

ARIANE TOM

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EDUCATION

- Stanford University | Palo Alto, CA 09/12 – 06/17
- M.S. Bioengineering, June 2014
 - Ph.D. Bioengineering, expected June 2017. *Advisors: Karl Deisseroth & Zhenan Bao*
Organic Semiconductors, Polymeric Neural Interfaces, Bio-orthogonal Chemistry, Neuroscience
- Stanford University | Palo Alto, CA 09/07 – 06/11
- B.S. Materials Science & Engineering, June 2011 *Advisors: Curtis Frank & Sarah Heilshorn*
Nanomaterials Synthesis & Characterization, Polymer Chemistry, Mechanical Behavior, N/MEMS

BIO-TECH RESEARCH

- Graduate Student | *Tools for probing and manipulating neural circuitry* | Stanford Bioengineering 06/2013–Pres.
- Determined polymer localization, cross-linking density, porosity, and native protein retention of whole mouse brains processed by the CLARITY technique, by which tissues are embedded with polymer and rendered transparent via lipid extraction.
 - Preparing doctoral thesis on developing genetic toolkit to synthesize electrically conductive polymers within targeted locations of living cells to study neural connectivity.
- Graduate Student | *Nanoscale Drug Delivery to Brain Tumors* | UC Berkeley Materials Science 11/11—04/12
- Synthesized ~15 nm peptide-polymer conjugate micelles, loaded particles with temozolomide, and learned techniques to characterize (HPLC, MALDI, SEC, SEM, TEM).
- Research Assistant | *Artificial Cornea* | Stanford Chemical Engineering 01/09 – 06/11
- Devised novel method to create three-dimensional interpenetrating hydrogel networks for an artificial cornea.
 - *Co-Inventor*, patent application submitted 2010: “*Three-Dimensionally Shaped Interpenetrating Network Hydrogels*” US20100174021 A1
- Co-Founder & Executive Director | *Stanford “International Genetically Engineered Machine”* 06/08 – 06/10
- In 2009, awarded title of “Best Health and Medicine Application” for project: *Immuni-T. coli: A Probiotic Approach to Diagnosing and Treating Inflammatory Bowel Disease*
 - Acquired lab space, equipment, and over \$70,000 in funding.

CLEAN-TECH RESEARCH

- Research Assistant | *Kalalé Solar Project* | Stanford Program on Food Security/Environment 09/10 -06/11
- Evaluated institutional, economic, and marketing aspects of solar-powered drip irrigation systems for growing high valued crops within Sub-Saharan Africa.
 - Traveled to four villages in Northern Benin, administering surveys to leadership of women’s agricultural groups in native language (French).
- Policy Analyst | U.S. Department of Energy: Office of Energy Efficiency & Renewable Energy 01/10 – 04/10
- Developed R&D policy recommendations for the Office of Strategic Planning & Analysis to ensure a sustainable supply of rare earths for the clean energy sector; Prioritized research agenda for \$700,000 budget.

LEADERSHIP/COMMUNITY ACTIVITIES

- Founder & Director | *ScienceSmart* | Riverside County, CA 11/05 – 07/08
- Established a youth-driven community service program to introduce preschool children to science through hands-on activities, mini workshops, and experiments.
 - Served over 2500 preschool children and engaged 200 high school volunteers in Riverside County, receiving national recognition by KABC Eyewitness News, Prudential Spirit of the Community Awards, Inland Empire Family Magazine, and Seventeen Magazine.

AWARDS & FELLOWSHIPS

- DOD National Defense Science & Engineering Graduate (NDSEG) Fellowship 2011
- NSF Graduate Research Fellowship 2011