Coy McNew

Data Scientist | Team Builder
Nashville, TN
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Experienced, agile data scientist with a proven track record of answering messy, real world problems with rigorous, quantitative solutions, mentoring junior data scientists, and team building. Demonstrated ability in the design, execution, management, and completion of team-oriented, large-scale projects. Skilled in translating complex scientific concepts, as evidenced by teaching, mentoring, and client communication experience. Excellent scientific communication skills, as evidenced by publication and presentation record.

EDUCATION

2015	**Ph.D., Environmental Engineering**, *Vanderbilt University*
2011	**M.S., Environmental Engineering**, *Vanderbilt University*
2009	**B.S., Chemical Engineering**, *Rose-Hulman Institute of Technology*

PROFESSIONAL EXPERIENCE

2018 – Present
Nashville, TN

Senior Data Scientist, *Environmental Resources Management (ERM)*

Data Analysis Expertise:

- Revolutionized ERM's client deliverables with dynamic, interactive html reports and dashboards, both static and web-based (examples)
- Lead programmer on numerous projects applying quantitative statistical analyses to complex, environmental data, including:
  - Statistically-based weight of evidence framework for determining background concentrations at Ranger Uranium Mine in Kakadu, Australia. Successful outcome which saved stakeholders ~$1M.
  - Model development to determine drivers of ecological toxicity across hundreds of miles of river for a confidential client in western US.
  - Automated workflow development for the application of routine statistical tests and analyses across many projects business-wide, saving thousands of dollars in man hours per application.

Leadership & Management:

- Managed and mentored a team of data scientists, directing workflow, delivery, and execution on 5 – 10 projects simultaneously
- Established team best practices in collaborative coding, workflow, versioning
- Effectively communicate across the business, including executives, non-technical staff, and clients from various sectors
- Inaugural member of ERM's DS team, growing from 3 – 10 members in ~ 1 year

2017 - 2018
Davis, CA

Fellow, *Professors for the Future, University of California Davis*

- Competitive fellowship awarded to most promising leaders across UC
- Participated in hands-on leadership training events with high-level leaders from the public and private sectors

2016 – 2018

Postdoctoral Scholar, *University of California Davis, Hydrologic Sciences*

Davis, CA

- Managed and mentored a diverse team of **8** researchers and research assistants in experimental design, programmatic data analysis, communication, and presentation
- Developed a novel synthetic DNA-labeled nanoparticle tracing technique, including R-based data management, analysis, and reporting tools

2016 – 2018 **Senior Consultant**, *Amarach Consulting*
Austin, TX

- Provided consulting expertise in environmental transport, soil chemistry, and data analytics to predict presence of soil pollutants from NIR spectroscopy.

2011 – 2015 **Research Assistant**, *Vanderbilt University, Civil and Environmental Engineering*
Nashville, TN

- Collaborated on an ML model to describe and predict particle transport in soils.

2009 – 2015 **Teaching Assistant**, *Vanderbilt University, Civil and Environmental Engineering*
Nashville, TN

- Guided and mentored undergraduates in the fundamentals of engineering, experimental design, and communication/presentation of scientific results.

RELEVANT SKILLS

Techniques	Statistical hypothesis testing; statistical modeling; machine learning; automated workflows; PCA; EDA
Programming	R; R Markdown; Python; git; Matlab; LaTeX; Visual Basic; SQL
Visuals & Reporting	R Shiny; plotly; html
Geospatial	sf (R); leaflet; mapdeck; arcGIS

PUBLICATIONS

Authored **7 publications** in 4 different peer-reviewed journals (Google scholar profile)
Selected Publications:

- **McNew, C. P.**, Wang, C., Walter, M. T., & Dahlke, H. E. (2018). Fabrication, Detection, and Analysis of DNA-labeled PLGA Particles for Environmental Transport Studies. *Journal of Colloid and Interface Science*, *526*, 207-219.
- **McNew, C. P.**, Kananizadeh, N., Li, Y., & LeBoeuf, E. J. (2017). The attachment of colloidal particles to environmentally relevant surfaces and the effect of particle shape. *Chemosphere*, *168*, 65-79.
- Goldberg, E., **McNew, C. P.**, Scheringer, M., Bucheli, T. D., Nelson, P., Hungerbuhler, K. (2017). What factors determine the retention behavior of engineered nanomaterials in porous media? *Environmental Science & Technology, 51*, 2729-2737.

CONFERENCE CONTRIBUTIONS

11 presentations (**5 oral**, **5 poster**, **1 invited speaker**) across 10 different national and international meetings
Selected Presentations:

- **McNew, C. P.**, Wang, C., Kocis, T., Murphy, N., Dahlke, H. E. (2017). DNA-labeled micro- and nanoparticles: a new approach to study contaminant transport in the environment. *American Geophysical Union, New Orleans, LA.*
- **McNew, C. P.**, O'Neel, S., McLaughlin, S., Dahlke, H. E. Inferring glacial flow pathways with DNA-labeled nano- and microparticle tracers at the Wolverine Glacier in Alaska. *European Geosciences Union, Vienna, Austria.*

HONORS AND AWARDS

2021 **Spot Award**, *ERM*
Awarded for sustained excellence in client delivery.

2020 **Global Recognition Award**, *ERM*
Awarded for exceptional actions which have a lasting impact on the business.

2017 **Professors for the Future Fellowship**, *University of California Davis*
Competitive fellowship to recognize and develop outstanding leaders.

2010 **Certificate of Merit**, *ACS National Conference*
Awarded for outstanding conference paper presentation.

2009 Carl E. Adams Jr. **Graduate Fellowship**, *Vanderbilt University*

2008 **Vice President** Omega Chi Epsilon **National Honor Society**, *Rose-Hulman Chapter*

2008 Wernsing Memorial **Scholarship**, *Rose-Hulman Institute of Technology*

2008 Jeffrey Duncan **Scholarship**, *Rose-Hulman Institute of Technology*