JEREMY K. THALLER

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EDUCATION

Erasmus Mundus: Dual Degree Master's Program *In Progress*

Adam Mickiewicz University, Poznań *2020 – 2021*
MSci. in Physics of Advanced Materials for Energy Processing

Ludwig Maximilians Universität München (LMU) & Technische Universität München (TUM) *2019 – 2020*
Joint MSci. in Geomaterials and Geochemistry

Williams College *2015 – 2019*
B.A. in Physics with Honors
Pre-engineering Studies
Sigma Xi Honors Society Inductee

Acton-Boxborough Regional High School *2011 – 2015*
National AP Scholar
National Honors Society

TECHNICAL STRENGTHS

Programming Languages	Python, MATLAB, JAVA, SQL, Arduino (C/C++)
Python Packages	Pandas, NumPy, Scikit-Learn, PyTorch, Tensorboard, KERAS, TensorFlow, Seaborn, Regex, Optuna
Data Software	Mathematica, Quantum Espresso, Excel, LabView, LoggerPro
Visualization Software	LaTeX, Solid Works, VESTA, Full Prof, Adobe Illustrator, Photoshop
Machining Experience	Bridgeport Milling, CNC Milling, 3D Printing, Laser Cutting, Arc Melting, Fluorescent Confocal Microscopy, SEM, TEM, XRD

DATA SCIENCE PROJECTS

Facebook Messenger Statistics and Word-Cloud Plots
Chatbot based on personal Messanger Data
Semiconductor Optimization Predictor
CIFAR-10 Classifier
Spam Email Classifier
Quora Spam Question Identifier
Covid-19 Case Forecasting
Image Segmentator

RESEARCH EXPERIENCE

Amorphous Solids, Metallic Glasses, & Metallurgy Summer 2019
Postbac Researcher
Advised by Jan Schroers, Professor of Mechanical Eng. & Materials Science *Yale University*

- Arc-melted complex shape memory and eutectic alloys.
- Nano-molded crystalline metals to determine the underlying mechanism.
- Measured atomic surface properties with SEM and determined crystal orientation with TEM

Soft Condensed Matter Physics May 2018 – June 2019
Undergraduate Honors Thesis
Advised by Katharine E. Jensen, Professor of Physics *Williams College*

- Designed and built stretching apparatus to induce equibiaxial stretch in soft materials
- Collected data via Fluorescent Confocal Microscopy
- Analyzed data through modified MATLAB scripts to measure the strain dependency of solid surface stress in soft materials via adhesion

Atomic, Molecular, and Optical Physics Summer 2017
Undergraduate Research Assistant
Advised by Protik K. Majumder, Professor of Physics *Williams College*

- Took data towards an ultra-precise measurement of the Electric Quadrupole (E2) amplitude within the $6S^2 6P^2\ {}^3P_0 \rightarrow {}^3P_2$ transition in Pb
- Programed a PID controller in LabView to thermally regulate an oven to within $\pm.4°$ C at temperatures near 950° C
- Designed a deposition-rate detector for an indium cell chamber based on the mass dependent frequency of Quartz Crystals

OTHER WORK EXPERIENCE

Office of Information Technologies June 2017 – Aug. 2017

- Student Technology Assistant *40 hr/week*

Williams College Wind Ensemble Sept. 2016 – June 2017

- Teaching Assistant, Bassoonist *40 hr/week*

TEACHING EXPERIENCE

Math and Science Resource Center Tutor

- Tutored all introductory physics and calculus courses Spring 2019

Physics/Math TA

- Introduction to Classical Mechanics Fall 2017 & 2018
- Mathematical Methods for Scientists Spring 2018

Music Conducting

- George N. Parks Drum Major Academy staff member Summer 2015

LEADERSHIP

Williams College Track Captain	2018 – 2019
WASA (College Rocketry Club) Founder/President	2017 – 2019
High School Track Captain	2014 – 2015
High School Head Drum Major	2013 – 2015

POSTERS AND PRESENTATIONS

Measuring Strain-Dependent Surface Stress in Soft Solids

- Williams College Undergraduate Thesis Defense *May 2019*
- APS March Meeting (Boston) *March 2019*
- Williams College Thesis Midyear Update *November 2018*
- UMASS Soft Matter Day *July 2018*

A Precise Measurement of the Electric Quadrupole Amplitude Within the $6S^2 6P^2\ {}^3P_0 \rightarrow {}^3P_2$ Transition in Pb

- Williams College Summer Science *July 2017*

PUBLICATIONS

Toward and Adhesion Based Measurement of Strain-Dependent Surface Stress in Soft Solids — *Undergraduate Thesis*

ADVANCED COURSEWORK

Condensed Matter Physics	Glass and Ceramics
Thermodynamics and Statistical Mechanics	Heterogeneous Systems
Advanced Functional Materials	Structural Determination
Classical Mechanics/Fluid Dynamics (Tutorial)	Vibrations, Waves, and Optics
Gravity	Structural Determination
Particle Physics (Tutorial)	Computational Materials Design
Quantum Mechanics	Materials Science I, II
Philosophical Implications of Modern Physics	Intro to Machine Learning
Electricity and Magnetism	Intro to Deep Learning
Mathematical Methods for Scientists	Bayesian Statistics
High Resolution Spectroscopy	Geochemical Analytics

AWARDS AND ACHIEVEMENTS

ERASMUS+ Scholarship	*2020*
Dean's List	*2016 – 2019*
NESCAC Track & Field All-Conference	*2016 – 2019*
Stratus Technologies Engineering Scholarship	*2016*
John Phillips Sousa Band Award	*2015*
Lowell Sun Track & Field All-Scholastic	*2015*
Boston Globe Track & Field All-Scholastic	*2014*
Boston Herald Track & Field All-Scholastic	*2014*

PROFESSIONAL MEMBERSHIPS

Sigma Xi Associate Member	June 2019 – Present
American Physical Society	July 2018 – Present
New England Complex Fluids Workgroup	May 2018 – Present

ADDITIONAL INFORMATION

Interests Bassoon, Jazz Piano, Running, Bicycle Repair, Rocketry, Graphic Design
Languages German (B1.1)