

GINA SAMPSON, Ph.D. | Senior Research Scientist

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Bridging a solid research background with creative thinking to drive groundbreaking innovation.

Dedicated, results-focused research scientist with proven experience throughout chemistry, and knowledge in biomedical and pharmaceutical R&D, clean energy, and specialty materials. Experienced as Project Director guiding engineer teams on government funded initiatives. Eager to take on complex scientific challenges that often intimidate others using leading edge technologies.

Extensive know-how in preparing grant proposals, RFPs, technical reports, and manuscripts. Highly adaptable to excel within teams as well as individually. Articulate cross-functional communicator with ability to convey scientific concepts to non-technical groups as well as high-level scientists. Bi-lingual: English & Hindi.

NOTABLE PROFICIENCIES

ORGANIC SYNTHESIS

- Multi-step Organic Synthesis
- Schlenk Line Techniques
- Compound Purification: Column & Radial Chromatography, Distillation, Compound Characterization
- Organometallic Synthesis & Reactions
- Air & Moisture Sensitive Compounds

POLYMERS & MATERIALS

- Biopolymer Synthesis & Conjugation
- Hydrogel & Biopolymer Nano-particle Synthesis & Characterization
- Sol-gel & Aerogel Synthesis using Supercritical Carbon Dioxide
- Silica Nano Particle Synthesis

ANALYTICAL & TECHNICAL

- Organic Compound Characterization using IR Spectroscopy & NMR Spectroscopy (Bruker 300, 500 MHz and Varian Unity plus 300 MHz)
 - Gas Chromatogram Operations & Troubleshooting
 - Electro-Analytical Techniques (Cyclic Voltammetry & Electrolysis)
 - Polarimetry
 - HPLC
 - Thin-Layer & Column Chromatography
 - Mass Spectrometry
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PROFESSIONAL EXPERIENCE – RESEARCH

RESEARCH SCIENTIST

2009 – Present

Confidential Corporation | Los Angeles, CA

Directed multiple multi-million dollar government funded research projects. Submitted and secured ongoing competitive Small Business Innovative Research (SBIR) Phase I and Phase II proposals, working with government agencies including National Institute of Health (NIH), NASA, DOE, and DOD. Cultivated relations with various government and private organizations to secure funding. Fostered expertise in new, cutting-edge technologies within material and polymer sciences (without previous knowledge in this specific field).

Notable Contributions:

- » Won Phase 1 Small Business Innovative Research Award from NASA (2011) and utilized award as Principal Investigator to develop specialty material lubricants for robotic applications.
- » Led team to develop new superhydrophobic anti-fog coatings for plastic and flame retardant fabrics.
- » Developed new markers for the detection of tumor cells in blood (ongoing).
- » Researched and advanced novel monomers for biosensor applications.
- » Helped improve optical imaging of cancer by synthesizing biopolymeric nano-particle markers.

GRADUATE RESEARCH ASSISTANT

2003 – 2008

Confidential University | Los Angeles, CA | 2005 – 2008**Confidential University** | Los Angeles, CA | 2003 – 2005

Began work under advisor at CU, and transferred with the same advisor to UI after two years to continue work, maintaining loyalty and focus. Developed the ruthenium mediated dearomatization strategy for the synthesis of small molecular building blocks. The developed method is one of the few techniques which yields unique spirocyclic molecules, and also recycles the metal. Initiated studies of metal-free synthetic route using environmentally friendly reagents, which later developed into independent research project.

Notable Contributions:

- » Co-established new research laboratory with advisor while juggling doctorate degree coursework.
- » Contributed to creation of two manuscripts in peer reviewed journals and six scholarly presentations in regional and national conferences addressing ruthenium mediated dearomatization strategy.

PROFESSIONAL EXPERIENCE – TEACHING

ADJUNCT FACULTY | Confidential University | Los Angeles, CA

2009

Prepared lectures and labs for undergraduate chemistry courses as well as graded exams.

GRADUATE TEACHING ASSISTANT | Confidential University | Los Angeles, CA

2003 – 2004

Taught lab coursework to undergraduate students and prepared for discussion sessions on theory topics.

LECTURER | Confidential University | Los Angeles, CA

2002 – 2003

Led senior-level chemistry lab classes including experiment preparation, demonstrations, and lab monitoring.

PROFESSIONAL DEVELOPMENT & ACADEMIC AWARDS

Ph.D., Organic Chemistry | Confidential University | Los Angeles, CA | 2008

- » Doctoral Thesis: *New and Efficient Methods for Synthesizing Anti-microbial Drug Compounds*

MSc, Physical Chemistry | Confidential University | Los Angeles, CA | 2002**BSc, Chemistry and Industrial Chemistry** | Confidential University | Los Angeles, CA | 2000

Grants/Fellowships: **Travel Grant Award** | Graduate Student Senate | Confidential University (2007)
Travel Grant Award | Department of Chemistry | Confidential University (2007)
Travel Grant Award | Graduate Student Senate | Confidential University (2006)
Travel Grant Award | Department of Chemistry | Confidential University (2006)
Fellowship | Council of Scientific and Industrial Research | Confidential Organization