

Valerio Stacchini

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Materials scientist with hands-on experience in nanomaterials, photovoltaic devices, and advanced thin-film characterization. Combined chemistry, physics, and nanotechnology in applied research across international environments. Brings a track record of practical problem-solving, scientific communication, and cross-disciplinary collaboration in experimental research settings.

EXPERIENCE

Helmholtz Zentrum Berlin

PhD

Berlin, Germany

Sept 2022 - ongoing

Thesis Project: "Investigation on Self-Assembled Monolayers for lead-free perovskite solar cells"

- Led experimental research on a novel nanomaterial, resulting in a first-author paper under review (Advanced Energy Materials) and a patent application
- Contributed to €5M in lab instrumentation funding, including sole authorship of a €150K successful proposal
- Presented results at two leading international photovoltaics conferences
- Established technical collaborations with partner labs in Lithuania, Italy, Spain, Saudi Arabia, and the Netherlands
- Coordinated a three-day institute-wide PhD event, including workshops, talks, and team-building sessions
- Trained and mentored three junior researchers, ensuring rapid onboarding and integration
- Experienced with surface photovoltage interface characterization, spin coating, thermal evaporation, photoluminescence spectroscopy

King Abdullah University of Science and Technology (KAUST)

Visiting Researcher

Thuwal, Saudi Arabia

Nov 2023 – Feb 2024

Project: Space-confined growth of high-quality perovskite thin films

- Learned advanced growth protocols for single-crystal perovskite films and successfully transferred them to Germany, enabling high-quality fabrication at Helmholtz Berlin

Helmholtz Zentrum Berlin

Master Thesis

Berlin, Germany

Sept 2021 – July 2022

Thesis Project: "Halogen bond-donor amino acid in perovskite solar cells"

- Quickly picked up perovskite solar cell fabrication and characterization techniques, building on prior academic training
- Mentored a bachelor's student through the full scope of their thesis project, from hands-on lab work to theoretical analysis

IIT – Italian Institute of Technology | Collaboration with Politecnico di Milano

Bachelor Thesis

Milan, Italy

Feb 2016 – Jun 2016

Thesis Project: "Ceramic nano-coating for nuclear applications"

- Investigated and analysed novel protective coatings for safer nuclear power production
- Conducted hands-on research in a physics lab

EDUCATION

Politecnico di Milano

MSc - Nanotechnology and Nanomaterials Engineering

Milan, Italy

Sept 2019 - July 2022

- **Final Grade:** 107/110
- **Relevant coursework:** Semiconductor Physics, Photovoltaic Energy Conversion, Quantum Physics, Condensed Matter Physics

Universidade Nova de Lisboa - Faculdade de Ciências e Tecnologia

Erasmus Program - Exchange Student

Lisbon, Portugal

Jan 2020 – Jul 2020

- Entirely in Portuguese

Politecnico di Milano

BSc - Nanotechnology and Nanomaterials Engineering

Milan, Italy

Sept 2016 - July 2019

- **Final Grade:** 99/110

SKILLS & INTERESTS

- **Languages:** Fluent in Italian and English. Fluent Spanish (Strong Command, Some Refresher Needed). Beginner level in Portuguese and German.
- **Technical Tools:** OriginLab, Blender, ImageJ, Excel, PowerPoint; currently expanding Python skills.
- **Extracurriculars:** Engaged in volunteering activities in Italy, taking part in a food delivery charity service during the COVID-19 lockdown, in Peru, participating in building schools and houses for local communities affected by earthquake. Took part in other volunteering activities in Milan and Rome.
- **Interests:** Sailing since childhood, with broad experience across different boats and sea conditions — it's where I feel most at home.