Paul Rübsamen-v. Döhren

Material Scientist · PhD-Candidate

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Experience

PhD Researcher
Trondheim, Norway

Norwegian University of Science and Technology — *Nov. 2020 - April 2024*

- **Developed and implemented** an innovative ice-adhesion testing setup for sea-spray icing, enabling the first systematic evaluation of adhesion strength.
- **Conducted groundbreaking research** on sea-spray ice microstructure using advanced techniques like μ- CT and Synchrotron, contributing to a deeper understanding of ice formation and its impact.
- **Participated in the multidisciplinary research cruise "GoNorth",** contributing to the advancement of knowledge in a collaborative research environment.

Student Assistant
Göttingen, Germany

Georg-August Universität Göttingen — *2017 - 2018*

- **Optimized the production process** of biodegradable strap-bands, ensuring consistent performance with biodegradable materials while meeting industry standards.
- **Successfully managed and coordinated collaborations** with industry partners

Internship, Undergraduate Researcher
Middelburg, Netherlands

Agilent Technologies — *Aug. 2017- Sep. 2017*

- **Conducted research on "green" HPLC column loading**, contributing to the development of sustainable and environmentally friendly analytical methods.
- **Gained valuable experience in R&D** in chemical analysis

Education

PhD in Engineering[⚙]
Trondheim, Norway

Norwegian University of Science and Technology — *Nov. 2020 - est. Autumn 2025*

- **Completed advanced coursework** in particle design and crystallization, ice mechanics, and nanomechanics, earning 37 credits in specialized areas.
- **Conducted research on sea-spray-ice adhesion** using laboratory adhesion testing and tomography microstructure determinations.
- Dissertation title: "**Microstructure and Adhesion of Sea-Spray-Ice**" (preliminary)

M.Sc. in Material Science
Göttingen, Germany

Georg-August-Universität Göttingen — *Aug. 2017 - Sep. 2020*

- **Specialized in advanced lectures** on special material analysis methods and modern material classes
- Thesis title: "**High-resolution measurement methods** for the characterization of steel **in Scanning Electron Microscopy**"

B.Sc. in Material Science
Göttingen, Germany

Georg-August-Universität Göttingen — *Aug. 2014 - Okt. 2017*

- **Developed a comprehensive understanding** of material structures, material production processes, and the sustainability of material design through an interdisciplinary curriculum.
- Thesis title: "**Development of bio-based straps** - Adaptation and modification of suitable testing methods and determination of mechanical and physical material properties"

Publications

Insights into sea spray ice adhesion from controlled testing — *Thermo*

P. Rübsamen-von Döhren, S. Maus, Z.Zhang and J. He — *2025*

Adhesion of lab grown sea spray ice — *Proceedings: 27th POAC*

P. Rübsamen-von Döhren and S. Maus — *June 2023*

[⚙] work in progress, expected completion Autumn 2025

Languages

German — Native ●●●●●

English — Proficient ●●●●●

Norwegian — Advanced ●●●●○

Skills

Non destructive Testing

XRD	Texture, 2-θ Diffraction
μ-CT	Ice samples
Synchrotron	Tomography, Texture

Microscopy

SEM	EBSD, EDX, t-EBSD
TEM	Imaging, Diffraction
Optical	Imaging, Phase contrast
Spectroscopy	IR, Raman

Destructive Testing

Mechanical	bending, stretching, adhesion testing
Thermal	DSC, TGA

IT

Data analysis	Python, Matlab, C
CAD	Autodesk Inventor
Office	LaTeX, MS-Office

Volunteer Experience

Bike Mechanic
Trondheim, Norway

ReStore — *Sep. 2023 - Present*

- Performed comprehensive repairs and maintenance
- Maintained the road-worthiness of rental bikes

UM fieldhockey
Norway

Dommerkomitee — *Nov. 2022 - Present*

- Managing umpire assignment
- Facilitated the development of umpires

Head Coach
Trondheim, Norway

Trondheim LHK — *Sep. 2021 - Present*

- Developed and led training sessions
- Motivated and guided players

Spokesperson
Göttingen, Germany

Material Science — *2017 - 2019*

- Represented student interests
- Collaborating on the reintroduction of the program