Ruben Wiersma

Curriculum Vitae

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Profile

Dr. Ruben Wiersma is a computer scientist specialized in **artifical 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. Pintea, 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