# LISA A. KELLY

#### Associate Professor of Chemistry and Biochemistry University of Maryland, Baltimore County Baltimore, MD 21250

# EDUCATION

Ph.D.	1993	Bowling Green State University, Bowling Green, OH,	
		Photochemical Sciences	
M.S.	1989	University of Rochester, Rochester, N.Y., Chemistry	
B.S.	1988	State University of New York at Geneseo, Geneseo, N.Y.	
		Chemistry	

# **Experience in Higher Education**

2002 - Present	University of Maryland, Baltimore County, Baltimore, MD, Associate	
	Professor, Physical Chemistry and Photochemistry	
1996 - 2002	University of Maryland Baltimore County, Baltimore, MD, Assistant	
	Professor, Physical Chemistry and Photochemistry	

#### Experience in Other than Higher Education

1994 - 1996	National Synchrotron Light Source, Brookhaven Na	ational Lab,
Upton, NY, DOE Distinguished Post-Doctoral Fellow.		

#### Honors/Awards Received

2020	Hrabowski Innovation Award – CNMS Fellow in Online Instruction (\$500)	
2014	Entrepreneurship and Innovation Curriculum Award, Alex Brown	
	Center for Enrepreneurship (\$3000)	
1997	R&D 100 Award "The Fluorescence Omnilyzer," Brookhaven	
	National Laboratory.	
1994 – 1996	Department of Energy Distinguished Post-Doctoral Fellow,	
	Brookhaven National Laboratory	
1989 – 1993	Harold and Helen McMaster Junior Fellow, Bowling Green State	
	University	
1988 - 1989	Sherman Clarke Fellowship, University of Rochester	

# Patents

- Sample, Jennifer L., Patrone, Julia B., Benkoski, Jason J., Breidenich, Jennifer L., Kelly, Lisa A., Le, Huong, Crookston, James C., Patchan, Marcia W., Garza, Luis, Calderon-Colon, Xiomara, Wolfe, Joshua T., Theodore, Melissa, L., Nelson, Amanda, Kang, Sewon, "*Topical Compositions and Methods of Detection and Treatment*," U.S. Patent 10,758,630, September 1, 2020.
- Trexler, Morgan, M., Zhang, Dajie., Kelly, Lisa A., Sample, Jennifer L., Brupbacher, John M., "Method of Producing Nanoparticle Taggants for Explosive Precursors," U.S. Patent 9,162,514, October 20, 2015.
- 3. Trexler, Morgan, M., Zhang, Dajie., **Kelly, Lisa A.**, Sample, Jennifer L., Brupbacher, John M., "*Nanoparticle Taggants for Explosive Precursors*," U.S. Patent 8,895,158 B2, November 25, 2014.

#### SERVICE - PROFESSION

2022	<b>Symposium Organizer and co-Chair</b> , " <i>Photochemistry and Photophysics in Materials – A Pan-American Symposium</i> ," 41 <sup>st</sup> Biennial Meeting of the American Society of Photobiology, Albequerque, NM, September 22 – 25, 2022	
2020	Review Panel Member, National Science Foundation Chemical Structure, Dynamics and Mechanisms (CSDM)-B " <i>Mechanisms and Photochemistry</i> "	
2018	<b>Symposium Organizer and co-Chair</b> , "Organic and Inorganic Photochemistry of Functional Materials: A Pan-American Perspective," 2018 Biennial Meeting of the American Society for Photobiology, Tampa, FL, May 12 – 15, 2018	
2018	Symposium Moderator, " <i>Synthetic and Supramolecular Photochemistry</i> ," 27 <sup>th</sup> Inter-American Photochemical Society Meeting, Sarasota, FL, January 2 – 5, 2018	
2017 - Present	Member, Awards Committee, American Society for Photobiology	
2016	<b>Symposium Organizer and co-Chair</b> , " <i>Current Trends in Photochemistry and Imaging,</i> " 2016 Biennial Meeting of the American Society for Photobiology, Tampa, FL, May 21 – 26, 2016	
2008	<b>Conference Organizer and co-Chair</b> , 34 <sup>th</sup> Annual Meeting of the American Society for Photobiology, Burlingame, CA, June 20 – 25, 2008	
2005 - 2006	Elected President, American Society for Photobiology	

2005	Panelist and Moderator, 16 <sup>th</sup> Winter Conference of the Inter- American Photochemical Society, January 2 – 5, 2005, Clearwater Beach, FL
2004	<b>Symposium Organizer and co-Chair</b> , " <i>Mechanisms of Protein Oxidative Damage</i> ," $32^{nd}$ Annual Meeting of the American Society for Photobiology, Seattle, WA, July $10 - 14$ , 2004
2004	Review Panel Member, National Institutes of Health Minority Biomedical Research Support (MBRS)
2004	Review Panel Member, National Science Foundation Chemical Research Instrumentation and Facilities (CRIF)
2004 - 2005	President-Elect, American Society for Photobiology
2003	<b>Symposium Organizer and co-Chair</b> , " <i>Photochemical Tools in Genomics and Proteomics</i> ," 31s Annual Meeting of the American Society for Photobiology, Baltimore, MD, July 5 – 9, 2003
2003	Panelist and Moderator, $14^{th}$ Winter Conference of the Inter-American Photochemical Society, Clearwater Beach, FL, Jan. 2 – 5, 2003
2002 - 2005	Associate Editor, Photochemistry and Photobiology
2002 - 2004	Member, Advisory Board of the Inter-American Photochemical Society
2002	Panelist and Moderator, $13^{th}$ Winter Conference of the Inter- American Photochemical Society, Tempe, AZ, Jan. 2 – 6, 2002
1998 - 2002	Elected Council Member, American Society for Photobiology
1998 - 2006	Elected Treasurer, Inter-American Photochemical Society
1998 - 2000	Member, Users' Executive Committee of the National Synchrotron Light Source, Brookhaven National Laboratory, Upton, NY

# **Professional Memberships**

Inter-American Photochemical Society, American Society for Photobiology, American Chemical Society

#### Peer Review

<u>Funding Agencies:</u> National Science Foundation (including CAREER proposals), National Institutes of Health, American Chemical Society Petroleum Research Fund, Research Corporation, Cottrell Scholars

<u>Journals:</u> Journal of the American Chemical Society, Journal of Physical Chemistry A, B and C, Photochemistry and Photobiology, Photochemical and Photobiological Sciences, Langmuir, Journal of Organic Chemistry, Chemistry of Materials, Organic Letters, Free Radicals Research, New Journal of Chemistry, Molecular Pharmaceuticals, Materials Chemistry Frontiers

# **SERVICE - UNIVERSITY**

2022 - Present	Invited Member, ADVANCE Executive Committee		
2022 - Present	STRIDE Fellow (Invited)		
2016 - 2017	Member, Library Strategic Framework Committee		
2016	Member, Scholar Works Advisory Committee		
2013 - 2019	Member, ADVANCE Leadership Aliance (ALA)		
2013 - 2014	Member, Faculty Grievance Policy Committee		
2013 - 2014	Member, Capricoius Grading Committee		
2012	Faculty Senate, Department of Chemistry and Biochemistry Representative		
2008 - 2010	Member, ADVANCE Leadership Cohort 3		
2007	Participant, ADVANCE-Sponsored National Leadership Conference for STEM Women, Baltimore, MD, June 1, 2007		
2006	Search Committee Member, Writing in the Discipline Director		
2004 - 2011	Chair, ADVANCE Faculty Sponsorship Committee		
2004 - 2005	Panelist, NSF ADVANCE Faculty Horizons Workshop for Aspiring STEM Faculty		
2003 - 2010	<b>ADVANCE Faculty Liason</b> to the Department of Chemistry and Biochemistry		
2001 - 2006	Member and Reviewer, Provost's Undergraduate Research Awards Committee		
2001 - 2011	<b>Faculty Advisor</b> , Undergraduate Women in Science and Engineering (WISE) Group		

# SERVICE - DEPARTMENT

2022 – 2023	<b>Chair</b> , Departmental Promotion and Tenure Committee (Dr. Marie vanStaveren Promotion to Senior Lecturer)		
2022 - 2023	Member, Undergraduate Curriculum Alignment Committee		
2022	Member, 5-Year Post-Tenure Review Committee (Drs. Katherine Seley-Radtke, Bradley Arnold and Paul Smith)		
2020	Member, Departmental Online Assessment Committee		
2019 - 2020	Member, Biochemistry Faculty Search Committee		
2018 - Present	Instructor, Graduate Summer Bridge (Physical Chemistry)		
2018 - Present	<b>Co-Organizer (Alumni Panel Organizer and Outreach)</b> , Chemistry Graduate Student Research Days held Annually in March		
2018 - 2019	Member, Pre-Professoriate Faculty Search Committee		
2017 - Present	Chair, Graduate Student Professional Development Committee		
2017	Member, External Reviewer Search Committee (for Departmental 7-Year Review)		
2016 - 2017	Co-Chair, Faculty Search Committee (Lecturer)		
2016 - 2017	Member, Graduate Recruiting and Admissions Committee		
2016	Member, 3 <sup>rd</sup> Year Contract Renewal Committee (Dr. Minjoung Kyoung)		
2016	Member, 5-Year Post-Tenure Review Committee (Dr. Bradley Arnold)		
2014 - 2015	<b>Chair</b> , Departmental Promotion and Tenure Committee (Dr. Marcin Ptaszek Promotion with Tenure to Associate Professor)		
2014	Member, Planning Committee for UMBC/UMB Research and Innovation Retreat (held at University of Maryland School of Pharmacy, May 3, 2014)		
2014	Member, Planning Committee for Departmental Retreat (held on February 22, 2014)		
2012 - Present	Departmental Library Liason		
2009 - Present	Member, Undergraduate Curriculum Committee		
2009 - 2015	Chair, Graduate Recruiting and Admissions Committee		
2008 - 2009	Member, Graduate Recruiting Committee		

2006 - 2009	Instructor, Graduate Summer Bridge (Physical Chemistry)		
2007 - 2008	Chair, Physical Chemistry Faculty Search Committee		
2005 - 2006	Member, Departmental Website Committee		
2005 - 2006	Member, Departmental Chair Search Committee		
2004 - 2007	Coordinator, Writing in the Discipline		
2004 - 2005	<b>Chair</b> , Departmental Promotion and Tenure Committee (Dr. Veronika Szalai 3 <sup>rd</sup> Year Review)		
2003 - 2005	Member, Undergraduate Recruiting Committee		
2002 - 2003	Chair, Graduate Recruiting Committee		
2002 - 2005	Member, Chemistry-Biology Interface Advisory Board		
2001 - 2002	Member, Physical Chemistry Faculty Search Committee		
1999 – 2001	Member, Graduate Recruiting Committee		
1998 - 1999	<b>Co-Organizer</b> , Inaugural Undergraduate Research Symposium in the Chemical and Biological Sciences		
1996 - 1997	Departmental Seminar Coordinator		

# **RESEARCH SUPPORT AND FELLOWSHIPS**

# Extramural Research Support (As PI/co-PI)

2020 - 2023	\$150,000 (\$116,640 Direct), " <i>Photophysical Properties of MOF-Immobilized Photosensitizers</i> ," U. S. Army Combat Capabilities Development Command, Chemical Biological Center (CCDC CBC), Role: PI.
2019 - 2023	\$450,000 (\$322,824 Direct), " <i>Mechanisms of Radical-Initiated Alkylation of Alkenes, Peptides and Proteins – A Green Chemistry Route</i> ," National Science Foundation (CHE-1855467), Role: PI.
2018 - 2019	\$77,780 (\$36,946 Direct), " <i>Mechanisms of Natural Vasculature Scaffolding</i> ," Alucent Biomedical, Role: PI.
2016 - 2017	\$5,510 (Direct), " <i>Spectroscopic Analysis of Cr(III) in Treated Aluminum Pigments</i> ," 3Notch Chemicals (via Maryland Technology Development Corporation), Role: PI.
2013 - 2015	\$99,950 (\$70,669 Direct), <i>"Feature Flooring – Epoxy Flooring Degradation</i> ," Maryland Institutional Partnership, Role: PI.

2007 - 2008	\$237,500 (\$166,126 Direct), <i>"Laser Pulse Shaping for Remote Detection of Explosives,"</i> Temple University (subcontract from the Army Research Office), Role: co-PI (with Prof. Bradley Arnold).
2005 - 2007	\$225,000 (\$173,003 Direct), "Stand-Off Detection of Energetic Materials Using Back-Scattered Spectroscopy," The Johns Hopkins Applied Physics Laboratory, Role: co-PI (with Prof. Bradley Arnold).
2004 - 2010	\$50,000 (Direct), <i>"Fluorescence Polymers as Temperature-Responsive Smart Coatings</i> ," Rohm and Haas, Role: PI.
2004 - 2008	\$337,620 (\$255,280 Direct), " <i>A Photophysical Study of Stimuli-Responsive Polymers</i> ," National Science Foundation (CHE-0415429), Role: PI.
2000 - 2004	\$499,985, " <i>Redox-Mediated Cleavage of Peptides and Nucleic Acids</i> ," National Science Foundation, CAREER Award (CHE-9984874), Role: PI.
1999 - 2003	\$344,000, " <i>Luminescent Polymers as Pressure-Sensitive Materials in Water</i> ," Office of Naval Research, Role: PI.
1999 - 2001	\$25,000, <i>"Artificial Assemblies for Saccharide-Selective Photooxidation</i> ," American Chemical Society, Petroleum Research Fund, Role: Pl
1997 - 1999	\$30,000, <i>"Redox-Based Phototherapy Agents</i> ," American Cancer Society, Maryland Division, Role: Pl.

#### Extramurally Supported Training Grants (Significant Role, not as PI)

- 2021 2024 \$389,826 (\$350,137 Direct), "Research Experience for Undergraduates Site: Biochemical, Environmental and Molecular Research in Engineering (BEMORE)," National Science Foundation (EEC-2050728), Role: Faculty Mentor: "Photoswitchable Polymer Structures for Controlled Release."
- 2019 2022 \$762,000 (Total and Direct), "Andrew W. Mellon Summer Research Program in Baltimore at the Interface between Science and Art (Baltimore SCIART)," Role: Faculty Mentor: "Synthetic Hydrogels for Hide Glue Removal from Parchment."
- 2015 2020 \$357,305 (\$305,375 Direct), "Research Experience for Undergraduates in Advanced Chemical Sensing and Imaging," National Science Foundation (CHE-1460653), Role: Faculty Mentor: "Nanogel Particle-Based Sensors for pH and Temperature."

## Intramural Research Support (As PI)

2014 - 2015 \$3,000, "Field Portable Sensor Design in the Advanced Laboratory," Alex Brown Center for Entrepreneurship and Innovation, Curriculum Grant, Role: PI.

# STUDENTS MENTORED

#### Ph.D. Students (As Dissertation Committee Chair)

Name	Date Ph.D. Degree Confirmed	Current Position
– Ryan Grant	Expected May, 2024	Ph.D. Candidate - UMBC
– Stacey Sova	2019	US Food and Drug Administration
– Steven Manning	2013	Scientist, Kelly and Heckman LLP
– Yu Zhang	2010	Senior Chemist, Pharmaceuticals International Inc.
– Bindu Abraham	2006	Adjunct Faculty, Frederick Community College
– Sun McMasters	2005	Chemist, Department of Homeland Security
– Anael Kimaro	2003	Senior Lecturer, St. Augustine University of Tanzania
– Joy (Rogers) Haley	2001	Research Team Leader, Air Force Research Laboratory – Photonics Materials Branch

#### Ph.D. Students (As Committee Member)

Name	Date Ph.D. Degree Confirmed
– Laura Johnson	Defended June 21, 2022
– Sara Ansteatt	Scheduled September 7, 2022
– Nopondo Esemoto	Expected December, 2022

Name	Date Ph.D. Degree Confirmed
- Christopher Cooper	Expected May, 2023
- Chandra Lowrance	Expected May, 2023
– Eric Bowman	Expected May, 2023
– Connor Riahan	Expected May, 2023
– Mona Layegh	Expected May, 2023
– Curtis Jones	Expected May, 2023
– Christopher Mayer- Bacon (Biological Sciences)	Expected May, 2023
– Tao Zhang	Expected May, 2023
– Leslie Scheurer	Expected May, 2024
– Sean Brown (Biological Sciences)	Expected May, 2024
<ul> <li>Brandon Busick</li> </ul>	Expected May, 2025
<ul> <li>Anthony Casale</li> </ul>	Expected May, 2025
– Alex Reardon	Expected May, 2025
– Mamatha Hopanna (Chemical Engineering)	May, 2021
– Adam Meares	May, 2020
<ul> <li>Kenneth Childers</li> </ul>	May, 2019
<ul> <li>Eric Languirand</li> </ul>	May, 2017
– Danielle Schmitt	May, 2017
– Ester Sesmero	May, 2017
– Johan Melendez	May, 2016
– Rachel Taylor	May, 2016
– Brittny Davis	May, 2015
– Sudhir Dahal	May, 2014
– William Ghann	May, 2014

Name	Date Ph.D. Degree Confirmed
- Franziska Seeger	May, 2014
– Jeffrey Oleske	May, 2012
- Kartik Temburnikar	May, 2012
- Jian Sun	May, 2010
- Paul Cunningham (Physics)	May, 2010
- John van Druff (Chemical Engineering)	Мау, 2010
- Mohsen Rajabi	May, 2010
- Hailang Zhang	May, 2009
- Derek Smith (Chemical Engineering)	May, 2008
- Jesse Karr	May, 2007
- Rad Balu	Мау, 2007
- Quingrong Zhang	May, 2007
- Honggang Li	May, 2007
- Sue Bae	Мау, 2006
- Stacey Gelhaus	Мау, 2005
– Dustin Levy	Мау, 2005
- Wendy Houck	Мау, 2004

# Masters Students (As Committee Chair)

Name	Date M.S. Degree Confirmed	Current Position
– Britney Hopgood	2022 (non-thesis)	STEM Education Facilitator, Puerto Rico Science Trust
– Melissa Roll	2019 (non-thesis)	Senior Programmer Specialist, The Hilltop Institute

Name	Date M.S. Degree Confirmed	Current Position
– John Arthur	2012 (non-thesis)	Staff Pharmacist, PharmScript LLC
– Hao Hao Ke	2008 (non-thesis)	Unknown
– Kathleen (Daugherty) Davies	2004 (thesis)	Senior Public Policy Health Advisor, U.S. Food and Drug Administration
– Behzad Farivar, M.D.	2004 (thesis)	Vascular and Endovascular Surgeon, Director, University of Virginia Aortic Center
– Sharon (Weiss) Dornmemann	2000 (thesis)	Adjunct Faculty, Monmouth University
– Thao P. Le	2000 (thesis)	Supervisory Patent Examiner, U.S. Patent and Trade Office

# Undergraduate Students Mentored

Name	Research Project	Dates	Current Position (where known)
<ul> <li>Grayson Pipher</li> </ul>	Independent Study	September, 2022 - Present	UMBC B.S. Biochemistry and Molecular Biology program
<ul> <li>Owen Sparr</li> </ul>	Independent Study	June, 2022 - Present	UMBC B.S. Chemistry program
<ul> <li>Olivia Edwards</li> </ul>	Independent Study	January, 2022 - Present	UMBC B.S. Biochemistry and Molecular Biology program
<ul> <li>Sukh Singh</li> </ul>	Provosťs Undergraduate Research Award	January, 2022 - Present	UMBC B.S. Chemistry program
<ul> <li>Gabrielle Pozza</li> <li>(B.S. Chemistry 2020)</li> </ul>	Independent Study	January, 2020 - Present	Chemist, UMBC

Lisa A. Kelly, Ph.D.

Name	Research Project	Dates	Current Position (where known)
– Ali Sulehria	NSF BEMORE REU	June – August, 2022	Tulane University B.S. Biomedical Engineering program
<ul> <li>Amanda McKee</li> </ul>	NSF BEMORE REU	June – August, 2022	Millersville University B.S. Chemistry program
<ul> <li>Ewa Harazinska (B.S. Chemistry 2020)</li> </ul>	SCIART	June – August, 2019	Johns Hopkins University Ph.D. Program
<ul> <li>Manos</li> <li>Tzortzakakis (B.S.</li> <li>Chemical</li> <li>Engineering 2020)</li> </ul>	Provost's Undergraduate Research Award	2018 - 2019	
<ul> <li>Brett Lucht (B.S.</li> <li>Chemistry, Marist</li> <li>College, 2010)</li> </ul>	NSF Chemical Sensing and Imaging REU	June – August, 2018	University of Pittsburgh Ph.D. Program
<ul> <li>Duyquang Dong (B.S. Chemistry 2017)</li> </ul>	Independent Study	2017	
<ul> <li>Luca Santinella (B.S. Chemistry 2017)</li> </ul>	Independent Study	2016 - 2017	
<ul> <li>Lucia Rodriguez</li> <li>(B.S. Chemistry,</li> <li>Winthrop</li> <li>University, 2019)</li> </ul>	NSF Chemical Sensing and Imaging REU	June – August, 2017	UMB/UMBC Biochemistry and Molecular Biology Ph.D. Program
<ul> <li>Kathleen</li> <li>Pagarigan (B.S.</li> <li>Chemistry, 2017)</li> </ul>	Provost's Undergraduate Research Award	2016 – 2017	Legal Assistant, Department of Agrarian Reform
<ul> <li>Nhu Nguyen (B.S. Chemistry, 2019)</li> </ul>	Provosťs Undergraduate Research Award	2016 - 2017	University of Virginia Ph.D. Program
<ul> <li>Elisa Castello (B.S. Chemistry, Stevenson University, 2018)</li> </ul>	NSF Chemical Sensing and Imaging REU	June – August, 206	University of Maryland School of Pharmacy, PharmD Program

Name	Research Project	Dates	Current Position (where known)
<ul> <li>Kyle Martin (B.S.</li> <li>Biochemistry and</li> <li>Molecular Biology,</li> <li>2017)</li> </ul>	Independent Study	2016	Louis Katz School of Medicine, Temple University, M.D. Program
<ul> <li>Luke Marra (B.S. Chemical Engineering, 2016)</li> </ul>	Independent Study	2015 – 2016	Process Engineer, Jacobs
<ul> <li>Oleg</li> <li>Semenchenko</li> <li>(B.S. Chemical</li> <li>Engineering, 2016)</li> </ul>	Independent Study	2015 - 2016	Senior Process Engineer, Qiagen
<ul> <li>Jeremy Mattison</li> <li>(B.S. Biochemistry and Molecular Biology, 2016)</li> </ul>	Provost's Undergraduate Research Award	January, 2014 – May 2016	Deceased (Formerly Chemist, Naval Air Station, Patuxent River)
<ul> <li>Eric Wolfson,</li> <li>Ph.D. (B.S.</li> <li>Chemistry, 2015)</li> </ul>	Independent Study	January, 2014 – May, 2015	Synthetic Chemist, Dupont
<ul> <li>Ahmed</li> <li>Gahalrasoul (B.S.</li> <li>Chemistry 2014)</li> </ul>	Independent Study	2012 - 2014	Senior Consultant, Deloitte
<ul> <li>Margaret Gillan (B.S. Chemistry, 2013)</li> </ul>	Independent Study	2012 - 2013	Graduate Student, Rowan University
<ul> <li>Will Bogen (B.S. Chemistry, 2011)</li> </ul>	Provosťs Undergraduate Research Award	2010 - 2011	Quanlity Assurance Technician, McCormick & Company
<ul> <li>Robby Tietz (B.S.</li> <li>Chemical</li> <li>Engineering, 2012)</li> </ul>	Provost's Undergraduate Research Award	2011 - 2012	Area Manager, Nalco Champion
<ul> <li>Lisa George (B.S. Biochemistry and Molecular Biology, 2010)</li> </ul>	Independent Study	2009 - 2010	Adjunct Instructor, Madison Area Technical College

Name	Research Project	Dates	Current Position (where known)
<ul> <li>Joy Ihekweazu,</li> <li>Ph.D. (B.S.</li> <li>Chemistry, 2009)</li> </ul>	MARC U*STAR Scholar	2007 - 2009	Principle Chemist, Savanna River Mission Completion
<ul> <li>Mattew Loftus,</li> <li>M.D. (B.S.</li> <li>Chemistry, 2007)</li> </ul>	Provost's Undergraduate Research Award	2006 - 2007	Physician, Medstar Family Choice
<ul> <li>Nam-Phuong</li> <li>Nguyen (B.S.</li> <li>Chemistry, 2007)</li> </ul>	Independent Study	2006 - 2007	
– Melissa (Buckheit) Moskunas (B.S. Chemistry, 2002)	Independent Study	2001 - 2002	Superisory Chemisty, U.S. Army CCDC, Chemical Biological Center
<ul> <li>Bevlynn Joseph (B.S. Chemistry, 2001)</li> </ul>	NIH Initiative for Minority Student Development	June – August, 2001	
<ul> <li>Albert DeFusco,</li> <li>Ph.D. (B.S.</li> <li>Chemistry, 2001)</li> </ul>	Independent Study	June – August, 2001	Data Scientist, Product at Anacoda
<ul> <li>Megan Brelsford</li> <li>(B.S. Chemical Engineering, 2001)</li> </ul>	Independent Study	June – August, 2001	Senior Systems Analyst, Man- Machine Systems Assessment
<ul> <li>Heather Couvillon</li> <li>(B.S. Chemical</li> <li>Engineering, 2001)</li> </ul>	Independent Study	January – August, 2001	President and CEO, Lufborrow & Company
<ul> <li>Khine Swe (B.S.</li> <li>Biochemistry and</li> <li>Molecular Biology,</li> <li>2001)</li> </ul>	Independent Study	January – June, 2001	
<ul> <li>Maridel Lares</li> <li>(B.S. Chemistry, 2001)</li> </ul>	Independent Study	January – May, 2001	Technical Writer, Hamamatsu
<ul> <li>Amanda</li> <li>Rostkowski,</li> <li>M.D./Ph.D. (B.S.</li> </ul>	NIH Initiative for Minority Student Development	June – August, 2000	Obstetrician- Gynecologist,

Name	Research Project	Dates	Current Position (where known)
Chemistry, College of Notre Dame, 2001)			Women's Health Connecticut
<ul> <li>Brian Collins (B.S.</li> <li>Chemical</li> <li>Engineering, 2000)</li> </ul>	Independent Study	1999 - 2000	
<ul> <li>Mehdi Rezakhan (B.S. Chemistry, 2000)</li> </ul>	Independent Study	1999 - 2000	
<ul> <li>Theresa Doyel (B.S. Chemisty, 1999)</li> </ul>	Independent Study	1997 - 1998	
– Shannon (Frost) Hoffman (B.S. Chemistry, 1999)	Independent Study	1998	Regional Director of Operations and Certifying Chemist, Steep Hill
<ul> <li>Aleeza Kersey</li> <li>(B.S. Chemistry, 1998)</li> </ul>	Meyerhoff Scholar	1997	
<ul> <li>Than Tan (B.S.</li> <li>Chemistry, 1998)</li> </ul>	Indepenent Study	1997	

# High School Students Mentored

Name	Dates	Current Position
<ul> <li>Harini Radhakrishnan (McDonogh School, MD)</li> </ul>	Summer 2014	Ph.D. Student/NSF Graduate Fellow, Physics and Astronomy, University of Tennessee Knoxville
<ul> <li>Joshua Baney (Landsdowne High School, MD)</li> </ul>	Summer, 2014	Emergency Health Services B.S. program, University of Maryland, Baltimore County

#### PUBLICATIONS AND PRESENTATIONS

UMBC <sup>U</sup>Undergraduate, <sup>G</sup>Graduate student or <sup>P</sup>Post-doctoral trainee

#### Peer-Reviewed Works

#### Book Chapters (Peer-Reviewed by Editors):

- Kelly, L. A., "4-Amino-1,8-Naphthalimides and Related Species." In *The Chemistry of Nitrogen-Rich Functional Groups, Volume 2*; Greer, A. and Liebman, J. F., Eds.; PATAI's Chemistry of Functional Groups, Accepted/In Press, 2022.
- Chandrasekharan, N.<sup>P</sup>, Kelly, L. A.\*, "Progress Towards Fluorescent Molecular Thermometers," In *Reviews in Fluorescence 2004*, Geddes, C. D., Editor, 2004, 21-40.

#### Journal Articles/Conference Proceedings:

- Setera, B.\*<sup>U</sup>, Su, C,-H.<sup>U</sup>, Arnold, B. R., Choa, F,-S., Kelly, L., Sood, R.<sup>U</sup>, Singh, N. B., "Comparative Study of Bulk and Nanoengineered Doped ZnSe," *Crystals*, 2022, 12, 71-79. *https://doi.org/10.3390/cryst12010071*
- Kelly, L. A.\*, Roll, M.<sup>G</sup>, Joseph, J., Seenisamy, J., Barrett, J., Kauser, K., Warner, K. S., "Solvent-Dependent Photophysics and Reactivity of Monomeric and Dimeric 4-Amino-1,8-Naphthalimides," *J. Phys. Chem., A.*, 2021, 125, 2294 – 2307. *https://doi.org/10.1021/acs.jpca.0c11639*
- Emge, I.<sup>U</sup>, Scheurer, L.<sup>G</sup>, Grant, R.<sup>G</sup>, Prasad, N, Kelly, L., Arnold, B., Choa, F. -S., Setera, B.<sup>U</sup>, Singh, N. B., "Surface Characteristics of Polymer Nanocomposites," *Proc. SPIE – Soc. Opt. Eng.*, 2021, 11757, 117570X1-117570X4. *https://doi.org/10.1117/12.2585834*
- Emge, I.<sup>U</sup>, Kazal, D.<sup>G</sup>, Cooper, C.<sup>G</sup>, Sood, R.<sup>U</sup>, Saraf, S.<sup>U</sup>, Su, C. H.<sup>U</sup>, Cullum, B., Choa, F.-S., Arnold, B. R., **Kelly, L.**, Singh, N. B., "Optimization of Sensor Materials Using Physical Vapor Transport Growth Method," *Proc. SPIE – Soc. Opt. Eng.*, **2021**, *11757*, 1175700. *https://doi.org/10.1117/12.2586081*
- 5. Sova, S.<sup>G</sup>, **Kelly, L. A.\***, "Formation and Reaction Kinetics of Biradicals and Triplet States in a Series of Carboxylated 1,4,5,8-Naphthalene Diimides," *J. Phys. Chem., A.* **2020**, *124*, 7453-7463. *https://doi.org/10.1021/acs.jpca.0c06639*
- Hopanna, M.<sup>G</sup>, Kelly, L., Blaney, L.\*, "Photochemistry of the Organoselenium Compound Ebselen: Direct Photolysis and Reaction with Active Intermediates of Conventional Reactive Species Sensitizers and Quenchers," *Environ. Sci. Technol.*, 2020, 54, 11271-11281. https://doi.org/10.1021/acs.est.0c03093
- 7. Emge, I.<sup>U</sup>, Su, C.<sup>U</sup>, Sood, R.<sup>U</sup>, Arnold, B., Choa, F. -S., **Kelly, L.**, Mandel, K. D., Verman, Manish K., Singh, N. B., "Chemical and Biological Sensing Using Polarity

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- 49. Smith, R. F.\*, **Dennis, L. A.**, Ryan, W. J., "Amidrazones. 11. Rearrangement of 1-allyl-substituted-4,5-dihydro-1-methyl-1H-pyrazolium bromides," *J. Heterocycl. Chem.*, **1988**, 25, 415-417. *https://doi.org/10.1002/jhet.5570250212*

# Presentations (Presenting Author in Parenthesis when Multiple Authors)

#### Invited Oral Presentations (National/International Conferences)

- 1. (Kelly, L. A.)\*, Sova, S.<sup>G</sup>, "*Biradical Formation and Reactivity in 1,4,5,8-Naphthalene Diimide-Carboxylate Conjugates*," Mid-Atlantic Regional Meeting of the American Chemical Society, Baltimore, MD, June 1, 2019.
- Kelly, L. A.\*, (Sova, S.<sup>G</sup> ASP Travel Award Recipient), "Photooxidative Crosslinking and Affinity Labeling of Proteins Using Naphthalene Imides," Biennial Meeting of the American Society for Photobiology, Tampa, Florida, May 22, 2016.
- 3. (Manning, S.<sup>G</sup>), **Kelly, L. A.\***, "*Synthesis and Polarity Sensing with Benzo[ghi]perylene Monoimides*," 43<sup>rd</sup> American Chemical Society Mid-Atlantic Regional Meeting, Baltimore, MD, June 2, 2012.
- 4. (Manning, S.<sup>G</sup> 1<sup>st</sup> Place Presentation Winner), George, L.<sup>U</sup>, Zukowski, E.<sup>G</sup>, Kelly, L. A.\*, "Development of Fluorescent Temperature-Responsive Nanogels," 1<sup>st</sup> Annual Nanomaterials Symposium, Johns Hopkins Applied Physics Laboratory, Laurel, MD, March, 2010.
- (Kelly, L. A.)\*, Arnold, B. R.\*, Oleske, J.<sup>G</sup>, Schill, A.<sup>G</sup>, "Coherent 'BASE' for Detection of Energetic Vapors," Office of Naval Research Program Review, Austin, TX, February, 2009.
- (Kelly, L. A.)\*, Collins, B.\*, Arnold, B. R.\*, Schill, A.<sup>U</sup>, "Stand-Off Detection of Energetic Materials Using Back-Scattered Coherent Spectroscopy," Counter-IED Program Review, Washington, D.C., February 11, 2008.
- Kelly, L. A., "Applications of Spectroscopy in Sensor and Smart Polymer Technologies" 18<sup>th</sup> Winter Conference of the Inter-American Photochemical Society Meeting, St. Petersburg, Florida, January 2 - 5, 2007.
- Kelly, L. A., "Thermal Imaging and Smart Packing the Photophysics Way," Presidential Lecture, 33<sup>rd</sup> Annual Meeting of the American Society for Photobiology, Rio Grande, Puerto Rico, July 8 – 12, 2006.
- Kelly, L. A., "Ground- and Excited-State Interactions of Spermine-Substituted 1,8-Naphthalimides with Nucleic Acids," 17<sup>th</sup> Annual Meeting of the Inter-American Photochemical Society, Salvador, BRAZIL, June 12 - 15, 2006.
- 10. Kelly, L. A., "Experimental Approaches to Mapping DNA and Protein Interactions Using Naphthalimide Photochemistry," Travel grant awardee, NSF-Sponsored Workshop on the Interplay of Theory and Experiment in Photochemistry, Salvador, BRAZIL, June 10, 2006.
- Kelly, L. A., "Temperature-Dependent Photophysics of Fluorescent Polymers," 16<sup>th</sup> Winter Conference of the Inter-American Photochemical Society, Clearwater Beach, FL, January 2 – 5, 2005.

- 12. **(Kelly, L. A.)\***, Abraham, B.<sup>G</sup>, Mullen, M.<sup>U</sup>, *"Probing Protein Structure and Interactions Using Photochemistry*," Frontiers in Photobiology Symposium at the American Chemical Society Meeting, Washington, DC, August 28, 2005.
- 13. Kelly, L. A., "*Temperature-Dependent Photophysics of Styrene and Acrylamide-Based Polymers*," Supramolecular Photochemistry Symposium, Pacifichem, Honolulu, Hawaii, December 15 20, 2005.
- 14. **(Kelly, L. A.)\***, Abraham, B.<sup>G</sup>, McMasters, S.<sup>G</sup>, Mullen, M.<sup>U</sup>, "*Probing Protein Structure and Interactions Using Functionalized Naphthalimides*," 32nd Annual Meeting of the American Society for Photobiology, Seattle, WA, July 10 14, 2004.
- 15. (Chandrasekharan, N.)<sup>P</sup>, Kelly, L. A.\*, "Kinetics and Thermodynamics of Exciplex Formation in Polymeric Films," 31st Annual Meeting of the American Society for Photobiology, Baltimore, MD, July 5 – 9, 2003.
- Kelly, L. A., "A Temperature Sensitive Luminophoric Polymer Film," Office of Naval Research Turbulence/Wakes Program Review, Washington, DC, October 15 -16, 2002.
- 17. **Kelly, L. A.,** *"Kinetics and Thermodynamics of Exciplex Formation in Polymeric Films*," Electron Donor-Acceptor Gordon Conference, Newport, RI, August 11 16, 2002.
- Kelly, L. A., "Kinetics and Thermodynamics of Exciplex Formation in Polymeric Films," 13<sup>th</sup> Winter Conference of the Inter-American Photochemical Society, Tempe, AZ, January 2 – 5, 2002.
- Kelly, L. A., "Dual Luminescent Polymers as Temperature and Pressure Sensors," 12<sup>th</sup> Inter-American Photochemical Society Conference, Ascochinga, Cordoba, ARGENTINA, May 20 - 25, 2001.
- 20. Kelly, L. A., "Imide and Diimide Excited States as Diverse Reagents in the Photocleavage of DNA," 11<sup>th</sup> Winter Conference of the Inter-American Photochemical Society, Clearwater Beach, FL, January 2 - 6, 2000.
- 21. **Kelly, L. A.**, "*Photoinduced Oxidation of Nucleic Acid Bases by Imide and Diimide Electron Acceptors*," 26<sup>th</sup> Annual Meeting of the American Society for Photobiology, Snowbird, UT, July, 1998.

# Invited Seminars and Symposia

- 1. **Kelly, L. A.,** *"Alumni Career Perspectives,"* State University of New York at Geneseo Alumni Networking Series, SUNY Geneseo, Geneseo, NY, April 11, 2022.
- 2. Kelly, L. A., "*Alumni Journeys*," State University of New York at Geneseo Alumni Networking Series, SUNY Geneseo, Geneseo, NY, April 14, 2021.

- 3. **Kelly, L. A.,** *"Photochemical Probes of Macromolecular Structure,"* Millersville University, Millersville, PA, November 9, 2020
- 4. Kelly, L. A., "*Photochemical Probes of Macromolecular Structure*," Hood College, Frederick, MD, October 24, 2019.
- 5. **Kelly, L. A.**, "*Spectroscopy and Material Science for NAVAIR Applications*" NAVAIR Materials Engineering Division, Patuxent River, MD, February, 2018.
- 6. **Kelly, L. A.,** *"Photochemical Probes of Macromolecular Stucture,"* Salisbury University, Salisbury, MD, March 1, 2017.
- Kelly, L. A., "Benzo[ghi]peryelene Monoimide Dyes as Fluorescent Probes of Stimuli-Responsive Polymers," National Institute of Standards and Technology, Gaithersburg, MD, January 12, 2015.
- 8. Kelly, L. A., "Smart Materials," Becton Dickinson, Sparks, MD, January 1, 2014.
- 9. **(Kelly, L. A.)**\*, Arnold, B. R.\*, *"Remote Biometrics Using Optical Signatures,"* Johns Hopkins Applied Physics Laboratory, Laurel, MD, June 6, 2008.
- 10. **(Kelly, L. A.)\***, Arnold, B. R.\*, Collins, B., Schill, A.<sup>U</sup>, "*Photochemistry for DoD Applications*," Johns Hopkins Applied Physics Laboratory, Laurel, MD, January 15, 2008.
- 11. **Kelly, L. A.,** *"Probing Protein Structure and Interactions Using Photochemistry,"* Cherry Emerson Seminar Series, Georgia Institute of Technology, Atlanta, GA, November 15, 2005.
- 12. **(Kelly, L. A.)\***, Chandrasekharan, N.<sup>P</sup>, Farivar, B.<sup>G</sup>, "*Developing Fluorescent Polymers for Temperature-Sensing Applications*," Rohm and Haas, Philadelphia, PA, October 6, 2005.
- 13. Kelly, L. A., "Optical Spectroscopy at UMBC: From Energetic Vapors to DNA," State University of New York at Geneseo, Geneseo, NY, November 6, 2009.
- 14. **Kelly, L. A.,** "*Surviving and Thriving in STEM*," National Science Foundation, University of Maryland, Baltimore County, ADVANCE Faculty Horizons Workshop for Aspiring STEM Faculty, Baltimore, MD, July 16, 2005.
- 15. **Kelly, L. A.,** *"Probing Protein Structure and Interactions Using Photochemistry,"* Johns Hopkins University, Baltimore, MD, March 2, 2004.
- 16. Kelly, L. A., "Using Photochemistry to Probe DNA and Protein Structures," Department of Chemistry, Towson University, Towson, MD April 1, 2003.
- 17. Kelly, L. A., "Using Photochemistry to Probe Macromolecular Structure and Interactions," Department of Biological Sciences, University of Maryland, Baltimore County, Baltimore, MD, April 23, 2003.
- 18. Chandrasekharan, N.<sup>P</sup>, **(Kelly, L. A.)\***, *"Fluorescent Temperature Sensor Based on Interconversion between Perylene and its Excited State Complex with*

*Derivatized Aniline*," 9<sup>th</sup> Annual Pressure Sensitive Paints Workshop, Washington, DC, April 7 - 11, 2002.

- 19. Kelly, L. A., "Developing Organic Photosensitizers to Probe Macromolecular Structure and Dynamics," Center for Photochemical Sciences, Bowling Green State University, Bowling Green, OH, March, 2001.
- 20. Kelly, L. A., "Developing Organic Photosensitizers to Probe Macromolecular Structure and Dynamics," University of Maryland, College Park, College Park, MD, February, 2001.
- 21. **Kelly, L. A.,** *"Probing Macromolecular Structure and Dynamics Using Photoactivated Organic-Inorganic Conjugates,"* The Ohio State University, Columbus, OH, February, 2001.
- 22. Kelly, L. A., "Developing Organic Photosensitizers to Probe Macromolecular Structure and Dynamics," University of Wiscosin, School of Pharmacy, Madison, WI, November, 2000.
- 23. Kelly, L. A., "*Light-Activated Artificial Nucleases*," Loyola College, Baltimore, MD November, 1999.
- 24. **Kelly, L. A.,** *"Mediating DNA Photooxidation by the Excited States of Aromatic Imide and Diimide Compounds,"* Georgetown University, Washington, DC, November, 1999
- 25. Kelly, L. A., "*The Role of Redox Reactions in DNA and RNA Cleavage*" University of Windsor, Windsor, Ontario, December 1998.
- 26. Kelly, L. A., "The Role of Photoredox Reactions in DNA and RNA Cleavage," Howard University, Washington, D.C., October, 1998.
- 27. Kelly, L. A., "Artificial Photonucleases: Getting More Bang from Your Photons," Western Maryland College, Westminster, MD, November, 1997.
- 28. **Kelly, L. A.,** *"Artificial Photonucleases: Getting More Bang from Your Photons,"* Presented at Washington College, Chestertown, MD, November, 1997.

# Select Conference Presentations (Juried/Refereed) (S(O) or (P) = Student (Oral) or (Poster) Presentation)

- (Grant, R.<sup>G</sup>), Kelly, L. A.\*, "4-Amino 1,8-Naphthalimides as Potential Photo-Induced Protein Crosslinkers," 41<sup>st</sup> American Society for Photobiology Biennial Meeting, Albuquerque, NM, September 25 – 28, 2022. S(O)
- (Grant, R.)<sup>G</sup>, Kelly, L. A.\*, "Solvatochromic Dyes as Protein Crosslinkers," 5th Annual Chemistry and Biochemistry Graduate Research Day, University of Maryland, Baltimore County, March 4, 2022. S(P)

- (Grant, R.)<sup>G</sup>, Kelly, L. A.\*, "Solvatochromic Dyes as Protein Crosslinkers," 4th Annual Chemistry and Biochemistry Graduate Research Day, University of Maryland, Baltimore County, March 5, 2021. S(P)
- (Grant, R.)<sup>G</sup>, Kelly, L. A.\*, "Solvatochromic Dyes as Protein Crosslinkers," 3rd Annual Chemistry and Biochemistry Graduate Research Day, University of Maryland, Baltimore County, March 6, 2020. S(P)
- (Singh, N.)\*, Choa, F. -S., Arnold, B., Kelly, L. A., Mandal, K., "Transition of Nanomorphology in Ceramic Systems: Multifunctional Ceramics for Energy Storage, Microelectronics, EOIR and Radiation Sensors," 44th International Conference and Exposition on Advanced Ceramics and Composites, Daytona Beach, FL, January 26, 2020. (O)
- (Sachs, D.)<sup>U</sup>, Prasad, N.\*, Kelly, L. A., Singh, N. B., Choa, F-S., Arnold, B. A., "Self-Cleaning of Aircraft Surfaces Using Nanotechnology," NASA Langley, Langley, VA, August 8, 2019. S(O)
- (Tzortzakakis, M.),<sup>U</sup> Kelly, L. A.\*, "A Calorimetric Approach To Structure-Reactivity Correlation In Epoxide Crosslinking Reactions," 23<sup>rd</sup> University Research and Creative Achievement Day, University of Maryland, Baltimore County, April 24, 2019. S(P)
- Sova, S.<sup>G</sup>, (Prasad, N.)\*, Cooper, C.<sup>G</sup>, Kelly, L., Arnold, B. R., Cullum, B. M., Choa, F. -S., Singh, N. B., "*Importance of Lotus Effect on Surface Sensing*", SPIE Defense + Commercial Sensing, Baltimore, MD, April 15, 2019. (O)
- McAdams, J.<sup>G</sup>, Bowman, E.<sup>G</sup>, Cullum, B. M., Arnold, B. R., Kelly, L., Choa, F. –S., (Singh, N. B.)\*, "*Effect of Processing on Morphology of Hydroxyapatites: Bioactive Glasses and Crystalline Composites*," SPIE Defense + Commercial Sensing, Baltimore, MD, April 15, 2019. (O)
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