

# JENNIFER E. LAASER

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## EDUCATION AND APPOINTMENTS

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- Aug. 2016** University of Pittsburgh (Pittsburgh, PA)  
-present *Assistant Professor*
- Sep. 2013** University of Minnesota (Minneapolis, MN)  
- **Jul. 2016** *Postdoctoral Research Associate*
- 2013** University of Wisconsin-Madison (Madison, WI)  
*Ph.D., Physical Chemistry*
- 2008** Yale University (New Haven, CT)  
*B.S., Chemistry (summa cum laude)*

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## HONORS AND AWARDS

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- 2015** Dan Su Travel Award, American Chemical Society
- 2014** L'Oréal USA For Women in Science Postdoctoral Fellowship (*\$60,000 grant*)
- 2013** Casey Excellence in Research Award, University of Wisconsin-Madison  
AAAS Mass Media Fellowship
- 2009** Outstanding Chemistry Teaching Award, University of Wisconsin-Madison
- 2008** National Science Foundation Graduate Research Fellowship  
Pei Wang Fellowship, University of Wisconsin-Madison  
Dow Chemical Company Fellowship, University of Wisconsin-Madison  
Werner-Bergmann Prize for the Outstanding Senior in Chemistry, Yale University

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## PUBLICATIONS

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- J. E. Laaser**, E. Lohmann, Y. Jiang, T. M. Reineke, and T. P. Lodge. Architecture-Dependent Stabilization of Polyelectrolyte Complexes between Polyanions and Cationic Triblock Terpolymer Micelles. *Macromolecules*, 49(17):6644–6654, 2016.
- D. Sprouse, Y. Jiang, **J. E. Laaser**, T. P. Lodge, and T. M. Reineke. Tuning Cationic Block Copolymer Micelle Size by pH and Ionic Strength. *Biomacromolecules*, 17(9): 2849–2859, 2016.
- J. E. Laaser**, Y. Jiang, S. R. Petersen, T. M. Reineke, and T. P. Lodge. Interpolyelectrolyte Complexes of Polycationic Micelles and Linear Polyanions: Structural Stability and Temporal Evolution. *Journal of Physical Chemistry B*, 119(52):15919–15928, 2015.
- B. Ding, A. Panahi, J.-J. Ho, **J. E. Laaser**, I. Charles L. Brooks, M. T. Zanni, and Z. Chen. Probing Site-Specific Structural Information of Peptides at Model Membrane Interfaces in Situ. *Journal of the American Chemical Society*, 137(32):10190–10198, 2015.

13. **J. E. Laaser**, Y. Jiang, D. Sprouse, T. M. Reineke, and T. P. Lodge. pH- and Ionic Strength-Induced Contraction of Polybasic Micelles in Buffered Aqueous Solutions. *Macromolecules*, 48(8):2677–2685, 2015.
12. T. A. Oudenhoven, Y. Joo, **J. E. Laaser**, P. Gopalan, and M. T. Zanni. Dye Aggregation Identified by Vibrational Coupling Using 2D IR Spectroscopy. *Journal of Chemical Physics*, 142:212449, 2015.
11. **J. E. Laaser**, J. R. Christianson, T. A. Oudenhoven, Y. Joo, P. Gopalan, J. R. Schmidt, and M. T. Zanni. Dye Self-Association Identified by Intermolecular Couplings Between Vibrational Modes as Revealed by Infrared Spectroscopy, and Implications for Electron Injection. *Journal of Physical Chemistry C*, 118(11):5854–5861, 2014.
10. **J. E. Laaser**, D. R. Skoff, J.-J. Ho, Y. Joo, A. L. Serrano, J. D. Steinkruger, P. Gopalan, S. H. Gellman, and M. T. Zanni. Two-Dimensional Sum-Frequency Generation Reveals Structure and Dynamics of a Surface-Bound Peptide. *Journal of the American Chemical Society*, 136(3):956–962, 2014. **\*\* Featured in C&ENews (Jan. 13, 2014)**
9. D. R. Skoff, **J. E. Laaser**, S. S. Mukherjee, C. T. Middleton, and M. T. Zanni. Simplified and Economical 2D IR Spectrometer Design Using a Dual Acousto-Optic Modulator. *Chemical Physics*, 422(30):8–15, 2013.
8. B. Ding, **J. E. Laaser**, Y. Liu, P. Wang, M. T. Zanni, and Z. Chen. Site-specific Orientation of an  $\alpha$ -helical Peptide Ovispirin-1 from Isotope-Labeled SFG Spectroscopy. *Journal of Physical Chemistry B*, 117(47):14625–14634, 2013.
7. **J. E. Laaser** and M. T. Zanni. Extracting Structural Information from the Polarization Dependence of One- and Two-Dimensional Sum Frequency Generation Spectra. *Journal of Physical Chemistry A*, 117(29):5875–5890, 2013.
6. R. D. Mehlenbacher, M.-Y. Wu, M. Grechko, **J. E. Laaser**, M. S. Arnold, and M. T. Zanni. Photoexcitation Dynamics of Coupled Semiconducting Carbon Nanotube Thin Films. *Nano Letters*, 13(4):1495–1501, 2013.
5. W. Xiong, **J. E. Laaser**, R. D. Mehlenbacher, and M. T. Zanni. Adding a Dimension to the Infrared Spectra of Interfaces Using Heterodyne-Detected 2D Sum-Frequency Generation (HD 2D SFG) Spectroscopy. *Proceedings of the National Academy of Sciences of the United States of America*, 108(52):20902–20907, 2011.
4. **J. E. Laaser**, W. Xiong, and M. T. Zanni. Time-Domain SFG Spectroscopy Using Mid-IR Pulse Shaping: Practical and Intrinsic Advantages. *Journal of Physical Chemistry B*, 115(11):2536–2546, 2011.
3. P. Paoprasert, **J. E. Laaser**, W. Xiong, R. A. Franking, R. J. Hamers, M. T. Zanni, J. R. Schmidt, and P. Gopalan. Bridge-Dependent Interfacial Electron Transfer from Rhenium-Bipyridine Complexes to TiO<sub>2</sub> Nanocrystalline Thin Films. *Journal of Physical Chemistry C*, 114(21):9898–9907, 2010.
2. H. K. Gerardi, K. J. Breen, T. L. Guasco, G. H. Weddle, G. H. Gardenier, **J. E. Laaser**, and M. A. Johnson. Survey of Ar-Tagged Predissociation and Vibrationally Mediated Photodetachment Spectroscopies of the Vinylidene Anion, C<sub>2</sub>H<sub>2</sub><sup>-</sup>. *Journal of Physical Chemistry A*, 114(3):1592–1601, 2010.
1. W. Xiong, **J. E. Laaser**, P. Paoprasert, R. A. Franking, R. J. Hamers, P. Gopalan, and M. T. Zanni. Transient 2D IR Spectroscopy of Charge Injection in Dye-Sensitized Nanocrystalline Thin Films. *Journal of the American Chemical Society*, 131(50):18040–18041, 2009.

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## PRESENTATIONS

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- Invited** University of Massachusetts-Amherst, Department of Polymer Science and Engineering (2016)  
University of Pittsburgh, Department of Chemistry (2016)  
University of Texas at Austin, Department of Chemistry (2015)  
Colorado State University, Department of Chemistry (2015)  
Northwestern University, Department of Chemistry (2015)  
244<sup>th</sup> Meeting of the American Chemical Society, Philadelphia, PA (2012)  
221<sup>st</sup> Meeting of the Electrochemical Society, Seattle, WA (2012)
- Contributed** March Meeting of the American Physical Society, Baltimore, MD (2016)  
250<sup>th</sup> Meeting of the American Chemical Society, Boston, MA (2015)  
March meeting of the American Physical Society, San Antonio, TX (2015)
- Posters** Gordon Conference on Polymer Physics, Mount Holyoke, MA (2016)  
Jülich Soft Matter Days, Bad Honnef, Germany (2015)  
Gordon Conference on Polymers, Mount Holyoke, MA (2015)  
Gordon Conference on Polymer Physics, Mount Holyoke, MA (2014)  
15<sup>th</sup> International Conference on Time-Resolved Vibrational Spectroscopy, Monte Verita, Switzerland (2011)  
5<sup>th</sup> International Conference on Coherent Multidimensional Spectroscopy, Minneapolis, MN (2010)  
Gordon Conference on Vibrational Spectroscopy, Biddeford, ME (2010)

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## RESEARCH EXPERIENCE

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- Sep. 2013** **University of Minnesota Department of Chemistry (Minneapolis, MN)**  
- **present** *Postdoctoral Research Associate*  
- PI: Timothy Lodge  
- Research topic: synthesis and characterization of block copolymer micelles & micelle-polyelectrolyte complexes for gene delivery
- Nov. 2008** **University of Wisconsin-Madison Department of Chemistry (Madison, WI)**  
- **Aug. 2013** *Graduate Research Assistant*  
- PI: Martin T. Zanni  
- Thesis topic: New Methods for Nonlinear Vibrational Spectroscopy of Materials and Biophysical Interfaces
- Jan. 2007** **Yale University Department of Chemistry (New Haven, CT)**  
- **May 2008** *Undergraduate Research Assistant (with Mark Johnson)*
- Summer 2006** **Stanford University Department of Chemistry (Stanford, CA)**  
& **Summer 2005** *Undergraduate Research Assistant (with Richard N. Zare)*

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## TEACHING EXPERIENCE

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- Fall 2016** **University of Pittsburgh Department of Chemistry (Pittsburgh, PA)**  
*Instructor for Chemistry 2430 (Graduate Quantum Mechanics)*
- Fall 2014** **University of Minnesota-Twin Cities Department of Chemistry (Minneapolis, MN)**  
*Mentoring Program for Aspiring Chemistry Teachers (Mentee)*

- Spring 2012** University of Wisconsin-Madison Department of Chemistry (Madison, WI)  
*Substitute Lecturer for Chemistry 763 (Graduate Spectroscopy)*
- Fall 2008** University of Wisconsin-Madison Department of Chemistry (Madison, WI)  
**- Spring 2009** *Teaching Assistant for Chemistry 115 and 116*
- Fall 2007** Yale University (New Haven, CT)  
*Peer Tutor/Undergraduate Teaching Assistant for Chemistry 118*

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PROFESSIONAL DEVELOPMENT

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- 2015-2016** University of Minnesota-Twin Cities (Minneapolis, MN)  
*Office of Equity and Diversity Training Courses*
- Aug. 2015** American Chemical Society (Boston, MA)  
*Postdoc-to-Faculty Workshop*
- Fall 2014** University of Minnesota-Twin Cities (Minneapolis, MN)  
*Mentoring Program for Aspiring Chemistry Teachers (Mentee)*

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OUTREACH

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- 2017** University of Pittsburgh (Pittsburgh, PA)  
**- present** *Developing polymer outreach activities for Pitt's MobileLab*
- 2014-2016** University of Minnesota WISE (Minneapolis, MN)  
*Cool Chemistry Organizer/Demonstrator*
- 2013-2016** Twin Cities Regional Science Fair (Minneapolis, MN)  
*Science Fair Judge (High School Projects)*
- 2013** Milwaukee Journal Sentinel (Milwaukee, WI)  
*AAAS Mass Media Fellow*
- 2009-2013** UW-Madison Materials Science Center (Madison, WI)  
*Interactive nanotechnology demonstrations for audiences aged 5-95*
- 2010-2013** J.C. McKenna Middle School (Evansville, WI)  
*"Interview a Scientist" Project*
- May 2011** National Science Olympiad (Madison, WI)  
*Chemistry Lecture Demonstrations*

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MENTORING

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- Graduate Students** Domenic Boe (MS, 2016-present)  
Jun Huang (PhD, 2017-present)  
Zijian Huo (PhD, 2016-present)  
Frances Morin (PhD, 2016-present)
- Undergraduates** Brandon Myrga (2017-present)  
Morgan Cyron (2016-present)  
Elise Lohmann (2015-2016)  
Shannon Petersen (2014)  
Len Roche (2012-2013)

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OTHER

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**Reviewing** National Science Foundation, Chemical Structure, Dynamics and Mechanisms - A  
(CHE Division)

The Journal of Physical Chemistry B

The Journal of Chemical Physics

ACS Macro Letters

**Service** University of Pittsburgh Chemistry, Diversity Committee (2016-present)

University of Pittsburgh Chemistry, Graduate Admissions Committee (2016-present)

**Affiliations** American Chemical Society (ACS)

American Physical Society (APS)