

SERGIO GRANADOS-FOCIL. PH.D.

Gustaf H. Carlson School of Chemistry
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CURRENT AND PAST POSITIONS

09/2021-Present	Professor , Gustaf Carlson School of Chemistry, Clark University
09/2021-08/2022	Carl J. and Anna Carlson Endowed Professor , Gustaf Carlson School of Chemistry, Clark University
07/01/18-present	Affiliate Associate Professor , Department of Chemistry and Biochemistry, Worcester Polytechnic Institute
02//2016-07/2021	Research Associate , School of Engineering and Applied Sciences, Harvard University
09/2014 -08/2021	Associate Professor , Gustaf Carlson School of Chemistry, Clark University
07/2008 -08/2014	Assistant Professor , Gustaf Carlson School of Chemistry, Clark University
01/2008-06/2008	Research Professor , Gustaf Carlson School of Chemistry, Clark University
10/2005-06/2008	Postdoctoral Research Associate , Polym. Sci. & Eng. UMass Amherst

EDUCATION

Ph.D., 2006	Macromolecular Science and Engineering	Case Western Reserve University, Cleveland, OH, U.S.A.
M.S., 2002	Materials Science and Engineering	National Autonomous University of Mexico (UNAM), Mexico city, Mexico
B.S., 2001	Chemistry	National Autonomous University of Mexico (UNAM), Mexico city, Mexico

AWARDS

- **Distinguished Service as Chair**, Division of Polymeric Science and Engineering, American Chemical Society. August 2016.
- **Fellow** of the American Chemical Society. August 2017.
- **Carl J. and Anna Carlson Chair of Chemistry**. Clark University. June 2021

RESEARCH FUNDING (summary)

Over \$1M USD in external funding from federal and private sources, amounts listed correspond only to the amounts awarded specifically to Clark University in multi-institutional collaborative projects.

RESEARCH PRODUCTIVITY (summary)

4 Peer-reviewed book chapters, 34 Peer-reviewed journal articles, 2 U.S. Patents, 30 invited talks, 73 contributed presentations.

ACADEMIC SERVICE/RESPONSIBILITIES (selected)

- *Outside Clark University*: Chair of the PMSE Division of the American Chemical Society, Reviewer (both ad-hoc and panel) for the NSF (20+ proposals), Reviewer ACS-PRF (6 proposals), Manuscript peer reviewer (12 journals, 90+ submissions).
- *Within Clark University*: Elected member of graduate board, Secretary of the Faculty, Chemistry graduate program coordinator, Clark U. admissions committee, Tenure/promotion case preparer (3 cases), Salary increase task force, Reducing bias in teaching evaluations subcommittee.

TEACHING EXPERIENCE (summary)

- Research Mentor: 11 Ph.D. students, 5 Masters students and 35 undergraduate students, 9 honors theses.
- Lecturer: 15 years of experience, typical teaching load 4 courses/ year. Courses taught (9 different courses developed independently): Polymer science, Introductory Chemistry, Organic Chemistry, Advanced organic chemistry, Analytical chemistry, Biomaterials, Thermal analysis, The science of fermentation.

RESEARCH FUNDING

Over \$1M USD in external funding from federal and private sources, amounts listed correspond only to the amounts awarded specifically to Clark University in multi-institutional collaborative projects.

RESEARCH GRANTS FUNDED

2021

1. **Clark University**, Grant Incentive award (Fall 2021) **Funds awarded. One teaching release.**
2. **Clark University**, Faculty Development Grant (Summer 2021) **Funds awarded. \$5,000**

2020

3. **U.S. Department of Defense**, STTR: ThermoPylon: Thermal battery systems for garments. (05/18/20-05/18/21) **Funds awarded. \$48,999 (SGF, subcontractor)**

2019

4. REU-Supplement, **National Science Foundation**, CBET-Energy for Sustainability: An integrated study of ion dynamics and population distributions to understand the molecular underpinnings of charge transport through self-assembled solid polymer electrolytes. **\$10,400, SGF, P.I.**
5. REU-Supplement, **National Science Foundation**, CMMI. Collaborative Research: Adaptive Building Enclosure Systems Using Cellular Solid-Solid Phase Change Materials with Variable Transparency. Funds requested, **\$16,000, SGF, PI.**

2018

6. **National Science Foundation**, CBET-Energy for Sustainability: An integrated study of ion dynamics and population distributions to understand the molecular underpinnings of charge transport through self-assembled solid polymer electrolytes. **\$418,594, SGF, PI.**

2017

7. **National Science Foundation**, CMMI. Collaborative Research: Adaptive Building Enclosure Systems Using Cellular Solid-Solid Phase Change Materials with Variable Transparency. **\$198,936, SGF, PI.**
8. Faculty development grant, **Clark University**. Ion selective sensors. **\$2,000.**
9. Research agreement, **Abbvie Labs**. Development of Ion Selective Sensors for health care. **\$8,926, SGF, PI.**

2014

10. **OneSun Solar**, Development of Cuprous oxide for photovoltaic applications **\$25,000, SGF, PI.**

2012

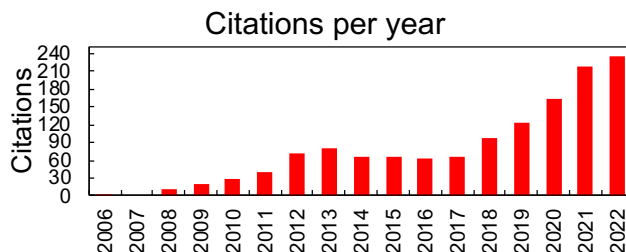
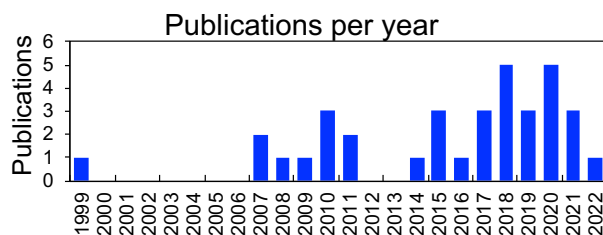
11. Marie Curie IRSES. Network for Sensor Knowledge Transfer, funded by the **European commission**. Granted, Travel funds at Stipend for 12 months of visiting graduate student **\$70,000, SGF, co-PI.**
12. Center for Functional Nanomaterials, **Brookhaven National Laboratory**. Request for Instrument time. Granted. **SGF, PI.**
13. Faculty development grant, **Clark University**. PEI Mediated Gene Delivery Systems. **\$1000.**

2009

14. Faculty development grant, **Clark University**. Block Copolymer synthesis, **\$1,261.**

PEER-REVIEWED PUBLICATIONS

4 Peer reviewed book chapters, 33 Peer-reviewed journal articles, 2 Patents



	All	Since 2018
Citations	1413	882
h-index	17	14
i10-index	27	20

Work done at Clark University

* undergraduate student author, #graduate student author, underlined names indicate the corresponding author(s). In my discipline, researchers who conceived the work and in charge of coordinating the research efforts are listed at the end. SGF's specific contributions to each article are listed below the full reference.

PEER-REVIEWED BOOK CHAPTERS

Accepted for publication prior to promotion to associate professor.

1. Litt, M.; Granados-Focil, S.; Kang, J., **Rigid Rod Polyelectrolytes with Frozen-In Free Volume: High Conductivity at Low RH**. In *Fuel Cell Chemistry and Operation*, American Chemical Society: **2010**; Vol. 1040, pp 49-63. **(10 citations)**

Accepted for publication after promotion to associate professor.

2. Granados-Focil, S., **Stimuli-responsive polymers as active layers for sensors**, in *Functional Polymer Coatings: Principles, Methods, and Applications*, First Edition. Edited by Limin Wu and Jamil Baghdachi. John Wiley & Sons, Inc., **2015**.
3. Nguyen, C-T., Deshmukh, P., Chen X. #, Granados-Focil, S., Kasi, R., **Thermoreversible ion gels from side-chain liquid crystalline brush diblock copolymers**, in *Functional Polymers, Design, Synthesis and Applications*, edited by Raja Shunmugam, CRC press, Taylor and Francis, **2017**, 241-263.
4. Van Dessel, S., Tao, M., Granados-Focil, S., **Bio-inspired building envelopes**, *Bio-inspired design*. Eds. Soboyejo, W., & Daniel, L., Cambridge University Press, **2020**.

PEER-REVIEWED JOURNAL ARTICLES AND PATENT APPLICATIONS

Submitted or in revision.

40. Fell, E., De Porcellinis, D., Jing Y., Gutierrez-Venegas, V., Gordon, R., Granados-Focil, S., Aziz, M., **Long-term stability of ferri/ferrocyanide as an electroactive component for redox flow battery applications: On the origin of apparent capacity fade.** Chemrxiv, 2022. (6 citations)

Contribution to the work: Guided all experimental data acquisition and interpretation necessary to inform and validate the numerical models, helped secure funding for the project, helped write the manuscript.

39. Chen X.#, Datta A.#, Smith, L.J., Granados-Focil S., **Challenging the block copolymer design conventions for ion transport: Diblock copolymers using ionic interactions as a mechanically reinforcing mechanism.** *Solid State Ionics*, In revision.

Contribution to the work: Corresponding author, conceived the overall system, designed all polymer synthesis protocols, guided the interpretation of the characterization data, secured funding for the project, and wrote the manuscript.

38. Doyle, R.P. #, Yang Y. #, and Granados-Focil, S. **Carbonate-mediated alkyl functionalization of poly(ethylene imine), an efficient, mild, route towards fully functionalized PEI backbones.** In revision.

Contribution to the work: Corresponding author, conceived the overall system, designed all polymer synthesis protocols, guided the interpretation of the characterization data, secured funding for the project, and helped write the manuscript.

37. Mishra, P.K. #, Chen, A. #, Lee, T.-M. *, Tao, M., Van Dessel, S., Granados-Focil, S., **Polyacrylate-based solid-solid phase change materials as passive thermo-regulators for smart building enclosures.** In revision

Contribution to the work: Corresponding author, conceived the overall system, designed all polymer synthesis protocols, guided the interpretation of the characterization data, secured funding for the project, and helped write the manuscript.

Accepted for publication after promotion to associate professor.

36. El-Ouaragli J., Xiao Z., Nejad A.M., Tao, M., Granados-Focil, S., Van Dessel, S., **Design of a novel smart polymer-sorbent based thermal battery system and its application: A numerical Feasibility study.** *Journal of Energy Storage*, 2022, 56, 105971.

Contribution to the work: Guided all experimental data acquisition and interpretation necessary to inform and validate the numerical models, helped secure funding for the project, helped write the manuscript.

35. Xiao Z., Mishra P.M., Nejad A., M., Tao, M., Granados-Focil, S., Van Dessel, S., **Thermal optimization of a novel thermo-optically responsive SS-PCM coating for building enclosures.** *Energy and Buildings*, 2021, 247, 111129. (8 Citations)

Contribution to the work: Guided all experimental data acquisition and interpretation necessary to inform and validate the numerical models, helped secure funding for the project, helped write the manuscript.

34. Zhang Z. #, Tompsett, G.A., Lambert, C., Granados-Focil, S., Timko, M.T., **Rational Design of Solid-Acid Catalysts for Cellulose Hydrolysis Using Colloidal Theory.** *Phys. Chem. Chem Phys.*, **2021**, *23*, 10236-10243. (3 Citations)

Contribution to the work: Helped guide data interpretation, helped write the manuscript.

33. Cheng F. #, Tompsett, G.A., Fraga-Alvarez, D.V. *, Romo C. I., McKenna, A.M., Niles, S., Nelson, R.K., Reddy, C.M., Granados-Focil, S., Paulsen A.D., Zhang, R., Timko, M.T., **Metal oxide supported Ni-impregnated bifunctional catalysts for controlling char formation and maximizing energy recovery during catalytic hydrothermal liquefaction of food waste.** *Sustainable Energy & Fuels*, **2021**, *5*(4), 941-955. (17 Citations)

Contribution to the work: Guided all NMR materials characterization, helped guide data interpretation, helped write the manuscript.

32. Mendes, J.L. *, Gao, W., Martin, J.L. #, Carl, A. D. #, Deskins, N. A., Granados-Focil, S., Grimm, R.L., **Interfacial states, energetics, and atmospheric stability of large-grain antiferroelectric Cs₂TiBr₆.** *Journal of Physical Chemistry C.*, **2020** *124*, 44, 24289. (12 Citations)

Contribution to the work: Guided all SEM and EDS materials characterization, helped guide data interpretation, helped write the manuscript.

31. Martin J.L. #, Soflet, R. *, Carl, A.D. #, Himmelberger, K. M. *, Granados-Focil, S. Grimm, R.L., **Quantification of surface reactivity and step-selective etching chemistry on single-crystal BiOI (001).** *Langmuir*, **2020**, *36*, 9343. (4 Citations).

Contribution to the work: Guided all SEM and EDS materials characterization, helped guide data interpretation, helped write the manuscript.

30. Mishra, P.,K. #, Stockmal, K.A. *, Ardito, G. #, Tao, M., Van Dessel, S., Granados-Focil, S., **Thermooptically responsive phase change materials for passive temperature regulation,** *Solar Energy*, **2020**, *197*, 222. (13 Citations).

Contribution to the work: Corresponding author, conceived the overall system, designed all polymer synthesis protocols, guided the interpretation of the characterization data, secured funding for the project, and helped write the manuscript.

29. Dillingham, P.W., Alsedí, B.S.O. #, Granados-Focil S., Radu, A., McGraw, C., **Establishing meaningful limits of detection for ion-selective electrodes and other non-linear Sensors,** *ACS Sensors*, **2020**, *5*, 250. (14 Citations).

Contribution to the work: Designed all polymer synthesis and sensor testing protocols, guided the interpretation of the characterization data, and helped write the manuscript.

28. Mendecki, L.#, Granados-Focil, S., Radu, A., **Self-Plasticized lumogallion-based fluorescent optical sensor for the determination of aluminum (III) with ultra-low detection limits.,** *Analytica Chimica Acta*, **2020**, *1101*, 141. (10 Citations).

Contribution to the work: Corresponding author, designed all polymer synthesis and sensor testing protocols, guided the interpretation of the characterization data, helped secure funding for the project, and helped write the manuscript.

27. Crespilho, F.N., Sedenho, G.C. #, De Porcellinis, D., Kerr, E. #, Granados-Focil, S., Gordon, R.G., Aziz, M.J., **Non-corrosive, Low toxicity, Gel-based Microbattery from Organic an Organometallic Molecules**, *Journal of Materials Chemistry A*, **2019**, 7, 24784. **(12 Citations)**.

Contribution to the work: Conceived the overall system, designed all polymer matrix compositions, quantified redox molecules diffusion coefficients and helped write the manuscript.

26. Yu, X.#; Burnham, N., Granados-Focil, S.; Tao, M.: **Bitumen's microstructures are correlated with its bulk thermal and rheological properties**. *Fuel*, **2019**, 254, 115509. **(24 Citations)** .

Contribution to the work: Guided all thermal and rheological experiments, guided all data interpretation for thermal and rheological analyses, helped write the manuscript.

25. Van Dessel, S., Tao, M., Granados-Focil, S., **Thermal storage system**. U.S. Pat app. **2019** 16/197,698.

Contribution to the work: All three inventors share credit equally in the conception of the overall system.

24. Granados-Focil, A.A. #, Granados-Focil, S., Conde-Sotelo, V.M., Grimm, R.L., Gonzalez, F., Rojas-Santiago, E., Santolalla-Vargas, C.E., Vera, M.A., De los Reyes, J.A., **Development of bifunctional hydrodeoxygenation catalyst Rh-HY for the generation of biomass-derived high energy density fuels**. *Energy Technology*, **2019**, 1801112. **(8 Citations)**.

Contribution to the work: Guided all thermal analysis, electron microscopy and X-ray diffraction experiments, helped guide all data interpretation for catalyst structure-activity relationships, helped write the manuscript.

23. Zhang, M. #, Zhao, M. #, Zhang, G., Sietnis, J. M., Granados-Focil, S., Pepi, M. S., Xu, Y., Tao, M., **Reaction kinetics of red mud-fly ash based geopolymers: Effects of curing temperature on chemical bonding, porosity, and mechanical strength**. *Cement and Concrete Composites*, **2018**, 93, 175-185. **(60 Citations)**.

Contribution to the work: Guided all surface area, spectroscopy and X-ray diffraction experiments, helped guide all data interpretation, helped write the manuscript.

22. De Porcellinis, D., Mecheri, B., D'Epifanio, A., Licoccia, S., Granados-Focil, S., Aziz, M.J. **Sulfonated Poly (ether ether ketone) as cation exchange membrane for alkaline redox flow batteries**, *Journal of the Electrochemical Society*, **2018**, 165 (5), A1137-A1139. **(23 Citations)**.

Contribution to the work: Corresponding author, designed all polymer characterization protocols, carried out all structural polymer characterization, guided the interpretation of the characterization data, and helped write the manuscript.

21. Guldentops, G.#, Ardito, G.#, Tao, M., Granados-Focil, S., Van Dessel, S., **A numerical study of adaptive building enclosure systems using solid-solid phase change materials with variable transparency**. *Energy and Buildings*, **2018**, 167, 240-252. **(17 Citations)**.

Contribution to the work: Guided all experimental data acquisition and interpretation necessary to inform and validate the numerical models, helped secure funding for the project, helped write the manuscript.

20. Tyufekchiev, M.#; Duan, P.#; Schmidt-Rohr, K.; Granados-Focil, S.; Timko, M.T.; Emmert, M., **Cellulase-Mimetic Solid Acids for Cellulose Hydrolysis: Structural Explanations for High Catalytic Activity**, *ACS Catalysis*, **2018**, 8, 1464-1468. **(36 Citations)**.

Contribution to the work: Designed all polymer characterization protocols, guided all solid acid structural characterization, helped design catalyst testing experiments, guided the interpretation of the characterization data, and helped write the manuscript.

19. Yu, X.#; Granados-Focil, S.; Tao, M.; Burnham, N., **Time- and composition- dependent evolution of distinctive microstructures in bitumen**. *Energy and Fuels*, **2018**, 32, 67-80. **(25 Citations)**.

Contribution to the work: Guided all thermal and rheological experiments, guided all data interpretation for thermal and rheological analyses, helped write the manuscript.

18. Fallahi, A., Guldentops, G.#, Tao, M., Granados-Focil, S., Van Dessel, S., **Review on solid-solid phase change materials for thermal energy storage: Molecular structure and thermal properties**. *Applied Thermal Engineering*, **2017**, 127, 1427-1441. **(276 Citations)**.

Contribution to the work: Wrote the section on polymeric phase change materials, gathered all relevant references, synthesized relevant content, made necessary figures and tables.

17. Wei, J.,# Trout, W.,* Simon, Y.C., Granados-Focil S., **Ring opening metathesis polymerization of triazole-bearing cyclobutenes: Diblock copolymer synthesis and evaluation of the effect of side group size on polymerization kinetics**. *Journal of Polymer Science, Part A, Polymer Chemistry*, **2017**, 55 (11), 1929-1939. **(7 Citations)**.

Contribution to the work: Corresponding author, conceived the overall system, designed all polymer synthesis protocols, guided the interpretation of the characterization data, secured funding for the project, and wrote the manuscript.

16. Mendecki, L.M., Chen, X., Callan, N., Thompson, D.F., Schazman, B., Granados-Focil, S., Radu, A., **Simple, Robust, and Plasticizer-Free Iodide-Selective Sensor Based on Copolymerized Triazole-Based Ionic Liquid**. *Analytical Chemistry*, **2016**, 88 (8), 4311. **(28 Citations)**.

Contribution to the work: Corresponding author, helped conceive the overall system, designed all polymer synthesis protocols, guided the interpretation of the characterization data, and helped write the manuscript.

15. Mendecki, L.M., Fayose, T., Stockmal, K.A.*, Wei, J.#, Granados-Focil, S., McGraw, C.M., Radu, A., **Robust and ultrasensitive polymer membrane-based carbonate selective electrodes**. *Analytical Chemistry*, **2015**, 87 (15) 7515. **(30 Citations)**.

Contribution to the work: Corresponding author, helped conceive the overall system, designed all polymer synthesis protocols, guided the interpretation of the characterization data, and helped write the manuscript.

14. Nguyen, C.T., Zhu, Y., Chen X., Sotzing, G.A., Granados-Focil, S., Kasi, R. M., **Nanostructured ion gels from liquid crystalline block copolymers and gold nanoparticles in ionic liquids: manifestation of mechanical and electrochemical properties.**, *J. Mater. Chem. C.*, **2015**, 3, 399-408. **(18 Citations)**.

Contribution to the work: Designed all acrylate-based polymer synthesis, helped guide the interpretation of the characterization data, and helped write the manuscript.

Accepted for publication prior to promotion to associate professor.

13. Doyle, R., P. #, Chen, X. #, Macrae, M.* , Srungavarapu, A.* , and Granados-Focil, S. **Poly(ethyleneimine)-based polymer blends as lithium single-ion conductors.** *Macromolecules*, **2014**,47, 3401. **(76 citations)**.

Contribution to the work: Corresponding author, conceived the overall system, designed all polymer synthesis protocols, guided the interpretation of the characterization data, secured funding for the project, and wrote the manuscript.

12. Kokil, A., Renna, A.* , Kumar, J., Granados-Focil, S. **Synthesis and Characterization of Triazolium Iodide Ionic Liquid Electrolyte for Dye Sensitized Solar Cells.** *Journal of Macromolecular Science, part A, polymer chemistry*, **2011**, 48, 1022. **(8 Citations)**.

Contribution to the work: Corresponding author, conceived the overall system, designed all polymer synthesis protocols, guided the interpretation of the characterization data, secured funding for the project, and wrote the manuscript.

11. Sokolov, A., Atahan-Evrenk, S., Mondal, R., Akkerman, H.B., Sánchez-Carrera, R.S., Granados-Focil, S., Schrier, J., Mannsfeld, S.C.B., Zoombelt, A.P., Bao, Z., and Aspuru-Guzik, A. **From *in silico* to carbon to device: Computational discovery and experimental characterization of a high hole mobility organic crystal.** *Nature Communications*, **2011**, 2, 437. **(364 citations)**.

Contribution to the work: Designed all molecule synthesis protocols, carried out 80% of the synthetic work, guided the interpretation of the molecular structure characterization data, and helped write the manuscript.

10. Granados-Focil, S., Conway, J.R.* , Meng, Y.#, Smith, L., **Triazole functionalized sol-gel membranes, effect of crosslink density and heterocycle content on water free proton conduction and membrane mechanical properties**, *Journal of Macromolecular Science, part A, polymer chemistry*, **2010**, 47, 1197. **(3 citations)**.

Contribution to the work: Corresponding author, conceived the overall system, designed all polymer synthesis protocols, guided the interpretation of the characterization data, secured funding for the project, and wrote the manuscript.

Work done before moving to Clark University

9. Litt, M.; Granados-Focil, S.; Kang, J., Si, K., Wycisk, R., **Rigid Rod Poly(p-Phenylene sulfonic acid) PEMs: High Conductivity at Low Relative Humidity Due to “Frozen-in-Free Volume”**, *ECS Trans.*, **2010**, 33, 695-710. **(15 Citations)**
8. Litt, M., Granados-Focil, S., Kang, J., **Rigid Rod Poly(p-Phenylene sulfonic acid) PEMs: High Conductivity at Low RH**, *ACS, Symp. Ser., Fuel Cell Chemistry and Operation*, **2010**, 1040, 49-63.

(12 Citations)

7. Akbey, U., Granados-Focil, S., Coughlin E.B., Graf, R., Spiess, H.W., **¹H Solid-State NMR Investigation of Structure and Dynamics of Anhydrous Proton Conducting Triazole-Functionalized Siloxane Polymers.** *J.Phys. Chem. B.*, **2009**, *113*, 9151-9160. **(54 Citations)**.
6. Litt, Morton H., Granados-Focil, Sergio, **Liquid Crystal (polyphenylene sulfonic acids), U.S. Pat # 7375,176, 2008**, 45 pp. **(11 Citations)**
5. Granados-Focil, S., Woudenberg, R.C., Yavuzcetin, O., Tuominen, M.T., Coughlin, E.B., **Water-free proton conducting polysiloxanes: A study on the effect of heterocycle structure,** *Macromolecules*, **2007**, *40*, 8708-8713. **(73 Citations)** .
4. Marwiset, S., Woudenberg, R.C., Granados-Focil, S., Yavuzcetin, O., Tuominen, M.T., Coughlin, E.B., **Intrinsically conducting polymers and copolymers containing triazole moieties,** *Solid State Ionics*, **2007**, *178*, 23-24, 1398-1403. **(78 Citations)**.
3. Likhatchev D., Granados-Focil S., Barrientos-Gutierrez S. **Novel procedure for the synthesis of fluorescent fused heterocyclic dyes and its application to vinylic polymers.** MEX patent, pending.
2. Likhatchev D., Granados-Focil S., Gaviño R., Canseco M., Alexandrova L., **Low-temperature route to 1,2-benzoylenebenzimidazole ladder structure,** *High Performance Polymers*, **1999**, *11* (4), 1-11. **(6 Citations)**.
1. Barrios, F; Granados, S; Talanquer, Vincente. **How do crystals form?,** *Educacion Quimica (Chemical Education)*, 1998, *9*(3), 129-135.

CONFERENCE PREPRINTS, ABSTRACTS AND PRESENTATIONS

Work done at Clark University

* undergraduate student author, #graduate student author

1. Granados-Focil, S. Gutierrez-Venegas, V., Yang, Y., Araujo-Martinez, A., Smith, L.J., **Solid Electrolytes for Lithium-ion batteries from sulfonated mesoporous silica/polymer blends, effects of nanoconfinement and matrix polarity on ion transport.** International Materials Research Congress, Cancun, Mex. August, 2022.
2. Xiao, Z., Mishra, P., Tao, M., Van Dessel, S., Granados-Focil, S., **Thermochromic phase changing materials coatings for building temperature regulation: Experimental and numerical study.** International Materials Research Congress, Cancun, Mex. August, 2022.
3. Xiao, Z., Mishra, P., Tao, M., Van Dessel, S., Granados-Focil, S., **Thermochromic phase changing materials coatings for building temperature regulation: Experimental and numerical study.** Milan Polymer Days 2022, Milan, Italy. June, 2022.
4. Granados-Focil, S., De Porcellinis, D., Aziz, M.J., **Transitioning past perfluorinated polymers: Sulfonated poly(biphenyl alkylene)s as membranes separators for alkaline redox flow batteries.** Applied Energy Symposium MIT A+B 2020. August 2020.
5. Granados-Focil, S., **Thermo-optically responsive solid-solid phase change materials as passive temperature-controlling building enclosures.** Milan Polymer Days 2020. July 2020.
6. Granados-Focil, S., De Porcellinis, D., Aziz, M.J., **Moving beyond perfluorinated polymers: sulfonated polybiphenyl alkylene as ion exchange membranes for alkaline redox flow batteries.** Milan Polymer Days 2020. July 2020.
7. Mishra, P. #, Ardito, G. #, Tao, M., Van Dessel, S., Granados-Focil, S., **Thermo-optically responsive solid-solid phase change materials as passive temperature-controlling building enclosures.** 24th International Conference on Advanced Materials and Nanotechnology. Rome Italy, October 2019.
8. Yang, Y. #, Gutierrez-Venegas, V. #, Nason, W. #, Smith, L.J., Granados-Focil, S., **Hybrid Mesoporous silica-polymer composites as solid electrolytes for lithium-ion batteries.** 24th International Conference on Advanced Materials and Nanotechnology. Rome Italy, October 2019.
9. Yang, Y. #, Gutierrez-Venegas, V. #, Castro-Narro, E., Smith, L.J., Granados-Focil, S., **Solid electrolytes for lithium-ion batteries from blends of hybrid mesoporous sulfonated silica particles functionalized polyethyleneimine.** 12th Meeting of the Mexican Section of the Electrochemical Society. Queretaro, Mexico, June 2019.
10. Mishra, P. #, Tao, M., Van Dessel, S., Granados-Focil, S., **Stimuli-responsive foams for energy-efficient building enclosure systems.** Abstracts of Papers, 257th ACS National Meeting & Exposition, Orlando, FL, United States, April 2019, PMSE 452.

11. Granados-Focil, S., Mishra, P. #, Stockmal, K.A., Ardito, G., Tao, M., Van Dessel, S., **Phase-Change Coatings with Thermoresponsive Transparency for Building Temperature Regulation.** Waterborne Symposium, New Orleans, LA, February 2019.
12. Tyufekchiev, M. #, Finzel, J., Pu, D. #, Schimdt-Rohr, K., Granados-Focil, S., Emmert, M., Timko, M., **Implications of homogeneous acids on interpretation of solid acid activity for cellulose hydrolysis.** Abstracts of Papers, 256th ACS National Meeting & Exposition, Boston, MA, United States, August, 2018 ENVR-25.
13. Conway, J.R.*, Doyle R.P. #, Meng, Y. #, Smith, L., Granados-Focil S., **Teaching old polymers new tricks, pathways towards multifunctional separations for lithium-ion and redox flow batteries and stimuli responsive change materials.** Gordon Research Conference on Membranes: Materials and Processes, July 2018.
14. Smith, L., Granados-Focil, S., **Ion dynamics in solid polymer blend electrolytes via inversion of the Laplace transform.** Abstracts of Papers, 255th ACS National Meeting & Exposition, New Orleans, LA, United States, March 20, 2018 POLY-323.
15. Smith, L., Granados-Focil, S., **Probing ion dynamics in solid polymer blend electrolytes via T₁-T₂ correlation NMR and inversion of the Laplace transform.** APS March meeting, Session R43, March 8, 2018, Los Angeles CA.
16. Granados-Focil, S., Chen, X. #, Datta, A. #, **Nanostructured, solution processible, polyethyleneimine single-ion polymer electrolytes for lithium ion batteries.** 21st International Congress on Solid State Ionics. Padua, Italy, 2017.
17. De Porcellinis, D., Mecheri, B., D'Epifanio, A., Licocchia, S., Granados-Focil, S., Aziz, M., **Sulfonated PEEK membranes as separators for alkaline redox flow batteries: Insights from cell performance and membrane stability tests.** 21st International Congress on Solid State Ionics. Padua, Italy, 2017.
18. Tyufekchiev, M. V. #, Duan, P. #, Timko, M.T., Emmert, M., Schmidt-Rohr, K., Granados-Focil, S., **Spatially resolved EDS and Raman characterization of crosslinked polymeric catalysts biomass hydrolysis.** Abstracts of Papers, 253rd ACS National Meeting & Exposition, San Francisco, CA, United States, April 2-6, 2017 PMSE-98.
19. Timko, Michael T.; Emmert, Marion; Granados Focil, Sergio; Schmidt-Rohr, Klaus. **Limitations of top-down approaches to synthesize amorphous polymer catalysts for biomass hydrolysis.** Abstracts of Papers, 253rd ACS National Meeting & Exposition, San Francisco, CA, United States, April 2-6, 2017, CATL-108.
20. Wong A., # De Porcellinis, D., Granados-Focil, S., Eisenach, L., * Fujimoto, C., Aziz, M.J., **Alternative membranes for aqueous organic flow batteries.** MRS Fall Meeting 2016. ES2. 1. 04, November 28th 2016.
21. Chen, X.#; Luong, D.*; Smith, L.; Granados Focil, S., **Diblock and triblock lithium conducting polymers from strongly incompatible PEGMA and PAAMPSA segments, effect of interdomain surface area on morphology and ionic transport.** Abstracts of Papers, 250th ACS National Meeting & Exposition, Boston, MA, United States, August 16-20, 2015 PMSE-143.
22. Wei, J. #, Trout, W. *, Granados-Focil, S., **Controlled ROMP of cyclobutenes by tuning the steric bulk of the monomer pendant chains: An efficient route towards well-defined cyclobutene-based diblock copolymers.** Abstracts of Papers, 250th ACS National Meeting & Exposition, Boston, MA, United States, August 16-20, 2015, PagesPOLY-480.
23. Granados-Focil, S., **Transport through polymer matrices: New Materials for alternative energy and thermal regulation.** Chinese Chemical Society Congress, 2015.
24. Granados-Focil, S., **Transport through polymer matrices: New Materials for alternative energy and thermal regulation.** Defense Innovation Summit, 2015.
25. Chen, X. #, Luong, D. *, Stockmal, K.A. *, Granados-Focil, S., **Transport through polymer matrices: New Materials for alternative energy and thermal regulation.** Gordon Research Conference on Polymers, 2015.
26. Wei, J. #, Trout, W. *, Granados-Focil, S. **Block copolymer synthesis of triazole-bearing cyclobutene derivatives.** Gordon Research Conference on Polymers, 2015.
27. Stockmal, K. A. *; Granados Focil, S., **Polyalkylmethacrylate-functionalized inorganic nanoparticles as solid-solid phase change materials: Effect of spacer length, molecular weight and graft density on heat storage capacity.** 249th ACS National Meeting, 2015.
28. Cedrone, L., * George, M., * Mityushin, V., * Holmes, W., Bellin, R., Granados Focil, S., **Gene-delivering non-viral systems from PEI-g-PEG and PEI-functionalized telechelic PEG: Effect of polymer architecture on gene transfection efficiency and cytotoxicity.** 249th ACS National Meeting, 2015.

29. Granados Focil, S., Mendecki, L. #, Stockmal, K. A. *, Radu, A., **1000-fold sensitivity increase on solid-contact ion-selective electrodes by controlling the ionophore/polymer interface.** 249th ACS National Meeting, 2015.
30. Chen X.#, Luong D., * Gopinadhan M., Osuji C., Granados-Focil S., **Lithium conducting diblock and triblock copolymers, effect of sulfonated domain size on ionic transport.** XXIII international materials research congress. August 2014.
31. Doyle R. P., # Chen X.#, Macrae M.#, Srungavarapu A., Smith L., Gopinadhan M., Osuji C. , Granados-Focil S., **Efficient single-ion lithium conductors from poly(ethyleneimine)-based polymer blends, effect of polymer structure on ion-pair dissociation.** XXIII international materials research congress. August 2014.
32. Stockmal K. A., Granados-Focil S., **Solid-solid phase change materials from paraffin-bearing polymethacrylates and polymethacrylamides.** XXIII international materials research congress. August 2014.
33. Jia Wei, # William Trout and Sergio Granados-Focil¹: **Diblock copolymer synthesis via ring opening metathesis polymerization of triazole-bearing cyclobutenes.** XXIII international materials research congress. August 2014.
34. Granados-Focil, S., Doyle, R. P. #, Chen, X., # Wei, J., # **Effect of polymer matrix dielectric constant on water-free proton transport: Towards efficient high temperature operation,** 248th ACS National Meeting, 2014 (2014), POLY-671.
35. Wei, J., # Trout, W., * Granados-Focil, S., **Block copolymer synthesis of triazole-bearing cyclobutenes by ring opening methathesis polymerization,** 248th ACS National Meeting, 2014 (2014), POLY-599.
36. Stockmal, K.A. *; Granados-Focil, S., **Olefin-bearing polymethacrylates and polymethacrylamides as solid-solid phase change materials: Effect of spacer length on heat storage capacity,** 248th ACS National Meeting, 2014 (2014), POLY-462.
37. Chen, X.,# Luong, D. M. *; Granados-Focil, S., **PEGMA-b-PAAMPSA lithium conducting polymers: Effect of sulfonated domain size on ionic transport,** 248th ACS National Meeting,(2014), POLY-295.
38. Chen, X.#, Luong, D.*, Granados-Focil, S., **Synthesis of ion conducting diblock copolymers for alternative energy applications.** 3rd NanoWorcester Symposium.

39. Lattke, Y.,* Bayless-Hall, L.,* Chen, X.,# Boyer, M., Granados-Focil S. **PEGMA/PAAMPSA Diblock copolymer micelles as templates for metallic nanoparticle synthesis.** 3rd NanoWorcester Symposium.
40. Stockmal, K.,* Trout, W.,* Granados-Focil, S., **Polymeric phase-change materials for temperature regulation.** 3rd NanoWorcester Symposium.
41. Doyle. R.P.,# Chen X.,# Granados-Focil S., **Post-Polymerization Modification of PEI for lithium-ion conduction.** 3rd NanoWorcester Symposium.
42. Doyle, R.P.#, Granados-Focil, S., **Synthesis of triazole-bearing polyethylene imine copolymers as water-free proton conducting membranes for PEM fuel cells.** 245th ACS National Meeting 2013. ENFL 640
43. Chen, X.#, Luong, D.*, Granados-Focil, S., **Synthesis of ion conducting diblock copolymers for polymer electrolyte membrane fuel cells via ATRP and click chemistry.** 245th ACS National Meeting 2013. ENFL 639
44. Wei, J.#, Trout, W.*, Granados-Focil, S., **Synthesis via ROMP of Triazole Bearing Polycyclobutene Diblock copolymers as Water-Free Proton Conducting Membranes for PEM Fuel Cells.** 245th ACS National Meeting 2013. ENFL 644
45. Luong D.*, Chen, X.#, Granados-Focil, S., **PAAMPSA and PEGMA dihydrophilic block copolymers as model self-assembled nanoreactors.** 245th ACS National Meeting 2013. POLY-11.
46. Granados-Focil S., Chen, X.#, Doyle, R.#, Wei, J.#, **Ion transport through polymers: New Insights into the design of polymer films as ion transporting membranes for renewable energy applications.** 245th ACS National Meeting 2013. PMSE-16
47. Chen, X. #, Luong, D.*, Granados-Focil, S., **Synthesis of ion conducting diblock copolymers via ATRP and click Chemistry,** IUPAC World Polymer Congress, Blacksburg, VA, June 2012.
48. Doyle, R. P. #, Granados-Focil, S., **Microwave assisted synthesis of Triazole Functionalized Polyethylene Imine as water-free Proton Conducting Membranes for PEM Fuel Cells,** IUPAC World Polymer Congress, Blacksburg, VA, June 2012.

49. Srungavarapu, S. #, Doyle, R. P. #, Granados-Focil, S., **Gene delivery via functionalized Poly(ethylene imine)-DNA poly-plexes**, IUPAC World Polymer Congress, Blacksburg, VA., June 2012.
50. Wei, J. #, Trout, W.* , Granados-Focil, S., **Synthesis via ROMP of Triazole Bearing Polycyclobutene Diblock copolymers as Water-Free Proton Conducting Membranes for PEM Fuel Cells**, IUPAC World Polymer Congress, Blacksburg, VA., June 2012.
51. Granados-Focil, S., **Ion Transport Through Polymer Matrices: Triazole bearing sol-gel and polymer membranes as ion transporting membranes for renewable energy applications**. An NNIN/C Conference: Synergy Between Experiment and Computation in Energy – Looking to 2030. Center for Nanoscale Systems, Harvard University, January 2012.
52. Doyle, R.P. #, Granados-Focil, S., **Effect of backbone polarity on water-free proton conductivity of triazole containing polymers**, 5th International Conference on Polymer Batteries and Fuel Cells, ANL, Aug. 2011.
53. Granados-Focil, S., Conway, J.R.* , Renna A., Hartigan T., Quan, C., Meng, Y., Smith, L. **Triazole functionalized sol-gel membranes as proton, iodide or lithium conductors, effect of crosslink density and heterocycle content on ion conduction and membrane mechanical properties**, PacificChem congress 2010. Honolulu, HI, Dec. 2010.
54. Granados-Focil, S., Quan, C.* , Kokil, A., Kumar, J., **Triazole functionalized sol-gel membranes and linear polysiloxanes as iodide conductors, development of efficient solid state electrolytes for Dye Sensitized Solar Cells**. 10th Sukant Tripathy memorial symposium. Umass-Lowell, Dec. 12th 2010.
55. Granados-Focil, S., Conway, J.R.* , Meng, Y. #, Smith L.J., **Design of triazole bearing sol-gel membranes as water free proton exchange membranes for hydrogen fuel cells, effect of crosslink density, and heterocycle content on membrane performance**. Preprints of Symposia - American Chemical Society, Division of Fuel Chemistry, 2010, 55(2).
56. Conway, J.R.* , Doyle R.P. #, Meng, Y. #, Smith, L., Granados-Focil S., **Triazole functionalized polymers as proton conducting membranes for hydrogen fuel cells, effect of polymer architecture and backbone polarity**. Gordon Research Conference on Polymer Chemistry, 2009
57. Granados-Focil, S.; Conway, J. R.*; Thorn, M.; Versek, C.; Tuominen, M. T. **Triazole bearing sol-gel membranes as water free proton exchange membranes for hydrogen fuel cells**, Preprints of Symposia - American Chemical Society, Division of Fuel Chemistry, 2009, 54(1), 82-84.
58. Granados-Focil, S., Doyle, R.P. #, Conway, J.R.* , Higami, M., Coughlin, E.B., **Effect of backbone structure on the water-free transport ability of triazole containing polymers**. 1st US-Mexico Symposium on Advances in Polymer Science, 2008, 158.

Work done before moving to Clark University

59. Litt, M., Granados-Focil, S., Kang, J., Si, K., Wycisk, R., **Rigid Rod Poly(p-Phenylene Sulfonic Acid) PEMs: High Conductivity at Low Relative Humidity Due to "Frozen-In-Free Volume"**, ECS Transactions, 2010, 33, 695.
60. White, S. M., Granados-Focil, S., Woudenberg, R.C., Yavuzcetin, O., Tuominen, M.T., Coughlin, E.B. **Proton conducting nanocomposite membranes for high temperature polymer electrolyte membrane fuel cells**, Preprints of Symposia - American Chemical Society, Division of Polymer Chemistry, 2008; Vol. 49(1), p 1145-1146.
61. Granados-Focil, S., Woudenberg, R. C., Yavuzcetin, O., Tuominen, M. T., Coughlin, E. B., **Water-free proton conducting polysiloxanes: combining mobile polymer matrices and weakly basic heterocycles**. Preprints of Symposia - American Chemical Society, Division of Fuel Chemistry 2007, 52(2), 263-264
62. Higami, M., Woudenberg, R. C., Granados-Focil, S., Yavuzcetin, O., Tuominen, M. T., Coughlin, E. Bryan. **Synthesis and characterization of triazole tethered polyphosphazene for fuel cell application**. PMSE Preprints, American Chemical Society, 2007, 97 551-552.
63. Martwiset, S., Woudenberg, R. C.; Granados-Focil, S., Yavuzcetin, O., Tuominen, M. T., Coughlin, E. B., **Anhydrous proton conduction: effect of heterocycle nature and backbone mobility**. PMSE Preprints, American Chemical Society, 2007, 97, 639-640.

64. Litt, M., Granados-Focil, S., **Poly(p-phenylene sulfonic acid) graft copolymers: washing, temperature and relative humidity, effect on conductivity.** PMSE Preprints, American Chemical Society, 2006, 95, 138-139.
65. Renock, D., Zhang, P., Ma, J., Lei, H., Peiter, C., Litt, M., Granados-Focil, S., **Improving the power density of PEM fuel cells.** Society of Automotive Engineers, [Special Publication] SP, 2005, SP-1965 (Applications of Fuel Cells in Vehicles), 69-71.
66. Granados-Focil, S., Litt, M. H., **A new class of polyelectrolytes, polyphenylene sulfonic acid and its copolymers, as proton exchange membranes for PEMFC's.** Preprints of Symposia - American Chemical Society, Division of Fuel Chemistry, 2004, 49(2), 528-529.
67. Litt, M. H., Granados-Focil, S., Zhang, Y., Young, T., **Molecular design of rigid rod polyelectrolytes: Effect of structure on water retention and conductivity.** Preprints of Symposia - American Chemical Society, Division of Fuel Chemistry, 2004, 49(2), 594-595.
68. Granados-Focil, S., Litt, M. H. **Novel highly conductive poly(phenylene sulfonic acid)s and its evaluation as proton exchange membranes for fuel cells.** Polymeric Materials Science and Engineering, 2003, 89, 438-439.
69. Granados-Focil, S., Litt, M.H., **Novel ionically conductive Poly(phenylene sulfonic acid)s and its evaluation as proton exchange membranes for Fuel cells.** *Gordon Research Conference on Ion-containing polymers*, July 2003.
70. Granados-Focil, S., Martinez-Sanchez, E., Garcia-Hipolito, M., Ramos-Brito, F., Likhatchev, D., Falcony, D., **Chemical Insertion of Heterocyclic Luminescent Chromophores to Polystyrene via Free Radical Copolymerization** “Congreso Nacional de la Sociedad Mexicana de Ciencia de Superficies y Vacio”(National meeting of the Mexican society on Surface and vacuum sciences) Mazatlán, Sinaloa, 2001.
71. Granados-Focil, S., Likhatchev, D., **“Nuevos Enfoques Sintéticos para la Obtención de Poliimidazopirrolonas y Poliperimidinas” VII Simposio Latinoamericano de Polimeros** (VII Latin American Polymer Symposium), November 2000.
72. Likhatchev, D.; Granados-Focil, S.; Guzman-Lucero, D.; Ruiz-Rojas, B. L. **Polyimides starting from bis(o-amino)phenols or aromatic tetraamines: synthesis and transformation chemistry.** Annual Technical Conference - Society of Plastics Engineers, 2000.
73. Likhatchev, D., Granados-Focil, S., Guzman-Lucero, D., and Ruiz-Rojas, B.L., **Chemical Reactions of Polyamic Acids with Electron Donating Groups in the Diamine Moiety: Model Compounds Study, Concepts and Needs for Low Dielectric Constant Interconnect Materials: Now and the next millennium,** November 1999.

Invited talks

1. Granados-Focil, S., Our alumni around the world, symposium series: Transport through polymeric matrices: Materials for batteries and sustainable, energy-efficient, buildings. **School of Chemistry, Universidad Nacional Autonoma de Mexico, UNAM. October 2021.**
2. Granados-Focil, S., Harnessing transport through structured polymeric matrices: New materials for batteries and sustainable, energy-efficient, buildings. **Fordham University, Chemistry seminar. October 2021.**
3. Granados-Focil, S., Harnessing transport through structured polymeric matrices: New materials for batteries and sustainable, energy-efficient, buildings. **Tufts University, Chemical Engineering seminar. April 2021.**
4. Granados-Focil, S., Harnessing transport through structured polymeric matrices: New materials for batteries and sustainable, energy-efficient, buildings. **Northern New Mexico College, Chemistry seminar. April 2021.**
5. Granados-Focil, S., Mishra, P., Stockmal, K., Ardito, G., Tao, M., Van Dessel, S., Stimuli Responsive Solid-Solid Phase Change Materials as Passive Temperature-Controlling Building Enclosures. **Smart Coatings 2020. Orlando, Florida, February 2020.**
6. Granados-Focil, S., Stockmal, K.A., Mishra, P., Ardito, G., Tao, M., Van Dessel, S., Thermo-optically responsive solid-solid phase change materials as passive temperature-controlling building enclosures. **Workshop on Next Generation Smart Materials, Polymer Chemistry Division, Savannah, GA, December 2019.**

7. Yang, Y., Gutierrez-Venegas, Nason, W., Smith, L.J., Granados-Focil, S., Sulfonated hybrid mesoporous silica-polymer particles solid electrolytes for lithium-ion batteries. **Forum of Revolutions in Renewable Energy in 21st Century. Rome, Italy, October 2019.**
8. De Porcellinis, D., Aziz, M.A., Granados-Focil, S., Sulfonated poly(biphenyl alkylene)s as ion exchange membranes of alkaline redox flow batteries, moving beyond perfluorinated polymers. **Forum of Revolutions in Renewable Energy in 21st Century. Rome, Italy, October 2019.**
9. Selective polymer-assisted transport: diblock copolymer as solid polymer electrolytes and nanoparticle templates. **Rhode Island College, September 28th, 2018.**
10. Selective polymer-assisted transport: diblock copolymer as solid polymer electrolytes and injectable tissue scaffolds. **Università Campus Biomedico di Roma, June 28th, 2017.**
11. Harnessing ion transport through polymer matrices: New materials for batteries, sensors and sustainable, energy efficient, buildings. **Polymer Science and Engineering Department, University of Massachusetts, Amherst, May 17th, 2017.**
12. Harnessing ion transport through polymer matrices: New materials for batteries, sensors and sustainable, energy efficient, buildings. **Chemistry and Biochemistry Department, WPI, April 19th, 2017.**
13. Harnessing ion transport through polymer matrices: New materials for batteries and sensors. **IBM Thomas J. Watson Research Center, April 26th, 2016.**
14. Polymer mediated selective transport: New materials for gene delivery and alternative energy applications. **Chemistry Department, Merrimack College, November 19th, 2015.**
15. Transport through polymer matrices: New Materials for alternative energy and thermal regulation. **Suzhou University, October 2015.**
16. Transport through polymer matrices: New Materials for alternative energy and thermal regulation. **Zhejiang University, October 2015.**
17. Polymer mediated selective transport: New materials for gene delivery and alternative energy applications. **Chemistry Department, Bridgewater State University, February 14th, 2014.**
18. Ion Transport Through Polymer Matrices: New insights into the design of polymer films as ion conducting membranes for renewable energy applications. **Chemistry Department, University of Connecticut, November 13th, 2013**
19. Ion Transport Through Polymer Matrices: New insights into the design of polymer films as ion conducting membranes for renewable energy applications. **Adolphe Merkle Institute. Fribourg, Switzerland, May 23rd, 2013.**
20. Moving Charges Through Polymeric Materials: A Pathway Toward More Efficient Renewable Energy Alternatives. **Chemistry Department, Keene State University, November 14th, 2012.**
21. Ion Transport Through Polymer Matrices: New insights into the design of polymer films as ion conducting membranes for renewable energy applications. **Chemistry Department, Southern Connecticut State University, November 2nd, 2012.**
22. Ion Transport Through Polymer Matrices: New insights into the design of polymer films as ion conducting membranes for renewable energy applications. **Institute of Materials Science, University of Connecticut, October 26th, 2012.**
23. Ion Transport Through Polymer Matrices: New insights into the design of polymer films as ion conducting membranes for renewable energy applications. **Chemistry Department, Harverford College, September 28th, 2012.**
24. Ion Transport Through Polymer Matrices: New insights into the design of polymer films as ion conducting membranes for renewable energy applications. **School of Engineering and Applied Sciences, Harvard University, May 10th, 2012.**
25. Ion Transport Through Polymer Matrices: Triazole bearing sol-gel and polymer membranes as ion transporting membranes for renewable energy applications. **Polymer Science colloquium, Chemistry Department, University of Massachusetts Lowell. March 3rd 2011.**
26. Ion Transport Through Polymer Matrices. **First Annual Nanoworcester symposium, Massachusetts, College of Pharmacy, February 12th, 2011**
27. Ion Transport Through Polymer Matrices: A Systematic Study to Disentangle the Influence of Polymer Backbone Structure, Morphology and Nanoconfinement On Ionic Conductivity. **General Electric Global Research Center. Niskayuna, NY. December 10th 2010.**
28. Design of triazole bearing sol-gel and polymer membranes as ion transporting membranes for renewable energy applications. **Polymer Physics seminar series, Materials Science Department, Penn State University, November 9th 2010.**

29. Design of triazole bearing sol-gel and polymer membranes as ion transporting membranes for renewable energy applications. **Physical Chemistry seminar series, Chemistry Department, University of New Hampshire, April 8th 2010.**
30. Triazole functionalized sol-gel membranes, effect of crosslink density and heterocycle content on water free proton conduction and membrane mechanical properties. **Sukant Tripathy Memorial symposium, University of Massachusetts, Lowell, December 4th 2009.**

ACADEMIC SERVICE/RESPONSIBILITIES

Service outside Clark University.

After promotion and tenure

- *Tenure promotion case reviewer for the Worcester Polytechnic Institute 2016 and 2017*
 - *Grant application reviewer (both panel member and ad-hoc reviewer) for the NSF-DMR polymer division and the NSF-CHE chemistry Division. Three panels, 7 ad-hoc proposals. Fall 2009-present.*
 - *Grant application reviewer for the ACS PRF. Fall 2010-present.*
 - *Blind reviewer for peer-reviewed journals:*
 - Advanced Energy Materials
 - The Journal of Applied Polymer science,
 - The Journal of Membrane Science,
 - The Journal of Physical Chemistry C,
 - The Journal of Macromolecular Science –part A,
 - ACS Macroletters,
 - Reactive functional polymers,
 - Macromolecules,
 - Journal of Polymer Science, Part A, Polymer Chemistry,
 - Industrial & Engineering Chemical Research,
 - Energy and Fuels,
 - Energy Technology
 - Energy and Buildings,
 - Cement and Concrete Composites.
- Spring 2009-present.
- *New member on-boarding committee, Polymeric Materials Science and Engineering Division of the American Chemical Society. September 2019-present.*
 - *Team leader, website content committee, Polymeric Materials Science and Engineering Division of the American Chemical Society. August 2018-2019.*
 - *Past Chair for the Polymeric Materials Science and Engineering Division of the American Chemical Society (Technical division of the American Chemical Society with approximately more than 3,500 active members, an operating budget of more than \$250K/yr and a more than \$1.2M in endowed funds). January 2016-December 2016.*
 - *Chair for the Polymeric Materials Science and Engineering Division of the American Chemical Society. (Technical division of the American Chemical Society with approximately more than 3,500 active members, an operating budget of more than \$250K/yr and a more than \$1.2M in endowed funds) January 2015-December 2015.*
 - *Chair-elect for the Polymeric Materials Science and Engineering Division of the American Chemical Society. (Technical division of the American Chemical Society with approximately more than 3,500 active members, an operating budget of more than \$250K/yr and a more than \$1.2M in endowed funds) January 2014-December 2014.*

Prior to promotion and tenure

- *Co-Organizer of the NanoWorcester symposium.*
2013, 2015.
- *Vice chair for the Polymeric Materials Science and Engineering Division of the American Chemical Society. (Technical division of the American Chemical Society with approximately more than 3,500 active members, an operating budget of more than \$250K/yr and a more than \$1.2M in endowed funds)*
January 2013-December 2013.
- *Discussion leader, Gordon Research Conference in Polymers.*
June 2011
- *Treasurer for the Polymeric Materials Science and Engineering Division of the American Chemical Society. (Technical division of the American Chemical Society with approximately more than 3,500 active members, an operating budget of more than \$250K/yr and a more than \$1.2M in endowed funds)*
January 2011-December 2012.

Service within Clark University.

After promotion and tenure

University-wide service

- *Secretary of the Faculty*
2021-2024
- *Elected member of Graduate Board*
2020-2023
- *Provost search committee*
2020
- *2020 Science Visioning committee*
2020
- *Reducing Bias in Teaching Evaluations committee*
2019-2020
- *Admissions committee*
2019-2022
- *Election candidate for PBR.*
Spring 2019, (Justin Thackeray was elected)
- *Member of FRC.*
2018-2019
- *Volunteer to serve in the admissions committee*
2018-2019, Not selected.
- *Election candidate for PBR (Patrick Derr was elected)*
Fall 2018, Not Elected.
- *Nominee for candidacy, PBR, not selected*
Spring 2018.
- *Election candidate for Faculty Secretary. (Mark Miller was elected)*
Spring 2018.
- *Election candidate for COP (Li Han was elected)*
Spring 2017.
- *Election candidate for Faculty Vice-Chair (Doug Little was elected)*
Spring 2015.
- *Member of the Working Committee on scheduled salary increases.*
Spring 2015
- *Member of College Board.*
Spring 2015.

Departmental service

- *Interim graduate program coordinator for the Chemistry Department.*
Spring 2023
- *Promotion evaluation case preparer for Prof. Noel Lazo.*
Spring 2019.
- *Graduate program coordinator for the Chemistry Department.*
Fall 2017-2021
- *Tenure evaluation case preparer for Prof. Charles Jakobsche.*
Fall 2017.
- *Self-study preparer (scholarship and graduate education sections)*
Fall 2016.
- *Presenter for the Accepted Students open house.*
Spring 2015, 2018, 2019
- *Pre-tenure evaluation case preparer for Prof. Charles Jakobsche.*
Fall 2014.
- *LEEP mentor.*
Summer 2014, 2015.
- *Preventive Maintenance, Training and repair coordination of Departmental Analytical Instrumentation*
 - a. Differential scanning calorimeters (2 instruments),
 - b. Thermogravimetric Analyzer (1 instrument),
 - c. Fourier Transform Infrared Spectrometers (2 instruments),
 - d. Gel Permeation chromatograph (1 instrument),
 - e. Gas Chromatograph-Mass Spectrometer (1 instrument), became responsible for instrument in 2013.
 - f. Scanning Electron Microscope (1 out of 2 instruments), became responsible for instrument in 2013
 - g. Inductively Coupled Plasma Atomic Emission Spectrometer (1 instrument), became responsible for instrument in 2017.Fall 2008-Present.

Prior to promotion and tenure

- *Faculty mentor for the chemistry club.*
Fall 2009-2015.
- *Co-Organizer of the Annual Harry Allen Symposium.*
Spring 2009, Spring 2014.
- *Election candidate for UAB.*
Spring 2013.
- *LEEP mentor.*
Summer 2013.
- *Presenter for the Accepted Students open house.*
Spring 2010, 2011, 2013.
- *Member of the Chemistry Department Faculty search committee.*
Fall 2010, Fall 2011.
- *Member of the Physics Department Faculty search committee.*
Fall 2010.
- *First-year Academic advisor, Clark University.*
Fall 2008-present.
- *Speaker for the Science preview day.*
Spring 2009.
- *Host for the Alumni weekend.*
Spring 2010.
- *Member of the Undergraduate Judicial Board.*
Fall 2009.

OUTREACH TO THE SURROUNDING COMMUNITY.

- Hosted and mentored High school student Neelasha Batchartajee from Shrewsbury High School who developed a cooking lipid thermal stability study to be used as her 9th grade science project in the Worcester regional science fair.
- Designed a hands-on lab experience for high school students where they prepared ice cream using liquid nitrogen. The protocol was designed to have the students quantitatively estimate the effect of the cream/milk ratio on the quality of the resulting ice cream. The experience has been already used 3 times with students from King Phillip's High School and students from High School students from the City of Worcester.
- Served as judge for the science fair at Keene, NH's High School and Middle school.
- Hosted a senior high school student from UPCS (Pablo Larrea). Pablo assisted in the design and optimization of some of the lab protocols used for the polymeric biomaterials lab.
- Hosted Robert Naughton '11 as a research student in my lab. Bobby was interested in pursuing a career as a high school science teacher. During his stay in my lab he designed, adapted and optimized 6 laboratory protocols that could be used at the high school level.

TEACHING EXPERIENCE

- **Lecturer**
 - **Fall 2008.** Polymer Science (Chem 281/381)
 - **Spring 2009.** Organic Chemistry I (Chem 131)
Thermal analysis (Chem 289/389)
Directed study (Chem 299)
 - **Fall 2009.** Organic Chemistry II (Chem 132)
Directed study (Chem 299)
 - **Spring 2010.** Organic Chemistry I (Chem 131)
Polymeric Biomaterials (Chem 283/383)
Directed study (Chem 299)
 - **Fall 2010.** Organic Chemistry II (Chem 132)
 - **Spring 2011.** Organic Chemistry I (Chem 131)
Polymer Science (Chem 281/381)
Directed study (Chem 299)
 - **Fall 2011.** Organic Chemistry II (Chem 132)
Advanced Organic Chemistry (Chem 231/331)
Directed study (Chem 299)
 - **Spring 2012.** **Pre-tenure sabbatical leave**
 - **Fall 2012.** Organic Chemistry I (Chem 131)
Polymer Science (Chem 281/381)
Honors (Chem 297)
 - **Spring 2013.** Organic Chemistry II (Chem 132)
Honors (Chem 297)
 - **Fall 2013.** Organic Chemistry I (Chem 131)
Advanced Organic Chemistry (Chem 231/331)
Honors (Chem 297)
 - **Spring 2014.** Organic Chemistry I (Chem 131) Lab
Polymeric Biomaterials (Chem 283/383)
Honors (Chem 297)
 - **Summer 2014.** The Science of Fermentation (CHEM 012), Leir Luxembourg Program
 - **Fall 2014** Organic Chemistry II (Chem 132)
Organic Chemistry I (Chem 131) Lab
Directed study (Chem 299/BCMB 299)
 - **Spring 2015** Organic Chemistry I (Chem 131)
Polymeric Biomaterials (Chem 283/383)
Directed study (Chem299/BCMB299)
 - **Fall 2015** Advanced Organic Chemistry (Chem 231/331)
Organic Chemistry I (Chem 131) Lab

- **Spring 2016** Directed study (Chem 299/BCMB)
Directed study (Chem299/BCMB299)
Sabbatical leave
- **Fall 2016** Directed study (Chem 299/BCMB)
Sabbatical leave
- **Spring 2017** Directed study (Chem299/BCMB299)
Honors (Chem 297)
Polymer Science (Chem 281/381)
Analytical Chemistry (Chem 140)
Thermal analysis (Chem 289/389)
- **Fall 2017** Directed study (Chem 299/BCMB 299)
1 Course buyout
- **Spring 2018** Directed study (Chem 299/BCMB)
Analytical Chemistry (Chem 140)
Organic Chemistry II (Chem 132) Lab
- **Fall 2018** Polymer Science (Chem 281/381)
Organic Chemistry I (Chem 131) Lab
Directed study (Chem 299/BCMB)
- **Spring 2019** Analytical Chemistry (CHEM 140)
Organic Chemistry II (CHEM 132)
- **Fall 2019** Thermal Analysis (Chem 289/389)
1 Course buyout
- **Spring 2020** Polymer Science (CHEM 281/381)
1 Course buyout
- **Fall 2020** Introductory Chemistry (CHEM 101)
Introductory Chemistry (CHEM 101) lab (two sections)
- **Inter-session 2021** Introductory Chemistry (CHEM 101)
- **Fall 2021** Introductory Chemistry (CHEM 101)
- **Spring 2022** Analytical Chemistry (CHEM 140)
Science of Fermentation (CHEM 012)
- Fall 2022 Organic Chemistry I (CHEM 131)
Organic Chemistry I (Chem 131) Lab
- **Research Mentor**
 - **Doctoral students (11)**
 - Robert Doyle, Ph.D. May 2014. (Defended January 2014)
 - Sean Chen, Ph.D. August 2015 (Defended July 2015)
 - William Wei, Ph.D. January 2017 (Defended September 2016)
 - Lukasz Mendecki, Ph.D. 2016 (Visiting student, University of Keele)
 - Pramod Mishra (joined group F16)
 - Xiaokong Yu Ph.D. 2017 (WPI student, external committee member F15)
 - Yuxin Yang (joined group F17)
 - Valeria Gutierrez (joined group F18)
 - Ahmed Alamoudi (joined group F18)
 - Jihan El-Ouaragli (WPI student, external committee member F18)
 - Mengxuan Zhao (WPI student, external committee member S19)
 - **Masters students (5)**
 - Justin Conway, M.S. '11
 - Abhijit Srungavarapu, M.S. '13
 - Rachel Rockwell, M.S. '13
 - Thanaphorn Suk-In, M.S. '17
 - Anamika Datta, M.S. '18
 - **Undergraduate Honors theses (9)**
 - Abhijit Srungavarapu BCMB '12 (Highest honors)
 - William Trout, B.A. Chemistry '13 (Honors)

- Derek Luong, B.A. Chemistry '13 (High honors)
- Madeleine Debrosse '14 (High honors)
- Laura Migliaccio '14 (Honors)
- Kelli Stockmal '14 (High honors)
- Elizabeth Chan '16 (Honors)
- David Powers '16 (High honors)
- Alistair Richardson '17 (Highest Honors)

- **Undergraduate students (35)**
 - Justin Conway, B.A. Chemistry '09
 - Timothy Hartigan, B.A. Chemistry '10
 - Alfonso Renna, B.A. Chemistry '10
 - Robert Naughton, B.A. Chemistry '10
 - Christopher Quan, B.A. Chemistry '12
 - Phillip Boglisch, B.A. Chemistry '12
 - Hunter Gray, B.A. Chemistry '12
 - Max Macrae, B.A. Chemistry '12
 - William Brown, B.A. Chemistry '12
 - Christopher Legacy, B.A. Chemistry '12
 - Stephanie Pudalov, B.A. Chemistry '13
 - Yisrael Lattke '15
 - Matthew George '15
 - David Geller-McGrath '15
 - Vitaliy Mityushin '15
 - Lena Cedrone '15
 - Daniel Harris '16
 - Spencer Mayotte '16
 - Victoria Bergman '16
 - Thanaporn Suk-in '16
 - Alva Tan '17
 - Antony Gruness '17
 - Tyler Zirkman '17
 - Graham Bell '17
 - Jenna Harrison-Peters '18
 - Jeremy Abdulla '18
 - Kelsey Perry '19
 - Alma Araujo '20
 - Jack Han '20
 - Estri Milluka '20
 - Konstantin Drallios '21
 - Amy Chen '21
 - Thuy-Mi Le '22
 - Wen Li '21
 - Eduardo Barbosa (Exchange student, Brazil)