Joseph J. Reczek

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Academic Positions and Education

Denison University, Department of Chemistry and Biochemistry, Granville, Ohio
Associate Professor 2014 – present
Assistant Professor 2008 – 2014

Trinity University, Department of Chemistry, San Antonio, Texas 2006 – 2008
Postdoctoral Associate, Principle Investigator: Adam R. Urbach

The University of Texas at Austin, Austin, Texas 2001 – 2006
Ph.D. in Organic Chemistry
Advisor: Brent L. Iverson, Professor
Dissertation: *"Aromatic Electron Donor-Acceptor Interactions in Novel Supramolecular Assemblies"*

Cornell University, Ithaca, New York 1997 – 2001
BA. in Chemistry, *Cum Laude,*
Research Advisor: Geoffrey W. Coates, Professor
Research interests: Catalyst design and polymer synthesis

Publications and presentations

Peer-reviewed publications (undergraduate co-authors are underlined; * indicates Corresponding Author)

Post Denison appointment:

Madeline Van Winkle, David A. Scrymgeour, Bryan Kaehr, and **Joseph J. Reczek**, "*Laser rewritable dichroics through reconfigurable organic charge-transfer liquid crystals*" currently under review at *Advanced Materials.*

Reczek, J. J., Naphthalenediimide in Modular Columnar Liquid Crystals: Key Component of Donor-Acceptor Columnar Liquid Crystals. in *Naphthalenediimide and its Congeners: From Molecules to Materials.*, 1; Pantos, Dan., Eds; Royal Society of Chemistry: Bath, UK, **2017**, 90-113.

Ariana Gray Bé, Cheryl Tran, Riley Sechrist, and **Joseph J. Reczek**, "Strongly dichroic organic films via controlled assembly of modular aromatic charge-transfer liquid crystals" *Org. Lett.* **2015**, *17*, 4834-4837.

Annelise C. Thompson, Haley M. Grimm, Ariana Gray Bé, Keenan J. McKnight, and **Joseph J. Reczek**, "Efficient bromination of naphthalene dianhydride and microwave assisted synthesis of core-brominated naphthalene diimides" *Synth. Commun.* **2015**, *45*, 1127-1136.

Leight, Katie R.; Esarey, Brooke E.; Murray, Alex E.; **Reczek, Joseph J.** "Modular and Predictable Tuning of Absorption Properties in Aromatic Donor-Acceptor Materials" *Chem. Mater.* **2012,** *24*, 3318-3328.
Selected in 2016 for inclusion in a virtual issue on the state-of-the-art in Materials Genomics:
http://pubs.acs.org/page/vi/materials-genomics.html

Alvey, Paul M.; **Reczek, Joseph J**.; Lynch, Vincent; Iverson, Brent L. "A Systematic Study of Thermochromic Aromatic Donor-Acceptor Materials" *J. Org. Chem*. **2010**, *75,* 7682-7690.

Reczek, Joseph J.; Rebolini, Elisa; Urbach, Adam R. "Solid-Phase Synthesis of Peptide-Viologen Conjugates" *J. Org. Chem*., **2010**, *75,* 2111-2114.

Reczek, Joseph J.; Kennedy, Aimee A.; Halbert, Brian T.; Urbach, Adam R. "Multivalent Recognition of Peptides by Modular Self-Assembled Receptors" *J. Am. Chem. Soc.*, **2009**, *131*, 2408-2415.

Pre Denison appointment:
Mazzitelli, Carolyn L.; Chu, Yongjun; **Reczek, Joseph J**.; Iverson, Brent L.; Brodbelt, Jennifer S. "Screening of Threading Bis-Intercalators Binding to Duplex DNA by Electrospray Ionization Tandem Mass Spectrometry" *J. Am. Soc. Mass. Spec.,* **2007**, 18(2), 311-321.

Reczek, Joseph J.; Villazor, Karen R.; Lynch, Vincent; Swager, Timothy M.; Iverson, Brent L. "Tunable Columnar Mesophases Utilizing C_2 Symmetric Aromatic Donor-Acceptor Complexes" *J. Am. Chem. Soc.,* **2006**, *128(24)*, 7995-8002.

Reczek, Joseph J.; Iverson, Brent L. "Using Aromatic Donor Acceptor Interactions to Affect Macromolecular Assembly" *Macromolecules*, **2006**, *39(17)*, 5601-5603.

Gabriel, Greg; **Reczek, Joe**; Iverson, Brent. "Now Accepting Donation – Molecular recognition in aqueous solution" *Polymer Preprints*, **2003**, *44*(2), 453-454.

Cheng, Ming; Moore, David R.; **Reczek, Joseph J**.; Chamberlain, Bradley M.; Lobkovsky, Emil B.; Coates, Geoffrey W. "Single-Site β-Diiminate Zinc Catalysts for the Alternating Copolymerization of CO_2 and Epoxides: Catalyst Synthesis and Unprecedented Polymerization Activity" *J. Am. Chem. Soc.* **2001**, *123*(36), 8738-8749.

Patents
Bauer, Charles Leo; Shaw-Klein, Lori; **Reczek, Joseph** "Method for providing a high viscosity coating on a moving web for imaging and printing media" US 6,419,987 B1, **2002.**

External Grant Funding
National Science Foundation, "MRI: Acquisition of a powder X-ray defractometer to enhance research at a primarialy undergraduate institution" PI: Reczek, $105,300, 8/15 – 7/16

National Science Foundation, "RUI: Developing Organic Photoconductive Materials through Modular Design of Self-Assembling Components" PI: Reczek $200,000, 8/12 - 7/16.

Petroleum Research Fund, "Aromatic donor-acceptor organocatalysis: noncovalent activation of aryl halides in green palladium cross-coupling reactions" $65,000, 1/13 - 8/17

Special Grant Program in the Chemical Sciences, The Camille and Henry Dreyfus Foundation, "Inspiring the Future: A Cooperative Approach to Increasing Regional Education, Exploration, and Opportunities with the Chemistry of Energy" $34,000, 6/11 – 6/13.

Lindbergh Grant, The Lindbergh Foundation, "Developing Liquid Crystal Solar Cells to Promote Clean, Efficient, and Affordable Energy" $10,580, 7/10 - 8/11.

Cottrell College Science Award, Research Corporation, "Development of Modular Organic Columnar Liquid Crystals as Robust Sensitizers in Low-Cost Solar Cells" $41,682, 1/10 - 12/11.

Recent Invited Talks and Conferences

253rd ACS National Meeting & Exposition, San Francisco, CA, United States, April 2-7, **2017**, ORGN-704.
"Efficient synthesis of highly-substituted anthraquinones"

Invited talk at Case Western Reserve University, Cleveland, OH, March **2017**.
"Design and Emergent Properties of Modular Aromatic Charge-Transfer Liquid Crystals",

Invited talk at Ohio University, Condensed Matter and Surface Sciences Group, Athens, OH, Nov. **2016**.
"Design and Emergent Properties of Modular Aromatic Charge-Transfer Liquid Crystals",

Ohio Project Kaleidoscope (OH-PKAL) conference, Columbus OH, May 21, **2016**.
"A Fully Integrated Theme-Based Inquiry of Introductory Chemistry",

251st ACS National Meeting & Exposition, San Diego, CA, United States, March 13-17, **2016**, ORGN-646.
"Structural control of modular aromatic charge-transfer liquid crystals leads to strongly dichroic organic films"

Invited talk at Energy, Materials, Nanotechnology Meeting, Orlando FL, February 16-19, **2016**.
"Design, assembly, and emergent properties of columnar mixed-stack aromatic donor-acceptor liquid crystals"

Invited talk at Marshall University, Huntington, WV, September **2015**.
"Columns of a different color: molecular organic materials by modular design"

249th ACS National Meeting & Exposition, Denver, CO, United States, March 22-26, **2015**, ORGN-402.
"Highly substituted anthracenes as self-assembly components of new donor-acceptor columnar liquid crystalline materials"

Invited talk at Sandia National Laboratories, Albuquerque NM, November **2014**.
"Columns of a different color: molecular organic materials by modular design"

248th ACS National Meeting & Exposition, San Francisco, CA, United States, August 12, **2014**, ORGN-837.
"Efficient synthesis of core-substituted naphthalenediimide derivatives"

248th ACS National Meeting & Exposition, San Francisco, CA, United States, August 12, **2014**, CHED-436.
"STEMfest!: Engaged problem solving in the chemical sciences for high school students"

Invited talk at Allegheny College, Meadville PA, April **2013**.
"All it's stacked up to be: aromatic-aromatic interactions in the design of new organic materials"

Research Group (Spring 2017)

Current members (PI + 12 Denison Undergraduates)

Jarrett Dillenburger (Senior)	01/15 – present	Niquana Smith (Junior)	08/15 - present
Michelle Hill (Senior)	01/15 - present	Madeline Stern (Junior)	01/16 - present
Peter Rudd (Senior)	01/15 - present	Andrew Delehunty (Junior)	01/16 – present
Philip Papaioannou (Senior)	01/16 – present	Theophilus Nguyen (Junior)	09/16 – present
Kareha Agesa (Senior)	01/15 – 04/16	Amirah Loury (Sophomore)	04/16 – present
Madeline Van Winkle (Junior)	01/15 - present	Ja'lia Sheppard (Sophomore)	04/16 – present

Undergraduate Senior Theses Mentored:

Mitchell Legg ‘10	Adam Murray ‘13
Alex Murray ‘10	Annelise Thompson ‘13
Brooke Esarey ‘11	Haley Grimm ‘14
Katie Leight ‘11	Ariana Gray Be ‘15
Kevin Rodda ‘11	Riley Sechrist ‘15
Sam Wolock ’12	Loryn Holokai ‘16
Keenan McKnight ‘12	David Allen ‘16

Professional Service and Community Outreach

Journal Reviewer: *Journal of the American Chemical Society*, *Angewandte Chemie, Organic Letters, The Journal of Organic Chemistry, Langmuir, Journal of Materials Chemistry C, Organic Electronics,*

Grant proposal reviewer: The National Science Foundation, Research Corporation, ACS Petroleum Research Fund, American Association for the Advancement of Science,

Council on Undergraduate Research
Elected Councilor, Chemistry Division; 2015 – 2018

Denison University, Granville OH
Committees:
Liberal Arts Engineering Program Committee; 2014 – present
Academic Affairs Council; 2011 – 2013; Vice Chair 2011-2012
Student Commencement Speaker Committee; 2010 – 2013
Environmental Studies Committee; 2008 – 2012
Burton D. Morgan Entrepreneurship Committee; 2009 – 2012
Faculty Advisor:
Denison Chemistry Society; 2009 – 2014; 2016 – Present

The Works Museum, Newark, OH (http://www.attheworks.org)

STEM advisory board	2011– present
Sponsor and mentor of annual STEMfest! competition	2010 – present
Founding member and annual organizer of KidsTech University	2013 – present
Team leader and designer of the permanent exhibit: The Solar Station	2012 – 2013
General STEM programing and outreach	2009 – present

Affiliations
American Chemical Society**;** Council on Undergraduate Research**;** American Association for the Advancement of Science; Materials Research Society