

## EDUCATION

- **University of California** San Francisco, California  
*Ph.D. in Pharmaceutical Sciences and Pharmacogenomics* Sept. 2015 – July 2020 (*exp*)
- **University of North Carolina** Chapel Hill, NC  
*B.A. Mathematics, B.A. Chemistry, GPA 3.53* Sept. 2009 – May 2013

## PUBLICATIONS

- **Nesmith JE, Chappell JC, Cluceru JG, Bautch VL.**: "Blood vessel anastomosis is spatially regulated by flt-1 during angiogenesis", *Development*. 2017 Mar 1;144(5):889-896.
- **Chappell JC, Cluceru JG, Nesmith JE, Mouillesseaux KP, Bradley VB, Hartland CM, Hashambhoy-Ramsay YL, Walpole J, Peirce SM, Mac Gabhann F, Bautch VL.**: "Flt-1 (VEGFR-1) coordinates discrete stages of blood vessel formation", *Cardiovasc Res*. 2016 Jul 1;111(1):84-93
- **Walpole J, Chappell JC, Cluceru JG, Mac Gabhann F, Bautch VL, Peirce SM.**: Agent-based model of angiogenesis simulates capillary sprout initiation in multicellular networks, *Integr Biol (Camb)*. 2015 Sep;7(9):987-97

## ACADEMIC RESEARCH EXPERIENCE

- **Lupo Lab, UCSF** Sab Francisco, CA  
*Ph.D. Candidate* April 2017 - Present
  - **Advisor:** Asst. Professor in Residence, Janine Lupo, Ph.D., UCSF Department of Radiology and Biomedical Imaging
  - **Proposed Dissertation Title:** Proposed dissertation title: Multiparametric Magnetic Resonance Imaging to Predict Tumor Biology
- **Bautch Lab, UNC-CH** Chapel Hill, NC  
*Undergraduate Research Assistant* Sept. 2011 - Aug. 2013
  - **Advisor:** Professor Victoria Bautch, Ph.D., Beverly Long Chapin Distinguished Professor and Chair of Biology
  - **Angiogenesis research project:** Quantifying the effects of Flt-1 (VEGFR-1) on mouse embryonic stem cell blood vessel formation
- **McLaughlin Lab, UNC-CH** Chapel Hill, NC  
*Undergraduate Research Assistant* Sept. 2010 - June 2011
  - **Advisor:** Professor Richard McLaughlin, Ph.D., Chair of Mathematics
  - **Fluid dynamics research project:** Designed and filmed fluid dynamics experiments for support of the project "Settling dynamics of solid spheres in viscous stratified fluids: the entrainment dominated regime"
- **McManus Lab, Columbia University** Lamont-Doherty Earth Observatory, Palisades, NY  
*NSF Research Experience for Undergraduates Fellowship* Summer 2011
  - **Advisor:** Professor Jerry F. McManus, Ph.D., Dept. of Geochemistry
  - **Particle dynamics research project:** Researching the biochemical flux of particles settling on the ocean floor using oceanic cores derived from the Atlantic ocean. Discovered a major oceanic circulation change 125kyr during a historic global warming period, informing prediction of future oceanic circulation changes due to global warming.

## TEACHING EXPERIENCE

- **Tutor Corps** San Francisco, CA  
*Test Preparation and Academic Tutor* Dec. 2015 - pres.
  - **Mathematics:** Elementary math, algebra, geometry, pre-calculus, calculus, AP statistics, AP Calculus
  - **Science:** Elementary and middle school science, biology, chemistry, physics, AP Biology, AP Chemistry
  - **Test Preparation:** SAT Mathematics, ACT Mathematics, ACT Science, SSAT, SAT II Chemistry, SAT II Mathematics 1 & 2
- **Drugs of the Central Nervous System, UCSF School of Pharmacy** San Francisco, CA  
*Teaching Assistant* April 2017 - June 2017

- **Advisor:** Associate Professor Pamela England, Ph.D.
- **Responsibilities:** Oversight of student-led presentations, grading assignments

- **Greenwich Education Group** Greenwich, CT  
*Test Preparation and Academic Tutor* *Aug. 2014 - Sept. 2015*
  - **Mathematics:** Elementary math, algebra, geometry, pre-calculus, calculus, AP statistics, AP Calculus
  - **Science:** Elementary and middle school science, biology, chemistry, physics, AP Biology, AP Chemistry
  - **Test Preparation:** SAT Mathematics, ACT Mathematics, ACT Science, SSAT, SAT II Chemistry, SAT II Mathematics 1 & 2
- **Freelance** Madrid, Spain  
*Academic Tutor* *Aug. 2013 - July. 2014*
  - **English As a Second Language:** Reinforced and taught bilingual school students science and math in English.
- **Freelance** Chapel Hill, NC; Stamford, CT  
*Academic Tutor* *2006 - Sep 2013*
  - **Mathematics:** Elementary math, algebra, geometry, pre-calculus, calculus, AP statistics, AP Calculus
  - **Science:** Elementary and middle school science, biology, chemistry, physics, AP Biology, AP Chemistry

## DISTINCTIONS & HONORS

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- **National Institute of General Medical Sciences Ruth L. Kirschstein National Research Service Award (NRSA) Predoctoral Institutional Research Training Grant (T32):** Fellows receive 23,844.00 for research-related expenses. September 2017-September 2018
- **Pi Mu Epsilon Math Honors society:** Inducted in 2013
- **Dean's List:** Appeared on 7 out of 8 semesters at UNC-CH
- **Test scores:** MCAT: 36 - 97th percentile; PCAT: 442 - 99th percentile; GRE: 166 - 94th percentile; SAT: 2260 - 99th percentile

## SKILLS

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- **Programming Languages:** R, python, octave, bash, cshell, Linux environment
- **Analysis:** Data wrangling, imputation, machine learning, applied statistics
- **Mathematics:** Differential equations, multi-variable calculus, linear algebra
- **Laboratory Technologies:** Stem cell culture, PCR, live imaging microscopy, gel electrophoresis, cell fractionation

## PRESENTATIONS & POSTERS

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- **Nov. 2016:** Hidden secrets of bulk tissue: Understanding glioma through meta-analysis of transcriptional data. Quantitative Biosciences Consortium Retreat Poster Session
- **Aug. 2011:** Piecing Together Ocean Circulation Changes: How the North Atlantic Circulation Changed from MIS 6 to MIS 5e. NSF REU Poster Session

## CONFERENCES

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- **March 2018:** International Society for Magnetic Resonance Imaging Machine Learning Workshop Asilomar Conference Grounds, Monterey, CA
- **March 2018:** BioData World West, Invited Delegate Hotel Kabuki, San Francisco, CA
- **May. 2017:** Department of Radiology and Biomedical Imaging annual retreat
- **Feb. 2017:** American Association of Pharmaceutical Sciences InSight Asia-Pacific Research Symposium
- **Feb. 2016:** Immune checkpoint inhibition for Hypermutant GBM resulting from germline MMR deficiency. Quantitative Biosciences Consortium Journal Club
- **Aug. 2011:** Piecing Together Ocean Circulation Changes: How the North Atlantic Circulation Changed from MIS 6 to MIS 5e. NSF REU Poster Session

## LEADERSHIP & PROFESSIONAL ASSOCIATIONS

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- **American Association of Pharmaceutical Sciences** San Francisco, CA  
*Member* 2016 - pres.
- **International Society for Magnetic Resonance Imaging** San Francisco, CA  
*Trainee Member* 2017 - pres.
- **Big Brothers Big Sisters of America** Chapel Hill, NC  
*Big Sister* Jan 2010 - May 2013
  - **Anaies Gibson:** Mentored and tutored Anaies for 3 years in all subjects
  - **Organizational support:** Organized BBBS of the Triangle meetings at the Campus Y