

Dr. Scott Calabrese Barton

Associate Professor

Department of Chemical Engineering & Materials Science

College of Engineering



Dr. Scott Calabrese Barton is an Associate Professor in the Department of Chemical Engineering and Materials Science at Michigan State University.

Dr. Calabrese Barton's research interests include electrochemical engineering with a focus in catalysis and transport in electrochemical energy systems, from experimental and theoretical perspectives. His research involves development and characterization of materials for fuel cells, particularly proton exchange membrane fuel cells, direct methanol fuel cells and biofuel cells. These materials find applications in devices ranging from the microwatt to the kilowatt scales, and will have a strong impact on future energy devices with minimal environmental impact.

Dr. Calabrese Barton's research addresses engineering and materials issues in fuel cells, particularly mass transport within and stability of fuel cell electrodes. His focus is on non-precious metal catalysts based on redox enzymes and transition metals. They have lower costs compared to precious metals, but are challenging in terms of overall activity and stability, and often are implemented at high loadings that lead to transport limitations.

Dr. Calabrese Barton earned his Master's in Aerospace Engineering from the Massachusetts Institute of Technology and went on to get his Ph.D. in Chemical Engineering from Columbia University.

Global research interests

- Energy
- Catalysis
- Electrochemistry

Geographic focus

- France
- India