

António Ferreira

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EDUCATION

Georgia Institute of Technology

Atlanta, GA

- B.S. Materials Science & Engineering, Structural materials concentration

Summer 2021 – Spring 2025

GPA: 3.94

WORK EXPERIENCE and PROJECTS

Undergraduate researcher - Stingelin Lab

August 2021 – Present

Atlanta, GA, USA

- Fabricate, characterize and optimize polymer based thin films, distributed Bragg reflectors and optical microcavities for photonic applications.
- Developed skills in UV-Vis spectroscopy, Profilometry, Viscometry, film deposition, and solution preparation.
- Write MATLAB and Python programs for data analytics, optical simulations and modeling, and experiment design.

Teaching Assistant – Chemical Thermodynamics of Materials

August 2023 – Present

Atlanta, GA, USA

- Grade homework and exams.

Materials Engineer – COBOD

May 2024 – August 2024

Copenhagen, Denmark

- Lead the development of a new insulating material adaptable to 3D printing technologies.
- Fabricated and tested cement-based materials, and 3D printed large-scale concrete structures.

Researcher – CASMART 6th Student Design Challenge

September 2023 – May 2024

Atlanta, GA, USA

- Fabricated elastocaloric NiTiCu SMAs, performed tests and characterized the materials, using DSC, SEM, and cyclical compression tests.
- Gained experience in equipment, such as Vacuum Arc Melter, wire EDM, and ultrasonic powder atomizer.

CTO - The Materials Innovation and Learning Laboratory (The MILL)

September 2021 – January 2024

Atlanta, GA, USA

- Analyze and characterize samples using optical and electron microscopy, optical profilometry, infrared spectroscopy, XRD, and XRF as Chief Technology Officer of Characterization team.
- Maintain and repair equipment, train staff and users, and support on-campus research.
- Oversee characterization team, enhance staff/user experience, procure equipment, and manage the laboratory with the executive board.

Researcher – Institute of Computational Physics, ZHAW

May 2023 – August 2023

Winterthur, Switzerland

- Fabricate 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.

AWARDS

- 2024 Outstanding Teaching Assistant for School of Materials Science and Engineering
- ThinkSwiss Research Scholarship, 2023.
- 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. Manuscript in preparation.
- “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/INTERESTS

Software: MATLAB, Java, Python, Excel.

Languages: Portuguese, English (Cambridge, Certificate of Proficiency), Spanish.

Lab Skills: SEM, DSC, XRD, XRF, FTIR, UV-Vis Spectroscopy, Profilometry, Metallography, Vacuum Arc Melting, Wire EDM.

Other Skills: Car mechanics (Panel Beating, Internal Combustion Engine, Electrical Wiring, etc.), Welding, 3D Printing.