



Dr Fanny Baumann, MSc Eng PhD

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Profile / Summary

Doctor (PhD) in Material Science with a Master Science Engineering degree in Nanoscience Engineering from Lund University. A happy swede with a generalist view and expertise to support efforts in technical development. 5y+ experience working with stability testing of functional semiconductors, advanced time-resolved material characterization, and next generation photovoltaics. 7y+ experience as an Olympic class athlete and coach in sailing/windsurfing who shines in interdisciplinary, intercultural and high-pressure settings. Skilled communicator with a comb/ π -competence suitable for strategic management, leading interdisciplinary teams and projects.

Education and Academic Experience

PhD in Material Science

Catalan Institute of Nanoscience and Nanotechnology (ICN2), Nanostructured Materials for Photovoltaic Energy Group (NMPE). FPI and Severo Ochoa scholar. | **2021-2025**

- PhD Thesis – “In-situ Multimodal Analysis of Strain Evolution in Perovskite Solar Cells during Stability Assessment”. Defended 19/09 2025, Flying Colors and Excellence, Cum Laude. Supervised by Prof. Monica Lira-Cantu and Dr. Sonia Ruiz Raga.

MSc in Engineering, Nanoscience and Material Science, Lund University

Msc Eng. 300 HP. Lund University LTH, faculty of Physics. Specialization in Material Nanoscience. | **2020**

- Master's Thesis / Exjobb – “Sn-Pb-mixtures for Perovskite Solar Cells” Development and upscaling of OMHP Photovoltaics by Compositional Engineering of Sn composition in FAPI (6 month) at Laboratory of Photo Molecular Science (LSPM) – EPFL Switzerland. H3 Defended September 2020. Supervised by Anders Hagfeldt (EPFL) and Eva Unger (Lund University).
<https://lup.lub.lu.se/student-papers/search/publication/9029066>

Victor Rydberg's Gymnasium (Upper and Secondary School), Djursholm, Sweden.

Science specialization, GPA 19.75/20.0 (22.25 with merit points). Graduated 2011

Fribergaskolan, Danderyd, Sweden.

Science and math specialization, 340 out of 340 possible score. Graduated 2008

Relevant Skills

Technical: Advanced Materials Characterization (XRD, SEM, TEM, EIS, PL, TRPL, profilometry, RS). Thin Film Solar Cell Fabrication. Operational Stability testing of Solar Cells. Clean-Room, Glovebox

Software: Python, C, AI, MALAB, Origin, NI Labwindows, Microsoft Office (word, ppt)

Soft Skills: Project Management, Scientific Writing, Oral Presentation, Teaching

Other experience

Scientific Project Management (Managing Scientific Projects with Excellence (BIST)).

Broad introduction to project management including course work and group case studies. | **2023**

Elite Athlete and National Coach, Sailing Windsurfing, RS:X Olympic Class.

Royal Swedish Sailing Club (KSSS). 2 Olympic Campaigns for Rio and Tokyo. 6 World Championships, 6 European Championships, 14 World Cups. | **2012-2019**

National Qualification for the 2016 (Rio) Olympic Games. Management of investors and stakeholders. Fund-raising. Presentation of results and representative of Sweden at international events and committees.

Fanny Baumann consulting (Sole proprietorship)

Consulting activities. Responsible for Swedish youth development in Olympic classes (windsurfing), intensive training camps, collaboration between disciplines and general direction. National and individual coach (SSF). Board of directors Swedish windsurfing federation (SVF), youth and social media responsible. Technical assessment start ups (Cube Escape). Talks at conferences (Seglaträffen). Musical performances. Events

Math and Science Tutor (Allakando)

First self-employed, later recruited into Allakando, Swedish startup for additional support in math and natural science for students 13-19 y/o. | **2006-2015**
Coaching, personal development and pedagogic evaluation. Intensive courses of math. Teaching of students from a variety of backgrounds and levels. Recruitment and evaluation of new teachers.

Selected First Author Scientific Publications

Stabilizing Perovskite Solar Cells at 85 °C via Additive Engineering and MXene Interlayers

EES Solar, 2025, DOI: 10.1039/D5EL00104H

Strain in Halide Perovskites and Solar Cell Stability: Accelerated Stress Tests under Bias Voltage. ACS Energy Letters 2025 10 (1), 476-483 <https://doi.org/10.1021/acsenergylett.4c02822>

Monitoring the stability and degradation mechanisms of perovskite solar cells by in situ and operando characterization. APL Energy 1, 011501 (2023) <https://doi.org/10.1063/5.0145199>

The Perovskite Database. An open-access database and analysis tool for perovskite solar cells based on the FAIR data principles. Nature Energy, 2021/2022. <https://doi.org/10.1038/s41560-021-00941-3>

Projects

ADAI. Data Management and Automatic Analysis Onboarding Roadmap for ICN2.

Mother. Since 2021

Languages and International Mobility

International Professional Stays (Alphabetical order): Austria, China, Denmark, Finland, France, Germany, Hong Kong, Israel, Italy, Japan, Netherlands, Oman, Poland, Spain, (Sweden), Taiwan, UAE, United Kingdom, United States, Uruguay.

Swedish: Native (+ Scandinavian). ***English:*** Advanced, TOEFL (2020) 115/120.

Spanish: Fluent/Advanced. ***Catalan, French, Italian:*** Basic.

Other Relevant Awards/Achievements

Project best aligned with BIST values. Scientific Project Management 2024, Barcelona Institute of Science and Technology (BIST).

Best Presentation Award. EMRS Spring 2023, Strasburg, France

Best Poster Award. Women in Renewable Energy WIRE Conference (EMRS) 2022 Spring, Online

Best Question Award. Women in Renewable Energy WIRE Conference (EMRS) 2022 Spring, Online

INASCON (International Nanoscience Student Conference). 2020 Scientific Board & procedures

Helmholtz Centrum Berlin Summer School. Hirschegg, Austria 2019

Kulturnatt exposition of Macroscopic Self Assembly. Nanolund, Lund University, Sweden 2019

Largest Beach Event 2013, LESS Windfest. 3500 participants. Main Organizer and Responsible (65 volunteers).

Rotary Essay Prize. 2nd place. Djursholm, Sweden 2010

Model European Parliament World. Montevideo, Uruguay 2010.

Viktor Rydberg Graduation premium of honors. Music, Natural Sciences, Sweden 2011

Känguru National Problem-Solving Mathematics. Top 30 ÅK 6. Danderyd, Sweden, 2006