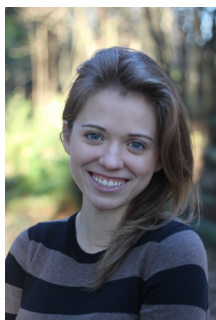




Steinbrenner Institute Announces the 2016-2017 Doctoral Fellows

The Steinbrenner Institute is pleased to announce our new class of Doctoral Fellows for 2016- 2017. There are two new Steinbrenner Institute Doctoral Fellows and one new Steinbrenner Institute Robert W. Dunlap Doctoral Fellow. The fellows will be exploring research topics that are in alignment with the strategic interests of the Steinbrenner Institute and our affiliated faculty and centers, including climate change impacts, public perception of energy tradeoffs, and merits of carbon capture and sequestration.



Lydia Jahl is currently a Ph.D. student in the Department of Chemistry at Carnegie Mellon University. She graduated in 2014 with a B.S. in Chemistry from Harvey Mudd College, where she implemented an online sampling system to study brown carbon in Los Angeles ambient air. After her undergraduate studies, Lydia worked as a research chemist at E. & J. Gallo Winery in California studying non-conventional winemaking techniques. In the fall of 2015, she returned to the field of atmospheric chemistry as a member of the Sullivan Lab within the Center for Atmospheric Particle Study at CMU.

Lydia studies the emissions of biomass burning through the use of controlled experiments in smog chambers. The emissions from such processes affect air quality and the global energy budget. Her research is specifically helping to determine the effects of these emissions on ice cloud formation and the presence of tropospheric oxidants such as atomic chlorine.



Kerrigan Cain is a PhD student in Chemical Engineering at Carnegie Mellon University. Kerrigan's hometown is in historic Hartville, Ohio, but he went to Case Western Reserve University in nearby Cleveland, Ohio, where he received his B.S. in Chemical Engineering with a minor in Business Management, *Summa Cum Laude*, in 2015. His experiences while on two separate co-ops with OMNOVA Solutions motivated him to pursue a PhD in Chemical Engineering. He was also a member of the record-breaking baseball team during his undergraduate career.

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Kerrigan's research investigates aerosol-water interactions in the atmosphere, specifically how an aerosol's volatility and oxidation level affect its cloud droplet formation properties. His work will be used to significantly reduce the uncertainty surrounding aerosols in global climate models by using novel experimental techniques to measure these interactions. (Cain is also the Robert W. Dunlap Fellow, because his research sits at the intersection engineering and public policy.)



Bowen Yu is a second-year PhD student in the Department of Mechanical Engineering at Carnegie Mellon University. His work is centered around developing and making low-cost, high-efficiency next generation solar cells. Specifically, Bowen focused on how to fabricate large-scale pyramid-like structures as solar selective absorbers for high-efficiency energy conversion. Furthermore, Bowen participated in the project of making thermal interface materials with highly enhanced thermal conductivity and mechanical strength. Bowen is a recipient of National Scholarship from Education of Ministry of China (2015) and Graduate Outstanding Scholarship from Harbin Institute of Technology (2014), before he came to Carnegie Mellon University. Bowen enjoys reading, and traveling in his free time.

The goal of Bowen's research is to develop low-cost, high-efficiency solar thermophotovoltaic (TPV) cells, one type of 3rd generation solar cells based on solar thermal energy conversion. Through resolving the challenges in materials design and transport processes, successful development of this transformative technology can be achieved.

Congratulations to all of the Steinbrenner Doctoral Fellowship recipients and best wishes for a productive year of research!