

MICHELE L. BUSTAMANTE, PH.D.

EDUCATION

PhD, Sustainability, Golisano Institute for Sustainability, *Rochester Institute of Technology, W.Henrietta, NY*

BS, Environmental Engineering & Materials Engineering, *Rensselaer Polytechnic Institute, Troy, NY*

WORK EXPERIENCE

Staff Scientist

Natural Resources Defense Council

Washington, DC
Sept 2021 – present

Climate & Energy Systems Science Fellow

Natural Resources Defense Council

Washington, DC
January 2020 – Sept 2021

AAAS Congressional Science & Technology Policy Fellow

Office of United States Senator Edward J. Markey, sponsored by TMS & MRS

Washington, DC
Sept 2018 – Aug 2019

Postdoctoral Associate

Materials Systems Laboratory at Massachusetts Institute of Technology

Cambridge, MA
Jul 2016 – Aug 2018

Graduate Research Assistant

Golisano Institute for Sustainability at Rochester Institute of Technology

West Henrietta, NY
Sept 2012 – May 2016

Dissertation: Criticality of Byproduct Materials: Assessing Supply Risk, Environmental Impact, and Strategic Policy Response for Tellurium (<http://scholarworks.rit.edu/theses/9025/>)

NSF Research Experience for Undergraduates (REU)

Clean Energy Research Center at University of South Florida

Program: Tampa Interdisciplinary Environmental Research (TIER) Program

Tampa, FL
June 2011 – August 2011

North Carolina State University, FREEDM Systems Center

Program: Future Renewable Electric Energy Distribution & Management (FREEDM) Program

Raleigh, NC
June 2010 – August 2010

SELECT PUBLICATIONS

Refereed Journal Articles

- **M. L. Bustamante**, A. Alexander, C. Swanson (2024). "The climate test: a tool to evaluate alignment of energy infrastructure decisions with climate goals," *Climate Policy*, v 24(5), 617-632.
- X. Fu, D. Beatty, G. Gaustad, G. Cedar, R. Roth, R. Kirchain, **M. Bustamante**, C. Babbitt, E. Olivetti (2020), "Perspectives on Cobalt Supply through 2030 in the Face of Changing Demand," *Environmental Science & Technology*, v 54(5), 2895-2993.
- **M. L. Bustamante**, G. Gaustad, E. Alonso (2018), "Comparative Analysis of Supply Risk Mitigation Strategies for Critical Byproduct Minerals – A Case Study of Tellurium," *Environmental Science & Technology*, v 52(1), 11-21.
- M. Krystofik, G. Gaustad, **M. Bustamante**, K. Bedami (2018), "Circular economy strategies for mitigating critical material supply issues," *Resources, Conservation & Recycling*, v 135, 24-33.
- T.D. Huang, H.J. Rucker, S. Scholler, M. Harbison, J. Hu, P. Dong, M. Collette, H. Chung, **M. Bustamante**, et al. (2017), "ICME and Cost Models Development for Ship Production," *Journal of Ship Production and Design*.
- **M. L. Bustamante**, B. Hubler, G. Gaustad, C. W. Babbitt (2016), "Life Cycle Assessment of Jointly Produced Solar Energy Materials: Challenges and Best Practices," *Solar Energy Materials and Solar Cells*, v 156, 11-26.
- **M. L. Bustamante**, G. Gaustad (2014), "Challenges in assessment of clean energy supply-chains based on byproduct minerals: A case study of tellurium use in thin film photovoltaics," *Applied Energy*, v 123, 397-414.

Invited Papers

- **M. Bustamante**, (2019), "Standing up for Science: My Journey as a Congressional Fellow," *JOM*, v 71(9), 2917-2919.

Conference Proceedings

- Deshmukh, S., **M. Bustamante**, R. Roth (2018), "Evaluating effects of future shared mobility and electrification trends on key intermediate indicator of aluminum transportation demand: US vehicle fleet size," Light Metals Symposium, The Minerals, Metals, and Materials Society (TMS) Annual Meeting 2018.
- Huang, T.D., M. Harbison, S. Scholler, H.J. Rucker, S.J. Hu, P. Dong, M. Collette, H. Chung, M. Groden, W. Zhang, J. Semple, R. Kirchain, R. Roth, **M. Bustamante**, et al., (2016), "Robust Distortion Control and Implementation of Lightweight Metallic Structures," Proceedings of the Society of Naval Architects and Marine Engineers 2016 Maritime Convention and Ship production Symposium, Bellevue, WA, November 1-5, 2016.
- **M. L. Bustamante**, G. Gaustad (2016), "Materials Research to Enable Clean Energy: Leverage Points for Risk Reduction in Critical Byproduct Material Supply Chains," REWAS 2016, TMS 2016: Annual Meeting and Exhibition, Nashville, TN, 14 - 18 February, 2016.

SELECT COMMUNICATIONS & OUTREACH

- Guest Lecturer: Golisano Institute for Sustainability (2019, 2022, 2023)
- Facilitator, Our Driverless Futures: Community Forum on Automated Mobility, *University of Maryland* (2019)
- Invited Speaker, Life as a Scientist on the Hill: Advice for Communicating Effectively with Policymakers, *Material Advantage Congressional Visit Day Reception* (2019)
- Invited Speaker, Congressional Science & Engineering Fellowship Information Session, *MRS Fall Meetings* (2018)
- Kaufman Teaching Certificate Program: *Massachusetts Institute of Technology, Teaching & Learning Laboratory* (2018)
- Food Recovery Network (Recover Rochester): *Vice President* (2014 –2015), *Active Volunteer* (2012 –2016)
- WE@RIT Women in Engineering Summer Camps, Grades 5 – 9: *Exhibitor & Planning Volunteer* (2015)
- Imagine RIT: Innovation & Creativity Festival, Golisano Institute for Sustainability Exhibitor (2013, 2016)

PROFESSIONAL DEVELOPMENT & SOCIETIES

- American Association for the Advancement of Science (AAAS), Societal Impacts of Science & Engineering (2018 - present)
- The Minerals, Metals and Materials Society (TMS) Spring Meetings (2014, 2016, 2019)
- Materials Research Society (MRS) Fall Meetings (2017, 2018)
- Society of Naval Architects and Marine Engineers (SNAME) Maritime Convention (2017)
- International Symposium on Sustainable Systems and Technology (ISSST) (2015, 2017)
- Tau Beta Pi, Engineering Honors Society, NY Gamma Chapter: *Vice President* (2011) and *Member* (2010 – present)
- Engineers for a Sustainable World, RPI Chapter: *Vice President* (2010) and *Member* (2009 – 2012)

AWARDS

- Josephine C. Merck Environmental Fellowship (2022-2024)
- AAAS, TMS/MRS Congressional Science & Engineering Fellowship (2018 - 2019)
- RIT Graduate Commencement Delegate & Speaker for the Golisano Institute for Sustainability (2016)
- Caird Prize for Excellence in Environmental Engineering (2012) - *Top graduating student in the Environmental Engineering Track*
- Founder's Award of Excellence (2011) - *for embodiment of creativity, discovery, leadership, school pride, and responsibility*
- NC State College of Engineering's Future of Engineering Award, 2011 Grand Challenges Competition: Making Solar Energy Economical (2011)