MATTHEW J. DEUTSCH

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EDUCATION

Texas A&M University - Commerce *August 2018 - May 2020 (est.)*
Master of Science in Physics *Commerce, TX*
GPA: 3.71 / 4.00

Allegheny College *August 2014 - May 2018*
Bachelor of Science in Physics *Meadville, PA*
Minor in Political Science

RESEARCH INTERESTS

· Condensed Matter
· Optics
· Polymer Physics

EXPERIENCE

Graduate Research November 2018 - Present
Dept. of Physics & Astronomy; Texas A&M University - Commerce

· Characterized novel organic semi-conducting polymers using continuous fluorescence measurements, ellipsometry, UV spectroscopy, infrared spectroscopy, and nuclear magnetic resonance spectroscopy.
· Independently designed and created static light scattering experiment to investigate polymer sizing.
· Developed robust lab procedures; prompted and established inter-departmental collaborations.

Undergraduate Research August 2017 - May 2018
Physics Dept.; Allegheny College

· Investigated hydrophobic surfaces using surface plasmon resonance as part of a senior thesis project.
· Maintained and repaired lab equipment, as well as wrote and debugged control software.
· Extensively revised experimental protocol and supervised other students with laboratory work.

Collaborative Research Project Oct. 2016 - March 2017
Physics Dept.; Allegheny College

· Collaborated with Acutec Precision Aerospace on a study of the viability of additive manufacturing for the aerospace industry.
· Focused on physical limitations and benefits of 3D-printing aluminum as compared to traditionally manufactured aircraft parts.

PRESENTATIONS

Nov. 2019, Department of Physics & Astronomy Colloquium
Quantum Efficiency Study of BDMO-PPV Photo-Degradation Processes in Different Solutions
M. Deutsch, Dr. H. Park *Texas A&M University - Commerce*

Nov. 2019, Texas A&M System Pathways Student Research Symposium - Poster
($2^{nd} Place Award$)
Quantum Efficiency Study of BDMO-PPV Photo-Degradation Processes in Different Solutions
M. Deutsch, Dr. H. Park *Texas A&M International University, Laredo TX*

Feb. 2019, Department of Physics & Astronomy Colloquium
The Effect of Different Solutions on a Hydrophobic Surface
M. Deutsch, Dr. A. Poynor *Texas A&M University - Commerce*

May 2018, Cook-Lahti Scholarship Symposium - Poster
Examining the Effect of an Aqueous Ionic Solution on a Hydrophobic Depletion Layer
M. Deutsch, Dr. A. Poynor *Allegheny College, Meadville PA*

March 2017, American Physical Society March Meeting - Poster
Discussion of Physical Limitations of Additive Manufacturing in Aerospace Engineering
C.Castillo, M. Deutsch, S. McClain, Dr. A. Poynor *New Orleans, LA*

PUBLICATIONS

M. Deutsch, H. Park, "Solvent-dependent quantum yield enhancement in poly-phenylenevinylene polymers by intense illumination" *Under Review - Chemical Physics*; Pre-print:arxiv.org/abs/1910.11468

AWARDS

2nd Place Graduate Research Award in Math & Physical Sciences
November 2019, Texas A&M University System Pathways Student Research Symposium

TEACHING EXPERIENCE

Graduate Teaching Assistant August 2018 - Present
Dept. of Physics & Astronomy; Texas A&M University - Commerce

- Graded for upper and lower-level physics classes for majors and non-majors.
- Assistant instructor for introductory physics classes.
- Held office hours and after-hours tutoring for students.

Teaching Assistant August 2016 - May 2017
Physics Dept.; Allegheny College

- Conducted recitation session for introductory physics courses.
- Assisted students with homework and material review on a weekly basis.

Laboratory Teaching Assistant Jan. 2016 - May 2016
Physics Dept.; Allegheny College

- Lead lab sessions and assisted students with lab work and equipment.
- Evaluated lab work in conjunction with instructors guidance and departmental grading rubric.

GRADUATE COURSEWORK

Mathematical Methods - *Arfken & Weber*
Quantum Mechanics - *Sakurai*
Statistical Physics - *Huang*
Surface Physics
Adv. Classical Mechanics - *Goldstein*
Nuclear Physics - *Krane*
Classical Electromagnetic Theory - *Jackson* *
Computational Physics *

** denotes class currently in progress*

EXTRA-CURRICULAR

Secretary; Society of Physics Students, Allegheny College

Chief Technical Officer; Allegheny College Astronomy Club

TECHNICAL STRENGTHS

Computer Languages	Python, FORTRAN, Matlab
Software & Tools	LaTeX, Mathematica, LabView

REFERENCES

Available upon request