

Leslie S. Hamachi

Ph.D. Candidate • Columbia University in the City of New York
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Education

Columbia University

Candidate for a Ph.D. in Chemistry

Research Advisor: Professor Jonathan S. Owen

New York, NY

2018 (expected)

University of California, Berkeley

B.S. with Honors in Chemistry, Concentration in Materials Chemistry

Research Advisor: Professor Paul Alivisatos

Berkeley, CA

2013

Research/Work Experience

Owen Research Group, Columbia University

July 2013 - Present

Measuring the Stark Effect of nanoparticles for use in neuron imaging.

Alivisatos Research Group, UC Berkeley

August 2010 - May 2013

Synthesis of Ag nanoparticles, Au nanorods, and DNA-linked plasmon rulers for biosensing applications.

Milliron Research Group, Lawrence Berkeley National Lab

June - August 2011

Thermochromic properties of mesoporous vanadium dioxide thin films.

Oxonica Materials, Inc.

Summer 2009, 2010

Investigated different SERS active reporter molecules to be used with Au nanoparticles for multiplexed detection. Large scale aqueous synthesis of Au nanoparticles.

Teaching Experience

Organic Chemistry Laboratory

Summer 2013, Fall 2013

Led two laboratory sections per week in organic experiments such as distillations, Saponifications, and Grignard reactions. Wrote and administered quizzes, graded reports, provided individual support.

Outreach Activities

Columbia Science Honors Program Fall 2013
Led high school seniors through organic chemistry experiments.
Girls Science Day 2013, Women in Science at Columbia November 2013
Led a workshop for middle school girls on transition metal complexes.
Berkeley Nanotechnology Club Officer January 2010 - May 2013
Organized the Berkeley Nanotechnology Forum.
Volunteer Research Lab Tour Guide September 2011
Led tours of 40 Prospective Junior Transfer Students.

Presentations

Hamachi, L.S., Smith, J.M., Alivisatos, A.P. "Solution Phase Plasmon Rulers." College of Chemistry Undergraduate Research Symposium, UC Berkeley, April 2013
Hamachi, L.S., Buonsanti, R., Miliron, D. "Vanadium Dioxide Mesoporous Thin Films." Department of Energy Summer Undergraduate Laboratory Internship Poster Session, August 2011

Honors/Awards

2013 College of Chemistry Senior Undergraduate Research Award
2011 College of Chemistry Undergraduate Summer Research Award
2009 Rambus Innovator of the Future Finalist
UC Berkeley Regent's and Chancellor's Scholar

Skills, Coursework

Imaging experience and sample preparation for SEM & TEM
Schlenk line air sensitive compound preparation
Chromatography experience with HPLC, and GC
Characterization relevant to inorganic and materials chemistry: MS, NMR, UV-Vis, IR
Organic Methods: Recrystallization, Liquid-Liquid extraction, TLC

Related Course Work: Inorganic Chemistry (3 terms), Physical Chemistry (3 terms), Materials Chemistry (2 terms), Advanced Inorganic Chemistry Laboratory (1 term), Physical Chemistry Laboratory (1 term), Solid State Physics (1 term), Organic Chemistry (2 terms)