

Dr. Niklas Luhmann

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Physicist with expertise in nanosensors and infrared spectroscopy. Co-founder and Chief Product Officer at Invisible-Light Labs GmbH. Holds a PhD in natural sciences from TU Wien, with research on nanomechanical resonators for infrared spectroscopy and other applications. Experienced in research and development, with multiple grants, awards, and peer-reviewed publications. Skilled in cleanroom fabrication, experimental physics, and scientific instrumentation. Committee member at Austrian Standards in the working groups for microplastics in water (AG 272.01) and emission technologies (AG 139.14). Actively involved in scientific collaborations and community organizations, contributing to the advancement of sensor technology.

WORK EXPERIENCE

2023 – CURRENT Vienna, Austria

CO-FOUNDER & CHIEF PRODUCT OFFICER INVISIBLE-LIGHT LABS GMBH

- Defining product features and usability through customer interviews and feedback
- Co-managing and aligning the sales and engineering teams with the business strategy
- Driving business development and engagement with strategic partners
- Organizing company booths at international trade shows
- Organizing and preparing customer and user trainings
- Operations: company administration, system administration, insurance, occupational safety and administration of CRM software

2021 – 2023 Vienna, Austria

HEAD OF TECHNICAL DEVELOPMENT INVISIBLE-LIGHT LABS GMBH

- Led the technical development of a research prototype into a product at technology readiness level TRL 7
- Co-managed the team of engineers and embedded systems developers

2025 – CURRENT Vienna, Austria

COMMITTEE MEMBER AUSTRIAN STANDARDS INTERNATIONAL

- **AG 139.14** Emission technologies (since 2026)
- **AG 272.01** Microplastics in water (since 2025)

2017 – 2018 Vienna, Austria

PROJECT ASSISTANT TU WIEN

Research and development of nanomechanical resonators for the application of infrared light detection.

2015 – 2015 Munich, Germany

INTERNSHIP ON MICRO SYSTEM TECHNOLOGY LMU MUNICH

Training on clean-room technologies followed by research and development of novel fabrication techniques, including supervision of several projects for the research division of Dr. Philipp Paulitschke.

EDUCATION AND TRAINING

2019 – 2024 Vienna, Austria

DOCTORATE IN NATURAL SCIENCES TU WIEN

Website https://www.tuwien.at/etit/isas/mns | **Field of study** Nanosensors | **Final grade** Sehr gut mit Auszeichnung | **Level in EQF** EQF level 8 | **Thesis** Applied infrared spectroscopy by nanomechanical resonators

2015 – 2017 Konstanz, Germany

MASTER OF SCIENCE UNIVERSITY OF KONSTANZ

Website https://www.uni-konstanz.de | **Field of study** Physics | **Final grade** Sehr gut | **Level in EQF** EQF level 7 | **Thesis** Development of a broad spectral range nanomechanical photo-detector with picowatt sensitivity at room temperature

2011 – 2015 Konstanz, Germany

BACHELOR OF SCIENCE UNIVERSITY OF KONSTANZ & INSTITUTO BALSEIRO BARILOCHE

Website https://www.uni-konstanz.de | **Field of study** Physics | **Final grade** Sehr gut | **Level in EQF** EQF level 6 | **Thesis** Detection of organic compounds by surface plasmon resonance spectroscopy

RECENT INVITED TALKS AND PRESENTATIONS

09/2026	**UFP Symposium**	Berlin, Germany
08/2026	**International Aerosol Conference**	Xi'an, China
07/2026	**Aerosol Summer School**	Vienna, Austria
05/2026	**ACK Seminar, Forschungszentrum Jülich**	Jülich, Germany
05/2026	**SPECTRA Summer School**	Barcelona, Spain
04/2026	**Nanoparticle Measurements in Motion, TSI Seminar**	Winterthur, Switzerland

SKILLS

Product & Business	Product management, customer interviews, business development, trade show organization, preparation of trainings
IT Systems	Administration of Microsoft Teams and related Microsoft 365 applications, Odoo CRM, Linux and Windows
Office	MS Office, LibreOffice, LaTeX
Engineering	Infrared spectroscopy, nanomechanical sensors, cleanroom fabrication, scientific instrumentation
Software	Matlab, Origin, COMSOL Multiphysics, SolidWorks, AutoCAD, basics in C++

LANGUAGE SKILLS

GERMAN Native | **ENGLISH** Fluent | **SPANISH** Conversational

HONOURS AND AWARDS

2018	**Doctoral Fellowship Program (DOC) – Austrian Academy of Sciences**
2016	**ERASMUS Plus – European Commission**
2015	**PROMOS – Deutscher Akademischer Austauschdienst**

NETWORKS AND MEMBERSHIPS

2024 – CURRENT	**Gesellschaft für Aerosolforschung (GAeF)**
2023 – CURRENT	**Society for Applied Spectroscopy**
2022 – CURRENT	**Coblentz Society**

VOLUNTEERING

2011 – 2018 D-A-CH	**International conference of student associations for Physics (ZaPF)**

Associated with this: Member of the standing committee in 2015 and 2016 and advisory board member, Chairman and head of organization of the conference in 2016 held in Konstanz