

Curriculum Vitae

Jun.-Prof. Dr.-Ing. Reinhard König

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Reinhard König studied architecture and urban planning. He completed his PhD thesis in 2009 at the University of Karlsruhe. From 2007 - 2012 Dr. König has worked as a research assistant and appointed Interim Professor of the Chair for Computer Science in Architecture at Bauhaus-University Weimar. He heads research projects on the complexity of urban systems and societies, the understanding of cities by means of urban simulation and analysis techniques as well as the development of evolutionary design methods. From 2013 - 2016 Reinhard König worked at the Chair of Information Architecture, ETH Zurich. In 2014 Dr. König was guest professor at the Technical University Munich. From 2015 he is Junior-Professor for Computational Architecture at Bauhaus-University Weimar and from 2016 he is Senior Research Engineer at the Energy Department at the smart cities planning group at the Austrian Institute of Technology in Vienna. In addition, he acts as Co-PI in the Big Data Informed Urban Design group at the Future Cities Lab at the Singapore ETH Centre. His current research interests are applicability of multi-criteria optimisation techniques for planning synthesis, cognitive design computing and correlations of computed measures of spatial configurations with human cognition and usage of space.

Curriculum vitae

PERSONAL INFORMATION

Family name, First name: König, Reinhard || Date of birth: 27.01.1976
 Marriage: Married to Eva König, one daughter || Citizen: German
 ORCID: <http://orcid.org/0000-0002-3579-8855> || Research ID: B-4390-2014
 URL for web site: <http://www.ia.arch.ethz.ch/koenig/> and <http://entwurforschung.de/cv/>

EDUCATION

2009 Dr.-Ing. (PhD, summa cum laude)
 Department of Architecture at the Karlsruhe Institute of Technology (KIT), Germany
 2004 Diploma (Dipl.-Ing.) Department of Architecture, Technical University Kaiserslautern, Germany
 2002 Diploma (Dipl.-Ing. (FH)) Department of Architecture, Munich University of Applied Sciences, Germany

CURRENT POSITION

2016 - today Senior Research Engineer
 Energy Department, Sustainable Cities, Austrian Institute of Technology
 2015 - today Junior-Professor for Computational Architecture
 Faculty of Architecture, Bauhaus-University Weimar, Germany
 2015 - today Co-PI for Big Data Informed Urban Design
 Future Cities Lab, Singapore ETH Centre

PREVIOUS POSITIONS

2014 - 2016 Senior Assistant & Lecturer (Oberassistent)
 Chair Information Architecture, Department Architecture, ETH Zurich, Switzerland
 2014 Guest Professor at TU Munich, Germany
 2013 Stand-in for Prof. Dr. Schmitt
 Chair Information Architecture, Department Architecture, ETH Zurich, Switzerland
 2009 - 2012 Interim Professor (stand-in for Prof. Dr. Donath)
 Chair of Computer Science in Architecture, Faculty of Architecture, Bauhaus-University Weimar, Germany
 2007 - 2009 Research assistant
 Chair of Computer Science in Architecture, Faculty of Architecture, Bauhaus-University Weimar, Germany

RESEARCH GRANTS

2016 - 2019 Applicant and lead for *Data analysis for understanding the impact of urban design on social performance of a city (ADvISE)*, Joint Research Program Switzerland-Russia, funded by SNF, ETH Zurich
 2015 - 2017 Co-applicant and work stream lead for *Computational Tools for the Empower Shack project in Cape Town*, project lead Urban Think Tank, ETH Zurich, funded by SwissRe
 2014 - 2016 Co-applicant and project lead for *ESUM: Analysing trade-offs between the energy and social performance of urban morphologies*, funded by SNF, ETH Zurich
 2014 - 2016 Co-applicant and work package lead for *Computational Analysis for the Empower Shack project*, funded by Swiss RE, ETH Zurich
 2014 - 2015 Co-applicant for *Extension of the Value Lab*, funded by SNF, ETH Zurich

- 2014 - 2015 Work stream lead for *Modeling City Systems*, funded by Climate Kic, ETH Zurich
- 2013 - 2014 Project lead for *Kic-Transition*, funded by Climate Kic, ETH Zurich
- 2012 Co-applicant for the research project *Green Efficient Building* (EU project FOGEB with Prof. Dr. Jürgen Ruth), Bauhaus-University Weimar
- 2009 - 2012 Stand-in for Prof. Dr. Donath as lead for the sub-project *Digitales Gebäudemodell* for the research project *nuBau: Methoden und Baustoffe zur nutzerorientierte Bausanierung*, funded by BMBF, Bauhaus-University Weimar
- 2009 - 2013 Project lead for *CoMStaR: Computerbasierte Methoden für eine sozial nachhaltige Stadt- und Raumplanung*, funded by DFG, Bauhaus-University Weimar
- 2009 - 2011 Project lead for *KREMLAS: Entwicklung einer kreativen evolutionären Entwurfsmethode für Layoutprobleme in Architektur und Städtebau*, funded by DFG, Bauhaus-University Weimar
- 2008 Applicant and project lead for *Simulation der Siedlungsentwicklung in Wien von 1888 bis 2001* in cooperation with Dr. Daniela Müller, Centre of Regional Science, TU Vienna, funding by "Hochschuljubiläumsstiftung der Stadt Wien"
- 2007 Co-applicant for *Neue Planungsmethoden für eine nachhaltige Stadtentwicklung* (with Prof. Dr. Donath), initial funding from Bauhaus-University Weimar

FELLOWSHIPS, AWARDS AND SHORT LISTINGS

- 2015 Shortlist in the ongoing procedure to appoint a professor for "Digital Methods in Architecture" at Leibnitz University Hannover
- 2015 Invitation for shortlist lecture at school of architecture, Carnegie Mellon University
- 2014 eCAADe Best Presentation Award
- 2013 Shortlist (2nd position) at the procedure to appoint a professor for "CAX" at the University of Applied Sciences Augsburg
- 2005 - 2007 Full doctoral scholarship for two years from Landesgraduiertenförderung Baden-Württemberg, Germany
- 2007 Grant from Vespucci Initiative for participation in the summer school "*Vespucci Initiative for the Advancement of Geographic Information Science*" in Fiesole, Italy
- 2006 Grant from GIACS-Organisation for participation in the GIACS summer school "*Applications of Complex Systems to Social Sciences*" in Kazimierz Dolny, Poland
- 2006 Grant from Volkswagenstiftung for participation in the summer school "*Evolutionary Anthropology*" at Hanse-Wissenschaftskolleg in Delmenhorst, Germany
- 2006 - 2007 Grant from German Academic Exchange Service (DAAD) to spend a research period at Institute of Architectural Sciences, iemar, Prof. Dr. Franck, TU Vienna
- 2004 First price "*Generative Art International Competition 2004*", Milano, Italy

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

- 2016 Examiner of the PhD Thesis of Josep Mercadé Aloy: "Taming the Road: A GIS-based visualisation and spatial analysis methodology towards retrofitting the intermediate urban mosaic" Universitat Politècnica de Catalunya (UPC), Spain
- 2014 Examiner of the PhD Thesis of Beatrix Emo Nax: "Real-world wayfinding experiments. Individual preferences, decisions and the space syntax approach at street corners." Bartlett, UCL, UK
- 2013 Supervisor and examiner of the PhD Thesis of Dominik Kalisch: "Wissen wer wo wohnt." Faculty of Architecture, Bauhaus-Universität Weimar, Germany
- 2009 - 2012 Advisor for 12 Master theses and 4 Bachelor theses
Faculty of Architecture, Bauhaus-Universität Weimar, Germany

TEACHING ACTIVITIES

- 2016 Seminar and lecture "Computational Urban Synthesis" in cooperation with the design studio SynCity by InfAR, Junior-Professorship Computational Architecture, Bauhaus-Universität Weimar
- 2014 - 2015 Seminar "Digital Urban Simulation", ETH Zurich
- 2014 Seminar "Space Syntax", TU Munich, Chair of Architectural Informatics
- 2013 - 2014 Seminar "New methods in urban analysis and simulation", ETH Zurich
- 2009 - 2012 Supervision design classes "Schulbau", "Self-Supporting City", "Digital Poetics", "Bridging the Gap – Optimizing Structures", "Digital Exhibition Folding", "Digital Design Lab", and "Digitaler regelbasierter Siedlungs- und Gebäudeentwurf: Neues Bauen am Schießhaus", Chair Computer Science in Architecture, Bauhaus-Universität Weimar
- 2009 - 2012 Lead facilitator of the seminars "Decoding Spaces – Computational Methods for Analysing Architectural and Urban Environments", "Generative Design Methods – Architectural Machines Reloaded", "Grundlagen des 3D Modellierens mit Rhinoceros 3D", "Einführung ins parametrische Entwerfen mit Grasshopper (Rhino3D)", "Algorithmic Architecture", "Einstieg in das BIM-Modellieren mit Revit", "Architektonischer Planungsprozess", "The Cube", "Please Touch", and "Seid Vermessen", Chair Computer Science in Architecture, Bauhaus-Universität Weimar
- 2009 - 2012 Lecture "CAAD-Grundlagen", Chair Computer Science in Architecture, Bauhaus-Universität Weimar
- 2007 - 2009 Lectures "Entwurfs- & Planungsprobleme", "Formale Modellbildung", "Selbstorganisation und Planungsmethoden" in the lecture series "Computational Planning and Design", Chair Computer Science in Architecture, Bauhaus-Universität Weimar
- 2007 - 2008 Seminars "Architekturprogrammierung: Generative Planungsmethoden mit Processing", "3D Studio Max für Architekten", Chair Computer Science in Architecture, Bauhaus-Universität Weimar
- 2006 Workshop "Die Stadt der Agenten und Automaten" at zkg-fhm gallery, Munich
- 2002 - 2003 Lectureship "Tensegrity", guest lecture "Parametric Design", design lectureship "homeSweetHome", lectureship "hoheHäuser", co-supervision design class "4D" (all at Professorship CAX, Prof. Berktold). Lectureships "Entwerfen entwerfen", "Biodynamics", "Bauen mit Maschinen", Faculty of Architecture, University of Applied Sciences Munich
- 2002 Seminar "Digitale, internetbasierte Präsentationsformen", TU Kaiserslautern

ORGANISATION OF INTERNATIONAL SCIENTIFIC MEETINGS

- 2015 Workshop lead with Dr. Tasos Varoudis "*Introduction to architectural & spatial computing*" at the 10th international Space Syntax Symposium in London
- 2014 Workshop lead for "*Design Space Exploration*" and presentation of the results at the Smart Geometry Conference in Hong Kong
- 2009 Organisation of the international guest lecture series "*Simulating Cities*". Lectures by: Frank Eckardt, Reinhard Koenig, Christian Derix, Ferdinando Sembolini, Georg Franck, Eva Friedrich, Jose Duarte, Michael Batty and Juval Portugali. At Bauhaus-University Weimar, Germany
- 2008 Workshops "*Siedlungsentwicklung und Simulationmethoden*", ca. 20 participants. At Bauhaus- University Weimar, Germany and at TU Vienna, Austria

INSTITUTIONAL RESPONSIBILITIES

- 2015 - today Member of the governing board for IT service centre of the Bauhaus-University Weimar

- 2009 - 2012 Member of the governing board for IT service centre of the Bauhaus-University Weimar
- 2011 Member of the review board for W3 professorship “*Bauinformatik*” at the civil engineering faculty, Bauhaus-University Weimar
- 2011 Member of the “*Fact-Finding Mission*” to establish cooperation between Bauhaus-University Weimar and the Addis Ababa University, Engineering Capacity Building Program (funded by DAAD)
- 2010 - today Member of the workgroup “*Architekturinformatik*” (ak.ai) www.architekturinformatik.org (German workgroup for architectural informatics)

COMMISSIONS OF TRUST

- 2009 - today Reviewer for the following journals
- Environment and Planning B
 - Advanced Engineering Informatics
 - Journal of Systemics, Cybernetics, and Informatics (JSCI)
 - Architectural Science Review
 - International Journal of Design Creativity and Innovation
 - Journal of Transport and Land Use
 - Raumforschung und Raumordnung (ARL and BBR)
 - JASSS: The Journal of Artificial Societies and Social Simulation
 - AIEDAM: Artificial Intelligence for Engineering Design, Analysis and Manufacturing
 - Automation and Construction
 - Journal of Transport and Land Use
- 2013 - today Reviewer for the following conferences
- eCAADe, International Conference for Education and research in Computer Aided Architectural Design in Europe
 - caadence, International Conference, Budapest
 - SmartGeometry Conference
- 2013 - today Guest membership editorial board of the journal *Archivolta*

EXHIBITIONS

- 2015 König, R.: „Computational Planning Synthesis“. Software-Demonstration auf dem 10. internationalen Space Syntax Symposium in London und auf dem Transition Workshop des Future Cities Laboratory in Singapur
- 2006 König, R. / Bauriedel, C.: „Die Stadt im Reagenzglas“. Ausstellung in der Galerie zkg-fhm, Josephspitalstr. 15, München, vom 12.10 bis 06.11.2006
- 2002 König, R. / Bauriedel, C.: „Entwurfsgenerator“. Ausstellung bei der Medienagentur Kochan & Partner, München
- König, R. / Keller, I. / Bauriedel, C.: „haus.her“-Projekt. Ausstellung in den temporären Galerieräumen der HypoVereinsbank am Marienhof, München

SELECTED ARCHITECTURE PROJECTS

- 2006 Design and realization of a residential complex in Landshut, Germany
- 2005 Design and realization of a single family house Hopperdietzel, Landshut Ergolding
- Competition „*Medienfabrik*“ for Accumulata Immobilien with Haimerl Architects
- Visualization of a residential complex of the Deutschen Beamtenvorsorge Immobilienholding AG; for architectural office Jantschek

- 2004 Design and realization of a single family house Stögbauer, Landshut Achdorf
Design and realization of a single family house Bach, Landshut Achdorf
Competition *Schloss Freiberg* in Collaboration with Fuchs und Rudolph Architects
- 2003 Competition *BWM Pavilion* for the motor show in Genf; for Bertold/Widmann, 3. price
Urban design competition *Gemeindezentrum Vaterstetten*
Urban design competition *Wohnsiedlung Köln* for Bertold/Widmann
Pavilion design for the artist group 48°nord
Design and realization of the exhibition „*neue Medien*“ in the town hall gallery of the city of Munich
- 2002 Design and realization of a single family house Könsgen, Landshut
Visualization of new constructions of the Bayerischen Hausbau; with architectural office Keller
Visualization und virtual model of the development plan for *Theresienhöhe München*; with architectural office Jantschek
Design and realization of the exhibition „*Baustelle Zukunft. Die neue Theresienhöhe nimmt Gestalt an*“ of the city of München; with architectural office Jantschek