

CURRICULUM VITAE  
**JUSTIN M. GREENLY, Ph.D.**  
(740) 346-6482  
justin.greenly@gmail.com

**Assistant Professor of Engineering**  
Franciscan University, Steubenville, OH  
(2014 - present)

**COURSES TAUGHT**

Engineering Innovations I (Intro to Engineering) and II (Engineering Analysis), Rigid Body Statics and Dynamics, Strength of Materials, Engineering Thermodynamics, Intro to Chemical Engineering Analysis, Calculus I and II, and Matrix Theory I and II, Differential Equations, Math Thesis

**SPECIAL PROJECTS and AWARDS**

- Introduced the Gizmo Engineering and Education Project and Expo, a collaborative project for engineering and education students, culminating in an annual community event displaying devices (“gizmos”) designed to teach science and technology concepts
- Initiated 3D printing opportunities for engineering student projects
- Foster internships, collaborations, and projects for students in our dual-degree partnership with Catholic U., Gannon U., Saint Francis U., U. of Notre Dame, U. of Pittsburgh
- Received the St. Elizabeth Ann Seton Outstanding Faculty Mentor Award, Gallery of Research, Artistry, and Community Engagement (GRACE) Symposium, Spring 2018

**RESEARCH INTERESTS**

Engineering Education, Sustainable Energy, Hydrothermal Processing, Ultrasonic Cavitation, 3D Printing

**DEGREES**

- 2014            Cornell University, Ithaca, New York  
Doctor of Philosophy in Chemical and Biomolecular Engineering  
School of Chemical and Biomolecular Engineering  
Advisee of Jefferson W. Tester, Ph.D.  
Internal Minor: Sustainable Energy Systems  
External Minor: Biological and Environmental Engineering
- 2012            Cornell University, Ithaca, New York  
Masters of Science in Chemical Engineering (*Awarded in curso*)
- 2008            Bucknell University, Lewisburg, Pennsylvania  
Bachelor of Science in Chemical Engineering, *summa cum laude*  
Donald F. Othmer Chemical Engineering Academic Excellence Award  
President's Award for Distinguished Academic Achievement

**POSTERS, PRESENTATIONS, and PUBLICATIONS**

- *In progress:* Writing and building Open Educational Resource (OER) material for an Ordinary Differential Equations Course in a small team of mathematics faculty and staff. This effort to create and curate OERs is funded by the Ohio Dept. of Ed. Innovation Grant through a partnership with North Central State College, The Ohio State U., and Ohio Dominican U.. Work completing in Summer 2019

*{continued}*

- *Currently in preparation:* Manuscript for Ohio Journal of Teacher Education regarding the collaboration between engineering and education classes in the Gizmo Project
- Students Emily Johnson, Daniel Deal, and Stephen Bolster presented “3D Printed 6-Axis Robotic Arm” Gallery of Research, Artistry, and Community Engagement (GRACE), Steubenville, OH, April 2019
- Reister, M. & Greenly, J.M. (2018, November). Elevating STEM through a unique collaboration: Extraordinary science through gizmos! Council for Exceptional Children-Teacher Education Division National Conference, Las Vegas, NV.
- Greenly, J.M., Reister, M., Manzer, J., & Burke, K. (2018, April). Gizmo collaboration with student voices. Gallery of Research, Artistry, and Community Engagement (GRACE), Steubenville, OH.
- Reister, M. & Greenly, J. M. (2018, March). Extraordinary Science through Gizmos: Elevating STEM for Students with Special Needs through a Unique Collaboration. American Council on Rural Special Education (ACRES), Salt Lake City, UT.
- Student Paul Helgemo presented poster “Design, Fabrication and Testing of a 3D Printed Centrifugal Pump”, American Institute of Chemical Engineers Annual Conference, October 2017
- Greenly, JM, Tester, JW. Ultrasonic cavitation for disruption of microalgae, Bioresource Technology. May 2015; 184: pp. 276-9
- Presented poster “The Use of Power Ultrasound for Harvesting and Extraction of Microalgal Lipids” at the 1<sup>st</sup> International Conference on Algal Biomass, Biofuels, Bioproducts, July 2011

#### **PROFESSIONAL and COMMUNITY AFFILIATIONS**

- Member, American Society for Engineering Education, 2016 – present
- Member, Engineers’ Society of Western Pennsylvania, 2016 – present
- Member, Knights of Columbus, 2011 – present
- Board of Directors, Bucknell Engineering Alumni Association, 2010 – 2013, 2018 – present
- Passed Fundamentals of Engineering Examination for Chemical Engineering, 2008
- Tau Beta Pi, Bucknell Chapter, past member
- Eagle Scout

#### **PROFESSIONAL HISTORY and TRAINING**

2018+2016	Visiting Assistant Professor at Cornell University, Six-week summer session Engineering Thermodynamics course in the School Mechanical and Aerospace Engineering
2016	SOLIDWORKS Essentials Four Day Training at 3DVision Technologies Mechanical design automation software for parametric models of parts and assemblies
2015	Project Catalyst ( <i>How to Engineer Engineering Education</i> ) Bucknell University, Lewisburg, Pennsylvania Three day workshop on principles of instructional design: instructional objectives, active learning, inductive teaching, flipped classroom, assessment, classroom technology, rubrics
2014	Consulting for clients in the energy industry in the area of corrosion issues relevant to the processing of brines and related wastewaters at sub- and supercritical conditions.
2008-2014	Ph.D. Student and Researcher

#### *Research and Project Experience:*

- Experimental and theoretical approaches to the utilization of ultrasonic cavitation for the rupture of algal cells and release of lipid products

*{continued}*

- Experimental application of cavitation across variables such as microalgae species, cell concentration, dissolved gas content, and acoustic amplitude
- Numerical modeling of effects of cavitation collapse
- Hydrothermal conversion (liquefaction) of lipid feedstock: Experimentation with high pressures, high temperature water (in near- and supercritical state) as solvent, catalyst, and reactant for lipid conversion
- Provided supervision and training, and to undergraduate laboratory assistants
- Established Tester group experimental and analytical laboratories in Biofuel Research Lab and in Snee Hall at Cornell University, established group web-page, and coordinated lab safety training and compliance for 15-member group

*Teaching Experience:*

- Lectured and assisted in courses with topics including: Analysis of Sustainable Energy Systems (Modules in Biofuels, Nuclear Energy, Wind Energy), Thermodynamics, Kinetics, Supercritical Fluid Engineering, Biofuels and Bioenergy, Separations
- Coordinated 40 undergraduate/graduate students for week-long Sustainable Energy Fellowship program at Cornell, June 2010

Summer  
2008

Process Research  
ExxonMobil, Clinton, New Jersey

- Research in upgrading of heavy crudes with novel catalytic pathways: Explored radical chemistry associated with intermetallic hydrides and co-catalysts with microwave stimulation. High throughput experimentation with gas chromatography.

Summer  
2007

Process Engineering  
Air Products and Chemicals, Allentown, Pennsylvania

- Study for External Customer: Worked in collaboration with an engineer to investigate natural gas liquefaction at sea. Utilized the AspenTech process simulator to evaluate the sensitivity of power requirements to varying refrigerant compositions.

Summer  
2006

Institute for Leadership in Technology and Management  
Bucknell University, Lewisburg, Pennsylvania

- Studied business, ethics, communication, critical thinking, teamwork, and leadership
- Concurrent consulting project: Assessed various outpatient data capture technologies at Geisinger Health System and presented final cost-benefit analysis

**PERSONAL**

- Hometown: Milton, Pennsylvania
- Married to Emily, October 2010
- Father of Anna Rose (b. 2012), Julia Mae (b. 2014), Peter Gerald (b. 2016), and John Leo (due 2019)
- Hobbies: hiking, genealogical research, strategic board games