LOUISE E. SINKS

LinkedIn: https://www.linkedin.com/in/louise-sinks/ GitHub: https://github.com/lsinks

TECHNICAL SKILLS

R Programming, MATLAB, VBA, Python, SQL, Excel/ Google Sheets, Stat-Ease, Tableau, Web Scraping (rvest), Mapping (leaflet), Statistical Analysis, Statistical Process Control, Design of Experiments, Fitting, Modeling/ Machine Learning, Simulations, GIT

EMPLOYMENT

Freelance Technical Consultant (part-time) 2017- present

- Prepares technical responses to US and foreign Patent Office inquiries and works with the patent lawyer to get claims approved
- Advises on the technical and business merit of patent claims and drafts patent claims to improve the strategic value of the patent

US Nano LLC

Vice President 2012-2017
Senior Scientist 2011-2012

- Wrote and managed grants to fund research, obtaining ~$924,000 of non-dilutive funding
- Directed US Nano's research activities to develop semiconductor nanowire technologies and managed a team of 5-10 technical and support staff, resulting in two US patents for scalable synthesis of nanowires and the reduction of the materials cost by 140-fold
- Introduced applied statistical methods such as DOE (Design of Experiments), leading to such improvements as 3-fold faster development of new materials and a one million-fold improvement in printed photosensor performance
- Implemented Statistical Process Control on manufacturing activities, which allowed detection of issues earlier in the workflow, saving ~30 person-hours and thousands of dollars in materials cost per prevented misrun
- Wrote custom Excel VBA macros to reduce analysis and reporting time for specific experiments from hours to under five minutes
- Designed Excel dashboards with pivot tables and graphs, allowing the scientific team to data mine all experiments performed by the company, often leading to insights beyond the planned experimental results

Prof. Sergei A. Vinogradov **University of Pennsylvania**

Postdoctoral Research Fellow 2008-2011

- Developed a new two-photon lifetime imaging microscopy technique for quantifying oxygen content in cells and produced the first 3D phosphorescence lifetime and intensity images

- Wrote Matlab code to simulate the microscope's point spread function to understand the relationship between resolution and signal-to-noise ratio
- Visiting Researcher at the Center for Oxygen Microscopic Imaging, University of Aarhus (Denmark) to collaborate on the development of new techniques
- Produced four peer-reviewed publications and presented at national and international conferences

Prof. R. Hochstrasser & Prof. M. J. Therien **University of Pennsylvania**

Postdoctoral Research Fellow 2004-2008

- Awarded NIH National Research Service Award Postdoctoral Fellowship to study transmembrane proteins
- Maintained and improved femtosecond spectrometer, including redesigning modules to reduce temporal chirp 6-fold and building a VIS pump/ IR-probe module
- Utilized IR-pump/ probe, VIS-pump/probe, 2DIR, and VIS-pump/ IR-probe ultra-fast techniques to study the influence of the environment on biologically relevant processes such as proton-coupled electron transfer.
- Modeled various photophysical processes using OriginPro and Matlab
- Produced six peer-reviewed publications and presented at local and international conferences.

EDUCATION

Northwestern University **Evanston, IL**

MS in Chemistry, PhD in Chemistry

Produced 17 peer-reviewed papers

University of Virginia **Charlottesville, VA**

Major: BS in Chemistry with Honors, BA in Physics Minor: Math

CERTIFICATIONS

DataCamp Data Scientist Professional Certificate, Google Data Analytics Certificate

PORTFOLIO

Publications: Google Scholar

Tableau: https://public.tableau.com/app/profile/louise.sinks

Website: https://lsinks.github.io/