

Atmosphere & Energy Seminar
Winter Quarter 2020-2021
Tuesdays, 12:30-1:50PM, Zoom Webinar



For questions, please contact Jackson Parthasarathy: jrp34@stanford.edu

Course expectations:

- 1) Attend all of the seminars, have video on (if possible), and be attentive
- 2) **Write two 1-page 1.5-spaced** responses on the subject of two different seminars. These papers should include a brief summary of the presentation and a reflection on the material presented. You must submit these papers within a week of the presentation on which you choose to reflect.

Absence policy:

If students miss more than one seminar, we require them to write one additional summary of a seminar.

Notes:

- Guests/friends outside of the course are always welcome to attend via the zoom link, but please do not post the password publicly!

Webinar Norms:

- Your video must remain on and you are expected to be muted throughout the presentation.
- Questions can be logged via the Q&A portal/chat webinar at any time.
- An open Q&A session will begin at the end of the presentation, and the presenter will first respond to the logged questions. After all logged questions, the floor will be open to all.
- Your attendance will be taken based on actual participation & engagement, you will be considered absent if you are clearly away from your desk.

Speakers

January 26th – Captain Richard Birt,

Retired Captain Richard Birt is a 30-year veteran of the Fire Service. A longtime advocate of solar energy, Captain Birt spearheaded a disaster relief effort in Puerto Rico after Hurricane Maria. His mission resulted in 15 solar and battery micro grids being installed on strategically placed fire stations across the island. These systems provided the power to keep the emergency services operational and saving lives after the complete failure of the islands electrical grid. Captain Birt was awarded the Medal of Honor from his department in 2018 for his work in Puerto Rico and continues his disaster relief work as a technical advisor for the nonprofits, Solar Responders and Empowered by Light. Captain Birt is also the founder of Solar And Fire Education (S.A.F.E.) which provides training and education for firefighters on the lifesaving benefits of renewable energy and how they can safely mitigate a fire incident involving this technology.

Title of presentation: *Protecting Communities From Wildfires, Natural Disasters and Power Interruptions, Using Connected Distributed Renewable Energy.*

February 2nd – Anna-Katharina von Krauland

Anna-Katharina von Krauland is a PhD candidate in the Atmosphere/Energy Program of the Civil and Environmental Engineering department at Stanford University, where she completed her M.S. degree in the same program. Prior to coming to Stanford, she earned her B.S. from Cornell University, where she majored in Bioenvironmental Engineering and minored in Business. Having grown up in Miami, she has seen some of the effects of climate change firsthand and is extremely motivated to mitigate future impacts on her home and across the world. In addition to pursuing research, Anna-Katharina leads The Solutions Project, an organization committed to developing roadmaps to help transition countries, states, and cities to 100% renewable energy. She has helped lead the Energy Policy Community of the Stanford Energy Club, allowing students to gain exposure to the policy side of the energy industry, and currently also leads the Stanford Austria Club.

Title of presentation: *Revealing the Onshore Potential: A Socio-Technical Wind Atlas for the United States*

February 9th – Bryan Guido Hassin

Bryan Guido Hassin is a global entrepreneur building the smart energy future. As a passionate startup CEO, he has led his teams to multiple successful exits. As an empathetic mentor and adviser, he has helped other startups achieve massive scale. Throughout his journey he has encountered exactly the problems that Third Derivative has identified and now he is dedicated to solving them at scale.

Title of presentation: *Accelerating the Rate of Climatetech Innovation*

February 16th – David Mackanic

David Mackanic is founder and CEO of Anthro Energy, a company inventing next-generation polymer materials to create batteries that are flexible, safe, and high performance. He earned his Ph.D. in chemical engineering from Stanford University with a focus on polymer science and electrochemistry. At Stanford, David was supported by the Stanford Graduate, and National Science Foundation Graduate Research Fellowships. He was listed on Forbes 30 Under 30 in Energy for 2021, and was awarded the MRS Gold Award and the ACS Bright Science Award. Additionally, David previously worked in venture capital as an Investment Partner at the Dorm Room Fund.

Title of presentation: *Commercializing New Polymer Materials for Lithium Ion Batteries*

February 23rd – TBD

March 2nd – TBD

March 9th – **Stefan Streckfus and Kemp Gregory**

Kemp and Stefan both graduated A/E in 2020. Upon graduation, they started Renewell Energy with the dream of converting a massive environmental bane (inactive oil and gas wells) into a valuable asset for the renewable energy transition. Kemp comes from a worldly oil and gas background, while Stefan's early career was in foodservice equipment. They both are Mechanical Engineers turned entrepreneurs and excited to share some of our journey with you.

Title of presentation: *Transforming Oil and Gas Wells into Energy Storage*

March 16th – **Dr. Sylvia Dee**

Dr. Sylvia Dee is an assistant professor and climate scientist at Rice University specializing in atmospheric modeling, water isotope physics, and paleoclimate data-model comparison. She completed her undergraduate degree in Civil and Environmental Engineering with certificates in Geological Engineering and Environmental Studies at Princeton University, and her Ph.D. in the University of Southern California Earth Sciences department. She previously held postdoctoral fellowships at the UT Institute for Geophysics and Brown University. Sylvia's research projects include topics in climate modeling and climate of the past millennium, using general circulation models (GCMs) and proxy system models (PSMs) to explore the dynamics of the tropical climate system.

Title of presentation: *Past, Present, and Future Climatic Controls on Mississippi River Basin Flooding*