

Ringvorlesung 2012

Lecture Series Tuesday, 17 January
Workshops Wednesday, 18 January



institut für *konstruktion und*
koge *gestaltung*
institute for structure and design

Form - Rule Rule - Form Programme

Lecture Series

Tuesday, 17 January 2012

Location: Institute for Structure and Design KoGe

08:30 **Opening**
Eda Schaur
Günther Filz

Schedule

08:50 Eda Schaur
KoGe, Universität Innsbruck, Austria



09:30 Kai-Uwe Bletzinger
TU München, Germany



10:10 Remo Pedreschi
University of Edinburgh, Scotland



10:40 **Break**

11:10 Paul Shepherd
University of Bath, UK



11:50 Josep Llorens
UPC Barcelona, Spain



12:30 Chris Williams
University of Bath, UK



13:00 **Lunch**

13:00 Lunch

14:30 John Chilton
Nottingham Trent University, UK



15:10 Philippe Block & Research Group
ETH Zürich, Switzerland



15:50 Mette Ramsgard Thomsen
CITA Copenhagen, Denmark



16:20 Break

16:50 Gerd Schmid
FormTL, Germany



17:30 Christoph Gengnagel
UdK Berlin, Germany



Workshops Wednesday, 18 January 2012

08:30 Rhino Membrane/Forten IxCube
Gerry D'Anza, Italy

08:30 Digital Crafting
Martin Tamke, CITA Copenhagen, Denmark

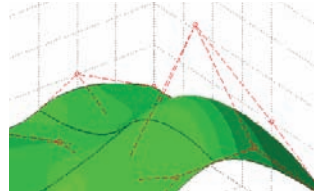
13:20 Rhino Vault
Block Research Group, ETH Zürich, Switzerland

13:20 Zoomorphism and bio-architecture
Josep Llorens, UPC Barcelona, Spain



Eda Schaur, o. Univ.Prof. Dr.-Ing., head of KoGe - Structure and Design, University of Innsbruck; from 1972 to 1995 research fellow at the Institute of Lightweight Structures (IL), director Frei Otto, University of Stuttgart; current main fields of research: interrelation of design and structure like irregularity as aspects of design and structure, multilayer-prestressed-membranes.

Kai-Uwe Bletzinger is Professor at the Technical University of Munich holding the Chair of Structural Analysis. His research interests include computational mechanics, non-linear finite elements methods, fluid structure-interaction, structural optimization, form finding, robust design and multi-physics simulation as well as theory, modelling and simulation.



Remo Pedreschi holds the chair of Architectural Technology at the University of Edinburgh and is also Director of Research and Knowledge Exchange for the School of Arts, Culture Environment. He is interested in the relationship between technology and design. He is currently working on novel systems for stone construction, steel and plywood composite systems and fabrics as formwork for concrete.

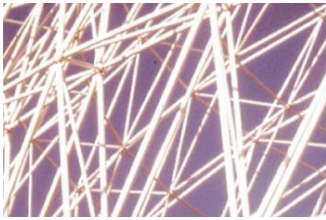
Paul Shepherd has a maths degree from Cambridge, PhD from Sheffield and worked for Buro Happold where he set up their advanced analysis group now known as SMART. He is now Digital Architectonics Research Fellow at the University of Bath.



Josep Llorens has a Ph.D. in Architecture (Barcelona, 1972) and teaches Architectural Technology at the Barcelona School of Architecture. He focuses mainly on experimental designs and works, particularly in the field of tensile structures and textile architecture such as roof membranes and awnings.

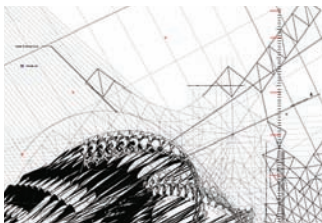
Chris Williams is a structural engineer working at University of Bath as a Senior Lecturer in Structural Engineering. He has a particular interest in the relationship between geometrical form and structural action as applied to bridges, shells, tension structures and tall buildings. This leads to the use of specially written computer programs to generate complex, often organic, forms for architectural and structural applications.





John Chilton is Professor of Architecture and Design. He has diverse research interests in the general area of spatial structures, including work on reciprocal frames, tensile membrane and ETFE covered enclosures and the reinforced concrete shells of the Swiss engineer Heinz Isler. As a member of the International Association for Shell and Spatial Structures. He is Co-Chair of the TensiNet Association.

Philippe Block, PhD is a structural engineer and architect, specializing in vaulted masonry structures and new form finding approaches for shells. He is an Assistant Professor of Structural Design at the ETH Zurich, Switzerland, and partner of the structural engineering consultancy Ochsendorf DeJong & Block, LLC. Block holds a PhD from MIT in design and assessment of masonry vaulted structures.



Mette Ramsgard Thomsen is an architect and a Professor at the Royal Academy of Fine Arts, where she heads the Centre for Information Technology and Architecture. Her research centres on the relationship between crafts and technology framed through “Digital Crafting” as way of questioning how computation, code and fabrication challenge architectural thinking and material practices. Her work is practice lead and she investigates the design and realisation of a behavioural space.

Gerd Schmid is managing director of FormTL, architect and Lecturer at the University of Applied Science Frankfurt/Main. form TL is specialised on wide-span, light, translucent, easy mountable and geometrically free formed covers and structures. He teaches together with Jürgen Wacker, a wind specialist, the master degree course „Sustainable Structures, Constructing for strong wind” at Frankfurt.



Christoph Gengnagel is Professor at the University of Art Berlin, School of Architecture, Chair for Construction and Structural Design. He is also co-founder and partner at a.k.a ingenieure München. The research activities of his department focuses on design, development and analysis of innovative materials and construction systems. This is based on the use of digital design and analysis tools and the prototypical study of the possible applications of traditional and new materials. The objective is to develop simple solutions to complex technical issues.

Workshops

Wednesday, 18 January 2012

Location: Institute for Structure and Design KoGe

- 08:30 Rhino Membrane/Forten IxCube
 Gerry D'Anza, Italy
- 08:30 Digital Crafting
 Martin Tamke, CITA Copenhagen, Denmark
- 12:20 Lunch
- 13:20 Rhino Vault
 Philippe Block, Matthias Rippmann, Lorenz Lachauer
 Block Research Group, ETH Zürich, Switzerland
- 13:20 Zoomorphism and bio-architecture
 Josep Llorens, UPC Barcelona, Spain

Needs

- * Computer
- * power strip
- * Rhinoceros3d 4 SR8

additional for Digital Crafting

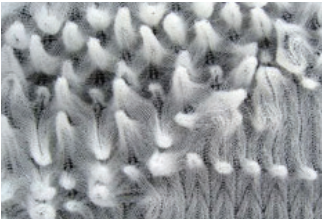
- * Grasshopper 0.8.00.63
- * Karamba
- * cutter and scissors

additional for RhinoVault

- *Grasshopper0.8.00.63



Rhino Membrane is a tool for numerical form finding of tensile structures. This Rhinoceros plug-in combines the efficiency of a modern finite element approach with the comfortable and easy-to-use graphical user interface provided by Rhino.



Digital Crafting. The digitisation of tools has radically changed production. Where it has introduced the ability to deal with high levels of complexity and variance, it has also introduced a new category of tools that change the way we understand manufacturing.



RhinoVAULT is a plug-in for Rhino, that allows for the intuitive design of compression-only shapes, offering a maximum control of the geometry. This software is written for shaping unreinforced masonry vaults and can also perform freeform shells.



Zoomorphism and bio-architecture. Josep Llorens focuses mainly on experimental designs and works, particularly in the field of tensile structures and textile architecture such as roof membranes and awnings.

The Question behind the event

The form of an object stands not only for its spatial (architectural) quality but also for its structural potential. The principles or rules that are set up or found in order to create form and space can be described as predefined or postdefined.

The different approaches to "Form" which can be of physical, geometrical, material, aesthetical, ... nature can be of deep interest for all space creating disciplines, like architecture or engineering.

The aim of the lecture series, discussion and workshops is to recognize, better understand and develop the mostly separately examined aspects in the creation of forms as a complex holistic system. In this regard an inter- and transdisciplinary exchange can be seen as an important step in this direction and open new perspectives and possibilities for all involved disciplines.



Organisation

Ass.Prof. Dipl.Ing. Dr.techn. Günther H. Filz
Univ. Ass. Dipl.Ing. Rupert W. Maleczek

Information

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