MICHAEL A. GREEN

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Experienced laboratory scientist with a fluent understanding of materials fabrication and characterization, and proficient programmer with expertise in data analysis and visualization, computational modeling, and desktop application development. Multiple years of research experience resulting in the authoring of numerous research publications and oral presentations. Research featured and published in several top-5 publishing journals for materials science and photonics, such as *Materials Today* and *Light: Science & Applications*. Driven individual who possesses the desire to take on the greatest of challenges with logical and intelligent approach.

Education

Ph.D. Chemistry, University of Missouri, Kansas City MO. *Expected May 2020.*

Dissertation: "On the development of dielectric and magnetic materials for electromagnetic interference shielding" – Principal Advisor: Dr. Xiaobo Chen

M.Sc. Chemistry, University of Missouri, Kansas City MO. *May 2019.*

Seminar: "Computational Methods for Chemistry: Experimental Analysis and Data Visualization in Python 3.7" – Principal Advisor: Dr. Xiaobo Chen

B.Sc. Chemistry (minor Mathematics), University of Idaho, Moscow ID. *July 2016.*

Research: "Activity of nanostructured C@ETS-10 sorbent for capture of volatile radioactive iodine from gas stream" – Principal Advisor: Dr. Vivek Utgikar

Professional Experience

Research Assistant, Department of Chemistry, University of Missouri, Kansas City MO. *Aug. 2016 – present.* Principal Advisor: Dr. Xiaobo Chen

- Synthesized, analyzed, and characterized materials such as pure and perturbated -oxides, -phosphides, -sulfides, graphitic carbon nitrides, conductive polymers, polyoxometalates, and metal-organic frameworks, through solvo/hydrothermal and PECVD methods.
- Developed fluency in various instrumentation techniques, including Complex Permittivity and Permeability Network Analysis, Polarized Light Microscopy, UV-Vis Spec., Raman Vib. Spec., SEM/EDX, TEM, XPS, XRD, BET, FTIR, ESR, NMR/SSNMR, PALS, *et alia*.
- Composed original computational programs in Python for data analysis, data modeling, and data visualization, in both scripted and desktop-application GUI formats. Main author of the libRL python library, which is a state-of-the-art python module for the characterization of microwave absorption (available open source on GitHub).
- Established laboratory protocols for the treatment and disposal of hazardous chemical waste, in accordance with EH&S, EPA, and the State of Missouri guidelines.
- Published 10 first-author research manuscripts in peer-reviewed journals, in addition to 7 co-author manuscripts. Presented 9 Oral Seminars at Conferences such as the ACS Midwest Regional Meetings.
- Mentored 11 undergraduate students who have since advanced to Medical School, Graduate School, and Industry.
- Collaborated with researchers from the Environmental Protection Agency, Lawrence Berkley National Laboratory, and the Chinese Academy of Sciences.

Teaching Assistant, Department of Chemistry, University of Missouri, Kansas City MO. *Jan. 2017 – May 2018; Jan. 2019 – May 2019*

- Oversaw a variety of labs of various student populations. Includes:
  - General Chemistry (150 students per semester, 3 semesters).
  - Elements of Chemistry (20 students per semester, 1 semester).
  - Experimental Physical Chemistry (20 students per semester, 2 semesters).
- Interacted with students via small group and one-on-one tutoring on a weekly basis. Maintained an "open door" policy, allowing students to visit for council outside of posted office hours.
- Performed maintenance, upgrades, and repairs of legacy hardware; including GC, Fractional Distillation, UV-Vis, Bomb Calorimeter, Oscilloscope, and FTIR equipment.
- Wrote computational software to interface with data derived from experiments which undergraduate students used to analyze experimental data.
- Maintained the laboratory space for each week's experiments; includes materials restocking and hazardous waste disposal.

Research Assistant, Department of Chemical and Materials Engineering, University of Idaho, Moscow ID. *Jan. 2014 – July 2016.* Principal Advisor: Dr. Vivek Utgikar

- Developed carbon/titanosilicate composites for the physical adsorption of volatile radionuclei resultant from the PUREX process.
- Analyzed materials via GC/MS, BET, XRD, Raman, and UV-Vis instrumentations.
- Engineered testing apparatuses and general technologies for lab use.
- Research affiliated with Idaho National Laboratory.

Philanthropy

Chemistry Instructor, School of Medicine, University of Missouri, Kansas City MO. *Aug. 2016 – present*

- Designed and presented chemistry lectures for diversity outreach programs over various weekends to enrolled middle and high school students from the Kansas City area on topics in General Chemistry, Environmental Chemistry, Organic Chemistry, and Physical Chemistry.
- Designed and presented a two-week lecture series for Kansas City area high school seniors, focusing on Organic Chemistry fundamentals, Organic Reactions, and Biochemistry.

Awards, Honors, and Memberships

Memberships:	AAAS, American Chemical Society
Reviewerships:	Journal of Materials Research, Journal of Applied Physics
Assistantships:	Graduate Research (*May 2018 – Jan. 2019; May 2019 – present*), Graduate Teaching (*Jan. 2017 – May 2018; Jan. 2019 - May 2019*) Undergraduate Research (*May 2014 – July 2016*)
Awards:	Microelectrovolt Electromag. Scholarship, (*Aug. 2018 – present*) Doctoral N/R (*Jan. 2017 – present*)
Honors:	ΦΚΦ (2019) *for attaining a graduation class rank above the 90th percentile* ΣΞ (2019) *for exemplary scholarship demonstrated through published research*

Keywords: Materials science; Wet-chemistry, solvothermal, hydrothermal, chemical vapor deposition. Instrumentation; Gas Chromatography, Mass spec., microscopy, transmission electron, scanning electron, polarized light, x-ray diffraction, photoelectron, energy dispersive, electron spin resonance, electromagnetism, microwave absorption, reflection loss. Data science, computer science; Python, Numpy, Scipy, Pandas, Matplotlib, PowerPoint, Excel, Word.