

Matei Jordache

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EDUCATION

University of Pittsburgh, B.S. in Chemical Engineering. GPA 3.4

RELEVANT WORK

Service Engineer, *Asylum Research Oxford Instruments AFM* (November 2019 – Present)

- The face of the Americas technical support for all AFM/SPM product lines, internal and external
- Support, escalate and resolve high profile cases for international service groups
- Work with manufacturing/engineering to improve legacy designs and increase serviceability
- Integrate with product and production managers to prioritize and resolve critical failures
- Design hardware test fixtures, software tests for automated service reporting
- Created and maintain >100 factory and field service manuals, version controlled
- Transition and implement service module into new ERP system

Research Assistant, *Frolov Group Nanoscale Quantum Matter Lab* (August 2018 – November 2019)

See Projects & Research

Research Assistant, *Fullerton Group Nanoionics and Electronics Laboratory* (January 2017 – August 2017)

See Projects & Research

Engineering Director, *WPTS FM* (May 2017 – May 2018)

- Ensuring functionality of station equipment, electronic diagnosis and repair, management of staff
- Remote data collection and analysis from antennas

SKILLS

Digital: Python, IGOR Pro, C#, KiCAD, AutoCAD, FreeCAD, MATLAB, COMSOL, microcontrollers/firmware

Physical: Cleanroom experience (EBE, SEM, AFM, photolithography), glovebox/ hood, soldering (SMD, THT), strong mechanical and electrical aptitude and intuition, highly developed troubleshooting ability

PROJECTS & RESEARCH

Frolov Group Nanoscale Quantum Matter Lab, *Research Assistant* (August 2018 – Present)

- Fabrication of InSb nanowire devices requiring extensive use of cleanroom facilities
- Electrical characterization of devices in low temperature (<5K) environments
- Design, integration of microwave and DC hardware upgrades into existing fridge
- Managed design, sourcing, installation of new instrument chiller system

Nanoelectronics and Ionics Laboratory, *Research Assistant* (January 2017- August 2017)

- Exfoliation, characterization, simulation of 2D TMD crystals for low power memory devices
- Simulation of novel electromechanical devices with COMSOL Multiphysics

Poster Presentations (August 2017 through October 2019)

- Presented work with the Fullerton group at Pitt, CMU, and Duquesne University.
- “Few-Layer Transition Metal Dichalcogenide Exfoliation and Characterization for Future Electronics”
- 1st prize at OXE Chemical Engineering poster session.

HONORS

OXE Research Competition, 1st Prize, 2018 (Few-Layer TMD Exfoliation and Characterization)

WPTS FM Engineering, 2016-2018

AIChE, Member, 2014 – present

SaChE Safety Certifications, 2018 – present

INTERESTS

repair (and right to repair!), puzzles, hardware/electronics, computers, instrumentation, design (UI, UX, mechanical and electrical), eurogames, old junk

REFERENCES

Tim Walsh, Americas Service Manager

tim.walsh@oxinst.com

Jeff Honeyman, Senior Manufacturing Engineer

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Dr. Sergey Frolov, Physics and Astronomy

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Dr. Susan Fullerton, Chemical and Petroleum Engineering

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Documentation of my projects, my blog, and more detail about me can be found at:

www.mateijordache.info