Curriculum Vitae

Catharina (Katrien) Maria van Riet

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Profile

As a soft robotics researcher, I am fascinated by pneumatic logic, active shape-change, and wearable devices because of their potential for human-computer interaction. Originally coming from a background in the humanities, I strive to incorporate a diverse and multidisciplinary perspective into my design and engineering practice. I'm passionate about the open-source movement and actively strive to make soft robotics research more accessible to groups who have fewer resources or accessibility options. In my spare time, I enjoy creating projects that involve 3D-printing and electronics, which I publish in open-source repositories such as GitHub and Thingiverse.

Education and Certificates

2021 – 2023	**Eindhoven University of Technology** MSc Industrial Design – cum laude
2019 – 2021	**Eindhoven University of Technology** BSc Industrial Design – 4.0 GPA Admittance to the master's after 1.5 years based on grades and portfolio
2013	**The British Council Amsterdam** CELTA (Pass A result) – top 5% result Certificate in English Language Teaching to Adults
2010 – 2012	**Utrecht University** MA (research) Comparative Literature – cum laude
2007 – 2010	**Utrecht University** BA English Language and Culture – cum laude

Peer-Reviewed Publications

2026	**van Riet, C. M.**, Zou, S., Delbressine, F. L. M., van Oosterhout, A., & Overvelde, J. T. B. (2026). The Soft Circuits Toolkit: Teaching Mechano-Fluidic Logic for Soft Robotics. *Soft Robotics*, 21695172261462701.
2026	van Haren, J. S., van Willigen, B. G., **van Riet, C. M.**, Loor, W. J., van den Broek, J. R., Sterk, J., Amendola, C., Verschueren, K., Thielen, M. W. H., van der Hout-van der Jagt, M. B., & Delbressine, F. L. M. (2026). Development of a hybrid manikin for extra-uterine life support technology innovation. *BMC Biomedical Engineering*, 8(1), 17.
2026	Di Maggio, F.[*], **van Riet, C. M.**[*], Picella, S., Eggen, B., Hengeveld, B. The Aerophone Kit: A Toolkit for Pneumatic Musical Instrument Design. In *Proceedings of the International Conference on New Interfaces for Musical Expression.* 2026.
2025	Nash, J., Sauvé, K., **van Riet, C. M.**, van Oosterhout, A., Sharma, A., Clarke, C., & Alexander, J. (2025). HydroHaptics: High-Fidelity Force-Feedback on Soft Deformable Interfaces using Hydrostatic Transmission. In *Proceedings of the 38th Annual ACM Symposium on User Interface Software and Technology* (pp. 1-20).
2024	Picella, S., **van Riet, C. M.**, & Overvelde, J. T. B. (2024). Pneumatic Coding Blocks Enable Programmability of Electronics-Free Fluidic Soft Robots. *Science Advances*, 10(51), eadr2433.

[*] All authors contributed equally to this work.

2024 van Haren, J. S., Verschueren, K., Delbressine, F. L. M., Beijes, M., & **van Riet, C. M.** (2024). Development And Assessment of a Cyanosis Simulator in a Fetal Manikin for Extra-Uterine Life Support Innovation. In *Proceedings of the 2023 10th International Conference on Biomedical and Bioinformatics Engineering*, 252–261.

2023 **van Riet, C. M.** [*], Khalandi, G. [*], & Wijers, J. A[*]. Landscape Metaphors for Bachelor Design Students' Identity and Vision Development. In *DS 123: Proceedings of the International Conference on Engineering and Product Design Education.*

Submitted Manuscripts

2026 **van Riet, C. M.**, van Oosterhout, A., Bruns, M., Overvelde, J. T. B. PneuButtons: A Tool and Fabrication Workflow for Fabric Pneumatic Interfaces. *TEI Work in Progress. In review.*

2026 **van Riet, C. M.**, van Haren, J. S., & Delbressine, F. L. M. Development of Limb Actuation and Compliance in a Fetal Manikin for Extra-Uterine Life Support Innovation. *IEEE Journal of Translational Engineering in Health and Medicine. In review.*

Work Experience

2024 – present **PhD candidate – TU/e and AMOLF**
Departments of Industrial Design and Mechanical Engineering (TU/e)
Until 2026: Soft Robotic Matter group (AMOLF)
Subject: Towards Human Interaction in Soft Robotics
Supervisors: A. van Oosterhout, M. Bruns, and J. T. B. Overvelde.

2026 – 2026 **PhD guest researcher (4 months) – EPFL**
Reconfigurable Robotics Lab
Supervisor: J. Paik

2022 – 2023 **Research Intern – AMOLF, Soft Robotic Matter group**
Master's graduation project designing and fabricating a soft robotics toolkit to teach children and students about (fluidic) circuitry and soft robotics. The toolkit was awarded a 9.5/10 at TU/e and won best Industrial Design master's thesis 2023.

2019 – 2024 **Co-founder – De Taalkamer**
General leadership of the company, hiring and managing new language teachers, developing course materials and online learning environments.

2019 – 2023 **Teaching Assistant – Industrial Design department (TU/e)**
Helping students during lectures and seminars, and occasionally independently teaching seminars for the following courses:
- Creative Programming (20/21 and 22/23)
- Exploratory Making (21/22 and 22/23)

2015 – 2019 **Founder – Lightbulb Moments**
Freelance English and Dutch teaching for groups and individual students. Primary teaching focus: academic writing for PhD students.

2012 – 2015 **English Teacher and Project Manager – Babel**
Teaching courses in general, academic, and business English, both for groups and individual students of all levels. As project manager, overseeing the implementation of the first online learning environment at Babel.

2010 – 2014 **Editor-in-Chief – Frame: Journal of Literary Studies, Volunteer**
Leading and developing editorial staff, setting out a vision and themes for the journal, reviewing submissions.

[*] All authors contributed equally to this work.

Patents, Awards, and Recognitions

2026	**EuroTech Rising Stars Award – Innovation Stars (top-12 finalist)** Nominated to represent Eindhoven University of Technology in the Innovation Stars category among 30 initially selected candidates
2026	**Worldwide Patent WO2026099820A1** van Haren, J. S., van Willigen, B. G., Delbressine, F. L. M., **van Riet, C. M.**, van den Broek, J. R., Loor, W. J., Sterk, J. Development of a hybrid manikin for extra-uterine life support technology innovations
2025	**Honourable Mention** "HydroHaptics: High-Fidelity Force-Feedback on Soft Deformable Interfaces using Hydrostatic Transmission", UIST 2025
2025	**Outstanding Arts Exhibit (3rd prize)** Soft Robotic Symphony Art Demo, RoboSoft 2025
2024	**Best Demo (shared winner)** Soft Circuits Toolkit, Dutch Soft Robotics Symposium
2024	**Best Industrial Design MSc Thesis (winner)** TU/e Awards, Eindhoven University of Technology
2023	**Eindhoven Maker Faire Innovation Award (nomination)** Soft Circuits Toolkit
2021	**TU/e Contest Prototyping (winner), Wildcard (winner)** Project: *Mouscle*, a shape-changing mouse to combat RSI. TU/e Contest, Eindhoven University of Technology
2021	**Dutch Patent NL2028201B1** de Jongh, M., **van Riet, C. M.**, & Eisma, E. M. Computer mouse arranged for changing its physical shape for combatting musculoskeletal disorders, MSD, and especially Repetitive Strain Injury, RSI
2010	**Best English Language and Culture BA Thesis (winner)** Utrecht University

Awarded Funding / Grants

2026	**TU/e International Visit Program for PhD Students** Eindhoven University of Technology

Talks and Exhibitions

2026/08/05	**IEEE RoboSoft Working Group Diversity and Inclusion in Soft Robotics (online talk)** "Towards Diversity and Inclusion in Soft Robotics Education"
2025/04/25	**IEEE RoboSoft 2025 (contributed talk)** "Towards Integrated Pneumatic Logic Circuits in Soft Robotics", Lausanne, Switzerland
2025/04/24	**IEEE RoboSoft 2025 (exhibit)** "Soft Robotic Music", Lausanne, Switzerland
2024/05/14	**Pint of Science (talk)** "Soft Robotics", Utrecht, Netherlands
2023/11/15	**Leiden University Contact.vwo Conference (talk)** "Soft Circuits Toolkit", Leiden, the Netherlands
2023/11/16	**Fabricademy (online talk)** "Recitation Soft Mod Bot", hosted by Fabricademy

2023/04/21	**AMOLF Autonomous Matter Symposium (poster)** “Soft Circuits Toolkit: Teaching Analog Soft Circuits to Control Soft Robotic Devices”, Amsterdam, the Netherlands
2023/05/16	**Dutch Soft Robotics Symposium (demo)** Demonstration of the Soft Circuits Toolkit, University of Twente, the Netherlands
2023/09	**Eindhoven Maker Faire (exhibit)** Two-day interactive demonstration of the Soft Circuits Toolkit for children of all ages, Eindhoven, the Netherlands
2021 – 2023	**Dutch Design Week (exhibit)** Exhibition of two individual projects and one group project at the Drivers of Change exposition in 2021, 2022, and 2023, Eindhoven, the Netherlands

Professional Service

Reviewer

2026	Advanced Intelligent Systems, DRS Textiles Intersections
2025	IEEE ICRA, ACM TEI
2024	IEEE ICRA

Committees / Memberships

2026 – present	**IEEE RoboSoft Working Group Diversity and Inclusion in Soft Robotics** Member
2026 – present	**PhD Council Industrial Design TU/e** Member
2026 – present	**Open Science TUe** Member