COY MCNEW

Davis, CA 95616 ◇ mcnewcp@gmail.com

EDUCATION

Vanderbilt University *Nashville, TN*
Ph.D.in Environmental Engineering *December 2015*
M.S. in Environmental Engineering *May 2011*

Rose-Hulman Institute of Technology *Terre Haute, IN*
B.S. in Chemical Engineering *May 2009*

EXPERIENCE

Postdoctoral Scholar June 2016 - Present
University of California, Davis *Davis, CA*

Explored the fabrication and application of DNA-labelled nanoparticles to identify and characterize hydrologic, pathogenic, and associated environmental transport pathways

Research Assistant 2011-2015
Vanderbilt University *Nashville, TN*

- Participated in a National Science Foundation (NSF) study to improve the understanding of nanomaterial transport in saturated porous media.
- Developed data-driven, machine learning models of transport in saturated porous media, as a collaborative effort with the Institute for Chemical and Bioengineering, ETH Zürich.
- Managed and mentored student researchers.

Teaching Assistant 2009-2011, 2015
Vanderbilt University *Nashville, TN*

Extensively aided in the instruction of graduate level hydrology.

PUBLICATIONS

Published

- Eli Goldberg, **Coy P. McNew**, Martin Scheringer, Thomas D. Bucheli, Peter Nelson, Konrad Hungerbuühler. *What factors determine the retention behavior of engineered nanomaterials in saturated porous media?.* **Environmental Science & Technology**, 51:2729-2737, 2017.
- **Coy P. McNew**, Negin Kananizadeh, Yusong Li, Eugene J. LeBoeuf. *The attachment of colloidal particles to environmentally relevant surfaces and the effect of particle shape.* **Chemosphere**, 168:65-79, 2017.
- **Coy P. McNew**, Eugene J. LeBoeuf. *nC_{60} deposition kinetics: the complex contribution of humic acid, ion concentration, and valence.* **Journal of Colloid and Interface Science**, 473:132-140, 2016.
- **Coy P. McNew**, Eugene J. LeBoeuf. *The role of attached phase soil and sediment organic matter physicochemical properties on fullerene (nC_{60}) attachment.* **Chemosphere**, 139:609-616, 2015.

In Preparation

- **Coy P. McNew**, Eli Goldberg, Martin Scheringer, Konrad Hungerbuühler, Eugene J. LeBoeuf. *Predicting particle attachment efficiency from physicochemical characteristics: a machine learning approach.*

CONFERENCE PAPERS AND PRESENTATIONS

- **Coy McNew**, Shad O'Neel, Seanna McLaughlin, Helen Dahlke. *Inferring glacial flow pathways with DNA-labeled nano- and microparticle tracers at the Wolverine Glacier in Alaska.* European Geosciences Union General Assembly 2017. Vienna, Austria. 2017
- **Coy McNew**, Helen Dahlke, Chaozi Wang, Steve Lyon, Todd Walter. *Using DNA-labeled nano- and microparticles to track particle transport in the environment.* European Geosciences Union General Assembly 2017. Vienna, Austria. 2017
- **Coy McNew**, Chaozi Wang, Seanna McLaughlin, Steve Lyon, Helen Dahlke. *Using DNA-labeled nano- and microparticles to measure pollutant transport pathways in the environment.* California Rangeland Conservation Coalition 2017 Summit. Browns Valley, CA. 2017
- **Coy McNew**, Chaozi Wang, Seanna McLaughlin, Steve Lyon, Helen Dahlke. *Using DNA-labeled nano- and microparticles to track particle transport in the environment.* UC Davis Postdoctoral Research Symposium. Davis, CA. 2017.
- Helen Dahlke, **Coy McNew**, Chaozi Wang, Seanna McLaughlin, Steve W. Lyon. *Test of synthetic DNA tracers in a periodic hydrodynamic system for time-variable transit time distribution assessment.* **American Geophysical Union Fall Meeting**. San Francisco, CA. 2016
- **Coy P. McNew**, Eugene J. LeBoeuf. *nC_{60} deposition onto humic acid coated silica and the effect of ionic strength.* **Gordon Research Conference: Environmental Implications of Nanomaterials**. West Dover, VT. 2015.
- **Coy P. McNew**, Eugene J. LeBoeuf. *Thermal investigation of an attached phase soil humic acid and its effect on nC_{60} attachment.* **American Chemical Society National Conference**. San Francisco, CA. 2014.
- **Coy P. McNew**, Eugene J. LeBoeuf. *Viscoelastic behavior of AP-SOM and effects on C_{60} deposition using a QCM-D.* **Gordon Research Conference: Environmental Implications of Nanomaterials**. Stowe, VT. 2013.
- **Coy P. McNew**, Yusong Li, Leslie Shor, Eugene J. LeBoeuf. *Effect of attached-phase NOM and solution chemistry on the deposition rate of nC_{60}.* **American Chemical Society National Conference**. Boston, MA. 2010.
- **Coy P. McNew**, Eugene J. LeBoeuf, Yusong Li, Leslie M. Shor, Dmitry A. Markov. *Interaction of engineered nanomaterials with soil organic matter.* **American Chemical Society National Conference**. San Francisco, CA. 2010.

HONORS AND AWARDS

- Fellow, **Professors for the Future Program**, 2017 UC Davis
- **ACS National Conference Certificate of Merit** for outstanding paper presentation, 2010
- Carl E. Adams, Jr. **Graduate Fellowship**, 2009
- Omega Chi Epsilon **National Honor Society** for Chemical Engineering, **Vice President** Rose-Hulman Chapter 2008
- Wernsing Memorial **Scholarship**, 2008
- Jeffrey Duncan **Scholarship**, 2008

RELEVANT TRAINING AND SKILLS

- Adept at the independent design, maintenance, and organization of experimental research projects
- Extensive training in surface and groundwater hydrology
  - Developed numerical goundwater model to track groundwater age

  - Experience with the underlying relationships of fluid flow in the saturated and unsaturated zones, including vadose zone hydrology
- Trained in the design, implementation, and management of environmental sampling plans
- Experience and training in a myriad of lab instruments
  - Analytical tools: qPCR, DLS, HPLC, GC-MS, LC-MS, ICP-ES/MS, GLC, Quartz Crystal Microbalance (QCM-D), Spectrophotometry
  - Imaging tools: AFM, SEM, TEM, Optical Microscope
  - Thermal analysis: DSC, TMDSC, TMA, TGA
- Experience with many programming languages, algorithm development packages, and modeling software packages
  - MATLAB, PYTHON, Octave, LaTeX, Visual Basic, StormCAD, HEC-HMS, Abaqus, Maple
- Self-motivated, driven individual, adept at teaching myself new lab and field techniques, programming languages, or software packages
- Experience collaborating with an interdisciplinary, diverse group of scientists