MADELINE GANNON

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Madeline Gannon is a Researcher / Designer / Educator at Carnegie Mellon University. She heads MADLAB.CC*, a design collective exploring computational approaches to design, craft, and interaction. Her work blends disciplinary knowledge from design, robotics, computer science, and human-computer interaction to explore the edges of digital creativity. Gannon is currently pursuing a PhD in Computational Design from Carnegie Mellon University, where she is developing natural gesture interfaces for digital fabrication machines.*

EDUCATION

CARNEGIE MELLON UNIVERSITY, PHD COMPUTATIONAL DESIGN (2016 *expected*)

Dissertation Title: The Shape of Touch: Body-based interfaces for digital design & fabrication
Committee: Ramesh Krishnamurti, Aisling Kelliher, Golan Levin

CARNEGIE MELLON UNIVERSITY, MS COMPUTATIONAL DESIGN (2012)

Thesis Title: Rapid Prototyping to Personal Manufacturing: Promoting CAD/CAM tools for creative expression

FLORIDA INTERNATIONAL UNIVERSITY, MASTERS OF ARCHITECTURE (2010)

AIA Bronze Medal for Academic Excellence

FLORIDA INTERNATIONAL UNIVERSITY, BACHELORS OF ARTS IN ARCHITECTURE (2008)

EXPERTISE

CAD/CAM

Industrial Robotics, Additive Manufacturing, CNC Fabrication

PROGRAMMING & PHYSICAL COMPUTING

Java, C++, Python, Arduino, Grasshopper & other VPLs

DESIGN & INTERACTION

Computational Design & Tangible Interaction Design

PROFESSIONAL

2014 & 2015 — **AUTODESK RESEARCH INTERNSHIP**
UI Research Group with Tovi Grossman and George Fitzmaurice

2013 – *present* — **CARNEGIE MELLON UNIVERSITY**
Researcher in the Human-Machine Virtuosity Group

2012 – 2014 — **CARNEGIE MELLON UNIVERSITY**
Adjunct Instructor in Undergraduate Architecture

PUBLICATIONS & TALKS

2015

ECAADE – *forthcoming*

Madeline Gannon. 2015. Robo.Op: an open-source software framework for advanced programming in architectural robotics. In Proceedings of the 33rd Annual Conference on Education and Research in Computer-Aided Architectural Design in Europe (eCAADe '15).

CHI 2015 – *Best Paper Honorable Mention*

Madeline Gannon, Tovi Grossman, and George Fitzmaurice. 2015. Tactum: A skin-centric approach to digital design and fabrication. In Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems (CHI '15). ACM, New York, NY, USA, 1779-1788. DOI=10.1145/2702123.2702581 http://doi.acm.org/10.1145/2702123.2702581

SXSW INTERACTIVE
Panel Talk at SXSW Interactive Startup Village.

2014

OPEN HARDWARE SUMMIT, ROME
Invited Talk, *Robo.Op: Industrial Robots. Open for Creativity*.

EXHIBITION & TALK AT 3D PRINTSHOW NYC
Invited contributor to 3D Printshow 2014, a New York Fashion Week satellite event on emerging computational fashion, art, and architecture.

ACADIA 2014
Gannon, Madeline (2014) *Reverberating Across the Divide: Bridging virtual and physical contexts in digital design and fabrication. ACADIA 14: Design Agency.* In *Proceedings of the 34th Annual Conference of the Association for Computer Aided Design in Architecture (ACADIA)* Los Angeles, USA: pp. 357-364.

Bard, Joshua; Gannon, Madeline; Jacobson-Weaver, Zachary; Jeffers, Michael; Smith, Brian; Contreras, Mauricio (2014) *Seeing is Doing: Synthetic Tools for Robotically Augmented Fabrication in High-Skill Domains. ACADIA 14: Design Agency.* In *Proceedings of the 34th Annual Conference of the Association for Computer Aided Design in Architecture (ACADIA)* Los Angeles, USA: pp. 409-416.

Melendez, Frank; Gannon, Madeline; Jacobson-Weaver, Zachary; Toulkeridou, Varvara (2014) *Adaptive Pneumatic Frameworks. ACADIA 14: Design Agency.* In *Proceedings of the 34th Annual Conference of the Association for Computer Aided Design in Architecture (ACADIA)* Los Angeles, USA: pp. 426-434

CAADRIA 2014
Gannon, Madeline and Eric Brockmeyer. "*Teaching CAD/CAM Workflows to Nascent Designers." Rethinking Comprehensive Design: Speculative Counterculture:* In *Proceedings of the 19th International Conference on Computer-Aided Architectural Design in Asia. Kyoto, JP: The Association for Computer-Aided Architectural Design in Asia*, 2014. pp. 801–810.

ROBOTICS IN ARCHITECTURE 2014
Schwartz, Thibult, Joshua Bard, Madeline Gannon, Zack Jacobson-Weaver, Michael Jeffers, Richard Tursky. "*All Bent Out ... Adaptive wood bending using coordinated robotic control."* In *Proceedings of Robotic Fabrication in Architecture, Art, and Design*. Springer Press, Berlin, 2014.

2013

[EN]CODING ARCHITECTURE: THE BOOK
Introductory essay, "Fifty years after Computer-Aided Design".

THIS COULD GET WEIRD: MERGING TERRITORIES IN ARCHITECTURE, DESIGN & DIGITAL CULTURE
Invited lecture at Florida International University's School of Architecture.

COURSES TAUGHT

2014-2015

THESIS ADVISOR
Thesis advisor for a handful of B.Arch and M.Arch II students interested in advanced applications of computation and fabrication in Architecture.

2013

DESIGN 5 STUDIO – ENVIRONMENT, FORM, AND FEEDBACK
A studio focused on restoring an industrial waterfront with a biodiverse landscape system with adaptive building morphologies. These morphologies were developed by integrating the desired computational ecology and the architecture.

DESIGN STUDIO X – SYNTHETIC ECOLOGIES
A vertical architecture studio co-taught with Dana Cupkova. The students designed an urban hotel/winery that was driven by the advanced simulation and fabrication of 'water flows'.

2012

LECTURE & LAB – DIGITAL MEDIA I & II
A course teaching the tools and techniques of digital representation and production for the design disciplines. Subject matter ranged from standard tools –like the Adobe Suite, AutoCAD, and Rhino3D– to experimental topics in programming, projection mapping, and digital fabrication.

DESIGN 2 STUDIO – ARCHITECTURAL FOUNDATIONS II
A studio focused on teaching the fundamental principles of architectural space-making and tectonics.

REFERENCES

TOVI GROSSMAN – TOVI.GROSSMAN@AUTODESK.COM

AISLING KELLIHER – AISLINGK@ANDREW.CMU.EDU

GOLAN LEVIN – GOLAN@FLONG.COM

RAMESH KRISHNAMURTI – RAMESH@CMU.EDU