

Klara Mundilova

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Education

2019 – present	PhD candidate, Computer Science, Massachusetts Institute of Technology Supervisor: Erik Demaine
2017 – 2019	PhD candidate, Technical Mathematics, TU Wien Supervisors: Helmut Pottmann and Christian Müller
2014 – 2017	Master of Science, Technical Mathematics, TU Wien Thesis Title: Geometry and Interactive Design of Curved Creases Supervisor: Helmut Pottmann Graduation with Distinction
2010 – 2014	Bachelor of Science, Technical Mathematics, TU Wien Thesis Title: Lineare Weingarten Kanalflächen Supervisor: Udo Hertrich-Jeromin
2010	Realgymnasium Schopenhauerstraße, Vienna, Austria Graduation with Distinction

Work Experience

10/2020 – 04/2021	Lecturer and Project Assistant (8h/week) University of Innsbruck, Austria
10/2017 – 09/2019	University and FWF Project Assistant (30h – 40h/week) Institute of Discrete Mathematics and Geometry, TU Wien
08/2015 – 02/2017	Programmer at Rechenraum (20h – 28.5h/week) Development of geometric data processing algorithms in C++
08/2014 – 09/2017	Teaching Assistant (12.5h – 15h/week) Institute of Discrete Mathematics and Geometry, TU Wien

Teaching

Massachusetts Institute of Technology, USA

6.042	Mathematics for Computer Science Spring 2021, Fall 2021	TA
6.849	Geometric Folding Algorithms Fall 2020	TA

University of Innsbruck, Austria

847383	Structure and Geometry Fall 2020	Seminar
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TU Wien, Austria

104.361	Geometry Optimization and Discretization Fall 2017	Lecture
104.404	Projective Geometry Spring 2018	Recitation
104.361	Geometry Optimization and Discretization Fall 2014, Fall 2015 and Fall 2016	Recitation
113.077	Basic Course in Geometry for Architects Fall 2014, Spring 2015, Fall 2015, Spring 2016, Spring 2017	Recitation
104.218	Preparatory Course in Discriptive Geometry Fall 2015 and Fall 2016	Recitation

Awards and Fellowships

2019	Akamai Presidential Graduate Fellowship
2018	Christiane Hörbiger Preis

Publications

Papers

- [1] R. Foschi, R. Kraft, R. Maleczek, K. Mundilova and T. Tachi, *Comparison of computational curved folding design methods*, IASS 2021.
- [2] R. Maleczek, K. Mundilova and T. Tachi, *Curved Crease Edge Rounding of Polyhedral Surfaces*, to appear in: *Advances in Architectural Geometry*, 2020.
- [3] E. Demaine, M. Demaine and K. Mundilova, *Design of Circular-Arc Curved Creases of Constant Fold Angle*, Proceedings of Bridges 2020: Mathematics, Art, Music, Architecture, Education, Culture, p. 129–136, 2020.
- [4] C. Jiang, K. Mundilova, F. Rist, J. Wallner, H. Pottmann, *Curve-pleated structures*. ACM Trans. Graph. 38(6): 169:1-169:13, 2019.
- [5] K. Mundilova, *On mathematical folding of curved crease origami: Sliding developables and parametrizations of folds into cylinders and cones*, Computer-Aided Design, p. 34–41, Volume 115, 2019.
- [6] K. Mundilova, *Curved Crease Folds of Spherical Polyhedra with Regular Faces*, Proceedings of Bridges 2019: Mathematics, Art, Music, Architecture, Education, Culture, p. 423–426, 2019.
- [7] O. Aichholzer, H. Akitaya, K. Cheung, E. Demaine, M. Demaine, S. Fekete, L. Kleist, I. Kostitsyna, M. Löffler, Z. Masárová, K. Mundilova, C. Schmidt, *Folding Polyominoes with Holes into a Cube*, CCCG, p. 164-170, 2019.
- [8] K. Mundilova and T. Wills, *Folding the Vesica Piscis*, Proceedings of Bridges 2018: Mathematics, Art, Music, Architecture, Education, Culture, p. 535–538, 2018.
- [9] U. Hertrich-Jeromin, K. Mundilova and E. Tjaden, *Channel Linear Weingarten Surfaces*, J. Geom. Symmetry Phys. 40 (2015), 25–33. Preprint on arXiv:1507.03394.

Theses

- [1] K. Mundilova, *Geometry and Interactive Design of Curved Creases*, Master Thesis, TU Wien. Available at <http://repositum.tuwien.ac.at/urn:nbn:at:at-ubtuw:1-99508>.
- [2] K. Mundilova, *Lineare Weingarten Kanalflächen*, Bachelor Thesis, TU Wien.

Technical Reports

- [1] K. Mundilova, *Notes on the Integration of the Angular Function in the Parametrization of the Vesica Piscis*, Technical Report, TU Wien (2018). Available at <http://www.geometrie.tuwien.ac.at/geom/ig/mundilova/pdf/mundilova-vesica-piscis-parametrization.pdf>.

Posters

- [1] K. Mundilova, *Reconstruction of Huffman's Hexagonal Column*. Displayed at the GCD Symposium, Vienna, Austria 2018.
- [2] K. Mundilova and T. Wills, *Folding the Vesica Piscis*. Displayed at the GCD Symposium, Vienna, Austria, 2017.
- [3] U. Hertrich-Jeromin and K. Mundilova, *Channel Linear Weingarten Surfaces*. Displayed at the GCD Symposium, Vienna, Austria, 2015.

Talks

- [1] K. Mundilova, *Lotus: Grasshopper components for curved folding*, Guest Lecture at Pratt Institute of Design, March 2021.
- [2] K. Mundilova, *Design of Circular-Arc Curved Creases of Constant Fold Angle*, Bridges Conference, online, 2020.
- [3] K. Mundilova, *Spherical Polyhedra with Regular Faces* at Bridges Conference, Linz, Austria, 2019.
- [4] K. Mundilova, *On Mathematical Paper Folding* at the Symposium on Solid and Physical Modelling, Vancouver, Canada, 2019.
- [5] K. Mundilova, *On Mathematical Paper Folding* at the Symposium of Origami and Deployable Mechanisms, Okinawa, Japan, 2019.
- [6] E. Demaine and K. Mundilova, *Origami Research* at the OrigaMIT Convention, Boston, Massachusetts, 2018.
- [7] K. Mundilova, *Curved Crease Paper Folding with Rigid Rulings* at ESI Workshop on Rigidity and Flexibility of Geometric Structures, Vienna, 2018.
- [8] K. Mundilova and T. Wills, *Folding the Vesica Piscis* at Bridges Conference, Stockholm, Sweden, 2018.
- [9] K. Mundilova, *Symmetric Folded D-Forms from a Cylinder and Two Cones* at the Conference on Curves and Surfaces, Arcachon, France, 2018.
- [10] K. Mundilova, *Geometry and Interactive Design of Curved Creases* at the Conference on Geometry, Pilsen, Czech Republic, 2017.

Conferences, Workshops and Research Visits

01/2021	Structural Origami Gathering (online)
08/2020	Bridges Conference (online)
03/2020	35th Bellairs Workshop on Computational Geometry (online)
01/2020	Structural Origami Gathering (San Francisco, USA)
07/2019	Bridges Conference (Linz, Austria)
06/2019	Symposium on Solid and Physical Modelling (Vancouver, Canada)
05/2019	Symposium of Origami and Deployable Mechanisms (Okinawa, Japan)
05/2019	Visit of Tomohiro Tachi at University of Tokyo (Tokyo, Japan)
03/2019	34th Bellairs Workshop on Computational Geometry (Holetown, Barbados)
01/2019	Structural Origami Gathering (Stuttgart, Germany)
11/2018	Visit of Erik and Martin Demaine at MIT (Boston, Massachusetts)
10/2018	Conference on Discretization in Geometry and Dynamics (Döllnsee, Germany)
09/2018	ESI Workshop on Rigidity and Flexibility of Geometric Structures (Vienna, Austria)
09/2018	7th Meeting on Origami in Science, Maths and Education (Oxford, United Kingdom)
07/2018	Bridges Conference (Stockholm, Sweden)
06/2018	Curves and Surfaces Conference (Arcachon, France)
05/2018	Stay at the NASA Ames Research Center (San Francisco, California)
05/2018	Visit of Christian Müller at CalTech (Pasadena, California)
03/2018	33rd Bellairs Workshop on Computational Geometry (Holetown, Barbados)
01/2018	Structural Origami Gathering (Tokyo, Japan)
09/2017	Geometry Workshop (Obergurgl, Austria)
06/2017	Conference on Geometry: Theory and Applications (Pilsen, Czech Republic)
10/2016	Fall School: Discrete Geometry and Topology (Graz, Austria)
08/2015	Student volunteer at SIGGRAPH (Los Angeles, California)
07/2015	rese arch LIVE Workshop (Bratislava, Slovakia)