

NAME

Address
Phone/email

Education

Ph.D. in Chemistry, University of Pennsylvania, Philadelphia, PA 20XX

Thesis title:

Thesis advisor:

B.S. in Physical Chemistry, University of Science and Technology of China (USTC), Hefei, China 20XX

Thesis title:

Thesis advisor: Major GPA: 3.92/4.30 Rank: 5/82

Awards

Washington Research Foundation Postdoctoral Fellowship, University of Washington 20XX

GAPSA Graduate Travel Award, University of Pennsylvania 20XX

Outstanding Student Scholarship (1st Grade, 5 out of 83), USTC 20XX

Panasonic Scholarship (2 out of 40), USTC 20XX

Second Prize in the Contest for Research-oriented Physical Experiment, USTC 20XX

National Financial Stipend (2 out of 40), USTC 20XX

Publications

1. **Name**, name, name*, name*. Weak Distance Dependence in Raman Enhancement of Raspberry-like Metamolecule Dimers. ACS Nano, submitted.
 - First experimental and theoretical demonstration of nanoparticles (i.e., raspberry-like metamolecules) whose dimers exhibited Raman enhancement weakly dependent on the separation distance. The raspberry-like metamolecule is envisioned to be promising building blocks for fabricating large area reproducible and efficient Raman substrates without requiring accurate control of interparticle distances.
2. **Name**, name, name, name, name, name, name*. Model Interference in Spiky Nanoshells. Opt. Express, 2015, 23, 11290-11311. (Journal Impact Factor: 3.525)
3. **Name**, name, name, name, name*, name*. Synthetic Approach to Raspberry-like Metamolecules Exhibiting Strong Magnetic Resonances. ACS Nano, 2015, 9, 1263–1270. (Journal Impact Factor: 12.033)
 - First experimental demonstration of a three-dimensional metamaterial exhibiting strong magnetic resonance with similar intensity to that of electric resonance in the optical region. The raspberry-like metamolecule is made of a large number of well-insulated gold nanoparticles assembled on a polymer template. The robustness and tunability of the synthetic method and the strong magnetic responses of the resulting raspberry-like metamolecules can lead to large-scale manufacturing and wide applications of magnetic metamaterials.
 - Highlighted in Penn News: website
 - Highlighted in PhysOrg: website

Presentations

1. Name, name, name. Raspberry-Like Metamolecules with Enhanced Optical Properties. Department of Chemistry, University of Washington, Seattle, WA, January 12, 20XX. (Invited oral presentation)
2. Name, name, name. Spiky Gold Nanoshells: Synthesis and Enhanced Optical Properties. KLA-Tencor Corporation, Albany, NY, November 18, 20XX. (Invited oral presentation)
3. Name, name, name. Surfactant-Assisted Synthesis of Nanoparticles with Enhanced Raman Performance. Colgate-Palmolive, Piscataway, NJ, September 30, 20XX. (Invited oral presentation)
4. Name, name, name, name. Spiky Gold Nanoshells: Syntheses and Application in Surface Enhanced Raman Spectroscopy. MRS fall meeting, Boston, MA, Dec 1-6, 20XX. (Oral presentation)
5. Name, name, name, name, name. Gold Nanoshells: Synthesis and Enhanced Scattering Property. The Energy Frontier: Controlling Matter at the Nanoscale, Philadelphia, PA, United States, August 17, 20XX. (Poster)

Research Experience

Washington Research Foundation Innovation Fellow, University of Washington 20XX-present

- Develop interdisciplinary research programs in the Clean Energy Institute at the University of Washington with a focus on using plasmonic nanomaterials for solar water splitting; team leader and lab manager in research group.

Graduate Research Associate, University of Pennsylvania 20XX- 20XX

Dedicated to investigate how plasmonic nanoparticles interact with light via both wet chemistry method and electrodynamic simulation.

Syntheses and assembly of colloidal particles

- Created a novel method to synthesize nanoshells and anisotropic nanoparticles with improved yield (from 60% to 85%), tunable sizes (10 nm to 300 nm), shapes (spheres, rods, triangular nanoprisms, nanowires), chemical compositions (Au, Ag) and optical properties.
- Functionalized nanoparticles with polymers (DNA/peptide/PEG) and tuned particle-particle interactions on molecular level via varying polymer length and composition; assembled responsive macroscopic thin film structures using nanoparticle-polymer composites via carefully tuning the molecular interaction.

Surface-enhanced Raman spectroscopy (SERS)

- Designed efficient and reproducible single particle Raman substrates and evaluated their Raman enhancement capability via correlating scanning electron microscopy (SEM) and Raman spectroscopy; studied the origin of their enhanced Raman scattering and proposed a novel enhancement mechanism; discovered a novel Raman substrate promising for large area fabrication and industrial application.

Electrodynamic simulation

- Built models of plasmonic nanoparticles using MATLAB; investigated interaction of plasmonic nanoparticles with light via electrodynamic simulation using finite-difference time-domain method; quantitatively analyzed and visualized large-scale simulation data using MATLAB.

Research Assistant, University of Science and Technology of China 20XX-20XX

- Designed efficient metal oxide catalysts for automotive exhaust treatment utilizing wet chemistry methods; proposed an interfacial catalytic mechanism via comprehensive surface characterization.

Teaching Experience

Graduate Teaching Assistant, Department of Chemistry, University of Pennsylvania 20XX-20XX

- Developed and delivered presentations twice a week to 13 sections of post-baccalaureate students; stimulated inquiry-based group discussions which aired ideas to reach consensus on experimental design; supervised over 200 students doing experiments and writing up professional laboratory reports; arranged weekly meetings to evaluate the students' academic progress and help them prepare for exams.

Professional Development

Co-Chair, Seattle Association for Women in Science 20XX-Present

- Organize academic and social activities to facilitate growth of female scientists in STEM fields.

Graduate Mentor, Department of Chemistry, University of Pennsylvania 20XX-Present

- Mentored postdoctoral researcher and helped him design projects for his one-year postdoctoral research; taught him to evaluate the Raman enhancement of plasmonic nanoparticles.
- Mentored a master student and instructed her to synthesize nanoparticles step by step; taught her to analyze research results, propose hypothesis and figure out solutions to problems.

ACS Seed Project Mentor, University of Pennsylvania June-Aug 20XX

- Trained a high school student to synthesize particles and give presentations; counseled her on career options. She is currently a college student majoring in biochemistry in Penn State Univ.

Professional Associations

Member of the American Chemical Society (ACS) 20XX-present

Member of the Materials Research Society (MRS) 20XX-present

Collaborators

Dr. X (Intel Corporation, USA), Dr. Y (Mount Sinai School of Medicine, USA), Dr. Z (Illumina, USA)

Academic & Community Service

Manuscript Peer Review

- Journal of Nanomaterials; Current Pharmaceutical Design; Physics and Chemistry of Liquids

Educational Outreach

Science Representative, Philadelphia Area Girls Enjoying Science™ (PAGES™) Nov, 20XX

- Demonstrated vivid chemistry experiments to sixth-grade girls to foster their interest in science.

Scientist, Nanoday@Penn 20XX-20XX

- Demonstrated posters, models and samples about nanotechnology research across campus to inspire interest towards nanoscience among high school students and teachers.

Science Presenter, the Franklin Institute, Philadelphia, PA 20XX-20XX

- Held 4-hour open session every Saturday to teach tourists with diverse ages and scientific knowledge; organized interactive question and answer games to help young kids learn and digest scientific concepts.