Maxwell Lee
March 19, 2019
Hub 1303 Dickinson College 28 N College St., Carlisle PA, 17013
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Dear Dan -

Ecological research has been a passion of mine since I volunteered on a plant migration study during the summer before my senior year of high school. This experience, which occurred in the White Mountains, was my first exposure to ecological field work. The work was straightforward, involving backpacking across miles of backcountry trails to photograph and record GPS coordinates of wildflower plots. I thoroughly enjoyed the experience and made a point of pursuing future field ecology research opportunities. I spent the summer before my junior year of college at a marine lab in Friday Harbor, WA researching the effects of ocean acidification on life history aspects of an invasive gastropod through both field and laboratory studies. During the following year I piloted a study at an arboretum close to Dickinson's campus, which focused on examining the effects of climate change on native wildflower blooming phenology. I'm continuing research on this study this semester and eventually plan on publishing findings. From these opportunities, I have gained a range of useful field ecology skills, including proper sampling techniques, surveying methods, and rigorous data analytics. Through other experiences such as trail crew and farming, I have extensive experience carrying heavy objects, hiking for 10+ miles and working outdoors in a variety of inclimate weather conditions.

I am excited about this opportunity as surveying plant communities in the Pacific Northwest fulfills many of my post graduate goals, including leaving central PA to assist on an ecology project that would prepare me for eventually pursuing a graduate degree in conservation biology or related field. Northwest Montana and British Columbia appeal highly to me as a scenic setting that would offer a multitude of outdoor recreation opportunity aside from work tasks, enticing me highly.

Please feel free to reach me at (978)239-7030 to discuss my qualifications for this position at your earliest convenience. I am excited about discussing this opportunity further with you. Thank you for considering me for this position.

Best regards,

Maxwell Lee

Maxwell Lee | 978.239.7030 | mleev96@gmail.com

Summary

Research-focused college senior passionate about field ecology, ecosystem restoration and conservation biology.

Education

Dickinson College, Carlisle, PA. Bachelor of Science **GPA: 3.89 / 4.0.** Expected graduation May 2019
Majors: Environmental Science and Biology **Minor**: Chemistry
Courses: Natural History of Vertebrates | Invertebrate Zoology | Plant Systematics | Aquatic Ecosystem Management | Wildlife Ecology | Accelerated General Chemistry | Organic Chemistry | Analytical Chemistry | Environmental Chemistry and Toxicology | Agroecology Investigations | Plant Physiology | Conservation Biology

Research Experience

Nanotechnology for Energy Applications January 2019 – Present

- Dickinson College, Carlisle PA. Department of Chemistry. Independent Research Project.
- Synthesized Dye Sensitized Solar Cells from TiO_2 and ZnO and investigated how nanoparticle application (including renewable ones) impacted solar cell efficiency. Included use of AA and UV-Vis.

Assessing climate change's impact on bloom times of Pine Hill Arboretum wildflowers January 2018 – Present

- Dickinson College, Carlisle PA. Department of Biology. Student-Faculty Collaborative Project.
- Surveyed an arboretum repeatedly from February to June 2018 to observe first bloom dates for native wildflowers. Identified species using naturalist guides and compared bloom dates to historical legers

Chemical Analysis of Nutrients in Crops September 2018 – December 2018

- Dickinson College, Carlisle PA. Department of Chemistry. Independent Research Project.
- Collected samples from effluent bioassays, prepared solutions to isolate a variety of vitamins and nutrients from plant tissue, collected data through a variety of chemical analyses including HPLC and UV-Vis.

Expansion of Biogas Systems and Utilization of Effluent on the Dickinson College Farm June 2018 – August 2018

- Dickinson College Farm, Boiling Springs PA. Student-Faculty Collaborative Project.
- Plumbed biogas digesters, maintained feeding and waste disposal operations, constructed technology to facilitate biogas usage, conducted studies on digester chemistry and effluent's impact on compost generation/plant growth.

Diet Quality and pH Interactions on Growth and Development of a Marine Gastropod June 2017 – August 2017

- Friday Harbor Labs, WA. Immersive REU.
- Collected specimens in field ecosystems, reared and cultured larva in lab test groups, applied treatments, collected data via microscopy and presented findings on site and later at a national conference.

Developing Indicators for Measuring Resilience in Carlisle, PA January 2017 – May 2017

- Dickinson College, Carlisle PA. Department of Environmental Science. Student-Faculty Collaborative Project.
- Reviewed literature, conducted focus groups and interviews with esteemed Carlisle residents to develop borough-relevant indicators for climate resilience, presented findings to community stakeholders.

Publications

Lee, M., & St. Angelo, S. Biogas digester effluent as fertilizer for organic farming and its effect on plant growth and vitamin content [abstract]. In: American Chemical Society; 2019 Mar 31-Apr 4; Orlando, FL. Abstract 3112792.

King, K., **Lee, M.** Assessing climate change's impact on bloom times of Pine Hill Arboretum wildflowers [abstract]. In: Society of Women Environmental Professionals; 2018, May 1; Harrisburg, PA.

Lee, M., & Steiman, M. Biogas production at Dickinson College [abstract]. In: Pennsylvania Association for Sustainable Agriculture; 2018, Feb 7-10; State College, PA.

Lee, M., Pechenik, J., & Pires, A. Effects of diet quality and pH on growth, mortality, and shell strength in larvae and juveniles of the marine gastropod *Crepidula fornicata* [abstract]. In: Society for Integrative and Comparative Biology; 2018, Jan 3-7; San Francisco, CA. Abstract 1690-849394.

Awards/Grants

- Benjamin Rush Merit-based Scholarship: **$60,000** over four years, March 2015
- Sustainability Education Fund Grant: **$5700** for Improving Utilization of Biogas and Digester Effluent for Sustainability at the College Farm, Student Faculty Research Project, April 2018
- Kenderdine Travel Award: **$1600** for travel to and from SICB/ACS Conferences January 2018
- SEPSACS Travel Award: **$300** for travel to and from ACS Conference January 2019
- Society of Women Environmental Professionals: **$200** for second place in poster contest April 2018
- Special Projects and Interests Fund: **$1500** grant to improve musical opportunities at the Jam Space March 2016
- Baird Sustainability Fellow: Recognized as campus leader in sustainability Spring 2019
- Deans List: Achieve a GPA higher than 3.70 for a semester December 2015 - Present

Work Experience

Dickinson College Organic Farm June 2016 - present

- Student Farmer – All aspects of farm-based labor. Experience with vegetable production, livestock care and farm infrastructure work. Able to complete hard manual labor in inclimate weather conditions
- Student Researcher – Self designed project on biogas generation and effluent utilization

Dickinson College Rock Wall August 2016 – December 2017

- Rock Wall Monitor – Train and ensure safety of climbers, maintain wall status, set climbing routes

Friday Harbor Laboratories, University of Washington June 2017-August 2017

- Student Researcher – Collaborated on a lab-intensive experimental with a Professor through an immersive REU

Dickinson College, First-Year Mentor/ Pre-Orientation Leader August 2016 – September 2017

- Organized and led 4 day-long backpacking trips. Mentored students adjusting to college. Certified in WFA and CPR from July 2015 until March 2018.

Skills

Biology: Mark/Recapture, Transect/Quadrat Surveying, Microscopy, Study Skin Construction, Dichotomous Key usage, Macroinvertebrate Sampling and ID, Hardwood Tree ID, Wildflower ID, Vertebrate ID, Microscopy
Chemistry: Pipetting, HPLC, UV-VIS, Compound Recrystallization, AA Spec
General: Microsoft Office, imageJ, Prism, Data Analysis, Russian (conversational)

Campus Experience

Sustainable Investment Group: Researcher | Dickinson College Organic Farm: Farmer | Center for Sustainable Living: Resident | Environmental Science Majors Committee: Member | Bicycle Advisory Committee: Member | Jam Space: Coordinator | Dickinson College Radio: DJ | Rock Climbing Team: Member | Arts Collective: Member

Volunteering

Appalachian Mountain Club Gorham, NH: Leadership Trail Crew – Crew Member Summer 2013, 2014
John's Island, SC: Community Service Trip (Dickinson College) – Crew Member March 2015
New Orleans, LA: Community Service Trip (Andover Academy) – Crew Member March 2016

Interests sustainable living, running, biking, backpacking, playing music, cooking

References

Matt Steiman (Asst. Farm Manager, Research Advisor): steimanm@dickinson.edu. 717.245.1969
Prof. Sarah St. Angelo (Assoc. Prof. Chemistry, Research Advisor): stangels@dickinson.edu. 717.254.8957
Prof. Tony Pires (Prof. Biology, Research Advisor): pires@dickinson.edu. 717.245.1632