

## Gastvorträge

### **“New Complexity” in Architecture**

Pawel Rubinowicz, West Pomeranian University of Technology in Szczecin

### **Applying Computation in Design**

Michal Piasecki, Bartlett School of Graduate Studies in London

### **Analysing City Landscape Using Virtual 3D Models**

Klara Czynska, West Pomeranian University of Technology in Szczecin

**Do, 01.12. 2011, 18:00 Uhr, Raum 204**

im Hauptgebäude, Geschwister-Scholl-Straße 8

# Toward the Computation in Architecture and Urban Planning

Presentations by:

**PAWEL RUBINOWICZ** West Pomeranian University of Technology in Szczecin

**MICHAL PIASECKI** Computational design consultant, PhD student at Bartlett School of Graduate Studies in London

**KLARA CZYNSKA** West Pomeranian University of Technology in Szczecin

Accompanying exhibition entitled:

**EXPERIMENTAL ARCHITECTURE**

Computational Forms | De-coding complexity

**Bauhaus-University Weimar**

**Thursday, 2011-12-01, 18.00**

Faculty of Architecture | Computer Science in Architecture

Weimar, Geschwister-Scholl-Straße 8, Room 204

TOPICS OF PRESENTATIONS

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## **“New Complexity” in Architecture**

**Pawel Rubinowicz, PhD architect, West Pomeranian University of Technology in Szczecin**

The presentation will introduce a new interpretation of the complexity of an architectural form in the context of mathematical theory of deterministic chaos and fractal geometry. According to the classical understanding and experience in designing, the formal complexity is the result of deviating from the order towards free and intuitive creation. Analyses supported with computer simulations proved that a simple rule, principle or a law may comprise a strict definition of an extremely complicated, dense and apparently irregular structure. From an architectural point of view, the 'new complexity' leads to complex forms by applying a simple process of forming. The principle of geometric organisation of such forms is defined as the 'higher order'.



## **Applying Computation in Design**

**Michal Piasecki, MA architect, PhD student at Bartlett School of Graduate Studies in London**

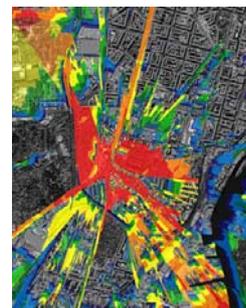
The presentation will be divided into two parts. First devoted to design work flow and market trends emerging at the intersection of design and technology. The trends discussed will be: #1 parametrization, #2 management of complexity, #3 performative design, #4 mass customization, #5 cloud production. In the second part Michal will discuss his own consulting work on architectural interventions, interior design and furniture pieces designed by studios such as Joris Laarman Lab, NEX Architecture, Super Super, WWAA and 137kilo. Michal joined the design team in each of these projects to provide the designers with custom built algorithmic tools which enable generation, management and production of highly complex solutions.



## Analysing City Landscape Using Virtual 3D Models

Klara Czynska, PhD architect, West Pomeranian University of Technology in Szczecin

The first decade of the 21st c. witnessed a rapid development of scientific research and new geo-information techniques providing for 3D modelling and visualisation of the urban space. The presentation will introduce techniques for analysing city landscape using virtual 3D models of cities and specialist computer aided analytical methods developed by the author. Research focuses on new ways of defining the structure of landscape and specifying its measurable parameters. The landscape analysis methods provide for objective and more precise rules concerning landscape protection and development. Results of previous scientific research was used in practical experience while developing studies for Szczecin (2005-2007) and Lublin (2010-2011).



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### ABOUT AUTHORS



**Paweł Rubinowicz**, architect, studied at the West Pomeranian University of Technology in Szczecin and the Fachhochschule Oldenburg (Germany). PhD at Cracow University of Technology in 2011: *Chaos as the higher order in selected trends of contemporary architecture*. He works at the Institute of Architecture and Spatial Planning at West Pomeranian University of Technology since 1999. Participated in numerous competitions, workshops, architectural and scientific conferences in Poland, Germany, Finland, Sweden, Lithuania, Spain, the United States and South Africa. Author of 19 scientific publications. Co-author of urban studies for several cities in Poland. Individual photographic exhibitions in 9 cities in Poland (2000-2011). Since 2009 the curator of the Architects Gallery Form in Szczecin.



**Michał Piasecki** is an independent consultant in algorithmically aided 3d modeling. He's working for a number of European Studios such as Joris Laarman Lab, NEX Architecture, Super Super, WWAA and 137kilo. His responsibility when joining the design team is to develop custom algorithmic tools which enable generation, management and production of complex solutions. Now based in Warsaw, Michał is also a PhD student at the Bartlett School of Graduate Studies in London where he's researching tools for mass customization of products over the internet. Prior to starting his consultancy Michał studied at the School of Architecture in Warsaw, IaaC in Barcelona and MSc in Adaptive Architecture and Computation at the Bartlett in London.



**Klara Czynska**, architect, studied at the West Pomeranian University of Technology in Szczecin. PhD at Wrocław University of Technology in 2007: *Methods for developing a contemporary skyline. Using virtual urban models for panorama monitoring and simulation*. She works at the Institute of Architecture and Spatial Planning at West Pomeranian University of Technology since 2004. Author of 14 scientific publications on issues such as urban development of cities and high building impact. Co-author of urban studies for several cities in Poland, in which she used computational methods of analysis based on virtual city models.