

Anthony Katona

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🎓 Education

The Pennsylvania State University

Chemistry (State College, PA)

2023

PhD

🔬 designed & synthesized ultra-fast/nano-scale thermal transport materials; developed photo-thermal polymer techniques for coatings & 3D-printing applications with *Dr. Benjamin Lear*

🚒 oversaw lab safety as General Safety Officer & Laser Safety Officer as well as managed supply & maintenance of pumps, gas cylinders, and gloveboxes

👤 taught as TA for all 5 first year chemistry courses for a total of 7 semesters

👤 co-developed & implemented novel thermal conductivity undergraduate lab experiments for *Dr. Bratoljub Milosavljevic's* physical chemistry course

👤 served as graduate student TA mentor for 1/3 of class & research mentor for 4 undergraduate researchers, teaching experimental design, instrument use, scripting, and data analysis

Susquehanna University

Biochemistry; Physics minor (Selinsgrove, PA)

2015

BS

🔬 synthesized transition metal Janus complexes with *Dr. William Dougherty*

🔬 trained galaxy classification software in computational summer research with *Dr. Violet Mager*

🔧 Technical Skills

💡 **spectroscopy:** NMR, IR, UV-Vis

🔬 **microscopy:** AFM, TEM (STEM, EDS)

🏗 **materials:** mechanical (UTM, DMA) & thermal (DSC, TGA, TPS) tests; lathes, mills, 3DP, engravers

⚙ **laser:** class IV CW/pulsed safety, handling, optics

🔌 **electronics:** circuit design/prototyping, signal analysis, micro-controllers

💻 **languages:** Python, C#, C++, Labview, HTML, CSS, JS

🎮 **3D:** Blender (modeling, sculpting, rigging, animating, shading, VFX, compositing), Unreal Engine

🎧 **misc. software:** Adobe CC (Ae, Il, Ps, Pt, Pr), FL Studio, ImageJ, ChatGPT

🌐 External Resources

reference: Dr. Mary Jo Bojan (TA Supervisor) - bz6@psu.edu

publications:

- A Katona & B Lear, 2025 (submitted) J. Phys. Chem. C, "**Photothermal curing of PDMS:CB...changes to polymer topography...**"
- A Blasone *et al*, 2024 (submitted) "**Rapid Photothermal Curing of PDMS on Paper**"
- A Katona & B Lear, 2024. Macromol., "**Effective photothermal curing of PDMS using ultra-low loadings of carbon black**"
- S Phillips *et al*, 2024 (review) Indust. Chem. & Mat, "**Nanometer-Scale Surface Roughness...**"
- V Mager *et al* 2018, ApJ 864 "**Galaxy Structure in the Ultraviolet...**"

portfolio: frkatona.github.io