

ZORAH LÄHNER

ACADEMIC EXPERIENCE

since Feb 2021	Postdoctoral Researcher supervisor: Prof. Dr. Michael Moeller	University of Siegen, Germany
Nov 2015 - Jan 2021	Researcher/PhD Candidate funded under the ERC Consolidator Grant "3D Reloaded" supervisor: Prof. Dr. Daniel Cremers	Technical University Munich, Germany
Sep 2019 - Dec 2019	Research Intern supervisor: Dr. Roberto Mecca	Toshiba Research Europe, Cambridge, UK
May 2019 - Jun 2019	DAAD Short-Term Scholarship for PhD Students supervisor: Prof. Dr. Emanuele Rodolà	Sapienza Università di Roma, Italy
Sep 2017 - Feb 2018	Research Intern resulted in a patent and a publication at ECCV 2018 supervisor: Dr. Tony Tung	Facebook Reality Labs, Sausalito, US
Mar 2017	Visiting Researcher resulted in a publication at 3DV 2017 supervisor: Prof. Dr. Alex Bronstein	Technion Israel Institute of Technology, Israel
Feb 2015 - Nov 2015	Student Researcher resulted in a publication at CVPR 2016 supervisor: Prof. Dr. Emanuele Rodolà	Technical University Munich, Germany

EDUCATION

Nov 2015 - Apr 2021	Ph.D. in Computer Science (summa cum laude) supervisor: Prof. Dr. Daniel Cremers · Dissertation title: Continuous Correspondence of Non-Rigid 3D Shapes
Apr 2013 - Oct 2015	M.Sc. in Computer Science with distinction Final Grade: (1.3 / 1.0) · Minor: Mathematics
Oct 2009 - Mar 2013	B.Sc. in Computer Science Final Grade: (1.6 / 1.0) · Minor: Physics and Astronomy

PUBLICATIONS (selection)

Conference papers in computer vision normally have more impact than journal publications. Authors are ordered by their contribution. All publications are peer-reviewed.

- [ECCV 2022] **Intrinsic Neural Fields: Learning Functions on Manifolds**
Lukas Koestler*, Daniel Grittner*, Michael Moeller, Daniel Cremers, **Zorah Löhner**.
Proc. of European Conference on Computer Vision (ECCV), 2022.
- [ICCV 2021] **Q-Match: Iterative Shape Matching via Quantum Annealing**
Marcel Seelbach Benker, **Zorah Löhner**, Vladislav Golyanik, Christof Wunderlich, Christian Theobalt, Michael Moeller.
Proc. of International Conference on Computer Vision (ICCV), 2021.
- [CVPR 2021] **Isometric Multi-Shape Matching**
Maolin Gao, **Zorah Löhner**, Johan Thunberg, Daniel Cremers, Florian Bernard.
Proc. of IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2021.
- [3DV 2020] **Simulated Annealing for 3D Shape Correspondence**
Benjamin Holzschuh, **Zorah Löhner**, Daniel Cremers.
Proc. of Intl. Conference on 3D Vision (3DV), 2020.
- [CVPR 2020] **Smooth Shells: Multi-Scale Shape Registration with Functional Maps**
Marvin Eisenberger, **Zorah Löhner**, Daniel Cremers.
Proc. of IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2020.
- [SGP 2019] **Divergence-Free Shape Correspondence by Deformation**
Marvin Eisenberger, **Zorah Löhner**, Daniel Cremers.
Computer Graphics Forum (Proc. of Symposium on Geometry Processing), 2019.
- [CGF 2019] **Functional Map Representation on Product Manifolds**
Emanuele Rodolà, **Zorah Löhner**, Alex M. Bronstein, Michael M. Bronstein, Justin Solomon.
Computer Graphics Forum, 2019.
- [ECCV 2018] **DeepWrinkles: Accurate and Realistic Clothing Modeling**
Zorah Löhner, Daniel Cremers, Tony Tung.
Proc. of European Conference on Computer Vision (ECCV), 2018.
- [3DV 2017] **Efficient Deformable Shape Correspondence via Kernel Matching**
Matthias Vestner*, **Zorah Löhner***, Amit Boyarski*, Or Litany, Ron Slossberg, Tal Remez, Emanuele Rodolà, Alex M. Bronstein, Michael M. Bronstein, Ron Kimmel.
Proc. of Intl. Conference on 3D Vision (3DV), 2017.
- [CVPR 2016] **Efficient Globally Optimal 2D-to-3D Deformable Shape Matching**
Zorah Löhner, Emanuele Rodolà, Frank R. Schmidt, Michael M. Bronstein, Daniel Cremers.
Proc. of IEEE Conference on Computer Vision and Pattern Recognition (CVPR), 2016.
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FUNDING

MKW NRW	KI-Starter grant 2022-2024 2 year project "Robust Geometric Deep Learning"	170k Euros
DAAD	Short-Term Scholarship for PhD students funding a two month reseach visit at Sapienza Università di Roma	3k Euros

REVIEW ACTIVITIES (selection)

Conferences CVPR 2016-2022 • BMVC 2016-2018 • 3DV 2016-2022 • ICCV 2019 - 2021 • NeurIPS 2019-2020 • ECCV 2020-2022 • SIGGRAPH 2020 - 2021 • ICLR 2021 • WACV 2021

Workshops MVR3D 2017 (ICCV) • GMDL 2017-2018 (ICCV/ECCV) • 3DRWi 2018 (ECCV)

Journals JVCI • IJCV • JMIV

Outstanding Reviewer Award at 3DV 2021

COMMITTEES

STAG 2021 | **Best Thesis Award Committee**
Matteo Dellepiane Award ·

FGML 2021 | **Program and Website Chair**
French-German Machine Learning Symposium ·

INVITED TALKS (selection)

Jan 2021	Max Planck Institute Tübingen Non-Rigid Shape Correspondence Through Deformation	invited by Dr. Jinlong Yang
Oct 2020	University of Siegen Continuity in Non-Rigid Correspondence	Women in Vision Siegen
May 2020	Ecole Polytechnique Paris (virtual) Smooth Shells: Multi-Scale Shape Registration with Functional Maps	invited by Prof. Dr. Maks Ovsjanikov
May 2019	Sapienza Università di Roma Divergence-Free Correspondence by Deformation	invited by Prof. Dr. Emanuele Rodolà
Feb 2019	Max Planck Institute Saarbrücken DeepWrinkles: Accurate and Realistic Cloth Modeling	invited by Dr. Gerard Pons-Moll
Aug 2018	Symposium on Geometry and Uncertainty in Deep Learning Accurate and Realistic Cloth Modeling with Real-Data	Rank Prize Funds
Jul 2018	Workshop on Machine Learning for 3D Understanding Accurate and Realistic Cloth Modeling with Real-Data	TUM Institute for Advanced Studies
Jan 2017	Dagstuhl Seminar 17021 on Functoriality in Geometric Data Efficient Globally Optimal 2D-to-3D Deformable Shape Matching	Leibniz Center for Informatics
Feb 2016	Stanford University Efficient Globally Optimal 2D-to-3D Deformable Shape Matching	invited by Prof. Dr. Leonidas Guibas

TEACHING (selection)

SS 2022	Introduction to Visual Computing Teaching Assistant, Lecture for computer science bachelor students (10 students)	University of Siegen
WS 2021/22	Deep Learning Teaching Assistant, Lecture for computer science and mechanical engineering master students (50 students)	University of Siegen
WS 2020/21	Recent Advances in 3D Computer Vision Organizer, Seminar for computer science master students (15 participants)	Technical University Munich
SS 2020	Shape Analysis and Applications in Computer Vision Organizer, Seminar for computer science master students (15 participants)	Technical University Munich
WS 2018/19	Diskrete Strukturen Teaching Assistant, Lecture for computer science bachelor students (50 students)	Technical University Munich
SS 2016 & 2017	Analysis of Three-Dimensional Shapes Teaching Assistant, Lecture for computer science master students (15-20 students)	Technical University Munich
SS 2016	Shape Analysis and Applications in Computer Vision Organizer, Seminar for computer science master students (18 participants)	Technical University Munich
WS 2016/17	Logik und Diskrete Strukturen Teaching Assistant, Lecture for computer science bachelor students (30 students)	University of Bonn

SUPERVISED STUDENT PROJECTS (selection)

Master's Thesis	Unsupervised Learning for Non-Rigid Deformations in 3D Shapes Sharik Siddiqi, Mechanical Engineering, 2022
Bachelor's Thesis	Intrinsic Neural Fields for Visual Computing on Manifolds Daniel Grittner, Computer Science, 2022 resulted in a publication at ECCV 2022
Master's Thesis	Machine Learning-Based Electroanatomical Mapping of the Heart with Generation of 3D Reconstructions from Biosignals Only Alessa Grund, Biomedical Computing, in cooperation with Ablacon, 2022
Master's Thesis	Automatic Generation of 3D Brick Models Mohammad Khan, Computer Science, 2022
Master's Thesis	Unsupervised Shape Correspondence with Heat Kernels Mehmet Aygün, Computer Science, 2020 resulted in publication at 3DV 2020
Guided Research	A Probabilistic Algorithm for Shape Correspondence Problems Benjamin Holzschuh, Computer Science, 2020 resulted in publication at 3DV 2020
Interdisciplinary Project	Minimum Distortion Conformal Mappings onto 3D Triangle Meshes Nina Avramova, Computer Science, 2017