
Personal Data

Date of birth 13th of December 1980
Nationality German
Languages German, English

Academic Career

from 2014 SFB / Transregio 109 Discretization in Geometry and Dynamics, Project A01: Discrete Riemann Surfaces
2007–2014 DFG Research Center MATHEON "Mathematics for key technologies", Project F1: Discrete Surface Parametrizations at TU-Berlin
2006–2007 Member of the geometry group at TU-Berlin
2005–2006 Student assistant at DFG Research Center MATHEON at TU-Berlin
2002–2005 Tutor Computerorientierte Mathematik at TU-Berlin

Education

from 05/'07 **Promotion**, *Ph.D. Thesis in preparation: Variational Methods for Discrete Surface Parameterization. Applications and Implementation*, at TU Berlin.
10/'04–05/'07 **Diplom**, *Technische Universität Berlin*.
Technomathematik with focus on mathematical visualisation and computer graphics
10/'00–10/'04 **Vordiplom**, *Technische Universität Berlin, gut*.
Technomathematik mit Wahlfach Elektrotechnik
1993–2000 **Abitur**, *Erich-Hoepner-Oberschule*, Berlin.
Advanced courses: Math and Music
1987–1993 **Grundschule**, *Grundschule am Weinmeisterhorn*, Berlin.

Publications

- 2016 Discrete conformal maps: Boundary value problems, circle domains, Fuchsian and Schottky uniformization. With A. I. Bobenko and B. Springborn. In A. I. Bobenko, editor, *Advances in Discrete Differential Geometry*. Springer, 2016
- 2016 DGD Gallery: Storage, sharing, and publication of digital research data. With M. Joswig, M. Mehner, J. Techter, and A.I. Bobenko. Springer, 2016, arXiv:1512.04364
- 2015 S-conical minimal surfaces. Towards a unified theory of discrete minimal surfaces. With Alexander I. Bobenko, Benno König, and Tim Hoffmann. preprint: <http://www.discretization.de>
- 2015 Discrete uniformization of finite branched covers over the Riemann sphere via hyperideal circle patterns. With A. I. Bobenko and N. Dimitrov. preprint: arXiv:1510.04053

- 2014 Surface panelization using periodic conformal maps. With T. Rörig, A. Kycia, and M. Fleischmann. In *Advances in Architectural Geometry 2014*. ISBN: 978-3-319-11417-0 *Best Paper Award AAG 2014*
- 2012 Quasiisothermic Mesh Layout. With T. Rörig and A. I. Bobenko. In *Advances in Architectural Geometry 2012*. ISBN 978-3-7091-1250-2
- 2012 Topology Optimisation of Regular and Irregular Elastic Gridshells by means of a Non-linear Variational Method. With E. Lafuente Hernández, T. Rörig, and C. Gengnagel. In *Advances in Architectural Geometry 2012*. ISBN 978-3-7091-1250-2
- 2012 Uniformization of discrete Riemann surfaces. In *Discrete Differential Geometry*. Oberwolfach Reports, vol. 9, no. 3, European Mathematical Society
- 2011 On the Materiality and Structural Behaviour of highly-elastic Gridshell Structures. With E. Lafuente Hernández, C. Gengnagel, and T. Rörig. In *Computational Design Modeling: Proceedings of the Design Modeling Symposium Berlin 2011* ISBN 978-3-642-23435-4

Ph.D. Thesis (in preparation)

Title *Variational Methods for Discrete Surface Parameterization. Applications and Implementation.*

Supervisor Prof. Alexander I. Bobenko

Diploma Thesis

Title *Discrete Minimal Surfaces, Koebe Polyhedra, and Alexandrov's Theorem. Variational Principles, Algorithms, and Implementation.*

Supervisor Prof. Alexander I. Bobenko

Link <http://www.sechel.de/publications/DiplomaThesis.pdf>

Professional Software Projects

from 2012 varylab.com

Status head of development

varylab.com offers a web based Software-As-A-Service for discrete surface optimization in the architectural context.

Expertise Implementation of the main software VARYLAB together with members of the geometry group at TU-Berlin. Implementation of the service my.varylab.com based on Google's AppEngine.

Technology Java, Java Webstart, GWT, Google AppEngine, HTML/CSS, Ajax

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from 2013 gallery.discretization.de

Status head of development

gallery.discretization.de is a web service offered by the *SFB/TR 109 Discretization in Geometry and Dynamics* that allows for the creation and archiving of electronic models in the context of this research initiative.

Technology XML, XSL/XSLT, XQuery, BaseX,

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2009–2013 interactive scape GmbH (www.interactive-scape.com)
Status freelance
interactive scape is a Berlin based start-up company offering interaktive installations und multi-touch solutions.
Technology Java, Java Webstart, Apache Tomcat, C/C++, XML, XSLT, XQuery, OAuth, HTML/CSS, Unix, Windows, Mac

Programming Languages and Tools

Java	Guru
C/C++	Very good knowledge
XML/XSL/XQuery	Very good knowledge
OpenGL	Good knowledge
Javascript	Very good knowledge
Objective-C	Good knowledge