

Nick Puckett

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Academic Positions

Assistant Professor College of Design, School of Architecture, The University of Kentucky	2009-present
Assistant Professor College of Engineering, Department of Electrical and Computer Engineering, The University of Kentucky	2009-present
Core Faculty The Institute of Sustainable Manufacturing, The University of Kentucky	2010-present
Visiting Faculty XLab Graduate Program, The Southern California Institute of Architecture	2010-2011
Unit Master 1 st Year Studio, The Architectural Association	2005-2009
Course Lecturer, Media Studies Undergraduate Program, The Architectural Association	2005-2009
Director, AAcode Research Cluster The Architectural Association	2009
Visiting Lecturer Diploma School, The University of Westminster	2008-2009
Visiting Lecturer Graduate School, Masters of Architecture and Digital Media program, The University of Westminster	2008-2009
Visiting Faculty Hochbau Institute of Experimental Architecture, The University of Innsbruck	2007-2009
Visiting Faculty / Thesis Advisor Department of Industrial Design Engineering, The Royal College of Art	2004-2007
Course Lecturer The Design Research Lab, The Architectural Association	2003-2004

Courses

The University of Kentucky -- Lexington, KY, USA

ARC 599, Augmented Fabrication Graduate seminar on the design and production of custom fabrication devices.	Spring 2012
ARC 456 / 658, Design Studio Vertical studio with undergraduate and graduate students developing responsive spaces to investigate the potential of motion tracking as a design tool.	Fall 2011
ARC 457, 4 th year Design Studio Studio investigating new potentials of robotic construction through intelligent, physical prototypes.	Spring 2011
ARC 699-002, Sight Specific Response Graduate seminar developing "Material Amplifiers" for robotic actuation.	Fall 2010

ARC 659, Graduate Design Studio Studio focused on developing custom hardware devices for controlling digital agents to create temporary event structures.	Spring 2010
ARC 599, ColorCode Graduate seminar developing responsive lighting prototypes as interactive diagrams.	Fall 2009
The Southern California Institute of Architecture (SCI-Arc), XLab -- Los Angeles, CA, USA	
Animated Robotics Visiting series implementing methods of controlling physical robotics through digital animations.	Spring 2011
DatAnimation, Visiting series introducing methods of designing complex animations using color-based input.	Spring 2010
The Architectural Association -- London, UK	
First Year Studio Year-long design studio that introduced students to the broad field of architecture through a continually shifting landscape of tutors, methods, and ideas.	2006-2009
Keyboards Are Dead, Media Studies Undergraduate seminar that developed custom, hardware control devices and software for architectural design.	2006-2009
Mind+Matter Undergraduate seminar that developed Agent-Based Canopy Structures using Massive Prime.	Fall 2008
Scripted Systems, The Design Research Lab Graduate course that introduced scripting/programming methods for design.	2003-2004
The University of Westminster -- London, UK	
Interactive Systems, Masters of Architecture and Digital Media Graduate seminar that developed custom hardware control devices for scripted animations.	2008-2009
Field Animation, Diploma School Undergraduate course that developed color fields as an interface to multi-agent animations.	2008-2009
Hochbau Institute of Experimental Architecture, University of Innsbruck -- Innsbruck, Austria	
Scripting Component Logic, P. Schumacher Studio Visiting seminar that taught the fundamentals of computation/programming for architectural design.	2007-2009
The Royal College of Art -- London, UK	
Module Tutor, GoGlobal 3 Beijing, Industrial Design Engineering / Tsinghua University Three week, collaborative studio in which teams from the RCA / Tsinghua University developed products addressing the contemporary design culture of China.	Spring 2007
Thesis Advisor, Industrial Design Engineering Primary advisor to students developing their graduate thesis project.	2005-2007
Module Director, Mobile Mutations, Industrial Design Engineering / Design Interactions / O2 Mobile Organized and taught joint studio module with dept. of IDE and Design Interaction and sponsored by O2 Mobile. The module focused on the design of the future of wireless devices.	Spring 2007
Module Director, Light and Magic, Industrial Design Engineering / Targetti Lighting Organized and taught studio module sponsored by Targetti Lighting that developed interactive and responsive lighting systems.	Fall 2006
Module Director, PSP/RCA, Industrial Design Engineering / Sony Computer Entertainment Europe Organized and taught studio module sponsored by Sony Computer Entertainment Europe. Students designed and manufactured a travelling exhibition commemorating the launch of the PlayStation Portable in Europe.	Summer 2006

Module Tutor, GoGlobal 1 Beijing, Industrial Design Engineering / Tsinghua University
Collaborative studio in which teams from the RCA/Tsinghua University developed products
in Beijing and London over a 4 week period. Spring 2005

Design Director, Intersections Exhibition, Industrial Design Engineering
Directed a student team that designed and produced the Interim Show at the RCA for the
Department of Industrial Design Engineering. Spring 2005

Administrative Positions

The University of Kentucky -- Lexington, KY, USA

Lectures and Exhibitions Committee, Chair
Organizes the College's evening lecture series and other events. 2010-present

Curriculum Committee
Responsible for adapting the curriculum in response to the College's move from a 5-year degree to a 4+2
and previous recommendations from the NAAB accreditation visit. I am head of a subcommittee developing
a new curriculum to address how digital / analog design tools are taught in the undergraduate school. 2010-present

The Architectural Association -- London, UK

Admissions
Evaluated portfolios and interviewed prospective students to determine entrance into the
undergraduate program. 2005-2009

First Year Curriculum Development
Worked as a part of a faculty team that completely redeveloped the curriculum, studio structure, and
physical space of First Year Studio. 2005-2009

The Royal College of Art -- London, UK

Admissions
Evaluated portfolios to create a "shortlist" of prospective students and
conducted secondary interviews. 2006-2007

Workshops

The University of Calgary, Department of Architecture -- Calgary, Canada

Tracking as Design
Workshop Organizer / Tutor
A 5-day workshop that will develop responsive digital models using the Kinect and the Unity 3D gaming
engine. February 2012

The University of Arkansas, Department of Architecture / Department of Computer Science -- Fayetteville, AR, USA

Adaptive Components
Workshop Organizer / Tutor
A 2-day, interdisciplinary, workshop that developed responsive robotic systems using the Kinect, Arduino,
and actuators. November 2011

Smart Geometry Conference

Workshop Cluster Leader, RPI, Rochester, NY, USA
This 5-day workshop will develop responsive, wearable prototypes using responsive polymers. The
workshop will design and manufacture both the raw material and finished prototypes. Spring 2012

Workshop Cluster Leader, Copenhagen, Denmark
This 5-day workshop taught with EcoLogic Studio. introduced methods of controlling custom
robotics and active bacteria components. Spring 2011

The Peter Behrens School of Architecture -- Dusseldorf, Germany

Xiamen – Interactive Lighting Control
Workshop Tutor
5-day workshop that assembled the second iteration of the Xiamen Energy Masterplan Model. Fall 2009

The Architectural Association, Design Research Lab -- London, UK

Agent Construction
Workshop Organizer / Tutor
Workshop Series that developed agent-based construction systems using Massive Prime. Fall 2008

The Southern California Institute of Architecture (SCI-Arc), XLab -- Los Angeles, CA, USA

Custom Controllers
Workshop Organizer / Tutor
4-day workshop developing custom, motion capture devices for Maya using Arduino and various sensors. Spring 2009

Component Scripting
Workshop Organizer / Tutor
5-day workshop that taught programming techniques for designing parametric component systems. Spring 2005

Juries and Peer Review Panels

Invited Juror, Robot Workshop Competition
SuckerPUNCH Daily
International online competition to design a factory for open source robots. 2012

Peer Reviewer, Technical Papers
ACADIA 2011, Banff, Canada
Reviewed papers for inclusion in the ACADIA conference. 2011

Publications

Authored

The CyberGarden
Self-published eBook
Coauthored with Claudia Pasquero and Marco Poletto
This book documents the design and production of CyberGarden v4, a self-regulating shading system that uses embedded robotics structures to cultivate active bacteria components. December 2011

CyberGarden V4.
Proceedings of the 2011 ACADIA Conference
Coauthored with Claudia Pasquero and Marco Poletto
Article documenting the design and production of the CyberGarden v4 robotic bacteria prototype. October 2011

Material Animation: A New Interface to Custom Fabrication
'FABRICATE: Making Digital Architecture'. Riverside Architectural Press, Cambridge, Ontario, Canada
Chapter presenting work from AltN Research that proposes a framework for developing custom fabrication equipment as a system of physical animation. The book highlights leading practices and researchers developing advanced fabrication and design methods. March 2011

Selected Terms
Digispeak, edited by Greg Luhan, Taylor & Francis, London, UK
An illustrated dictionary of the techniques used in contemporary digital design. 2012

Explorations of Agent-Based Simulations for Architectural Design
Proceedings of the Symposium on Simulation for Architecture and Urban Design, ACM Library
Presents research on using Massive Prime as an agent-based, digital construction tool. 2010

External Review

- Cooperative Design, Zoe Ryan
Hyperlinks, Yale University Press, Cambridge
Review of the RoboFold robotic folding system for Laarman lab. December 2010
- Energie-Inkubator Tempelhof: Postfossile Infrastrukten
Arch +, 196/197
Article documents the Xiamen Energy Masterplan Model as part of a special issue. January 2010
- Young Punks*, Tom Verebes
DRL Ten: A Design Research Compendium, Architectural Association Press
Section of the book that highlights the work of 20 graduates of the AADRL. 2008
- On-Line with China*, Raya Kuzyk
Blueprint Magazine
Review of the GoGlobal project in Beijing, China. October 2005
- Responsive Environments: From Drawing to Scripting*, Patrik Schumacher
01 AKAD, Experimental research in Architecture and Design, Beginnings
Royal Institute of Technology, Stockholm
This article presented my thesis project from the DRL, Heathrow.comm 2004

Conferences

Presentations

- CyberGarden v4*
ACADIA 2011, Banff, Canada
Robotic prototype that examines the potential of bacteria as a responsive building material. October 2011
- Regenerate*
Technarte 2011, Bilbao, Spain
Examines the relationship between responsive and fabrication systems using the Field Condition Mower. May 2011
- Explorations of Agent-Based Simulation for Architectural Design*
Symposium on Simulation for Architecture and Urban Design, Orlando, FL
Research on using agent-based systems and fuzzy logic control in Architectural design. April 2010

Session Chairs

- The Power of Data
Symposium on Simulation for Architecture and Urban Design, Orlando, FL April 2010

Lectures

- Bacteria, Polymer, and Grass: Responsive Material Systems*
Design Matters Series, University of Calgary, Department of Architecture February 2012
- Intelligent Systems*
University of Arkansas Department of Computer Science, Fayetteville, AR, USA November 2011
- AltN Research: recent work*
W.I.P series, Smart Geometry 2011, Copenhagen, Denmark April 2011
- Designing Intelligence*
Harvard Graduate School of Design, Cambridge, MA, USA November 2010
- Agent-Based Systems*
Southern California Institute of Architecture, Los Angeles, CA, USA May 2009
- The Work of AltN Research*
The DarkSide Club: Lecture Series curated by Patrik Schumacher, Greg Lynn, Jeff Kipnis
2008 Venice Biennale, Venice, Italy August 2008

<i>Digital Material</i> Hochbau Institute of Experimental Architecture, Innsbruck, Austria	April 2008
<i>Hacking By Design</i> Tsinghua University, Beijing, China	June 2005
Exhibitions	
<i>Responsive Patterns</i> University of Calgary, Calgary, Canada Exhibition of current work using Responsive Polymers as an intelligent building skin.	February 2012
<i>CyberGarden v4</i> Copenhagen, Denmark Robotic Bacteria prototype exhibited as part of Smart Geometry 2011.	April 2011
<i>CyberGarden v4</i> ACADIA 2011, Calgary, Canada Juried exhibition of works in conjunction with the ACADIA conference.	November 2011
<i>Xiamen Energy Masterplan Model</i> Post Fact: Visualizing Information, Monterrey, Mexico Exhibition Jury: Diego Padilla Diaz de Leon, Gregory Marinic Exhibition of the Xiamen Energy Masterplan model developed with Chora.	January 2011
<i>Hyperlinks: Architecture and Design</i> Art Institute of Chicago, Chicago, IL, USA Exhibited the robotic production model for Studio Laarman developed with RoboFold.	December 2010
<i>New Faculty Exhibition</i> The Land of Tomorrow Gallery, Lexington, KY, USA Recent work of AltN Research alongside new faculty of the UK CoD.	November 2010
<i>Xiamen Energy Masterplan Model</i> International Energy Efficiency in Building Expo, Xiamen, China Exhibition of the Xiamen Energy Masterplan model developed with Chora.	June 2010
<i>Laarman Lab</i> Friedman Benda Gallery, New York, NY, USA Robotic chair folding prototype developed for Laarman's Asimov Chair.	March 2010
<i>Climate Incubator</i> Peter Behrens School of Architecture, Dusseldorf, Germany Exhibition of the Xiamen Energy Masterplan model developed with Chora.	January 2010
<i>Post-Oil Cities</i> IFA Gallery, Stuttgart, Germany Exhibition curated by ARCH+ that presented the Xiamen Energy Masterplan model Developed with Chora.	October 2009
<i>Xiamen Energy Masterplan Model</i> International Energy Efficiency in Building Expo, Xiamen, China Exhibition of the Xiamen Energy Masterplan model developed with Chora.	June 2009
<i>StemCloud 2.0</i> International Biennial of Contemporary Art of Seville, Seville, Spain Responsive bioreactor installation developed with EcoLogic Studio.	October 2008
<i>StemCloud 1.0</i> Venice Architecture Biennale, Venice, Italy Responsive bioreactor installation developed with EcoLogic Studio.	August 2008
<i>PSP/RCA</i> The Bank of America, London, UK Featured the gamespace installation created for Sony Computer Entertainment Europe for the launch of Playstation Portable.	March 2006

<p><i>PSP/RCA</i> The Royal College of Art, London, UK Installation commissioned by Sony Computer Entertainment Europe for the launch of Playstation Portable.</p>	November 2006
<p><i>Machinic Prototypes</i> Beijing Architecture Biennial, Beijing, China Interactive mesh prototype developed for my thesis in the DRL.</p>	October 2004
<p><i>Performative Architectures</i> Technical University Delft, Delft, Holland Showcased my thesis work from the DRL along side the work of 19 other architects to "Explore the changing relationship between technology, design, and production".</p>	April 2004
<p><i>Techne</i> The Architectural Association, London, UK Real-time performance linking a remote / augmented body to an exhibition space.</p>	June 2003

Research

<p>Motion-Capture Interfaces Developing software for the Microsoft Kinect which transforms it from a gaming controller to a general purpose system for designing augmented spaces.</p>	2011-present
<p>Responsive Polymer Systems Creating production system for responsive architecture that uses smart materials for the sensing and actuation of the system. This includes Project BlackBox a custom-made curing machine that can produce large-scale material within the lab. Using this device, we can formulate the behavior of temperature responsive, shape-shifting polymers at a chemical level and produce full scale prototypes.</p>	2011-present
<p>Custom Fabrication Systems The research is developing a framework for the design of custom fabrication devices that use digital animation software as a controller. This includes the FieldCondition CNC Mower and The RoboFold production system.</p>	2010-present
<p>Agent-Based Design Systems Sponsored by Massive Software Inc. This project developed custom tools for Massive Prime, a character animation tool, that allowed it to be used as an architectural design tool.</p>	2008-2010

Professional

<p><i>AltN Research + Design</i> Founder/Director Collaborative practice that develops new potentials and tools for design. The work has been published and exhibited internationally.</p>	2005-Present
<p><i>Zaha Hadid Architects</i> Advanced Tech. and Research Group, London, UK Performed a dual role in the practice as a designer and as a developer of custom computational tools.</p>	2004-2005

Education

<p>The Architectural Association, Design Research Lab, London, UK <i>Master of Architecture</i> Thesis: Heathrow.comm: Implementing spatial typologies of the internet through an intelligent, auxetic mesh.</p>	2004
<p>The Savannah College of Art and Design, Savannah, GA, USA <i>Master of Architecture</i> <i>Bachelor of Architecture, Cum Laude Honors</i> Thesis: Sit Closer to the T.V. An Investigation of Architecture's role in the perception / deception of broadcast media.</p>	2002