Elizabeth Elacqua

Assistant Professor
The Pennsylvania State University
Department of Chemistry
535 Chemistry Building
University Park, PA 16802
webpage: https://bethelacqua.wixsite.com/the-psu-organic

(814) 865-1221
elizabeth.elacqua@psu.edu

EDUCATIONAL BACKGROUND

2013 - 2017	*New York University*: Postdoctoral Research Associate, Supramolecular Polymers and Colloidal Self-Assembly
2007 - 2013	*University of Iowa*: Doctor of Philosophy, Supramolecular Solid-State Organic Chemistry
2002 - 2006	*Le Moyne College*: Bachelor of Science, Chemistry and Biology
2006	*University of Sydney*: Study Abroad, Chemistry and Biology

RESEARCH AND PROFESSIONAL EXPERIENCE

2017 – present

The Pennsylvania State University: University Park, PA
Department of Chemistry
Assistant Professor

2013 – 2017

New York University: New York, NY
Research Advisor: Prof. Marcus Weck
Molecular Design Institute and Department of Chemistry
Postdoctoral Research: (i) Synthesis of semiconductor-containing supramolecular polymers derived from olefin metathesis; (ii) synthetic foldamers through sequential ROMP and supramolecular assembly; (iii) engineering self-assembly of anisotropic colloidal polymer particles using host-guest chemistry; and (iv) synthesis of telechelic dendrimers

2007 - 2012

University of Iowa: Iowa City, IA
Research Advisor: Prof. Leonard R. MacGillivray
Department of Chemistry
Ph.D. Research: Supramolecular chemistry; crystal engineering; organic solid-state reactivity; photochemistry; pharmaceutical co-crystals (w. AbbVie Pharmaceuticals)

2006 - 2007

State University of New York, College of Environmental Science and Forestry: Michael Szwarc Polymer Research Institute, Syracuse, NY
Research Advisors: Prof. Israel Cabasso and Dr. Cortney Mittelsteadt
Synthesis of perhalogenated polymers with potential applications as fuel cell membranes

2004 - 2005 — Le Moyne College: Syracuse, NY
Research Advisor: Prof. Joseph J. Mullins
Undergraduate Research (Honors): Synthetic studies of the natural product Mappain and its non-natural analogues of biological interest

2004 — State University of New York, College of Environmental Science and Forestry: Syracuse, NY
Research Advisor: Prof. José-Luis Giner
Summer Undergraduate Research: Synthesis of epoxy esters and mechanistic studies regarding the epoxy ester - orthoester rearrangement

2003 - 2004 — Le Moyne College: Syracuse, NY
Research Advisor: Prof. Michael P. Masingale
Undergraduate Research: Synthesis of organometallic-based porphyrin systems to be utilized as nitrogen reduction scaffolds

PUBLICATIONS (* indicates corresponding author(s));‡ denotes undergraduate student)

INDEPENDENT CAREER:

36) Steven Huss, Sikai Wu, Bo Chen, Tao Wang, Margaret C. Gerthoffer, Vincent H. Crespi, John V. Badding, and Elizabeth Elacqua* Scalable Synthesis of Crystalline One-Dimensional Carbon Nanothreads through Modest-Pressure Polymerization of Furan, *ACS Nano*, **2021**, DOI: 10.1021/acsnano.0c10400. (Previously posted as a preprint: *ChemRxiv*, **2020**: DOI: 10.26434/chemrxiv.12341057.v1)

35) Chad I. Drexler, Stephen J. Koehler, Ryan L. Myers, Braidon A. Lape,‡ Elizabeth Elacqua, and Paul S. Cremer* Comment on "Arresting an Unusual Amide Tautomer Using Divalent Cations," *Journal of Physical Chemistry, B.*, **2021**, DOI: 10.1021/acs.jpcb.0c04272.

34) Laura G. K. Ackerman-Biegasiewicz, Daniela M. Arias-Rotondo, Kyle F. Biegasiewicz, Elizabeth Elacqua,* Matthew R. Golder, Laure V. Kayser, Jessica R. Lamb, Christine M. Le, Nathan A. Romero, Sidney M. Wilkerson-Hill, and Dwight A. Williams. Organic Chemistry: A Retrosynthetic Approach to a Diverse Field, *ACS Central Science*, **2020**, *6*, 1845-1850.

33) Jacob J. Piane, Lauren E. Chamberlain,‡ Steven Huss, Lucas T. Alameda, Ashley C. Hoover,‡ and Elizabeth Elacqua* Organic Photoredox-Catalyzed Cycloadditions Under Polymer Confinement, *ACS Catalysis*, **2020**, *10*, 13251-13256. (Previously posted as a preprint: *ChemRxiv*, **2020**: DOI: 10.26434/chemrxiv.12622307.v1)

32) Margaret C. Gerthoffer, Sikai Wu, Bo Chen, Tao Wang, Steven Huss, Vincent H. Crespi, John V. Badding, and Elizabeth Elacqua* 'Sacrificial' Supramolecular Assembly and Pressure-Induced Polymerization: Toward Sequence-Defined Functionalized Nanothreads, *Chemical Science,* **2020**, *11*, 11419-11424. (Previously posted as a preprint: *ChemRxiv*, **2020**: DOI: 10.26434/chemrxiv.12362243.v1)

- Accepted as part of the 2020 Chemical Science HOT Article Collection
- Back Cover design

31) Stephen J. Koehler, Jinzhen Hu,‡ and Elizabeth Elacqua* Electronically Governed ROMP: Expanding Sequence Control for Donor-Acceptor Polymers, *Synlett*, **2020**, *31*, 1435-1442.

30) Shalisa M. Oburn, Carlos L. Santana,‡ Elizabeth Elacqua, and Ryan H. Groeneman* A diamondoid net sustained by halogen bonds containing nodes generated from a solid-state [2+2] cycloaddition reaction, *CrystEngComm*, **2020**, *22*, 4349-4352. (Cover design)

29) Christopher L. Gray, Pengtao Xu, August J. Rothenberger,‡ Stephen J. Koehler, Elizabeth Elacqua, Bratoljub H. Milosavljevic, and Thomas E. Mallouk* An Oligomeric Ruthenium Polypyridyl Dye for Improved Stability of Aqueous Photoelectrochemical Cells, *Journal of Physical Chemistry, C*, **2020**, *124*, 3542-3550.

28) Elizabeth Elacqua* and Maria Gregor.‡ Poly(arylenevinylene)s through Ring-Opening Metathesis Polymerization of an Unsymmetrical Donor-Acceptor Cyclophane, *Angewandte Chemie*, **2019**, *131*, 9627-9632; *Angewandte Chemie, International Edition*, **2019**, *58*, 9527-9532.

- Highlighted in *All Things Metathesis,* an online resource on olefin metathesis, May 2019: <http://allthingsmetathesis.com/asaps-2019-week-18/>.
- Highlighted in *Synfacts* **2019**, *15*, 0999: <https://www.thieme-connect.com/products/ejournals/abstract/10.1055/s-0039-1690596>

PRIOR TO PSU:

27) Tomislav Frisčić, Elizabeth Elacqua, Saikat Dutta, Shalisa M. Oburn, and Leonard R. MacGillivray* Total Syntheses Supramolecular Style: Solid-State Construction of [2.2]Cyclophanes with Modular Control of Stereochemistry, *Crystal Growth and Design*, **2020**, *20*, 2584-2589.

26) Xiangyu Liu, Mohit Kumar, Annalisa Calo, Edoardo Albisetti, Xiaorui Zheng, Kylie B. Manning, Elizabeth Elacqua, Marcus Weck, Rein Ulijn, and Elisa Riedo.* Sub-10 nm Resolution Patterning of Pockets for Enzymes Immobilization with Independent Density and Quasi-3D Topography Control, *ACS Applied Materials and Interfaces*, **2019**, *11*, 41780-41790.

25) Xiangyu Liu, Mohit Kumar, Annalisa Calo, Edoardo Albisetti, Xiaorui Zheng, Kylie B. Manning, Elizabeth Elacqua, Marcus Weck, Rein Ulijn, and Elisa Riedo.* High-throughput Protein Nanopatterning, *Faraday Discussions,* **2019**, *219*, 33-43.

24) Elizabeth Elacqua, Geoffrey Geberth, David A. Vanden Bout* and Marcus Weck* Synthesis and Folding Behavior of Poly(*p*-phenylenevinylene)-based β-sheet Polychromophores, *Chemical Science,* **2019**, *10*, 2144-2152.

23) Scott K. Pomarico, Diane S. Lye, Elizabeth Elacqua,* and Marcus Weck* Synthesis of Covalent Sheet-Coil-Helix and Coil-Sheet-Helix Block Copolymers through Sequential ROMP and Anionic Polymerization, *Polymer Chemistry*, **2018**, *9*, 5655-5659. (Cover design)

- Paper of the month (December 2018) in *Polymer Chemistry*; 02 January 2019: <http://blogs.rsc.org/py/2019/01/02/paper-of-the-month-synthesis-of-sheet-coil-helix-and-coil-sheet-helix-triblock-copolymers-by-combining-romp-with-palladium-mediated-isocyanide-polymerization/>.

22) Elizabeth Elacqua,* Xiaolong Zheng, Cicely Shillingford, Mingzhu Liu, and Marcus Weck* Molecular Recognition in the Colloidal World, *Accounts of Chemical Research*, **2017**, *50*, 2756-2766.

21) Elizabeth Elacqua, Xiaolong Zheng, and Marcus Weck* Light-Mediated Self-Assembly of Polymeric Colloids, *ACS Macro Letters*, **2017**, *6*, 1060-1065.

20) Elizabeth Elacqua, Kylie B. Manning, Diane S. Lye, Scott K. Pomarico, Federica Morgia, and Marcus Weck* Supramolecular Multiblock Copolymers Featuring Complex Secondary Structures, *Journal of the American Chemical Society*, **2017**, *139*, 12240-12250.

- Press release: "Chemists get step closer to replicating nature with assembly of new 3-D structures." ScienceDaily. ScienceDaily, 23 August 2017. <www.sciencedaily.com/releases/2017/08/170823121341.htm>.

19) Elizabeth Kaufman, Rossella Tarallo, Elizabeth Elacqua, Tom P. Carberry, and Marcus Weck* Synthesis of Well-Defined Bivalent Newkome-Type Dendrimers, *Macromolecules*, **2017**, *50*, 4897-4905.

18) Elizabeth Elacqua, Anna Croom, Diane S. Lye, and Marcus Weck* Coil-Helix and Sheet-Helix Block Copolymers via Macroinitiation from Telechelic ROMP Polymers, *Journal of Polymer Science, Part A: Polymer Chemistry*, **2017**, *55*, 2991-2998. (Invited article for special issue honoring Robert H. Grubbs).

17) Elizabeth Elacqua, Anna Croom, Kylie B. Manning, Scott K. Pomarico, Diane Lye, Lauren Young,‡ and Marcus Weck* Supramolecular Diblock Copolymers Featuring Well-Defined Telechelic Building Blocks, *Angewandte Chemie*, **2016**, *128*, 16105-16110; *Angewandte Chemie, International Edition*, **2016**, *55*, 15873-15878.

16) Elizabeth Elacqua, Michael A. Sinnwell, Bradley P. Loren,‡ Paul T. Jurgens,‡ Ryan H. Groeneman, Eric W. Reinheimer, and Leonard R. MacGillivray* Metal-Coordination versus Hydrogen Bonding: Highly Efficient Templated Photocycloadditions of Trisubstituted Isomeric Olefins in the Solid State, *ChemPlusChem*, **2016**, *81*, 893-898. (Invited article for an issue on Coordination Polymers/MOFs).

15) Farah Benyettou, Xiaolong Zheng, Elizabeth Elacqua, Yu Wang, Parastoo Dalvand, Zouhair Asfari, John-Carl Olsen, Na'il Saleh, Mourad Elhabiri, Marcus Weck* and Ali Trabolsi* Redox-Responsive Viologen-Mediated Self-Assembly of CB[7]-Modified Patchy Particles, *Langmuir*, **2016**, *32*, 7144-7150.

14) Elizabeth Elacqua, Kathleen A. Kummer,‡ Eric W. Reinheimer, Leonard R. MacGillivray* and Ryan H. Groeneman* Post-Application of Dry Vortex Grinding Improves the Yield of a [2+2] Photodimerization: Addressing Static Disorder in a Cocrystal, *Journal of Photochemistry and Photobiology A*, **2016**, *331*, 42-47 (Part of a special issue in honor of Prof. Inoue for contributions to molecular and supramolecular photochemistry).

13) Elizabeth Elacqua, Ryan H. Groeneman, Eric W. Reinheimer, Leonard R. MacGillivray* Photostable Co-crystals of (*E*)-Methyl-3-(pyridine-4-yl)prop-2-enoates Involving Homologous Resorcinols: Effects of Secondary Interactions Involving Templates, *American Crystallographic Association Symposium – Transactions*, **2015**, 1.

12) Devin P. Ericson,‡ Zachary P. Zurfluh-Cunningham,‡ Ryan H. Groeneman* Elizabeth Elacqua, Eric W. Reinheimer, Bruce C. Noll, and Leonard R. MacGillivray* Regiocontrol of the [2+2] Photodimerization in the Solid State using Isosteric Resorcinols: Head-to-Tail Cyclobutane Formation via Unexpected Embraced Assemblies, *Crystal Growth and Design*, **2015**, *15*, 5744-5748.

11) Elizabeth Elacqua and Marcus Weck* Fabrication of Supramolecular Semiconductor Block Copolymers via Ring-Opening Metathesis Polymerization, *Chemistry – A European Journal*, **2015**, *21*, 7151-7158.

10) Elizabeth Elacqua, Diane S. Lye, and Marcus Weck* Engineering Orthogonality in Supramolecular Polymers: From Simple Scaffolds to Complex Materials, *Accounts of Chemical Research*, **2014**, *47*, 2405-2416.

9) Elizabeth Elacqua, Ryan H. Groeneman, Eric W. Reinheimer, Dejan-Krešimir Bučar, and Leonard R. MacGillivray* Organosulfonates Aid Argentophilic Forces in the Crystal Engineering of [2+2] Photodimerisations: Reactivity Involving 3-Pyridyl Groups, *Supramolecular Chemistry*, **2014**, *26*, 207-213. (Invited article in connection with the 8th International Symposium on Macrocyclic and Supramolecular Chemistry).

8) Leonard R. MacGillivray,* Dejan-Krešimir Bučar, John R. Sander, and Elizabeth Elacqua Sonochemical Synthesis of Nano-Cocrystals, *Journal of the Acoustical Society of America*, **2013**, *133*, 3595.

7) Elizabeth Elacqua, Dejan-Krešimir Bučar, Rodger F. Henry, Geoff G. Z. Zhang, and Leonard R. MacGillivray* Supramolecular Complexes of Sulfadiazine and Pyridines: Reconfigurable Exteriors and Chameleon-like Behavior of Tautomers at the Co-crystal – Salt Boundary, *Crystal Growth and Design* **2013**, *13*, 393-403 (Cover design; accepted for a virtual issue in honor of Prof. G. R. Desiraju).

6) Saikat Dutta, Dejan-Krešimir Bučar, Elizabeth Elacqua, and Leonard R. MacGillivray* Single-Crystal-to-Single-Crystal Direct Cross-linking and Photopolymerisation of a Discrete Ag(I) Complex to form a 1D Polycyclobutane Coordination Polymer, *Chemical Communications* **2013**, *49*, 1064-1066. (Accepted for a themed issue on Metal-Organic Frameworks).

5) Elizabeth Elacqua, Paul T. Jurgens,‡ and Leonard R. MacGillivray* Organic Nanocrystals of [2.2]Paracyclophanes Achieved via Sonochemistry: Enhanced and Red-Shifted Emission Involving Edge-to-Face Chromophores, *CrystEngComm*, **2012**, *14*, 7567-7571. (Accepted for a themed issue on Nanocrystals).

4) Elizabeth Elacqua, Tomislav Friščić, and Leonard R. MacGillivray* [2.2]Paracyclophane as a Target of the Organic Solid State: Emergent Properties via Supramolecular Construction. *Israel Journal of Chemistry*, **2012**, *52*, 53-59. (Invited review for a themed issue on [2.2]Cyclophanes).

3) Elizabeth Elacqua, Poonam Kaushik, Ryan H. Groeneman, Joseph C. Sumrak Dejan-Krešimir Bučar, and Leonard R. MacGillivray* A Supramolecular Protecting Group Strategy Introduced to the Organic Solid State: Enhanced Reactivity via Molecular Pedal Motion. *Angewandte Chemie*, **2012**, *124*, 1061-1065; *Angewandte Chemie, International Edition*, **2012**, *51*, 1037-1041.

2) Elizabeth Elacqua and Leonard R. MacGillivray* From the Decks to the Bridges: Optoelectronics in [2.2]Paracyclophane Chemistry. *European Journal of Organic Chemistry*, **2010**, *36*, 6883-6894. (Invited review).

1) Elizabeth Elacqua, Dejan-Krešimir Bučar, Yulia Skvortsova, Jonas Baltrusaitis, M. Lei Geng, and Leonard R. MacGillivray* Dramatic Red-Shifted Fluorescence of [2.2]Paracyclophanes with Peripheral Substituents Attached to the Saturated Bridges. *Organic Letters*, **2009**, *11*, 5106-5109.

PEER-REVIEWED BOOK CHAPTERS

3) Elizabeth Elacqua, Niels ten Brummelhuis, and Marcus Weck. Supramolecular Polymers, in *Handbook of Metathesis*, (Volume 3, Polymer Synthesis), 2nd Edition; Wiley-VCH, **2015,** 71-92. (Eds. Grubbs, R. H. and Khosravi, E).

2) Tomislav Friščić, Dushyant B. Varshney, Elizabeth Elacqua, Joseph C. Sumrak, Anatoily N. Sokolov, and Leonard R. MacGillivray. Molecular Self-Assemblies in Co-crystals: Engineering Chemical Reactivity and Organic Semiconductors, in *Molecular Self-Assembly: Advances and Applications*, Pan Stanford Publishing, **2013**, 223-238. (Ed. Li, A. D. Q.).

1) Elizabeth Elacqua, Rebecca C. Laird, and Leonard R. MacGillivray. Templated [2+2] Photodimerizations in the Solid State, in *Supramolecular Chemistry: From Molecules to Nanomaterials*, John Wiley and Sons, **2012**, *6*, 3153-3165. (Eds. Gale, P. A.; and Steed, J. W.).

INVITED LECTURES

4) Merging Organic Synthetic and Polymer Chemistry: Toward Accelerated Catalysis and Architecturally-Diverse Sp^3-Enriched Polymers (Rutgers University, January 2021)

3) Merging Organic Synthetic and Polymer Chemistry: Toward Sequence Control and Accelerated Photoredox Catalysis (Queensland University of Technology, August 2020).

2) Materials Design via Molecular Recognition: From Photoreactive Co-Crystals to Folding Polymers and Assembling Colloids (Stevens Institute of Technology, November 2016).

1) Materials Design via Supramolecular Engineering: From Photoreactive Co-Crystals to Folding Polymers and Assembling Colloids (Le Moyne College, October 2013).

INVITED CONFERENCE PRESENTATIONS (INDEPENDENT CAREER)

‡ denotes undergraduate student; *COVID-19 cancelled; **COVID-19 rescheduled to 2023

8) Elacqua, E. "*Organic Photoredox Catalysis Under Polymer Confinement"* (to be presented at the Polymers Gordon Research Conference, June 2021).**

7) Elacqua, E. "*Covalent Bond Formation under Confinement*." Catalysis and Sensing for our Environment 2020 (CASE2020) (June 2020; United Kingdom).*

6) Elacqua, E.; Gregor, M.;‡ Gerthoffer, M.; Wu, S.; Hoffmann, R. H.; Badding, J. V. 'Sacrificial' Supramolecular Assembly and High-Pressure Polymerization: Toward Sequence-Defined Functionalized Nanothreads. 259th Central Regional Meeting of the ACS, 'New Advances in Porous and Polymeric Materials' Symposium (May 2020; Columbus, OH).*

5) Elacqua, E.; Gregor, M.‡ "*Well-defined and sequence specific donor-acceptor poly(phenylenevinylene)s through stereoelectronically-governed ROMP."* 259th National Meeting of the ACS, 'Frontiers in Conjugated Polymer Design and Synthesis' Symposium (March 2020, POLY; Philadelphia, PA).*

4) Elacqua, E.; Gregor, M.;‡ Gerthoffer, M.; Wu, S.; Crespi, V. H.; Badding, J. V. *"Synthetic organic and supramolecular strategies toward sequence-controlled polymerizations."* 259th National Meeting of the

ACS, 'Next Generation of Functional Materials: Correlating Structure, Property, and Application; Symposium (March 2020, PMSE; Philadelphia, PA).*

3) Elacqua, E.; Gregor, M.;‡ Gerthoffer, M.; Wu, S.; Crespi, V. H.; Badding, J. V. *"Synthetic Organic and Supramolecular Strategies Toward Sequence-defined Polymerizations."* Presented at the ACS-POLY Workshop on Next Generation Smart Materials (December 2019; Savannah, GA).

2) Elacqua, E. "*Poly(arylenevinylene)s through Ring-Opening Metathesis Polymerization of an Unsymmetrical 'Electronically-Ambiguous' Cyclophane*." Presented at the 47th Mid-Atlantic Regional Meeting of the ACS 'Emerging Investigators: Early Career Organic Chemists' Symposium (June 2019, MARM-206; Baltimore, MD).

1) Elacqua, E. "*Synthesis of [2.2]Paracyclophane-Inspired Materials for Advanced Optoelectonic Applications*." Presented at the 46th Mid-Atlantic Regional Meeting of the ACS (June 2018, MARM-5; Bethlehem, PA).

RESEARCH GROUP MEMBERS

POSTDOCTORAL SCHOLARS:

Shalisa Oburn (2019 – current)
- Eberly College of Science Postdoctoral Fellow (2019 – 2021)

GRADUATE STUDENTS:

Jacob Piane (2017 – current; co-advised with Eric Nacsa, 2020 – current)
- Harry And Catharine Dalalian Graduate Fellowship in Organic Chemistry (2018-2019 AY)

Stephen Koehler (2017 – current)
- Harry And Catharine Dalalian Graduate Fellowship in Organic Chemistry (2019-2020 AY; 2020-2021 AY)

Margaret Gerthoffer (2018 – current)
- NSF Graduate Research Fellowship, Honorable Mention (2020)

Julia Berry (co-advised with Ramesh Giri, 2019 – current)
- Penn State Chemistry Graduate Student Teaching Award (2019)

Steven Huss (November 2019 – current)
- Prof. John Badding group: 2018 – Nov. 2019)

Arani Biswas (co-advised with Prof. Vin Crespi, November 2019 – current)
- Prof. John Badding group: 2015 – Nov. 2019)
- Penn State Chemistry Graduate Student Teaching Award (2019)

UNDERGRADUATE STUDENTS:

Jinzhen Hu (2018 – current)
- Schreyer Honors Scholar

Lauren Chamberlain (2018 – current)
- Erickson Discovery Grant (Summer 2019)
- Charles P. and Dorothy A. Neidig Scholarship (August 2019 – May 2020)
- Benkovic Summer Scholar (Summer 2020)
- Elizabeth and J. Paul Smith Scholarship (August 2020 – May 2021)
- Undergraduate Research Ambassador

Matthew Schubach (2019 – current)
- Schreyer Honors Scholar
- Benkovic Summer Scholar (Summer 2019)
- Erickson Discovery Grant (Summer 2020)

Ashley Hoover (2019 – current)
Adam Sabatose (2019 – current)
- Benkovic Summer Scholar (Summer 2020)

Braidon Lape (2020 – current)
Cristina Craescu (2020 – current)
- Schreyer Honors Scholar
- Erickson Discovery Grant (Summer 2020)
- L. Peter Gold Award (2020)
- John and Elizabeth Holmes Teas Scholar (August 2020 – May 2020)

Tanner Wolf (2020 – current)
Farraz Haider (2020 – current)

GROUP ALUMNI

Carmina Rogelio: Undergraduate, 2017-2018; currently a medical student at Howard University College of Medicine.

Maria Gregor: Undergraduate, 2018; lab assistant, 2019; currently a at Research Scientist at PPG.

Mitchell Giordano: Undergraduate, 2019-2020; currently a graduate student at the University of North Carolina at Chapel Hill (Johnson Group)

Tanner Geibel: Graduate Masters Student, 2017-2020; currently a synthetic chemist at Olon Ricerca Biosciences.

Mengyi Sun: Undergraduate, 2019–2020; currently a medical student at Thomas Jefferson University.

Lucas Alameda: Visiting Graduate Ph.D., Dec. 2019 – Aug. 2020; currently a postdoc at Brookhaven National Labs.

FUNDING

Current

- Phase I NSF Centers for Chemical Innovation, National Science Foundation
  Title: NSF Center for Nanothread Chemistry
  Dates: 09/01/18 – 08/31/21
  Role: Co-PI (Lead PI: Badding, J. V.)
  Amount: $1,800,000

- Doctoral New Investigator, American Chemical Society Petroleum Research Foundation
  Title: Controlled Synthesis of Donor-Acceptor Polymers Derived from [2.2]Cyclophanes
  Dates: 09/01/20 – 08/31/22
  Role: PI
  Amount: $110,000

- Division of Chemistry: Early Career Development Program (MSN), National Science Foundation
  Title: CAREER: Recyclable Nanoreactors for Dual Catalysis Under Polymer Confinement
  Dates: 01/01/21 – 12/31/25
  Role: PI
  Amount: $677,150

Past Funding

- MRSEC iSuperSEED2, National Science Foundation
  Grant Number: DMR 1420620
  Title: Biologically-Produced Nanomaterials
  Dates: 08/01/18 - 07/31/20
  Role: Team Member (PI: Crespi, V. H.)
  Amount: $500,000

TEACHING

PENN STATE CONTRIBUTIONS

Fall 2017	Chem 535: Physical Organic Chemistry Mean course rating 5.60/7.00; Mean instructor rating: 5.80/7.00 Course Enrollment = 15; 66.7% responded
Spring 2018	Chem 600: Thesis Research
Fall 2018	Chem 535: Physical Organic Chemistry Mean course rating 6.15/7.00; Mean instructor rating: 6.54/7.00 Course Enrollment = 16; 81.3% responded
	Chem 600: Thesis Research
Spring 2019	Chem 600: Thesis Research
Fall 2019	Chem 600: Thesis Research
Spring 2020	Chem 535: Physical Organic Chemistry Mean course rating 6.50/7.00; Mean instructor rating: 6.50/7.00 Course Enrollment = 11; 36.4% responded
	Chem 600: Thesis Research Chem 601: Dissertation Thesis Research
Fall 2020	Chem 535: Physical Organic Chemistry Mean course rating 6.50/7.00; Mean instructor rating: 6.80/7.00 Course Enrollment = 11; 90.9% responded
	Chem 600: Thesis Research Chem 601: Dissertation Thesis Research
Spring 2021	Chem 212: Organic Chemistry II Chem 600: Thesis Research Chem 601: Dissertation Thesis Research

OTHER

2020 – current	*The Pennsylvania State University: University Park, PA* Organic Chemistry Assistant Professor Peer Mentoring: I initiated and organized a weekly meeting for a group of 10 PIs spread across the US in both research-level and primary undergraduate institutions at the onset of the covid pandemic that has turned into more of a leadership/mentorship role to younger colleagues. Within the group, we are organizing diversity in STEM initiatives, brainstorming ways to change the culture within our field (see publication in *ACS Central Science*) while enhancing DEI.
2018 – 2020	*The Pennsylvania State University: University Park, PA* Polymer Chemistry Supergroup Meeting Coordinator: this is an initiative I proposed that is meant to provide students, postdocs (and PIs) across the UP campus with weekly seminars related to Polymer Chemistry research within Chemistry, Chemical Engineering, and Materials Science Departments, as well as to encourage discussions and facilitate collaborations.

PROFESSIONAL DEVELOPMENT

1) ECoS Next STEPS Workshop; September 2020
2) Faculty Learning Community in Organic Chemistry member (Fall 2019 – current)
3) MRSEC: Diversity in STEM Workshop; October 2018.
4) Center of Excellence in Science Education: Introduction to Evidence-Based Teaching in STEM Workshop; January 2018.
5) STRIDE Faculty Recruitment Workshop for Diversity and Excellence; September 2017.
6) Center of Excellence in Science Education: Introductory Workshop; August 2017.

SERVICE ACTIVITIES/COMMITTEES

2020 – current	Workshop Committee, *Division of Polymer Chemistry* (ACS)
2019 – current	Advisory Board, *Polymer Chemistry* (RSC)
2020 – current	*The Pennsylvania State University, Department of Chemistry* Graduate Curriculum and Awards Committee Strategic Planning Committee Chemistry Honors Advising
2020 – current	*The Pennsylvania State University, Department of Chemical Engineering* Faculty Search Committee
2019 – current	*The Pennsylvania State University, Department of Chemistry* Career Recruiting and Networking Fair Committee Organic Chemistry Faculty Learning Community
2018 – 2019	*The Pennsylvania State University, Department of Chemistry* Strategic Planning Committee
2017 – current	*The Pennsylvania State University, Department of Chemistry* Faculty Search Committee Seminar Committee, Organic Representative

2017 – 2018	*The Pennsylvania State University, Department of Chemistry* Graduate Student Admissions Committee Graduate Curriculum and Awards Committee

Other: Guest Editor for *Polymer Chemistry* for an upcoming issue on *molecularly-defined polymers*

REVIEWER ACTIVITIES

Journals: ACS Nano (2017 – present); Polymer Chemistry (2018 – present); Biomacromolecules (2018 – present); Macromolecules (2018 – present); Journal of the American Chemical Society (2018 – present); IUCrJ (2018 – present); Chemical Science (2019 – present); ACS Applied Polymer Materials (2019 – present); Supramolecular Chemistry (2019 – present); ChemistrySelect (2020 – present); Materials Advances (2020 – present); ACS Catalysis (2020 – present); ACS Macro Letters (2020 – present).

Proposals: Graduate Women in Science National Fellowships (2018); ORAU Ralph J. Powe Junior Faculty Enhancement Awards (2019; PSU internal review); American Chemical Society, Petroleum Research Foundation (2020); NSF Reviewer (2021)

HONORS

2021	National Science Foundation CAREER Award
2020	Thieme Chemistry Journal Award
2019	American Chemical Society, Doctoral New Investigator Award
2017	Emergent Macromolecular Systems Symposium Poster Prize (1st place)
2016	New York University/Tel-Aviv University Symposium Poster Prize
2012	University of Iowa Graduate Student Senate Travel Award
2012	University of Iowa Department of Chemistry Travel Grant
2010	University of Iowa Graduate College Summer Fellowship
2008 – 2009	University of Iowa Council on Teaching Outstanding Teaching Assistant
2007 – 2008	University of Iowa Department of Chemistry Outstanding Teaching Assistant
2005	Le Moyne College Department Honors (Dept. of Chemistry and Physics)
2003 – 2005	Le Moyne College - Dean's List Scholar
2002 – 2006	Le Moyne College Leadership Scholarship

PROFESSIONAL MEMBERSHIPS

American Chemical Society	
• Division of Organic Chemistry	2005 – 2014 2020 – current
• Division of Polymer Chemistry	2014 – current
• Division of Polymeric Materials: Science and Engineering	2017 – current
American Association of Pharmaceutical Scientists	2012 – 2013