platform, which aims at improving the practice and performance of contemporary repertoire.

Mahler's search for lost time:
a 'genetic' perspective on musical narrative

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Since Theodor W. Adorno published *Mahler: A Musical Physiognomy*, it has become common to discuss the music of Gustav Mahler in narratological terms. Within this trend, one of the most important focuses is a fictive-like musical representation of time, intended as an important ground of comparison between music and literature, and especially with regard to the modernist novel, characterised by complex temporal mazes. Another feature related to these literary references in Mahler's music is what I will here call its 'unfinishedness'. I mean this not only in the usual, 'technical' sense of incomplete composition due to an interruption in the compositional process, but also in a more intrinsically authorial sense, as a stylistic paradigm of modernist narrative that extends the provisional, in-progress textual dimension of the sketches and drafts to a work's final version. In literary studies the analysis of this relationship has required a 'genetic'-narratological approach based on comparative analysis of preparatory sketches and drafts with the final text. In the vigorous debate on narrativity in music, however, even though many authors invoke these narrative-like aspects they tend to focus their analyses on final texts, not on the preparatory materials of a work. Thus, it is not possible to fully understand the relevance of these aspects that have their basis in a nearly modernist paradigm. As a contrast to previous approaches to musical narrativity, then, my paper's aim is to show how these key fictive-like aspects evolve during the compositional process within a composer's narrative-like discursive strategy – in this case, a passage from the first movement of Mahler's Tenth Symphony. First, I will compare the fair copy of the passage to its preparatory materials by revisiting, in narratological terms, the established philological practice of variant analysis. More specifically, I will look at the passage for analogues to the fictive-like structures proposed by scholars of music narrativity (especially Micznik, 2001) – and not only,

as those scholars do, at the latest stages but also in earlier drafts, to compare the narrativity detected in the passage's different versions as chronologically conceived during the compositional process. Then I will contextualise my findings within a larger field of literature on musical narrativity and the musical creative process. Given that this approach is neglected by literature, and given my purpose of carrying out preliminary testing of the 'genetic' approach to musical narrativity, the broader aim of this paper will be, ultimately, to understand what scholars can learn about Mahler's musical narratology from an analysis of sketches and drafts of his works with a perspective of applying the analysis apparatus to a larger scale.

Angelo Pinto

Angelo Pinto graduated from the Alma Mater Studiorum at the University of Bologna and is at present a Ph.D. candidate in Music at The Open University, Milton Keynes (UK). His dissertation is titled *The Symphony as a Novel: Mahler's Tenth*. He has been a DAAD fellow at the University of Tübingen, has published articles in academic journals and has taught at the University of Bologna. His research interests include: the music of Gustav Mahler; modernism in music; music and literature; and music of the late twentieth-century, investigating all of these fields through the perspectives of the creative process, authorialism and musical analysis.

Evening Events

Varieties of Viols

Lecture-Recital

John Bryan, Alison Crum, Roy Marks

For many musicians working in the field of 'historically informed performance' one significant consideration in their creative process is access to instruments and other equipment appropriate to the geography and period of the music being performed. Understanding the ways in which particular instruments respond to, and suggest, aspects of performance technique can lead to insights into the close relationships between musical function, compositional style, and the performers' interpretative stance, and how the instruments themselves can inform the players about questions of balance, blend, articulation and technique.

Here we explore the contrasting sound worlds of three different sets of viols, investigating the historical, iconographical and organological justification of their use in specific repertories, and allowing listeners to reflect on what aspects of the music are illuminated by the particular choice of instruments.

The three models of viols under consideration are:

> 1) based on those shown in an altarpiece *Madonna and Child enthroned with SS Augustine, Posidonius, John and Francis* dated 1497 by Lorenzo Costa in the Ghedini family chapel, church of S Giovanni in Monte, Bologna, in music from Italy c.1500 including pieces associated with Isabella d'Este (an early viol enthusiast) and the Bolognese Bentivoglio family;

> 2) copies of surviving instruments by viol makers working in Venice in the mid-sixteenth century such as Francesco Linarol and Antonio Ciciliano, in music associated with the city showing its importance as a centre for performance and music publishing during the high renaissance period;

> 3) copies of English instruments surviving from the late Elizabethan and Jacobean periods by makers highly esteemed in their own time, including John Rose and Henry Jaye, performing pieces by some of the most important composers of English consort repertory, from Orlando Gibbons to Henry Purcell.

John Bryan

John Bryan is Professor of Music at the University of Huddersfield, where he was awarded a higher doctorate in 2015 for his practice-based research into performing renaissance repertory for viol consort and voices. Since graduating from the University of York in the 1970s, John has devoted his career to combining research, performance and teaching in the field of historically informed musical practice, and has performed world-wide with ensembles including the Consort of Musicke, Musica Antiqua of London and the Rose Consort of Viols. He has published articles in *Early Music* and *The Journal of Musicology*, and his jointly-authored book *Early English Viols: Instruments, Makers and Music* was published by Routledge last year. John is Chair of the Viola da Gamba Society, an artistic adviser to York Early Music

Festival, and also acts as a specialist lecturer for music festivals organised by Martin Randall Travel.

Alison Crum

Alison Crum is one of the best-known British exponents of the viol. She travels all over the world giving recitals and lectures, and teaching on summer schools and workshops. She got her first viol while reading music at Reading University, and later studied with Wieland Kuijken in Brussels and Jordi Savall in Basel. She has made over 100 recordings - mostly with the Consort of Musicke, the Dowland Consort, Musica Antiqua of London, and the Rose Consort of Viols - but also as a soloist on discs of Marais and the three Bach Gamba sonatas. Alison is President of the Viola da Gamba Society, and directs many courses for viol players, including the International Viol Summer School, attracting players from all over the world. She has published a series of graded music books centered around her highly acclaimed textbooks *Play the Viol* and *The Viol Rules*.

Roy Marks

Roy Marks began his musical life in childhood playing the piano and, in his teens, lead guitar in a rhythm and blues band. Rather than proceeding to a conservatoire of music, however, he went to art college—studies which culminated at the Royal Academy in London—and from there he went on to teach painting and drawing in adult education. In his late thirties he abruptly turned his attention almost exclusively to early music—to the recorder, the viol, and the lute. Roy is a member of the Rose Consort of Viols and is a frequent teacher on courses and workshops both in Europe and the USA. He also edits and composes music for his friends to play. Two of Roy's compositions are recorded on *A Spagna in the Works*, a 2014 CD featuring a number of early viols in renaissance repertory performed as a duo with Alison Crum.

Linda Jankowska, Violin

Works by Pablo Vergara and Yoshiaki Onishi

Concert-discussion

Linda Jankowska, Pablo Vergara

Our presentation will briefly address some aspects of the creative and collaborative process undergone in the composition Pablo Vergara's piece *Lines for Linda* for solo violin, a process marked by the search for a certain materiality of sound, a trial and error approach in the collaboration producing the constant reshaping of the material, and the adoption of different strategies for the musical communication between composer and performer. The presentation will be concluded with the performance of two pieces for solo violin by Linda Jankowska, including the previously discussed piece.

Linda Jankowska

Linda Jankowska's interests in extended contemporary music performance practice have made writing a statement that she is a violinist borderline untrue. However she has been classically trained in her native Poznań, later in Munich and Manchester and owes her initiation to contemporary music to the Lucerne Festival Academy, which she attended in 2007-09. Linda is a founding member and executive director of Distractfold Ensemble. The group specializes in instrumental, acousmatic, and hybrid music of the 21st century. Distractfold performs worldwide and has worked with composers at Harvard University, Stanford University, Brunel University, University of Huddersfield, Ithaca College (US). It is also the first British ensemble to be awarded the prestigious Kranichstein Price for Interpretation at the International Summer Courses in Darmstadt (2014). This past concert season she was busy co-curating and co-producing the 2017 Cut and Splice Festival in Manchester. In October 2014 she started working towards a PhD in contemporary music performance at the University of Huddersfield.

Pablo Vergara

Pablo Vergara is currently a PhD candidate at the University of Huddersfield. He has composed for a variety of settings ranging from solo instrument to orchestral pieces, his works being performed by several ensembles and orchestras in Europe and Americas.