

## PROFESSIONAL LEADERSHIP AND ACTIVITIES

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**2016 Clean Tech Competition “Making an Impact”** – Judge (03/2016)

**UD, Department of Chemical and Biomolecular Engineering Colburn Club:** – 1st year class representative (10/2013 - 09/2014)

**American Institute of Chemical Engineers (AIChE)** – President (09/2011 - 06/2012)

**Memberships:** American Physical Society (APS), American Chemical Society (ACS), Society of Rheology (SOR), Neutron Scattering Society of America (NSSA), American Institute of Chemical Engineers (AIChE), Tau Beta Pi, Omega Chi Epsilon, The Golden Key International Honor Society, Inspiring Women in Engineering, Society of Women Engineers

**Outreach activities:** Society of Rheology Community Outreach Initiatives (2014 - Present); American Cancer Society Relay for Life (2013 - Present); Big Brothers Big Sister, K-12 Science Outreach: Mentor students in Philadelphia, Delaware, DC area (2013 -present)

## SKILLS AND EXPERTISE

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**Rheometry:** TA Instruments ARES and AR series rheometers and related software. Anton Paar Physica MCR 501 rheometer and related software. Sentmanat Extension Rheometer. KSV minimicro trough. Languir-Blodgett (LB) trough.

**Scattering:** Light Scattering (SLS, DLS), X-Ray Scattering (SAXS at Argonne National Lab), Neutron Scattering (SANS at NIST and ORNL; rheo-SANS and flow-SANS at NIST and the Institut Laue-Langevin (ILL) in Grenoble, France).

**Other analytical techniques:** SEM, TEM, Cryo-TEM, NMR, FTIR, DSC, TGA, UV-Vis.

**Software/Programming:** Matlab, Python, Minitab, Igor, Origin, Aspen, Microsoft Office, Adobe Acrobat/Photoshop, Java.

## PUBLICATIONS

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1. Chen, R.; López-Barrón, C. R.; Wagner, N. J. “Tunable rheology, microstructure and sheared alignment of thermoreversible soft micellar crystals in ionic liquids”. *In preparation for JOR*.
2. Chen, R.; López-Barrón, C. R.; Wagner, N. J. “Co-micellization of binary mixture of binary PEO-PPO-PEO tri-block copolymer P123 and F127 in ethylammonium nitrate”. *In preparation for ACS Macro Letter*.
3. Chen, R.; López-Barrón, C. R.; Wagner, N. J. “Self-assembly of block copolymers in ionic liquids”. **Book chapter** for *ACS Symposium Series: “Ionic Liquids: Current State and Future Directions”*. *In press*.
4. López-Barrón, C. R.; Chen, R.; Wagner, N. J. “Ultrapstretchable ionic-Elastomers with mechanoelectrical response”. *ACS Macro Letter*, **2016**, 5, 1332-1338.
5. López-Barrón, C. R.; Chen, R.; Wagner, N. J.; Beltramo, P. “Self-assembly of Pluronic F127-diacrylate in ethylammonium nitrate: structure, rheology and ionic conductivity before and after photo-crosslinking”. *Macromolecules*, **2016**, 49(14), 5179-5189.
6. Cramer, H.; Meawala, C.; Salonga, S.; Shockey, C.; Chen, R.; Colby, D.; Dhurjati, P.; Shiflett, M. “Chemical engineering senior laboratory the University of Delaware”. *Chemical Engineering Education*, **2016**, 2(5), 131-140.
7. Chen, R.; Tu, R. “Phase Transition of an interfacially confined amphiphilic peptide”. *Journal of Student Research The Grove School of Engineering in the City College of New York*. **2012**, 5, 20-24.
8. Sereych, M.; Chen, R.; Badosz, T. J. “Effects of the addition of graphite oxide to the precursor of a nanoporous carbon on the electrochemical performance of the resulting carbonaceous composites”. *Carbon*. **2012**, 50(11), 4144-4154.

## PATENTS

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1. López-Barrón, C. R.; Chen, R.; Wagner, N. J. Cross-linked ionic elastomers with outstanding tensile responses and high ion conductivity. U.S. Patent Serial No. 62/393,133, September 12, 2016.

## SELECTED CONFERENCE PRESENTATIONS (ORAL)

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1. **NIST Low Q Seminar Series**, November 16, 2016. National Institute of Standards and Technology, Gaithersburg, MD, USA.
  - Chen, R.; López-Barrón, C. R.; Wagner, N. J. “Towards wearable electronics and sensors: structure and tensile properties of cross-linked Pluronic-diacrylate copolymers/ethylammonium nitrate ionic-elastomers”.
2. **The 2016 AIChE Annual Meeting, invited talk**, November 13-18, 2016. San Francisco, CA, USA.
  - López-Barrón, C. R.; Chen, R.; Wagner, N. J. “Ultra-stretchable ionic-elastomers with mechano-electrical response”.
3. **The 4th International Soft Matter Conference (ISMC 2016)**, September 12-16, 2016. Grenoble, France.
  - López-Barrón, C. R.; Chen, R.; Wagner, N. J. “Structure and tensile properties of cross-linked Pluronic-diacrylate copolymers /ethylammonium nitrate ionic-elastomers”.
4. **The XVIIth International Congress on Rheology (ICR 2016)**, August 8-13, 2016. Kyoto, Japan.
  - Chen, R.; López-Barrón, C. R.; Wagner, N. J. “Structure and tensile properties of cross-linked Pluronic-diacrylate copolymers /ethylammonium nitrate ionic-elastomers”.
5. **The 2016 American Conference on Neutron Scattering (ACNS 2016)**, July 10-14, 2016. Long Beach, California, USA.
  - Chen, R.; López-Barrón, C. R.; Wagner, N. J. “Microstructure and dynamics of polymeric wormlike micelles in ionic liquids”.
6. **The 251st ACS National Meeting & Exposition Symposium on “Emerging Technologies using Ionic Liquids”, invited talk**, March 13-17, 2016. San Diego, California, USA.
  - López-Barrón, C. R.; Chen, R.; Wagner, N. J. “Structure and tensile properties of cross-linked Pluronic-diacrylate copolymers /ethylammonium nitrate ionic-elastomers”.
7. **The Gordon Research Conference on Colloidal, Macromolecular & Polyelectrolyte Solutions**, February 6-12, 2016. Ventura, California, USA.
  - Chen, R.; López-Barrón, C. R.; Wagner, N. J. “Tunable rheology, microstructure and sheared alignment of thermo-reversible micellar crystals in ionic liquids”.
8. **The Urban University Conference Series - International Research Partnerships**, August 6, 2013. Graz University of Technology, Graz, Austria.
  - Chen, R.; Yang, X.; Hakkarainen, M. “Controlled degregation techniques for Poly(3-hydroxyalkanoates)”.