



**PRINCETON UNIVERSITY  
DEPARTMENT OF GEOSCIENCES  
SENIOR THESIS (Class of '17)**

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**Scott M. Bechler**

“Exploring the Relationships Between Marine Cloud Brightening, the Walker Circulation, and Boreal Summer Asian Monsoon Precipitation”

*M. Oppenheimer / Y. Ming (AOS)*

**Katherine M. Begland**

“Weak Inner Core Anisotropy Along Polar Paths Under the Western Pacific Ocean”

*J. Irving / F. Simons*

**Kenny M. Hulpach**

“Interior Structure of Jupiter's Satellite Io Based on Thermal Equation of State Data”

*T. Duffy / J. Irving*

**Catherine C. Ivanovich**

“Uncovering the Source of Elevated Arsenic in Classic Maya Human Remains: Implications from Antiquity to Modernity”

*S. Myneni / B. Just (ART)*

**Christianese S. Kaiser**

“Estimating Atmospheric Methane Emission by Mineral Cryosols in the Arctic Region Using the Explicit High Affinity Methanotroph (XHAM) Model”

*T. Onstott / S. Fueglistaler*

**Sydney A. Mandelbaum**

“Potential Sources of Hemispheric Energetic Asymmetry”

*S. Fueglistaler / G. Vecchi*

**Lauren M. Santi**

“A Calcium and Strontium Analysis of Shark Teeth to Constrain Past Ocean Chemistry”

*J. Higgins / S. Myneni*

**Jana M. Suriano**

“Survival and Metabolism of *Methanosarcina soligelidi* Under Simulated Martian Subsurface Conditions”

*T. Onstott / B. Ward*

**Kellie E. Swadba**

“Wave Profile Analysis of the Behavior of SiO<sub>2</sub> Under Shock Compression”

*T. Duffy / A. Rubin*

**Adrian Tasistro-Hart**

“Astronomically Forced Hydrology of the Late Cretaceous Sub-Tropical Potosí Basin, Bolivia”

*A. Maloof / B. Schoene*



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**Anna C. Van Brummen**

“Calibration and Noise Characterization of a Newly Installed Seismometer at Princeton University”

*F. Simons / J. Irving*

**William S. Van Cleve**

“Modeling the Relationship Between Climate and Conflict: Nigerian Intergroup Conflict, Boko Haram Violence, and the Israel/Palestine Conflict”

*M Oppenheimer / F. Simons*

**Vivian M. Yao**

“Stable Isotopic Signatures in Symbiotic Bermudian Corals: A Study of Nutrient and Light Variability on  $\delta^{15}\text{N}$  in *Porites astreoides* at Bermuda”

*D. Sigman / B. Ward*

**Young (Paul) R. Yi**

“Numerical Investigation of the Dependence of Tidal Mixing by Wave-Wave Interactions on Topographic and Flow Parameters”

*S. Legg (AOS) / R. Hallberg (AOS)*