RU CHEN

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EDUCATION

University of Delaware (UD), Newark, DE 08/2013 - Present
Ph.D. candidate in Chemical Engineering (w/ qualifier commendation) GPA: 3.87/4.00
Principle investigator: Dr. Noman J. Wagner

City College of the City University of New York (CCNY), New York, NY 08/2009 - 06/2013
B.S. with high honors in Chemical Engineering and minor in Mathematics Major GPA: 4.00/4.00

SELECTED HONORS AND AWARDS

2nd Place at Delaware Startup Launchpad Entrepreneurship competition 11/2016
SOR Student Travel Grant, XVIIth International Congress on Rheology 08/2016
NSF Graduate Research Fellowship 09/2013 - Present
U.S.-Swedish International Research Scholar, Royal Institute of Technology 06/2013 - 09/2013
Roslyn K. Gitlin Women in Engineering Alumni Award, CCNY 09/2012 - 08/2013
Who's Who Among Students in American Universities and Colleges 09/2012 - 08/2013
Merck Engineering & Technology Scholar 06/2012

ACADEMIC AND INDUSTRIAL RESEARCH EXPERIENCE

Entrepreneurial Lead, Delaware Startup Launchpad, The Horn Program in Entrepreneurship and Delaware Founders Initiative, UD
Alfred Lerner College of Business & Economics, Newark, DE, USA 11/2016 - 12/2016
Principle investigator: Dr. Norman J. Wagner
Project: Established and validated business model for co-invented ultra-stretchable and conductive material based startup

- Completed 5 weeks' intense hands–on business training based on Lean Startup method, with a focus on business canvas construction, falsifiable hypotheses testing, customer discovery interviews, scientific data analysis, evidence-based decision making, minimum viable product design, unique value proposition validation
- Conducted 34 customer discovery and solution interviews with technical and business sectors in global chemicals (Dow, Dupont, Gore, ExxonMobil Chemical Company) and sports gear companies (Nike, Under Armour, Adidas, Reebok) within 5 weeks
- Awarded 2nd Place in Delaware Startup Launchpad entrepreneurship pitch competition

Graduate Research Assistant, UD Wagner's group & NIST Center for Neutron Research, Gaithersburg, MD, USA 09/2013 - Present
Thesis advisors: Dr. Norman J. Wagner, Dr. Paul Butler
Project: Synthesis, self-assembly and characterization of Pluronic triblock copolymers in protic ionic liquid

- Developed new synthesis protocol for preparing deuterated protic ionic liquid with higher purity and yield
- Performed characterization on micellization and gelation behavior of self-assembled block copolymer/ionic liquid solutions
- Employed state-of-the-art time-resolved *in-situ* rheo-SANS and flow-SANS experiments to investigate microstructure-rheological property relationship of self-assembled solution at quiescent state, start-up flow and under oscillatory shear deformation
- Co-invented and characterized novel iono-elastomer with ultra-stretchability and high ionic conductivity for applications in wearable electronics, smart textiles and motion sensors

Visiting Research Scholar, Royal Institute of Technology (KTH), Stockholm, Sweden 06/2013 - 08/2013
Principal investigator: Dr. Minna Hakkarainen
Project: Microwave-induced isothermal degradation of Polyhydroxybutyrate (PHB) in alkaline methanol solution

- Designed and implemented experiments on the novel microwave solvent extraction system to explore the degradation behavior of PHB in alkaline solutions
- Investigated the effect of five governing factors that influenced the degradation behavior via various characterization techniques, such as H-NMR, IR spectroscopy, and size-exclusion chromatography
- Determined the critical conditions for optimal PHB degradation in alkaline methanol solutions

Merck Manufacturing and Development Summer Intern, Merck & Co., Inc., Danville, PA, USA 06/2012 - 08/2012
Manager: Dr. Sankar Raghavan
Project: Isopropyl alcohol (IPA) recovery from given mother liquor for reducing waste treatment cost

Undergraduate Research Assistant, CCNY, New York, NY, USA

- Principal investigator: Dr. Raymond Tu (Chemical Engineering Department) 09/2012 - 06/2013
  Project: Phase transition of Beta 9H peptide self-assembly at the water-air interface
- Principal investigator: Dr. Teresa Bandosz (Chemistry Department) 09/2011 - 06/2012
  Project: Systhesis and characterization of a novel copper-based metal-organic framework (MOF) and graphite oxide (GO) composites (MOF-GO) for potential use in air purification and filtration media

TEACHING EXPERIENCE

UD, Department of Chemical and Biomolecular Engineering
Teaching Assistant (09/2014 - 01/2015): CHEG 445: Senior Laboratory

- TA in charge of all grading/editing and giving lectures on technical writing and data analysis
- Reviewed, edited and updated existing senior lab experimental documentations and videos, including ASPEN Plus tutorial