

Ruben Wiersma

Curriculum Vitae

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Profile

Dr. Ruben Wiersma is a computer scientist specialized in **artificial intelligence and geometry processing** with a strong creative background. He is a *postdoctoral researcher at ETH Zurich (Interactive Geometry Lab)*, PhD (cum laude, TU Delft), with industrial experience at Adobe. Research interests: AI and geometry processing for 3D.

Education

- 2019–2024 **PhD, Computer Graphics, TU Delft, Delft, Cum Laude**
Dissertation: *Intrinsic Approaches to Learning and Computing on Curved Surfaces*.
Promotors: Prof. Dr. Elmar Eisemann, Prof. Dr. Joris Dik.
○ Artificial intelligence and geometry processing (4 ACM SIGGRAPH publications).
○ Applications in painting analysis (1 journal, 1 conference).
- 2017–2019 **MSc, Computer Science, TU Delft, Delft, Cum Laude**
Focus on computer graphics and machine learning. Thesis (9/10): *Harmonic Surface Networks*.
- 2014–2017 **BSc, Computer Science, TU Delft, Delft, Cum Laude**
Focus on multimedia and data science. Thesis: *Automating Valuations for Real-Estate*.
- 2013–2014 **Propedeuse, Industrial Design Engineering, TU Delft, Delft, Cum Laude**

Teaching Experience

- 2025 **Lecturer, Graduate School, Symposium on Geometry Processing, Bilbao**
Deep Learning on Meshes and Point Clouds (100 attendants).
- 2024 **Associate Lecturer, ETH Zurich, Computer Science, Zurich**
MSc course Shape Modelling & Geometry Processing (50 students).
- 2024–2025 **Daily Supervisor, ETH Zurich, Zurich**
1 BSc thesis, 3 PhD students.
- 2019–2025 **Daily Supervisor, TU Delft, EEMCS, Delft**
10 BSc, 3 MSc theses, 1 PhD student.
- 2019–2023 **Teaching Assistant, TU Delft, Architecture and the Built Environment, Delft**
BSc elective BK7084 Computational Simulations (20 students). Lab instructions, created assignments.
- 2019 **Teaching Assistant, TU Delft, EEMCS, Delft**
BSc Machine Learning (~500 students). Wrote programming assignments (still used as of 2025).

Professional Experience

- 2024–Present **Postdoctoral Researcher, ETH Zurich (Interactive Geometry Lab), Zurich**
Research on AI for 3D modeling. Associate Lecturer on Shape Modelling and Geometry Processing.
- 2023 **Research Intern, Adobe, San Francisco**
Material/appearance capture with differentiable rendering and AI.
- 2017 **Software Development Intern, GeoPhy, Delft**
End-to-end pipeline to train machine learning models for real-estate valuation.
- 2012–2022 **Founder, Wiersma Brothers, Leiden**
Video producer, graphic designer. Clients: TU Delft, VU Amsterdam, YES!Delft.

Awards and Honors

- 2024 Google Cloud Research Compute Grant (1000 EUR)
- 2024 ACM SIGGRAPH Thesis Fast Forward Selection
- 2022 Best Full Paper Award, Eurographics Workshop on Graphics and Cultural Heritage
- 2020 Google Cloud Research Compute Grant (1000 EUR)
- 2019 Google Cloud Research Compute Grant (1000 EUR)
- 2019 Hackathon for Good Winner (Client: European Commission)
- 2017 Fulbright Scholarship (20.000 USD - offered, declined)

Peer-Reviewed Publications

- [1] A. Binninger, R. Wiersma, P. Herholz, and O. Sorkine-Hornung, "TetWeave: Isosurface Extraction using On-The-Fly Delaunay Tetrahedral Grids for Gradient-Based Mesh Optimization," *ACM Transactions on Graphics (SIGGRAPH)*, 2025.
- [2] R. Wiersma, J. Philip, M. Hašan, K. Mullia, F. Luan, E. Eisemann, and V. Deschaintre, "Uncertainty for SVBRDF Acquisition using Frequency Analysis," in *ACM SIGGRAPH Conference Papers*, 2025.
- [3] R. Wiersma, "Intrinsic approaches to learning and computing on curved surfaces," Ph.D. dissertation, TU Delft, 2024.
- [4] L. Tissen, S. Frequin, and R. Wiersma, "The case of the golden background, a virtual restoration and a physical reconstruction of the medieval Crucifixion of the Lindau Master (c. 1425)," *Digital Humanities Quarterly*, 2023.
- [5] R. Wiersma, A. Nasikun, E. Eisemann, and K. Hildebrandt, "A Fast Geometric Multigrid Method for Curved Surfaces," in *ACM SIGGRAPH Conference Papers*, 2023.
- [6] Y. Lin, R. Wiersma, S. L. Pinte, K. Hildebrandt, E. Eisemann, and J. C. van Gemert, "Deep Vanishing Point Detection: Geometric priors make dataset variations vanish," *IEEE/CVF Computer Vision and Pattern Recognition (CVPR)*, 2022.
- [7] J. van der Toorn, R. Wiersma, A. Vandivere, R. Marroquim, and E. Eisemann, "A New Baseline for Feature Description on Multimodal Imaging of Paintings," in *Eurographics Workshop on Graphics and Cultural Heritage*, 2022.
- [8] R. Wiersma, A. Nasikun, E. Eisemann, and K. Hildebrandt, "DeltaConv: Anisotropic operators for geometric deep learning on point clouds," *ACM Transactions on Graphics (SIGGRAPH)*, 2022.
- [9] G. Migut and R. Wiersma, "Are We Consistent? The Effects of Digitized Exams Grading," in *Symposium on Computer Science Education*, 2020.
- [10] J. Wembe, R. van den Brink, E. Mooldijk, N. Feirabend, R. Wiersma, J. Sietsma, and J. Dik, "Revealing unique inscriptions of a Nazi collaborator in Doodencel 601 of the Oranjehotel," *npj Heritage Science*, 2020.
- [11] R. Wiersma, E. Eisemann, and K. Hildebrandt, "CNNs on Surfaces using Rotation-Equivariant Features," *ACM Transactions on Graphics (SIGGRAPH)*, 2020.

Service

- 2025–2026 **Chair**, ACM/Eurographics Symposium on Geometry Processing Graduate School
- 2025 **Conflict of Interest Coordinator**, ACM SIGGRAPH Asia
- 2024–2025 **Program Committee**, ACM/Eurographics Symposium on Geometry Processing
- 2024–2025 **Chair**, ACM SIGGRAPH Thesis Fast Forward
- 2022 **Local Organiser**, Eurographics Workshop on Graphics and Cultural Heritage
- 2022 **Mentor, Supervisor**, MIT Summer Geometry Initiative
- 2020–2022 **Member**, ACM SIGGRAPH Research and Career Development Committee
- 2020– **Reviewer**, ACM SIGGRAPH, ACM Trans. Graph., Pacific Graphics, Computers & Graphics

Invited Talks

- 2025 Symposium on Geometry Processing
Deep Learning on Meshes and Point Clouds.
- 2025 Mathematical Imaging and Surface Processing Workshop Oberwolfach
Intrinsic Approaches to Learning and Computing on Curved Surfaces.
- 2024 INRIA Sophia Antipolis (hosted by Prof. Dr. George Drettakis)
Intrinsic Approaches to Learning and Computing on Curved Surfaces.
- 2024 ETH Zurich (hosted by Prof. Dr. Olga Sorkine-Hornung)
Intrinsic Approaches to Learning and Computing on Curved Surfaces.
- 2024 ISTA Vienna (hosted by Prof. Dr. Chris Wojtan)
Intrinsic Approaches to Learning and Computing on Curved Surfaces.
- 2023 Johns Hopkins University (hosted by Dr. Crane He Chen)
Introduction to Blender for Students in Computer Graphics.
- 2022 UChicago (hosted by Dr. Rana Hanocka)
DeltaConv: Anisotropic Operators for Geometric Deep Learning on Point Clouds.
- 2021 Mathematics and Art symposium at DMV ÖMG Annual Conference 2021
Communicating Perspective in 17th Century Paintings to Modern Audiences.
- 2021 University Utrecht (hosted by Dr. Sanne Frequin)
Applications of Computer Graphics for Painting Analysis.
- 2020 TU Delft, IDE (hosted by Prof. Dr. Sylvia Pont)
Applications of Computer Graphics for Painting Analysis.
- 2020 Stanford University (hosted by Prof. Dr. Leonidas J. Guibas)
CNNs on Surfaces using Rotation-Equivariant Features.

References

Prof. Dr. Elmar Eisemann, TU Delft EEMCS (promotor) – e.eisemann@tudelft.nl
Dr. Klaus Hildebrandt, TU Delft EEMCS (advisor) – k.a.hildebrandt@tudelft.nl
Dr. Abbie Vandivere, Mauritshuis (collaborator) – a.vandivere@mauritshuis.nl
Prof. Dr. Olga Sorkine-Hornung, ETH Zurich (advisor) – olga.sorkine@inf.ethz.ch