SYLLABUS AND SCHEDULE: **Syllabus_ESPP90n_2024F-1.docx**

Welcome Video

Meeting Time: Thursday 3:00-5:45 pm ET

Location: HUCE 440

Course Description:

The seminar will discuss the nature of the climate challenge and the implications it poses for different communities and different parts of the world. Mitigating negative impacts of human induced climate change will require an urgent transition from the current global fossil fuel-based energy economy to one based on renewable alternatives. Possibilities include wind, solar, hydro, biomass and potentially nuclear. The seminar will review options with specific attention to differences in the challenges faced by developed economies such as the US and Europe and large developing economies such as China, India and parts of Africa. Can we chart a feasible path to net zero global carbon emissions by 2050?

Prerequisites: Math requirement is minimal, at most high school algebra

Course Enrollment: This course has an enrollment cap of 25. You may enroll through my.harvard when any advising holds are lifted.

Please email Haiyang Lin (haiyanglin@seas.harvard.edu) if you have questions or want to schedule meetings with Professor McElroy.

Course Goals:

By the end of this course, students will be able to:

1. Summarize scientific principles that connect energy and climate.
2. Quantify energy use, costs, efficiency, and other relevant climatic parameters.
3. Compare and contrast the sources, problems, and potential of important energy sources, including coal, oil, natural gas, nuclear, wind, solar, biomass, geothermal and hydropower.
4. Evaluate the impact of governance, economics, policies, and innovative technologies on energy and climate.
5. Contribute to meaningful, informed dialogue about climate and energy with people in both scientific and non-scientific fields.

Policy on missing lectures and assignment due dates:

Students with occasional conflicts (e.g., extracurricular activities, job interviews, religious observances) should inform their TF **in advance** of their absence. Students who will be unavailable on assignment due dates are required to turn in their homework **in advance** remotely (via email or Canvas) on the original due date. Students who experience unexpected or other extenuating circumstances (e.g., illness, family emergency), should contact their TF as soon as possible to arrange for missed work. When circumstances will require more significant accommodations, such as extended illness, a death in the family, etc., the student should inform their resident dean, the course head, and their TF. The resident dean will work with the course head and head TF on an appropriate plan for making up any missed work.