António Ferreira

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EDUCATION

Georgia Institute of Technology **Atlanta, GA**
Bachelor of Science in Materials Science & Engineering | GPA: 3.94 *May 2025*
Master of Science in Materials Science & Engineering | GPA: 4.00 *May 2026*

RESEARCH EXPERIENCE

Undergraduate Researcher – Prof. Aaron Stebner Lab *September 2023 – Present*
Atlanta, GA, USA

- CASMART 6th Student Design Challenge: fabricated elastocaloric NiTiCu SMAs, tested and characterized materials with DSC, SEM, cyclical compression, and presented research findings at SMST 2024
- Produce metal powders by ultrasonic atomization; improve current set-up through sensor and component design
- Optimize powder production, impurity detection and reduction, for feedstock on demand

Undergraduate Researcher – Prof. Natalie Stingelin Lab *August 2021 – September 2024*
Atlanta, GA, USA

- Fabricated and optimized polymer based thin films, distributed Bragg reflectors and optical microcavities
- Developed skills in UV-Vis spectroscopy, Profilometry, Viscometry, film deposition, and solution preparation
- Wrote MATLAB and Python programs for data analytics, optical simulations and modeling, and experiment design

Researcher – Institute of Computational Physics, ZHAW *May 2023 – August 2023*
Winterthur, Switzerland

- Fabricated fully solution-processed distributed Bragg reflectors (DBRs) for Building Integrated P.V. applications
- Performed extensive optical and drift diffusion simulations and models of DBRs applied to Perovskite Solar Cells
- Measured the External Quantum Efficiency and J-V curves of the BIPVs

WORK EXPERIENCE

Teaching Assistant – Chemical Thermodynamics of Materials *August 2023 – Present*
Atlanta, GA, USA

- Assisted 125+ students in a core MSE course, breaking down and explaining advanced technical concepts
- Grade homework and exams for Prof. Robert Speyer

Materials Engineer – COBOD *May 2024 – August 2024*
Copenhagen, Denmark

- Led the development of a novel insulating material and its delivery system for 3D printing technologies
- Fabricated and tested cement-based materials, and 3D printed large-scale concrete structures

LEADERSHIP EXPERIENCE

CTO - The Materials Innovation and Learning Laboratory (The MILL) *September 2021 – January 2024*
Atlanta, GA, USA

- Analyzed and characterized samples using optical and electron microscopy, optical profilometry, infrared spectroscopy, XRD, and XRF as Chief Technology Officer of Characterization team
- Oversaw characterization team, enhanced staff/user experience, procured equipment, and managed the laboratory

AWARDS

- 2024 Outstanding Teaching Assistant for School of Materials Science and Engineering
- ThinkSwiss Research Scholarship, 2023, allowing me to attend Institute of Computational Physics at ZHAW
- March 31st, 2022, 1st Place Undergraduate Poster Materials Research Society, awarded by The School of Materials Science and Engineering at Georgia Institute of Technology

PUBLICATIONS and CONFERENCES

- V. Quirós-Cordero, A. Balzer, S. Bachevillier, **A. Fernandes Ferreira**, A. Strang, P.N. Stavrinou, N. Stingelin. Tunable high-refractive-index organic/inorganic molecular hybrid material for fully solution-processed photonics.
- "Production of Novel Alloy Compositions through Ultrasonic Atomization for use in Additive Manufacturing of Elastocaloric Materials," Poster and Talk, Shape Memory Superelastic Tech (SMST), May 2024

SKILLS

Software: MATLAB, Python, Javascript, Excel, Webdev, CI/CD
Languages: Portuguese (Native), English (Cambridge, Certificate of Proficiency), Spanish (Fluent)
Lab Skills: SEM, DSC, XRD, XRF, FTIR, UV-Vis, Profilometry, Metallography, Vacuum Arc Melting, Wire EDM
Other Skills: Car mechanics (Panel Beating, Engine Restoration, Electrical Wiring, etc.), Welding, Lathe, Milling