

Eleanor Spielman-Sun

Postdoctoral Scholar, Photon Science, SLAC

Bio

PROFESSIONAL EDUCATION

- Doctor of Philosophy, Carnegie Mellon University (2019)
- Master of Science, Carnegie Mellon University (2016)
- BS, Oberlin College, Chemistry (2014)

STANFORD ADVISORS

- Britt Hedman, Postdoctoral Faculty Sponsor

LINKS

- ORCID: <https://orcid.org/0000-0001-9626-2969>
- Google Scholar: https://scholar.google.com/citations?user=11_GWgoAAAAJ&hl=en

Publications

PUBLICATIONS

- **Impact of Acid-Base Stimulation Sequence on Mineral Stability for Tight/Impermeable Unconventional Carbonate-Rich Rocks: A Delaware Basin Case Study** in *ENERGY & FUELS*
Spielman-Sun, E., Jew, A. D., Bargar, J. R.
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- **Geochemical Modeling of Celestite (SrSO₄) Precipitation and Reactive Transport in Shales.** *Environmental science & technology*
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- **A Critical Review of the Physicochemical Impacts of Water Chemistry on Shale in Hydraulic Fracturing Systems.** *Environmental science & technology*
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- **Differential Reactivity of Copper- and Gold-Based Nanomaterials Controls Their Seasonal Biogeochemical Cycling and Fate in a Freshwater Wetland Mesocosm.** *Environmental science & technology*
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- **CuO Nanoparticles Alter the Rhizospheric Bacterial Community and Local Nitrogen Cycling for Wheat Grown in a Calcareous Soil.** *Environmental science & technology*
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- **Effect of Soil Organic Matter, Soil pH, and Moisture Content on Solubility and Dissolution Rate of CuO NPs in Soil** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
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2019; 53 (9): 4959–67
- **Nanoparticle Size and Coating Chemistry Control Foliar Uptake Pathways, Translocation, and Leaf-to-Rhizosphere Transport in Wheat** *ACS NANO*
Avellan, A., Yun, J., Zhang, Y., Spielman-Sun, E., Unrine, J. M., Thieme, J., Li, J., Lombi, E., Bland, G., Lowry, G. V.
2019; 13 (5): 5291–5305
- **Gold nanoparticle biodissolution by a freshwater macrophyte and its associated microbiome** *NATURE NANOTECHNOLOGY*
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- **Temporal Evolution of Copper Distribution and Speciation in Roots of Triticum aestivum Exposed to CuO, Cu(OH)₂, and CuS Nanoparticles** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
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Spielman-Sun, E., Zaikova, T., Dankovich, T., Yun, J., Ryan, M., Hutchison, J. E., Lowry, G. V.
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- **Elucidating nanoparticle-plant leaf interactions, uptake, and mobility for designing highly efficient foliar-applied agrochemicals**
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- **Toward improving agrochemical efficiency: Impact of Cu-based nanoparticle solubility on metal uptake, speciation, translocation, and distribution in Triticum aestivum (wheat)**
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- **Impact of Surface Charge on Cerium Oxide Nanoparticle Uptake and Translocation by Wheat (Triticum aestivum)** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
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- **Time and Nanoparticle Concentration Affect the Extractability of Cu from CuO NP-Amended Soil** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*
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- **Impact of metal and metal oxide nanoparticle speciation and solubility on their bioavailability to terrestrial and aquatic plants**
Lowry, G., Stegemeier, J., Gao, X., Spielman-Sun, E., Rodrigues, S.
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- **Thermal decomposition of nano-enabled thermoplastics: Possible environmental health and safety implications** *JOURNAL OF HAZARDOUS MATERIALS*
Sotiriou, G. A., Singh, D., Zhang, F., Chalbot, M. G., Spielman-Sun, E., Hoering, L., Kavouras, I. G., Lowry, G. V., Wohlleben, W., Demokritou, P.

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- **Toward a mechanistic understanding of the effect of natural organic matter coatings on nanoparticle aggregation**

Lowry, G., Louie, S., Spielman-Sun, E., Tilton, R.

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- **Correlation of the Physicochemical Properties of Natural Organic Matter Samples from Different Sources to Their Effects on Gold Nanoparticle Aggregation in Monovalent Electrolyte** *ENVIRONMENTAL SCIENCE & TECHNOLOGY*

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- **Properties of various natural organic matter samples that control gold nanoparticle aggregation**

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