

## ANNETTE HILTON

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### EDUCATION

**University of California Santa Barbara**, Santa Barbara, CA

**Bren School of Environmental Science and Management**

**Ph.D.** Environmental Science and Management, **GPA: 4.0**

**The College of Wooster**, 2017, Wooster, OH

**B.A.** Geology, **GPA: 3.84**, **Magna Cum Laude**, Geology Departmental Honors, Phi Beta Kappa Honors Society

**Senior Independent Study Thesis:** Remote sensing via satellite instrumentation of pollution (PCBs) in the San Francisco Bay.

- Year-long research, resulted in a 60-page thesis, successful oral defense, honors in Geology Department, winner of IS Prize in Sustainability and the Environment, presented at Independent Study symposium April 2017 Wooster, OH. Research since published in *Remote Sensing* (see publication section).

**Junior Independent Study Thesis:** Dendrochronology research of a study site in Alaska, reconstructing climate and investigating climatological patterns along the west coast of the United States.

- Semester long research, culminated in a 40-page thesis, findings presented September 2016, Denver, CO at Geological Society of America. Abstract # 282738

**St Andrews University**, St Andrews, Scotland

- Fall Semester 2015: Courses studied in Geology, Geography, and Sustainable Development Departments

### PROFESSIONAL EXPERIENCE

June 2017- July 2019: **Science Communications Specialist**

Oak Ridge Associated Universities (ORAU), Oak Ridge, TN

- Scientific Assessment and Workforce Development office
- Author of over 60 profiles translating participants' scientific research for a public audience; writing published on ORISE website and SIAM News; extensive experience in science writing
- Editor and chief of internal newsletter and communications
- Script writing, planning, execution of video series promoting STEM in U.S.; proposed and currently producing video series promoting Women Leaders in STEM
- Worked in a team of two to launch of the pilot virtual career fair for diversity STEM students
- Developed an educational workshop for elementary students to learn about the solar eclipse (2017)
- Superior work resulted in promotion and extension of position (currently part-time remote)

June-August 2016: **Research Intern**

NASA Student Airborne Research Program (NASA SARP), Armstrong Flight Research Center, CA

- Designed original study to remotely detect PCBs in the San Francisco Bay via satellite instrumentation; work now published in *Remote Sensing*
- Flew and assisted in data collection onboard NASA's DC-8 airborne laboratory

- Research oceanographic cruise in Santa Barbara channel

#### May-August 2015: **Research Intern**

REU (Research Experience for Undergraduates) program, Department of Earth and Planetary Sciences, The American Museum of Natural History, New York City, NY

- Partnered in classification, naming of lunar meteorite through geochemical analysis
- Official classification: Meteoritical Society, name: NW10401 (<https://www.lpi.usra.edu/meteor/metbull.php>)
- Research presented at Lunar and Planetary Sciences Conference, March 2016, The Woodlands, TX. Abstract #1168 (oral)

#### 2016-2017: **Teaching Assistant** for *Petrology, Environmental Geology, Climate Change*

Department of Geology- The College of Wooster, Wooster OH

- Assist in classroom instruction, lectures, laboratory sessions and equipment
- Hold review sessions, office hours for students

#### January-May 2015: **Research Assistant**

Department of Geology- The College of Wooster, Wooster OH

- Identified collection of middle Jurassic corals through scientific literature and analysis, created specimen database

#### January-May 2015: **Business Consultant**

Social Entrepreneurship- The College of Wooster, Wooster OH

- Worked in team of three students to serve as business consultants for a non-profit environmental organization in Ohio, the Killbuck Watershed Landtrust (KWLT)
- Held weekly meetings with president of the board of KWLT, met with board members regularly
- Culminated in 30 page complete business and financial plan, presented to board of trustees

### AWARDS/HONORS

- Doctoral Scholars Fellowship, UC Santa Barbara (2019-2024)
- NSF Graduate Research Fellowships Program Honorable Mention (2019)
- IS Prize in Sustainability and the Environment (2017)
- Endowed Faculty Scholarship, College of Wooster (2017)
- Margaret Moke Endowed Geology Scholarship, College of Wooster (2014-2017)
- Margaret Reed and John O. Clay Endowed Scholarship, College of Wooster (2015)
- Estella Van Horne Education Fund Scholarship (2013-2017)
- College Scholar Award, College of Wooster (2013-2017)
- Theatre and Dance Scholarship, College of Wooster (2013-2017)
- Dean's List, College of Wooster (2013-2016)

### PUBLICATIONS

- Gross, J.; Hilton, A.E.; Prissel, T.; Setera, J.; Korotev, R.L.; Calzada-Diaz, A. (2019): Geochemistry and Petrogenesis of Northwest Africa (NWA) 10401: A new type of the Mg-suite rock? *Journal of Geophysical Research: Planets*, *In review*.
- Hilton, A.E.; Bausell, J.T.; Kudela, R.M. (2018): Quantification of Polychlorinated Biphenyl (PCB) Concentration in San Francisco Bay Using Satellite Imagery. *Remote Sens.*, *10*, 1110.

<https://doi.org/10.3390/rs10071110>

## ABSTRACTS

- Hilton A., Wiles G., Wiesenberg N., Happ M. (2016): Analysis of New Blue Intensity and Ring Width Tree Ring Chronologies as Proxies for North Pacific Climate Change, Columbia Bay, Alaska. *Geologic Society of America*, Abstr. # 282738 (poster)
- Hilton A., Gross J., Korotev R., Calzada-Diaz A. (2016): Classifying the unknown – the lunar edition: North West Africa 10401 a new type of the Mg-suite rock? *47th Lunar and Planetary Science Conference*, Abstr. #1168 (oral)

## RESEARCH TALKS

- *How to Detect Pollution from Space: High resolution remote sensing of PCBs in the San Francisco Bay*. IS Symposium, Wooster, OH; April 2017
- *Remotely sensing pollution: detection and monitoring of PCBs in the San Francisco Bay*. NASA SARP, UC Irvine, CA; August 2016
- *Exploring the Atmosphere and Tree Ring Chronologies on the West Coast of North America*. Junior Independent Study, College of Wooster, OH; April 2016
- *Classifying the unknown – the lunar edition: North West Africa 10401 a new type of the Mg-suite rock?* 47th Lunar and Planetary Science Conference, The Woodlands, TX; March 2016
- *Classifying the unknown—the lunar edition*. REU Conference, American Museum of Natural History, New York City, NY; August 2015

## PROFESSIONAL MEMBERSHIPS

- Phi Beta Kappa Honors Society

## INSTRUMENTATION EXPERIENCES

- Electron Probe Micro-Analysis (EPMA)
- Scanning Electron Microscopy (SEM)
- Laser Ablation-Inductively Coupled Plasma- Mass Spectrometry (LA-ICP-MS)
- X-ray Diffraction (XRD)
- X-Ray Fluorescence (XRF)
- Optical Microscopy

## SOFTWARE SKILLS

- R/RStudio, Github, ArcGIS, ENVI, SeaDAS, ACOLITE, Excel, PowerPoint, MS, Outlook

## FIELD EXPERIENCE

- Six hour airborne mission onboard NASA's DC-8 (June 2016)
- NASA SARP 8 hour cruise of Santa Barbara channel to collect in-situ measurements (June 2016)
- Tree coring, Wooster OH (2016)
- Lake coring, Wooster OH (February 2016)
- Soil coring, Wooster OH, Oban Scotland (2015-2016)
- Geologic mapping, Isle of Kerrera Scotland (October 2015)
- Fossil collection, Columbus OH (September 2014)

## ACTIVITIES & SERVICES

- Hidden Peak Tea House, employed as part-time tea server in tea house focusing on mindful service and Chinese teas (August 2018-present)

- Meditation and Mindfulness, hosted and guided meditation session 2x/week on College of Wooster campus (2016-2017)
- Expanding Your Horizons, volunteer at youth female STEM camp (2015-2017)
- Geo Club, member, College of Wooster (2014-2017)
- After These Messages, member, female a cappella group, College of Wooster (2014-2017)
- Green House Club, member, College of Wooster (2013-2015)
- Theatre and Dance Department, scholarship fulfilment 40 hours/semester, College of Wooster (2013-2017)
- Garden House, house coordinator, College of Wooster (2014-2015)