

Lauren N. Pincus, PhD

Princeton University, Department of Geosciences
Guyot Hall, Princeton, NJ 08544
Lpincus@princeton.edu

EDUCATION

Yale University, School of the Environment New Haven, CT

Doctor of Philosophy, May 2020

- Focus: Green Chemistry and Green Engineering, GPA: 4.00/4.00
- Advisor: Dr. Julie Zimmerman
- Committee Members: Dr. Menachem Elimelech, Dr. Paul Anastas, Dr. Desirée Plata
- Dissertation: Towards Sustainable Water Treatment: Design of Multifunctional and Selective Water Treatment Technologies

Middlebury College Middlebury, VT

Bachelor of Arts, Chemistry and Geology, May 2014

- GPA: 3.61/4.00, Magna Cum Laude, Departmental Honors in Geology, College Scholar
- Advisors: Dr. Peter Ryan, Dr. Molly Costanza-Robinson
- Senior Thesis: Variations in Cation Exchange Capacity of Soils Along a Tropical Landscape

University of Canterbury Christchurch, NZ

- Research Program Focused on the Geology of New Zealand, 2013
- GPA: 3.78/4.00

ACADEMIC APPOINTMENTS

Princeton University, Department of Geosciences Princeton, NJ

Hess Postdoctoral Research Fellow (September, 2020 -)

AWARDS

- ACS ENVR Graduate Student Award, 2020
- AAAS/Science Program for Excellence in Science, 2019
- Nathan Hale Associates Fellowship for Academic Achievement and Potential, Yale Graduate School Alumni Fund, 2018
- Certificate of Merit for Outstanding Oral Presentation, ACS Environmental Chemistry Division, 2017
- NSF Graduate Research Fellowship (GRFP) Honorable Mention, 2016
- ACS Green Chemistry Institute CIBA Travel Award, 2016
- Best Poster, ACS Green Chemistry and Green Engineering Conference, 2016
- Yale Institute for Biospheric Science Fellowship, 2015, 2017
- Yale School of Forestry and Environmental Studies Doctoral Fellowship, 2015-2020
- Middlebury College Geology Department Baldwin Cooney Scholarship, 2012
- Middlebury College Gretchen A. Reilly '60 Environmental Studies Endowment, 2012

PUBLICATIONS IN REFEREED JOURNALS

Undergraduate co-authors underlined

1. **L. N. Pincus**, P. V. Petrovic, I. S. Gonzalez, E. Stavitzki, Z. Fishman, P. T. Anastas, J. B. Zimmerman, Development of Selective Adsorption of Arsenic Over Phosphate by Transition Metal Cross-linked Chitosan. Submitted.

2. **L. N. Pincus**, I. S. Gonzalez, E. Stavitski, J. B. Zimmerman, Aerobic Oxidation of Arsenite to Arsenate by Cu(II)-chitosan/O₂ in Fenton-like Reaction, a XANES Investigation. *Environmental Science: Water Research & Technology*. (2020). Accepted. DOI: 10.1039/D0EW00326C
3. **L. N. Pincus**, H. E. Rudel, P. V. Petrovic, S. Gupta, P. Westerhoff, C. L. Muhich, J. B. Zimmerman, Design of Selective Adsorbents for Oxoanion Removal in Water Treatment- a Review of Oxoanion Competition and the Development and Quantification of Selective Adsorption. *Environmental Science & Technology*. (2020). 54 (16), 9769-9790. DOI: 10.1021/acs.est.0c01666
4. P. C. Ryan, F. J. Huertas, **L. N. Pincus**, W. Painter, Arsenic-bearing Serpentine Group Minerals: Mineral Synthesis with Insights for the Arsenic Cycle. *Clays and Clay Minerals* (2019). 67 (6), DOI: 10.1007/s42860-019-00040-1
5. **L. N. Pincus**, A. W. Lounsbury, J. B. Zimmerman, Toward Realizing Multifunctionality: Photoactive and Selective Adsorbents for the Removal of Inorganics in Water Treatment, *Accounts of Chemical Research*. (2019), 52 (5), 1206-1214. DOI: 10.1021/acs.accounts.8b00668
6. **L. N. Pincus**, F. Melnikov, J. S. Yamani, J. B. Zimmerman, Multifunctional Photoactive and Selective Adsorbent for Arsenite and Arsenate: Evaluation of Nano Titanium Dioxide-Enabled Chitosan Cross-Linked with Copper, *Journal of Hazardous Materials*. (2018), 358, 145-154. DOI: 10.1016/j.jhazmat.2018.06.033.
7. H. C. Erythropel, J. B. Zimmerman, T.M. de Winter, L. Petitjean, F. Melnikov, C. Ho Lam, A. W. Lounsbury, K. E. Mellor, N. Z. Janković, Q. Tu, **L. N. Pincus**, M. M. Falinski, W. Shi, P. Coish, D. L. Plata, P. T. Anastas, The Green ChemistTREE: 20 years after taking root with the 12 principles, *Green Chemistry*. (2018), 20 (9), 1929-1961. DOI:10.1039/C8GC00482J.
8. **L. N. Pincus**, P. C. Ryan, F. J. Huertas, G. E. Alvarado, The influence of soil age and regional climate on clay mineralogy and cation exchange capacity of moist tropical soils: A case study from Late Quaternary chronosequences in Costa Rica, *Geoderma*. (2017), 308, 130–148. DOI: 10.1016/j.geoderma.2017.08.033.
9. P. C. Ryan, F. J. Huertas, F. Hobbs, **L. N. Pincus**, Kaolinite and halloysite derived from sequential transformation of pedogenic smectite and kaolinite-smectite in a 120 ka tropical soil chronosequence, *Clays and Clay Minerals*. (2016), 64 (5), 639-667. DOI: 10.1346/CCMN.2016.064030.

ABSTRACTS AND CONFERENCE PRESENTATIONS

1. **L. N. Pincus**, A. W. Lounsbury, J. B. Zimmerman, Toward realizing multifunctionality: Photoactive and selective adsorbents for the removal of inorganics in water treatment, 258th ACS National Meeting, San Diego, CA. 2019. **Invited talk**.
2. **L. N. Pincus**, J. B. Zimmerman, Towards sustainable water treatment: Selective adsorption of arsenic over competing phosphate by transition metal cross-linked chitosan, 258th ACS National Meeting, San Diego, CA. 2019. Talk.
3. **L. N. Pincus**, F. Melnikov, A. W. Lounsbury, J. B. Zimmerman, Towards a Mechanistic Understanding of the Selective Adsorption of Arsenic Over Competing Phosphate by Nano-enabled, Transition Metal Cross-linked Chitosan, 256th ACS National Meeting, Boston, MA. 2018. Talk.

4. **L. N. Pincus**, F. Melnikov, A. W. Lounsbury, J. B. Zimmerman, Towards a Mechanistic Understanding of the Selective Adsorption of Arsenic Over Competing Phosphate by Nanoenabled Biomaterials, Gordon Research Conference (GRC) and Seminar (GRS) on Environmental Sciences: Water. 2018. Poster.
5. **L. N. Pincus**, J. S. Yamani, J. B. Zimmerman, Towards Multifunctionality in water treatment: Developing Photoactive Selective Adsorbents for Inorganic Contaminants Using Nano-enabled Biomaterials, 253rd ACS National Meeting, San Francisco, CA. 2017. Talk. (**Awarded ACS ENVR Certificate of Merit for Outstanding Oral Presentation**)
6. **L. N. Pincus**, J. S. Yamani, J. B. Zimmerman, Towards Sustainable Water Treatment: Developing Selective Adsorbents for Inorganic Contaminants Using Nano-enabled Biomaterials, ACS Green Chemistry and Green Engineering Conference, Portland, OR. 2016. Poster. (**Awarded Best Poster Presentation**)
7. P. C. Ryan, **L. N. Pincus**, F. J. Huertas, Cation Exchange Capacity of Tropical Soil Clays as a Function of Time and Precipitation, Geologic Society of America Abstracts with Programs. Vol. 46, No. 6, p. 150. 2014. Poster.
8. P. C. Ryan, **L. N. Pincus**, K. Falcones, Mineralogical and Geochemical Evolution of Tropical Soils in a Coastal Terrace Sequence, Geologic Society of America Abstracts with Programs. Vol. 45, No. 7, p.586. 2013. Poster.

TEACHING, MENTORING, and OUTREACH

- Teaching Assistant, Green Engineering and Sustainable Design, Spring 2017, 2019
- Teaching Assistant, Coastal Environments in a Changing World, Fall 2018
- Teaching Assistant, The Science of Water, Spring 2018
- Women in Science at Yale Mentor, 2017-2020
- Undergraduate Lab Mentor, Yale College, 2017-2020
- Outreach Coordinator, Student Leadership Council, NSF Nanosystems Engineering Research Center for Nanotechnology-Enabled Water Treatment, 2017- 2019
- Co-chair of Organizing Committee, Yale School of Forestry and Environmental Studies Research Conference, 2017
- Admissions Interviewer Middlebury College, 2015- present
- Undergraduate Lab Mentor, Dartmouth College Earth Science Department, 2014
- Undergraduate Lab Mentor, Middlebury College Geology Department, 2013

PROFESSIONAL AFFILIATIONS

- Geochemical Society, 2019-present
- American Chemical Society, ENVR and GEOC Divisions, 2015-present
- AEESP, 2019-present

ATHLETICS

Middlebury College Track and Field, Javelin Middlebury, VT

- Two-Time NCAA DIII finalist (9th in the nation)
- Two-Time NCAA All Academic Track and Field Team
- All ECAC, All New England, All DIII New England, All NESCAC, NESCAC Champion

RELEVANT WORK EXPERIENCE

Dartmouth College Toxic Metals Superfund Research Program Hanover, NH

Research Assistant (2014-2015)

- Investigated Mercury Fate and Transport at Superfund Site in Berlin, New Hampshire

Münzing Corporation

Research and Development Intern (2009-2011)

Bloomfield, NJ

- Designed and modified defoamers and surfactants for use in the coatings industry