



Fondation Jeunes  
Scientifiques  
Luxembourg

Under the the High Patronage of  
HRH the Hereditary Grand Duke

CONCOURS NATIONAL

Jovik

FUERSCHER

&

11<sup>th</sup> EXPO-SCIENCES  
LUXEMBOURG

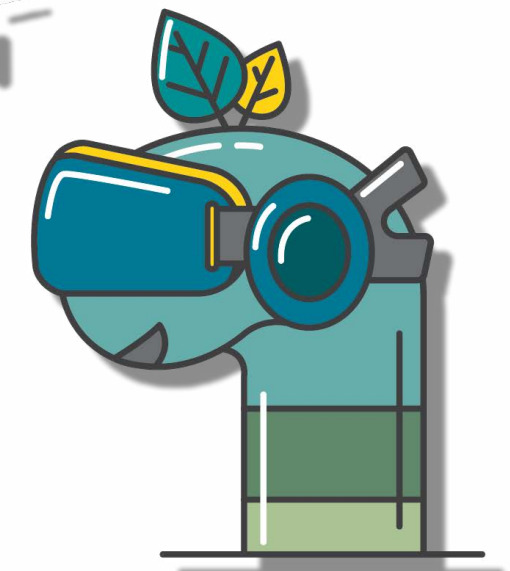
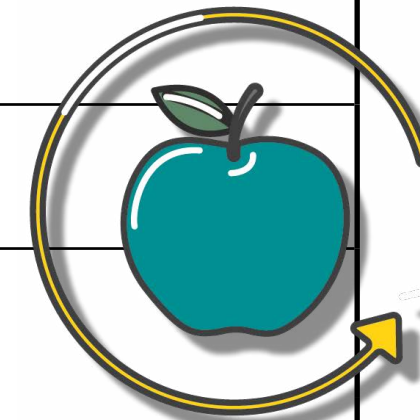
1<sup>st</sup> Virtual Edition



PROGRAMME 2021

# SCHEDULE LIVE STREAM

SATURDAY March 27, 2021		SUNDAY March 28, 2021	
9:00	Opening speech by Carlo Hansen (President FJSL)	9:00	Opening speech by Serge Quazzotti (President of the Jury)
	Words of encouragement by HRH the Hereditary Grand Duke		
9:20	Congress - live stream	9:15	Congress - live stream
10:45	Musical performance: Pleasing	10:30	Musical performance: Edsun
11:15	Congress - live stream	11:00	Congress - live stream
12:45	Words of encouragement by the Minister of National Education, Children and Youth Claude Meisch	12:15	Cultural break
12:50	Cultural Break		
13:30	Keynote speech: André Wilmes, PhD (CEO & founder Rafinex)	13:05	Words of encouragement by Marc Schiltz, PhD (Secretary General FNR)
13:45	Congress - live stream	13:15	Congress - live stream
14:30	Circus & dance performance: Philo_move_art	14:30	Closing speech by Sousana Eang (Director FJSL)



# LIST OF ALL PROJECTS (in order of appearance)

## Typical Meteorological Year for Luxembourg City generated by a Recurrent Neural Network with a Long Short-Term Memory Layer

Krzesimir Hyżyk (École Européenne I)

Live Stream on 27.03. at 9:20

## Project Picoballoon

Jakub Nagy, Adam Bednar (Slovakia)

Live Stream on 27.03. at 9:28

## Leuchtfenster

Lucan Nooi (Lycée Josy Barthel)

Live Stream on 27.03. at 9:35

## Flywheel Energy Storage System (Fess)

Sila Kaya (Turkey)

Live Stream on 27.03. At 9:43

## DolorX

Henri Ahola (École Européenne I)

Live Stream on 27.03. at 9:50

## CallBalance

Khurram Valiyev, Aytac Aslanli, Musa Bayramli (Azerbaijan)

Live Stream on 27.03. at 9:59

## Using python to solve chemistry equations

Max Gold (St. George's International School a.s.b.l.)

Live Stream on 27.03. at 10:06

## Connecting human mind with a machine and developing ways to scan and map the brain activity

Yuri Yariakhmetov (Russia)

Live Stream on 27.03. at 10:15

## The Beerobot

Gonçalo Rafael Fonseca Correia (Lycée Bel-Val)

Live Stream on 27.03. at 10:20

## The Wave Fish Controller

Fedi Nabli (Tunisia)

Live Stream on 27.03. at 10:29

## The Anopheles Project

Alexandre Hoffmann (Lycee français Jean Monnet de Bruxelles)

Live Stream on 27.03. at 10:34

## Gréng Bauen

Catherine Posing, Elmina Kočan, Anna Molitor (Lycée Classique de Diekirch)

Live Stream on 27.03. at 11:16

## Incorporation of silver nanoparticles in an extract of Ricinus communis and Brugmansia arborea with a biocidal effect, for application in the agricultural sector

Mary Paz Ramos Romero, Nohemi Castillo Flores, Citlaly del Rocío Ubieta Montor (Mexico)

Live Stream on 27.03. at 11:25

## Improvement of a self built rc airplane

Elisa Back, Raphaël Henriques, Mike Metzler (Lycée de Garçons Esch)

Live Stream on 27.03. at 11:32

## iGEMINI

Anton Mykhailiuk (France)

Live Stream on 27.03. at 11:40

## Aran - A new system for license plate detection

Aryaman Arora, Anthony Vincens (Athénée de Luxembourg)

Live Stream on 27.03. at 11:45

## Development of an interface for virtual reality glasses to assist in unmanned craft

Anna Ivanova (Russia)

Live Stream on 27.03. at 11:53

## "DNA Walks" of Polyglutamine Neurodegenerative Diseases

Marie Barberon (University College London)

Live Stream on 27.03. at 11:56

## DNA analysis methods for the authentication of Papaver somniferum

Catherine Anne Portway (Czech Republic)

Live Stream on 27.03. at 12:05

## Device for Analysing Coughing Patterns to Diagnose and Monitor Asthmatic Patients

Elias Fizesan (St Paul's School)

Live Stream on 27.03. at 12:14

## Sanjeevani: A Novel Automated System for Hospital Acquired Infection Monitoring and Prevention

Samyak Shrimali (USA)

Live Stream on 27.03. at 12:22

## Pro-Back Haltungskorrektor

Kilian Lorenzen, Jonas Baltramaitis (École Européenne I)

Live Stream on 27.03. at 12:26

## The Blind Shine

Chayma Zakhama, Nesrine Kermani (Tunisia)

Live Stream On 27.03. At 12:35

## Kidado Sciences

Théophile De Moncuit (École Européenne I)

Live Stream on 27.03. at 12:38

## Will AI take care of our health or will it take over healthcare?

Alexandra Senn (École Européenne I)

Live Stream on 27.03. at 13:46

## Electronic Device "Stepper Motor Monitor" - A Gadget For Practical Research Of Stepper Motor Parameters

Maksim Belou (Russia)

Live Stream on 27.03. at 13:55

## Silber wieder glänzen lassen

Adriana Senn (École Européenne I)

Live Stream on 27.03. at 14:01

## Modelling Of Proton Transfer In The Universe: Diverse Chemistry Of Formic Acid And Methanol

Karolína Fárníková (Czech Republic)

Live Stream on 27.03. at 14:10

## Algen als alternative Energiequelle

Pierre Kieffer, Ben Fischer (Lycée Michel Lucius)

Live Stream on 27.03. at 14:16





# LIST OF ALL PROJECTS (in order of appearance)

**Introduction and Application of Fourier Analysis**  
Sijie Ma, Ziqiao Luo (International School of Luxembourg)  
**Live Stream on 28.03. at 9:15**

**Construction and Analysis of Greedy Sequences of Non-Negative Integers**  
Atanas Iliev (Bulgaria)  
**Live Stream on 28.03. at 9:25**

**Cigarette buds**  
Silvère Trimi, Tomas De Almeida Faiante, Victor Jank (Lycée Michel Lucius)  
**Live Stream on 28.03. at 9:34**

**The Detoxification And Decolorization of Industrial Waste by Using Natural Enzyme**  
Nilsun Merve Aksu, Ece Genç (Turkey)  
**Live Stream on 28.03. at 9:43**

**Pandemie-Koffer**  
Maurice Schreiner (Lycée Classique de Diekirch)  
**Live Stream on 28.03. at 9:55**

**The Use Of Tidal Energy As An Alternative Power Source For South Africa**  
Lelentle Ramoroka (South Africa)  
**Live Stream on 28.03. at 10:05**

**Efficient Sulfur Dioxide Estimation in Wine: Improvements on the Ripper Titration**  
Sarah Mackel (International School of Luxembourg)  
**Live Stream on 28.03. at 10:11**

**Development of methodology and related software application for axial alignment of jointly working machines**  
Boris Dimov (Bulgaria)  
**Live Stream on 28.03. at 10:20**

**Greenhouse gases emissions filter**  
Aurelia Wells (Athénée de Luxembourg)  
**Live Stream on 28.03. at 10:25**

**Why Couldn't the Chicken Cross the Road?**  
Charlotte Barberon (International School of Luxembourg)  
**Live Stream on 28.03. at 11:00**

**Alf, the girafe that runs on gravity**  
Geneviève Comeau, Cassie-Anais Savoie, Alexandra Audet (Canada)  
**Live Stream on 28.03. at 11:08**

**Die Elementeproduktion im Universum**  
Elisa Sahl (Lycée Aline Mayrisch)  
**Live Stream on 28.03. at 11:14**

**Bacterial resistance to ampicillin and growth rate of Escherichia Coli**  
Luiza Andrade (Lycée Michel Lucius)  
**Live Stream on 28.03. at 11:28**

**In search of intermediate hosts of Fasciola hepatica (Digenea: Fasciolidae) in the Azores**  
Diogo Magalhães Sousa, Filipa Bizarro Vieira, Miguel Gonçalves Soares (Portugal)  
**Live Stream on 28.03. at 11:36**

**Degradation of plastic polymers using genetically modified bacteria**  
Jennifer Michael, Anna Batmanova, Kajal Karki (Lycée Michel Lucius)  
**Live Stream on 28.03. at 11:41**

**Development of a degradable tamponade using the example of epistaxis**  
Jule Koball, Laura Röder, Julia Ullrich (Germany)  
**Live Stream on 28.03. at 11:55**

**The Effects of Alternative Medicine on Two Types of Bacteria**  
Aayush Pramanik (Lycée Michel Lucius)  
**Live Stream on 28.03. at 12:00**

**Which public surfaces contain the highest bacteria content?**  
Amelia Hatch, Marieke Corthouts (International School of Luxembourg)  
**Live Stream on 28.03. at 13:16**

**Energy, architecture and science in the first lunar biolab**  
Nolan Priego, Ismael Barroso, Wenwen Hu (Spain)  
**Live Stream on 28.03. at 13:25**

**Can a wild ant queen develop into an ant colony?**  
Alexander Lebedev, Maxim Lebedev (Lycée Michel Lucius)  
**Live Stream on 28.03. at 13:31**

**An Attempt Of Using A Smart Hydroponic System In Closed Area**  
Naz Pekcan (Turkey)  
**Live Stream On 28.03. at 13:40**

**The Impacts of Antibiotic-Clavulanate on the Human Microbiota**  
Sophia Avelino (International School of Luxembourg)  
**Live Stream on 28.03. at 13:45**

**Synthesis of Potential Anti-tuberculosis Drugs**  
Nikola Eva Mádlouá (Czech Republic)  
**Live Stream on 28.03. at 13:54**

**Investigating the effect of alcohol on hepatocyte function**  
Estelle Rollinger (International School of Luxembourg)  
**Live Stream on 28.03. at 14:00**

**Production Of Orodispersible Nanofiber Pharmaceuticals For Pediatric And Newborn Patients With The Electrospinning Method**  
Nergis Inal (Turkey)  
**Live Stream on 28.03. at 14:09**

**An investigation into the effect of Ibuprofen on Chlorella pyrenoidosa growth**  
Paula Van de Pauverd Bartolomé (International School of Luxembourg)  
**Live Stream on 28.03. at 14:15**

**AzBuki.ML - Machine learning platform for natural language processing, implementing recurrent & convolutional neural networks and linguistic algorithms with applications for the Slavic Languages**  
Radostin Cholakov (Bulgaria)  
**Live Stream on 28.03. at 14:24**



# JURY OF THE NATIONAL JONK FUERSCHER CONTEST

<b>M. Serge QUAZZOTTI</b>	Director of IPIL (Institut de la Propriété Intellectuelle Luxembourg) and PhD in Chemistry
<b>Mme Christelle BAHLOWANE</b>	Clinical research assistant (Luxembourg Institute of Health), specialised in molecular biology and microbiology
<b>M. Janusz BODEK</b>	Historian
<b>M. Yannick GAASCH</b>	Doctoral student in philosophy
<b>M. Jean-François HAUSMAN</b>	Team leader for plant biotechnology at LIST (Luxembourg Institute of Science and Technology)
<b>M. Gilles KOHL</b>	Development Manager and Project Engineer for PROCAD GmbH & Co.
<b>M. Emmanuel LIBEAU</b>	IT engineer, senior manager of Accenture Luxembourg
<b>Mme Valérie MAQUIL</b>	PhD in Computer Science, Senior Researcher in the IT Innovative Services Department of LIST
<b>M. Félix NOTHAR</b>	Graduate engineer in general mechanics, project engineer Accumalux
<b>M. Philippe SERVAIS</b>	Doctor of Pharmacy, pharmacist
<b>M. Jacek STANKIEWICZ</b>	Research Associate, University of Luxembourg
<b>M. Sébastien WIERTZ</b>	Mechanical engineer, General Manager at Paul Wurth InCub

“Research and innovation need new actors who will bring fresh ideas, new perspectives, different approaches to meet the immense societal challenges before us.”  
- **Jean-François Hausman**



“I love the positive vibes and the refreshing enthusiasm of the young scientists. There is a necessity to encourage and support them, to give them the opportunity to confront their projects and ideas with realities of the field, which they are not used to encounter at their schools. This is an important role for all the scientists, entrepreneurs and experts who are part of this jury.” - **Serge Quazzotti**

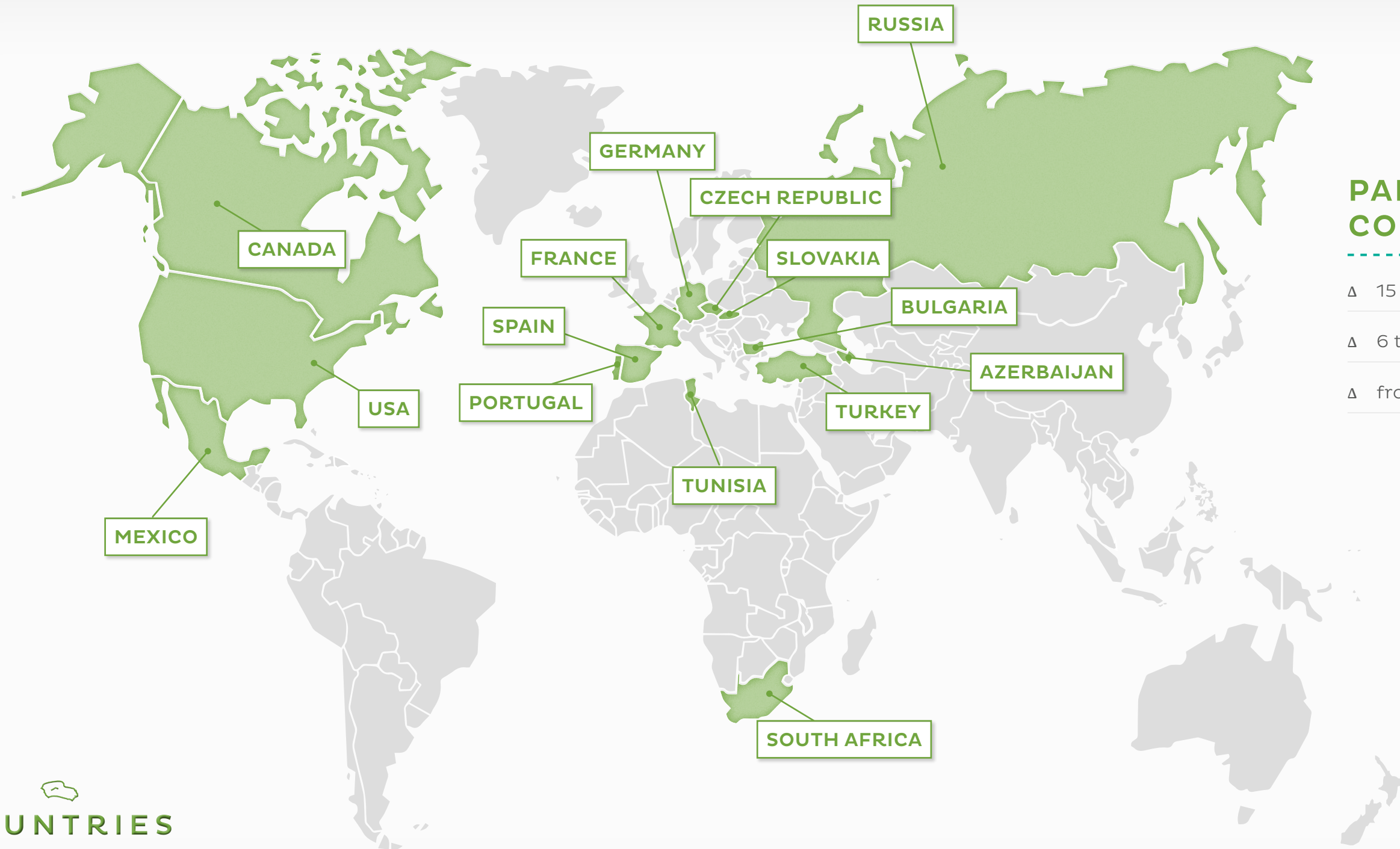
“There are so many creative, inspiring and highly competent young minds outside. I think it is important to support them in developing their talents - they are the best candidates to shape our future world!”  
- **Valérie Maquil**



“I am honoured to serve an initiative that brings future generations of researchers closer to science and critical thinking. In a world that is becoming increasingly competitive, demanding and specific, I find it essential to awaken the scientific spirit of every young person, in order to better confront important issues such as global warming, famine, overpopulation and multi-resistance.”  
- **Philippe Servais**



  
COUNTRIES



## PARTICIPATING COUNTRIES 2021

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Δ 15 countries

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Δ 6 time zones

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Δ from GMT-6 to GMT+4

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# LINE UP



## PLEASING

**MARCH 27, 2021**  
**10:45 GMT +1**

### BIO

The solo project Pleasing by Luxembourgish artist and guitarist Patrick Miranda gives an insight into the, until now relatively uncharted sounds of math-rock and post-rock. With the combination of tapping riffs, atmospheric and emotional influence, his songs figuratively lead us through its very own journey, its whole significance is brought up and questions the listener's wits. Pleasing's purpose lies in expressing emotions and feelings, which we are not willing to admit, with a focus on psychological issues within us.

Pleasing is no stranger to playing live, having the experience on all kinds of stages, he crafted and adjusted an energetic performance which projects the emotional quality of the live set. Accompanied by two session musicians, Sacha Ewen and Xavier Hofmann, Pleasing shared the stage with bands like The Slaughter House Band, Brain Ape, The Choppy Bumpy Peaches and Aiming for Enrike.

**@PLEASINGSOME**



**@EDSUNMUSIC**

## EDSUN

**MARCH 28, 2021**  
**10:30 GMT +1**

### BIO

EDSUN creates alternative Pop/R&B. His musical style is unique to the Luxembourgish music scene and has been growing since the release of his debut EP N.O. in 2015. Incorporating contemporary dance into his performances is just one of many things that sets EDSUN apart from his contemporaries. In 2018, EDSUN released his second EP titled You Are Not Just One Thing, which has a slight pop touch. He also went on his first European tour called The Platonic Touch Tour in Belgium, Germany, Norway and Luxembourg.

EDSUN won Artist of the Year and Music Video of the Year at the Luxembourg Music Awards 2019. He was the support act for Mike Shinoda and also performed twice at the Primavera Sound Festival in Barcelona and BIME City Pro 2019. In 2020, EDSUN was one of the main acts for the Free Mobility concert, inaugurating Luxembourg as the first country in the world with free public transport.

@edsunmusic



# KEYNOTE SPEAKER



## André WILMES, PhD

MARCH 27, 2021  
13:30 GMT +1

### BIO

André Wilmes is a Jonk Fuerscher alumn of the FJSL and former prize winner at the European Contest for Young Scientists in 2008 in Copenhagen. Today André is the CEO of a startup developing some of the most advanced mathematical optimization software for automotive, aerospace and biomedical companies – contributing to cutting-edge products such as self-driving cars, air mobility vehicles and personalized implants.

In his keynote, André will share some of his insights on why science is an awesome lifestyle and career choice, and some of his experiences since his time as a Jonke Fuerscher, which include obtaining a MEng and PhD in Aeronautics from Imperial College London, travelling the world to give presentations at research centers such as NASA, attending the Lindau Nobel Laureate Meetings and making lifelong friends along the way.

## Philomène AUTHELET

MARCH 27, 2021  
14:30 GMT +1



### BIO

“My name is Philomène Authelet, I am 27 years old and I am a pluri-disciplinary artist. I started as a young gymnast for 12 years. Then I discovered other artistic, athletic and internal disciplines such as *Art du déplacement*, yoga, martial arts and dance. 3 years ago I started to realize that I really wanted to choose an artistic path and to dedicate a part of my life to art and nature. So I decided to focus myself on circus disciplines such as handstand, contortion, and acro dance . I am currently working part time at the “Not Standing” company by Alexander Vanternhout for a beautiful piece . In addition, I am working on a project with the Knowledge asbl for Esch2022 for a dance project on identity!”

@PHILO\_MOVE\_ART



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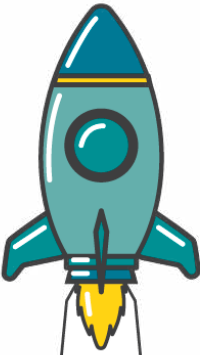
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PHOTOS : FJSL, Black Magic Tea  
ICONS : Julie Conrad Design Studio

