

CURRICULUM VITAE

MICHAEL JOSWIG

Citizenship: Germany.

1. PROFESSIONAL CAREER

2013– Professor (W3) “Discrete Mathematics/Geometry”, TU Berlin
2004–2013 Professor (C3) “Algorithmic Discrete Mathematics”, TU Darmstadt.
2008/2009 Visiting Professor “Discrete Geometry”, TU Berlin and Berlin Mathematical School.
2000–2004 Assistant Professor (C2), TU Berlin.
2003 Visiting Professor “Algebra”, U Magdeburg.
1999/2000 Visiting Professor “Computer Oriented Mathematics”, U Frankfurt/Main.
1996–1999 Postdoctoral Researcher, TU Berlin.
1995/1996 Postdoctoral Researcher, Research Institute for Symbolic Computation, Linz, Austria.

2. DISTINCTIONS AND PERSONAL GRANTS

2019– Max Planck Fellow, Max-Planck-Institute for Mathematics in the Sciences, Leipzig
2017 General Member of the Mathematical Sciences Research Institute, Berkeley, CA, U.S.A.
2015 CNRS-INSMI Research Professor, Centre de Mathématique Appliquées (École Polytechnique) and Institut de Mathématiques de Jussieu (Université Pierre et Marie Curie, Paris)
2013 Appointed Einstein Professor, Berlin
2006 Research Professor, Mathematical Sciences Research Institute, Berkeley, CA, U.S.A
2003 General Member of the Mathematical Sciences Research Institute, Berkeley, CA, U.S.A.
2002 Invited Visitor of the Center for Discrete Mathematics and Theoretical Computer Science, Rutgers, NJ, U.S.A.
1995/1996 Lise-Meitner-Grant, Austria.
1990–1994 Studienstiftung des deutschen Volkes.

3. EDUCATION

2000 Habilitation in Mathematics, TU Berlin. Title of thesis: “Contributions to polytope theory and incidence geometry.”
1994 PhD (Dr. rer. nat.) in Mathematics, U Tübingen. Title of thesis: “Translation generalized quadrangles,” supervised by Theo Grundhöfer.
1991 Diploma in Mathematics, U Tübingen. Title of thesis: “Projectivities of generalized polygons and Moufang octagons,” supervised by Theo Grundhöfer.

4. PHD STUDENTS SUPERVISED

4.1. **Current.**

Francisco Criado Gallart (with Francisco Santos)
 Holger Eble
 Robert Löwe (with Boris Springborn)
 Manuel Radons
 Sylvain Spitz (with Max Klimm)
 Ayush Kumar Tewari (with Hannah Markwig)
 Sascha Timme (with Bernd Sturmfels)
 Paul Vater

4.2. **Former.**

Nikolaus Witte *Foldable triangulations*, TU Darmstadt, 2007
 Sven Herrmann *Splits and tight spans of convex polytopes*, TU Darmstadt, 2009
 Katja Kulas *Combinatorics of tropical polytopes*, TU Darmstadt, 2012
 Silke Horn, née Möser *Tropical oriented matroids and cubical complexes*, TU Darmstadt, 2012
 Katrin Herr *Core sets and symmetric convex optimization*, TU Darmstadt, 2013
 Benjamin Assarf *Fano polytopes*, TU Berlin, 2015
 Georg Loho *Combinatorics of tropical linear programming*, TU Berlin, 2017
 Benjamin Schröter *Matroidal subdivisions, Dressians and tropical Grassmannians*, TU Berlin, 2017
 André Wagner *Computer vision and computer algebra*, TU Berlin, 2017

4.3. **Students of the Berlin Mathematical School Mentored.**

Sarah Brodsky, Jan Hofmann, Sandra Keiper, Hector Andrade Loarca, Jorge Alberto Olarte, Kevin Schewior

5. POSTDOCTORAL SCHOLARS MENTORED

5.1. **Current.**

Dominic Bunnett (with Bernd Sturmfels)
 Marek Kaluba
 Lars Kastner
 Andrew Newman
 Marta Panizzut

5.2. **Former.**

Simon Hampe (2013–2016); Andreas Paffenholz (2010–2013); Felipe Rincón (2018); Kristin Shaw (2015–2017, Alexander-von-Humboldt Fellow); Christian Stump (2017–2018, Heisenberg Fellow); Timo de Wolff (2017–2019, Emmy-Noether Fellow); Laura Brustenga (2019); Roser Homs Pons (2019)

6. PROJECT GRANTS

6.1. Current.

- 2019– Project AA3-5 “Tropical mechanism design”, within EXC 2046 “MATH⁺”, with Max Klimm
- 2019– Project EF1-3 “Approximate convex hulls with bounded complexity”, within EXC 2046 “MATH⁺”, with Klaus-Robert Müller
- 2018– Principal Investigator GRK 2434 “Facets of complexity”
- 2017– Project B4–I.4 “`polymake`: polyhedral data, quotients and stacks”, within SFB/TRR 195 “Symbolic Tools in Mathematics and their Application”
- 2017– Project A11–I.9 “Moduli spaces of tropical varieties, modifications and compactifications”, within SFB/TRR 195 “Symbolic Tools in Mathematics and their Application,” with Hannah Markwig
- 2017– Project B1–II.1 “Central software project”, within SFB/TRR 195 “Symbolic Tools in Mathematics and their Application,” with Mohamed Barakat, Wolfram Decker, Claus Fieker and Frank Lübeck
- 2016– Project A11 “Secondary fans of Riemann surfaces”, within SFB/TRR 109 “Discretization in Geometry and Dynamics,” with Boris Springborn
- 2016– Project “Information Infrastructure”, within SFB/TRR 109 “Discretization in Geometry and Dynamics,” with Alexander I. Bobenko

6.2. Past.

- 2017–2018 Project MI6 “Geometry of equilibria for shortest paths”, within Einstein Center for Mathematics Berlin/Mattheon
- 2013–2017 Project “Polyhedral Fan Structures”, within DFG Priority Program 1489 “Experimental Methods in Algebra, Geometry, and Number Theory”
- 2014–2017 Project “Multiview geometry for Ophthalmic Surgery Simulation”, within Einstein Center for Mathematics Berlin/Mattheon
- 2012–2013 Project “Algorithmic Methods in Combinatorial Topology” with Australia Go8, funded by DAAD
- 2010–2013 Project “Decompositions of lattice polytopes” within DFG Priority Program 1489 “Experimental Methods in Algebra, Geometry, and Number Theory”
- 2008–2011 Project “Non-positive Curvature and Cubical Surfaces” within DFG-Research group “Polyhedral Surfaces,” with Günter M. Ziegler.
- 2007–2013 Graduate School “Computational Engineering: Beyond Traditional Sciences,” Principal Investigator, TU Darmstadt.
- 2005–2008 Project “Branched coverings and combinatorial holonomy” within DFG-Research group “Polyhedral Surfaces,” with Günter M. Ziegler.
- 2002–2004 DFG-Research Center “Mattheon”, Principal Investigator; Project “F4: Visualization algorithms and web based software”, with Alexander Bobenko and Konrad Polthier.
- 2001–2003 Project C4 within SFB 288 “Differential Geometry and Quantum Physics,” with Günter M. Ziegler.

7. ADMINISTRATION

- 2016– Deputy Director, Institut für Mathematik, TU Berlin
- 2018– Admissions Committee of the Berlin Mathematical School
- 2018– Research Projects Committee of MATH⁺

8. EDITORIAL WORK

2017–	Co-Managing Editor: “Advances in Geometry”
2018–	Associate Editor: “SIAM Journal Discrete Mathematics”
2017–	Associate Editor: “Mitteilungen der Deutschen Mathematiker-Vereinigung”
2011–	Associate Editor: “Beiträge zur Algebra und Geometrie”
2016–2017	Associate Editor: “Linear Algebra and Applications”
2013–2016	Editor-in-Chief: “Mitteilungen der Deutschen Mathematiker-Vereinigung”
2011–2016	Associate Editor: “Advances in Geometry”
2001–2013	Co-Managing Editor: “Electronic Geometry Models”, http://www.eg-models.de

9. ORGANIZATION (SELECTION)

2020	General Chair: “7th International Congress on Mathematical Software”
2005–	Member of the Scientific Advisory Board: “Oberwolfach References on Mathematical Software”
2018	Member of the Programme Committee: “6th International Congress on Mathematical Software,” South Bend, IN, U.S.A.
2018	Einstein Conference “Discrete Geometry and Topology”, (co-organized with Francisco Santos, Jonathan Spreer and Günter M. Ziegler)
2018	Member of the Scientific Advisory Board: “Tropical Geometry, Amoebas and Polytopes”, Institut Mittag-Leffler, Djursholm, Sweden
2017/2018	BMS/IMPAN Block Course “Convex Geometry and Hamiltonian Group Actions”, (co-organized with Tadeusz Januszkiewicz)
2013–2016	Member of the Executive Board of the Society of German Mathematicians (DMV)
2011–2016	Member of the Advisory Board: conference series “International Congress on Mathematical Software”
2016	Dagstuhl Seminar “Algorithms and Effectivity in Tropical Mathematics and Beyond” (12-0116), (co-organized with Stéphane Gaubert, Dima Grigoriev and Thorsten Theobald)
2014	Representative for Germany at the General Assembly of the International Mathematical Union, Seoul, Korea
2013	Member of the Local Committee “MEGA 2013 (Methods for Effective Algebraic Computation)”, Frankfurt/Main
2012	Minisymposia on “Integer Points in Polytopes” (with Günter M. Ziegler) at “ISMP 2012 (21st International Symposium on Mathematical Programming)”, Berlin
2010	Programme Committee Co-chair: “3rd International Congress on Mathematical Software,” Kobe, Japan.
2009	Co-Organizer (with Friedrich Knop, Thorsten Theobald and Volker Strehl) of Workshop “Saturday in Discrete Mathematics,” Erlangen.
2008	Member of the Programme Committee: “Symposium on Computational Geometry,” College Park, MD, U.S.A.
2008	Co-Organizer (with Thorsten Theobald) of Workshop “Discrete Mathematics on a Saturday in Frankfurt,” Frankfurt am Main.
2006	Member of the Programme Committee: “2nd International Congress on Mathematical Software,” Castro Urdiales, Spain.

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CHAIR OF DISCRETE MATHEMATICS/GEOMETRY, TECHNISCHE UNIVERSITÄT BERLIN