

JEREMY K. THALLER

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EDUCATION

Erasmus Mundus: Dual Degree Master's Program Expected Graduation: September 2021	<i>In Progress</i>
Adam Mickiewicz University, Poznań MSci. in Physics of Advanced Materials for Energy Processing	<i>2020 – 2021</i>
Ludwig Maximilians Universität München (LMU) & Technische Universität München (TUM) Joint MSci. in Geomaterials and Geochemistry	<i>2019 – 2020</i>
Williams College B.A. in Physics with Honors Pre-engineering Studies Sigma Xi Honors Society Inductee	<i>2015 – 2019</i>
Acton-Boxborough Regional High School National AP Scholar National Honors Society	<i>2011 – 2015</i>

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	Spam Email Classifier
Chatbot based on personal Messenger Data	Quora Spam Question Identifier
Semiconductor Optimization Predictor	Covid-19 Case Forecasting
CIFAR-10 Classifier	Image Segmentator

RESEARCH EXPERIENCE

Amorphous Solids, Metallic Glasses, & Metallurgy <i>Postbac Researcher</i> <i>Advised by Jan Schroers, Professor of Mechanical Eng. & Materials Science</i>	Summer 2019 <i>Yale University</i>
<ul style="list-style-type: none">• 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 <i>Undergraduate Honors Thesis</i> <i>Advised by Katharine E. Jensen, Professor of Physics</i>	May 2018 – June 2019 <i>Williams College</i>
<ul style="list-style-type: none">• 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 $6S^26P^2\ ^3P_0 \rightarrow ^3P_2$ transition in Pb
- Programed a PID controller in LabView to thermally regulate an oven to within $\pm .4^\circ$ 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
- Mathematical Methods for Scientists

Fall 2017 & 2018

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
- APS March Meeting (Boston)
- Williams College Thesis Midyear Update
- UMASS Soft Matter Day

May 2019

March 2019

November 2018

July 2018

A Precise Measurement of the Electric Quadrupole Amplitude Within the $6S^26P^2\ ^3P_0 \rightarrow ^3P_2$ 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)