

PERSONAL INFORMATION

- Born May 12, 1984 (Atlanta, GA); US citizen; male; unmarried (no children)

EDUCATION

- BSChEM, Chemistry; University of Georgia, Athens, GA, USA; 08/2002 - 05/2006 (Prof. J.L. Stickney)
 - 620 / 750 GRE verbal / quantitative, 79th percentile Chemistry GRE, 3.66/4.00 GPA
- PhD Candidate, Inorganic Chemistry; Georgia Institute of Technology, Atlanta, GA, USA (Prof. M.A. El-Sayed)
 - 05/2006 - present: 3.75/4.00 GPA
 - Anticipated graduation date: Spring 2011

EMPLOYMENT HISTORY

Teaching Assistant:

- 08/2006 - 05/2007: GA Institute of Technology, Dept of Chemistry and Biochemistry
 - Undergraduate General Chemistry Lecture and Laboratory
 - Undergraduate Organic Chemistry Synthesis Laboratory

Research Assistant:

- 05/2004 - 05/2006: University of GA, Dept of Chemistry (Prof. J.L. Stickney)
- 05/2006 - present: GA Institute of Technology, Dept of Chemistry and Biochemistry (Prof. M.A. El-Sayed)

PROFESSIONAL QUALIFICATIONS

Certifications and Accreditations

- Certified in the Care and Use of Laboratory Animals (Aseptic Surgery of Rodents, Anesthesia and Analgesia of Rodents, Occupational Health and Safety, Laboratory Mouse- and Dog-Specific)
- American Chemical Society (ACS) certified Bachelor's degree in Chemistry
- Certified in Experimental Techniques and Safety Procedures for Radioactive Materials

Technical Skills

- Transmission Electron Microscopy & Scanning Probe Microscopy
- Computational Electrodynamics (Discrete Dipole Approximation)
- Optical Microscopy/Spectroscopy; Vibrational Spectroscopy (IR & Raman)
- Cell Culture and Cryogenic Storage
- Xenograft transplantation
- In vivo (murine) photothermal therapeutic administration
- Size/shape -tunable gold nanoparticle synthesis (colloidal, electrochemical) & bioconjugation

Supplementary Graduate Coursework

- Managing Resources of the Technological Firm (Georgia Institute of Technology, Fall 2007, 4.0/4.0)
- Electrochemistry and Electroanalytical Chemistry (University of Georgia, Spring 2006, 3.0/4.0)

SYNERGISTIC ACTIVITIES

- 08/2000 – 05/2002: Mentor, Big Brothers Big Sisters of Metro Atlanta (Stockbridge, GA)
- 05/2008 – 08/2008: Mentor, National Science Foundation-REU (O. Dellanoy-Bruno, GA Inst of Technology)

- 05/2008 – 05/2009: Undergraduate Research Mentor (N. Bloodworth, GA Inst of Technology)
- 08/2008 – 12/2008: Undergraduate Research Mentor (L. Tankesley, GA Inst of Technology)
- 08/2007 – present: Mentor, New Chemistry Graduate Students (S. Hayden, P. Bagchi, C. Ruschman, S. Lee, GA Inst of Technology)
- 05/2008 – present: Mentor, Big Brothers Big Sisters of Metro Atlanta (Atlanta, GA)
- 08/2009 – present: Undergraduate Research Mentor (M. Kieffer, GA Inst of Technology)

AWARDS

- 08/2006 – 08/2008: GAANN Fellow
- 08/2006 – 08/2007: William H. Emerson Fellow

PUBLICATIONS

1. Dreaden, E. C.; Mwakwari, S. C.; Sodji, Q. H.; Oyelere, A. K.; El-Sayed, M. A., Tamoxifen-PEG-Thiol Gold Nanoparticle Conjugates: Enhanced Potency and Selective Delivery for Breast Cancer Treatment. *Bioconjugate Chemistry*, ASAP.
2. Neretina, S.; Dreaden, E. C.; Qian, W.; El-Sayed, M. A.; Hughes, R. A.; Preston, J. S.; Mascher, P., The Dependence of the Plasmon Field Induced Nonradiative Electronic Relaxation Mechanisms on the Gold Shell Thickness in Vertically Aligned CdTe-Au Core-Shell Nanorods. *Nano Letters* (in press).
3. Neretina, S.; Qian, W.; Dreaden, E. C.; El-Sayed, M. A.; Hughes, R. A.; Preston, J. S.; Mascher, P., Exciton Lifetime Tuning by Changing the Plasmon Field Orientation with Respect to the Exciton Transition Moment Direction: CdTe-Au Core-Shell Nanorods. *Nano Letters* **2009**, 9, (3), 1242-1248.
4. Dickerson, E. B.; Dreaden, E. C.; Huang, X.; El-Sayed, I. H.; Chu, H.; Pushpanketh, S.; McDonald, J. F.; El-Sayed, M. A., Gold nanorod assisted near-infrared plasmonic photothermal therapy (PPTT) of squamous cell carcinoma in mice. *Cancer Letters*. **2008**, 269, (1), 57-66.
5. Neretina, S.; Qian, W.; Dreaden, E. C.; El-Sayed, M. A.; Hughes, R. A.; Preston, J. S.; Mascher, P., Plasmon field effects on the nonradiative relaxation of hot electrons in an electronically quantized system: CdTe-Au core-shell nanowires. *Nano Letters* **2008**, 8, (8), 2410-2418.
6. Tabor, C.; Neretina, S.; Dreaden, E. C.; El-Sayed, M. A., Application of the universal scaling law in the coupling of plasmonic nanoparticle pairs of unique symmetries. In *236th ACS National Meeting*, American Chemical Society: Philadelphia, PA, United States, 2008; pp PHYS-427.

PRESENTATIONS

1. Dreaden, E. C.; Mwakwari, S. C.; Sodji, Q. H.; Dickerson, E. B.; Huang, X.; Chu, H.; Pushpanketh, S.; El-Sayed, I. H.; Oyelere, A. K.; McDonald, J. F.; El-Sayed, M. A., Gold Nanoparticles in Cancer Drug Delivery and Photothermal Therapeutics. Poster Session Presented at: The Festival of Research Ideas in Cancer Biology and Technology. 2009 Nov 19; Atlanta, GA.

PROFESSIONAL MEMBERSHIPS

- 08/2004 - 05/2006: Student Affiliates of the American Chemical Society
- 05/2006 – present: American Chemical Society (Physical Chemistry Division, Inorganic-Nanoscience Division)