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: 3.92

WORK EXPERIENCE and PROJECTS

Undergraduate researcher - Stingelin Lab **August 2021 – Present**

Design, fabrication, and characterization of optical thin films, distributed Bragg Reflectors (DBRs), optical microcavities
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.

CTO - The Materials Innovation and Learning Laboratory (The MILL) **September 2021 – Present**

Chief-Technology-Officer of Characterization, Technical Officer SEM and Sputter-Coater
Atlanta, GA, USA

- Analyze and characterize samples using optical and electron microscopy, optical profilometry, infrared spectroscopy, XRD, and XRF.
- 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.

Teaching Assistant – Chemical Thermodynamics of Materials **August 2023 – Present**

Atlanta, GA, USA

- Tutor students.
- Grade homework and exams.

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

Fully Solution-Processed Distributed Bragg Reflectors for Colored Building Integrated Photovoltaics (BIPV)
Winterthur, Switzerland

- Fabricate fully solution-processed distributed Bragg reflectors (DBRs) for BIPV 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.

Auto-mechanic - Otiima Customs **January 2020 – June 2021**

Classic Cars Restoration
Laúndos, Portugal

- Start-to-finish car restoration, which involved panel beating, welding, electrical wiring, engine restoration and tuning, among other duties, such as restoring gauges and filters.
- Assisted with the whole procedure and logistics for purchasing, selling and transporting cars and components.

AWARDS

- 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

- 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.

SKILLS/INTERESTS

Software: MATLAB, Java, Python, Excel.
Languages: Portuguese, English (Cambridge, Certificate of Proficiency), Spanish.
Lab Skills: SEM (Scanning Electron Microscopy), UV-Vis (Ultraviolet-visible spectroscopy), Profilometry, FTIR (Fourier-Transform Infrared Spectrometer), Viscometer, XRD, XRF, Metallography, Solution processing and preparation.
Other Skills: Car mechanics (Panel Beating, Internal Combustion Engine, Electrical Wiring, etc.), Welding, 3D Printing.