

Digital Knowledge Study Days

(As part of Pr. Ch. Girard's Master seminar entitled *Computational Knowledge*, with the participation of students and academics from the *Digital Knowledge* department. Organization: Philippe Morel)

Artificial Intelligence: The end of intelligence and architecture as we know them

8-9 April 2015, 9:30am-6:00pm

Ecole nationale supérieure d'architecture Paris-Malaquais
14 rue Bonaparte, 75006 Paris, Room 206, Perret building, *free access*

Indicated titles may refer either to short lectures or topics/readings to be discussed

Architecture after Internet

Alessandro Bava

Morphogenesis and Swarm robotics

Nicolas Bredeche

The Digital and the Alphabetic Absolute

Vera Bühlmann

Or The Thing Itself

Mollie Claypool

Do robotics help reconsidering the architecture profession?

Jelle Feringa

Digital Literacy

Ludger Hovestadt

Pre-specific modelling: Computing with concepts

Nikola Marincic

Pulverization, Treasure Order, Rarity

Valle Medina & Benjamin Reynolds

Program matters: architecture under the influence

Pablo Miranda Carranza

Index-ability and Architecture:

Towards an operational framework for
characterizations free of ontological,
categorical and semantical definitions

Jorge Orozco

Not-So-Smart Cities

Brent Patterson

Quantification of the home:

Reducing the symbolic dimension of inhabiting
to manageable numbers

Davide Sacconi

Post-BIM:

hidden systems and 'de-planned' obsolescence

Léa Sattler

Big data and the new flows of knowledge

Anne-Françoise Schmid

The Digital Knowledge Study Days are organized by Ass. Prof. Philippe Morel, as part of Pr. Ch. Girard's Master seminar entitled *Computational Knowledge*, with the participation of students and academics from the *Digital Knowledge* department as well as from other institutions.

Among others, audience/respondents to the invited speakers will include, from ENSA Paris-Malaquais, Adj. Ass Pr. Pierre Cutellic, Ass. Pr. Leda Dimitriadis, Arch. Eng. Ahmed Elshafei, Pr. Christian Girard, Arch. PhD candidate Ahmed Hussein, Adj. Ass Pr. Nicolas Leduc, Adj. Ass Pr. Minh Man Nguyen, Adj. Ass Pr. Franck Minnaërt, Ass Pr. Philippe Morel, Adj. Ass Pr. Steeve Sabatto, Adj. Ass Pr. Jean-Aimé Shu, as well as Ass. Pr. Felix Agid (www.synthetic-lab.net/esba-talm) and Ass. Pr. Justin Dirrenberger (CNAM/PIMM)



Alessandro Bava

Alessandro Bava is an architect, editor and curator. His work focuses on the relationship between architectural form, political theory and technology. He is the founder of Bava and Sons, an architecture practice which focuses on residential projects, cultural commissions and research. A. Bava is also editor and founder of the ecology zine ECOCORE which recently has guest edited the disaster issue for DIS Magazine. He is co-founder of the AIRBNB Pavilion, an art collective which explores the complex evolution of the home and domesticity post-internet. He recently published a book of architecture and poetry with poet Harry Burke.

Nicolas Bredeche

Nicolas Bredeche is Professeur des Universités (Professor) at Université Pierre et Marie Curie (UPMC, Paris, France). His research is carried out in the team Architectures and Models for Adaptation and Cognition, within the Institute of Intelligent Systems and Robotic (ISIR, CNRS). His field of research is mostly concerned with Evolutionary Computation and Complex Systems (self-adaptive collective robotic systems, generative and developmental systems, evolutionary robotics). In particular, part of his work is about (a) evolutionary algorithms to address distributed on-line learning and adaptation within collective robotic systems and (b) evolutionary design and artificial ontogeny, such as multi-cellular developmental systems and self-regulated networks.

Vera Bühlmann

The main vectors in Vera Bühlmann’s work revolve around the philosophy and history of semiotics and mathematics, and aim towards a theory of the artificial. Her work is driven by an interest in better understanding a probabilistic perspective on data and code as an altered setup for the cultural logics of products. She is founder and head of the laboratory for applied virtuality (since 2010) at CAAD ETHZ. Vera Bühlmann holds a PhD (summa cum laude) in media philosophy from the Institute for Media Sciences i/f/m, University of Basel. Her thesis entitled “inhabiting media. Annäherungen an Herkünfte und Topoi medialer Architektur” was part of the SNF Pro*Doc “Aesthetics of Intermediality. Play—Ritual—Performance”. She originally studied English Language and Literature, Philosophy and Media Sciences at the University of Zürich, where she completed her MA in 2002. Since 2005 she has been working as a lecturer and diploma coach at different Academies of Art and Design in Switzerland (e.g. HGK Lucerne, HdK Berne, and HyperWerk FHNW). Between 2003 and 2007 she worked as a research associate at the Academy of Art and Design in Basel, where she co-edited three books and co-curated several events and symposia on design research as well as on scenography (IN3 Festival 2006).

Mollie Claypool

Mollie Claypool is a writer, theorist and critic. She is currently Unit Master of March Architecture Unit 19, Programme Leader of the BSc Architecture programme and runs seminars in history and theory at the Bartlett School of Architecture. She is a Lecturer at the AA School of Architecture in History and Theory Studies, where she has taught in various roles since 2009. Mollie has contributed to, as well as edited, several books and magazines about architectural design, history and theory, most recently: P.E.A.R. (Paper for Emerging Architectural Research) (2014) and Adaptive Ecologies: Correlated Systems of Living with Theodore Spyropoulos (2013, AA Publications). In her editorial work, she has worked with leading art and architecture publishers such as Phaidon Press and AA Publications. She is currently writing a book on Antoni Gaudi for Laurence King Publishing (forthcoming 2016). Mollie studied Architecture at Pratt Institute, obtained her Masters with Distinction in Histories and Theories of Architecture from the AA and is currently undertaking a PhD in Architecture at the Bartlett. She is currently the Web Master for the European Architectural History Network (EAHN), on the Editorial Team for Architectural Histories: the open access journal of the EAHN and the Editorial Board for Enquiry: The Architectural Research Centres Consortium (ARCC) Journal for Architectural Research.

Jelle Feringa

Jelle Feringa works and lives in Rotterdam, where his robot workshop is located in the harbour. His current research is focused on the development of original robotic fabrication processes for architecture, considering materialization an inherent aspect of architectural design. These efforts have accumulated in a startup, Odico formwork robotics, based in Denmark, where he is Chief Technical Officer. Recent fabrication experiments include the exploration of stereotomy in vaulting structures and cutting large marble volumes “traits” to which end he developed a large robot diamond wire saw in Carrara, Italy. Jelle is co-founder of EZCT Architecture and Design Research, with Philippe Morel and Felix Agid.

Ludger Hovestadt

Ludger Hovestadt is Professor for Computer Aided Architectural Design (CAAD) at the Swiss Federal Institute of Technology (Eidgenössische Technische Hochschule, ETH) in Zürich. His approach, broadly speaking, is to look for a new relationship between architecture and information technology and aims at developing a global perspective that relates to and integrates with developments in different fields such as politics and demographics, as well as technology, in a post-industrial era. He is the inventor of the digitalSTROM® chip and founder of several spin-off companies in the fields of Smart Building Technology and Digital Design and Fabrication. A showcase of his recent work can be found in *Beyond the Grid – Architecture and Information Technology. Applications of a Digital Architectonic* (Birkhäuser, Basel / Boston 2009).

Nikola Marinčić

Nikola Marinčić is an architect and computer programmer. He graduated from the Faculty of Architecture in Belgrade, Serbia, and received his MAS diploma at the Chair for Computer Aided Architectural Design at ETH Zürich. He was a guest researcher at the Future Cities Laboratory, interdisciplinary research programme of the Singapore ETH Centre for Global Environmental Sustainability. Currently he researches and teaches at the ETH / CAAD on the topics of pre-specific modelling and sound design for architects. His research focus is on the limits of contemporary design tools and possible ways of challenging them with recent conceptual and technical advances introduced by search engines and social media.

Valle Medina

Valle Medina is a co-founder of the architectural studio PA/LA/CE (www.palacepalace.com) which has exhibited work at the Centre of Contemporary Culture of Barcelona (CCCB) and the Architecture Foundation in London amongst others, and contributed to printed and online publications including EP (Sternberg Press). PA/LA/CE is currently based in Zürich, Switzerland. She graduated from ETSAG in Spain and practiced architecture in London with Peter Cook studio and Alejandro Zaera Polo Architects. In 2013-14 she was a design fellow at

the Jan Van Eyck Academie in the Netherlands and in 2014-15, she was the Geisendorf fellow for the Master of Advanced Studies in Architecture and Information at the Chair of CAAD, ETH Zürich.

Benjamin Reynolds

Benjamin Reynolds is a co-founder of the architectural studio PA/LA/CE (www.palacepalace.com) which has exhibited work at the Centre of Contemporary Culture of Barcelona (CCCB) and the Architecture Foundation in London amongst others, and contributed to printed and online publications including EP (Sternberg Press). PA/LA/CE is currently based in Zürich, Switzerland. He received a diploma with honours from the Architectural Association, London where he is currently teaching a diploma class. In 2013-14 he was a design fellow at the Jan Van Eyck Academie in the Netherlands.

Pablo Miranda Carranza

Pablo Miranda Carranza traded his drafting board for a text editor and compiler more than 16 years ago, and has since then been programming architecture rather than drawing it. His work and research, developed individually or in different collaborations together with Servo, as part of the Krets collective or at the Aedas R&D Computation and Design Research group, includes generative processes, simulation and analysis, as well as interaction and physical computing. His main interest is the materiality of computation and programming, both as a design medium, and as an architectural material. He is currently a researcher and PhD candidate at the Architecture School at the Royal Institute of Technology (KTH) in Stockholm.

Jorge Orozco

Jorge Orozco is an architect and researcher based in the CAAD group at the Swiss Federal Institute of Technology’s Department of Architecture in Zurich. His research focus is at the overlap between information and communications technology, and architectural design. The programming and theorizing experiments that he carries aim at challenging “established contracts” between computers and architecture. Jorge currently carries a PhD research project supervised by Prof. Dr. Ludger Hovestadt at the CAAD Chair. He further holds a Master of Advanced Studies degree in Architecture and Information from ETH Zurich, and a Master in Advanced Architecture degree with specialization in Digital Tectonics from IAAC, Barcelona.

Brent Patterson

Brent Patterson teaches architectural theory and history at the Ecole nationale supérieure d’architecture Paris-Malaquais, Ecole nationale supérieure d’architecture Paris-La Villette and Ecole Spéciale d’Architecture in Paris. He is interested in the impact of artificial intelligence on the urban environment and related political questions. He is co-editor (with Andri Gerber) of *Metaphors in Architecture and Urbanism*.

Davide Sacconi

Davide Sacconi, architect, graduated with honors at the Università degli Studi di Roma Tre, a city where he later founded Tspoon, a research based office which has won awards in several national and international competitions for architecture, landscape, urban design and editorial projects. In 2011, he completed his postgraduate research under the directions of Elia Zenghelis and Pier Vittorio Aureli at the Berlage Institute of Rotterdam, where he focused on territorial and large scale projects in different cultural and geographical contexts, such as Los Angeles, Beijing, Moscow and Athens. He currently lives in London where he is a PhD candidate at the Architectural Association. His thesis investigates the notion of Archetype as a theoretical and methodological framework to develop a public space project for the Brazilian city. He has been running the Research Cluster 14 for two years at The Bartlett School of Architecture (UCL) within the March Urban Design program and he is currently teaching at the Syracuse University London Program and at the University of Liverpool. As an architect he has won awards in several international competitions among which European 12 in Norway, currently under development.

Léa Sattler

Léa Sattler is an architect who graduated from the ENSA-Paris-Malaquais (ADE– HMONP, 2009-2010). She has worked in design and research offices such as LabDORA in 2008 (Peter Macopia, Pratt Institute, New-York), and EZCT Architecture & Design Research in Paris. She joined Gehry Technologies Europe in 2009, where she has been investigating the “Building Information Modeling” field on Frank Gehry’s museum projects such as Fondation Louis Vuitton in Paris, or Fondation Luma in Arles. She is fully committed to computational practices: parametric and associative modeling of complex geometry, 3D automation, digital workflows around collaborative models, data-flows and big data. She has taught in Master studios in ENSAPM since 2009 and in workshops such as the ENS Summer School in 2010, or the AA Visiting School in Ivrea 2013.

Anne-Françoise Schmid

Anne-Françoise Schmid is Maître de conférence (Associate Professor with Tenure) (Institut National des Sciences Appliquées de Lyon, member of the UMR (research group) C.N.R.S. 7117 “Laboratoire de Philosophie et d’Histoire des Sciences - Archives Henri Poincaré”, Université de Nancy 2), and qualified to supervise PhD research. Her fields of research are contemporary philosophy and philosophy of science. She is also a member of the editorial committee of several journals (Natures, Sciences, Sociétés, Elsevier, Philosophia Scientiae, Kimé, Russell: The journal of the Bertrand Russell Studies, McMaster University). She was also a member of the committee set up by the management of the CNRS (Gérard Mégie) to prepare the four-year plan “Les systèmes complexes et la pluridisciplinarité” (The complex systems of pluridisciplinarity). Among her publications, of particular note are: *Une philosophie de savant. Henri Poincaré et la logique mathématique*, Paris, Maspéro, 1978; *L’âge de l’épistémologie, Science, Ingénierie, Ethique*, Paris, Kimé, November 1998; *Henri Poincaré, les sciences et la philosophie*, Paris, L’Harmattan, 2001 (reedition including the first); *Que peut la philosophie des sciences*, Paris, Pétra, 2001. She also edited the book on correspondence Bernard Russell : *Correspondance sur la philosophie, la logique et la politique avec Louis Couturat (1897-1913)*, 2 volumes, Paris, Kimé, 2001. Anne-Françoise Schmid has also contributed to many journals and collective works.