ERICK J. MARAVILLA

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EDUCATION

University of California, Irvine
- Bachelors of Science, Biomedical Engineering 2010

RESEARCH

Duke University, Dept. Pathology Durham, NC.
P.I., Everardo Macias, Ph.D. Feb. 2018 – Present.

RIOK2: An Actionable Target in Host Specific Prostate Cancer
- Summarize and report data results to lead investigator on weekly basis
- Conduct molecular cloning with transient and stable lentiviral transfections, western blot, tissue culture, PCR, qPCR, Co-IP, IHC
- Analyze and summarize DNA microarray and RNA-Seq data in R
- Train undergraduate students and visiting scholars in molecular biology techniques
- Train lab personnel and administer IncuCyte S3 Live Cell Image Analysis System

Cedars-Sinai Medical Center, Dept. Surgery Los Angeles, CA.
Project Manager, Everardo Macias, Ph.D. Sept. 2016 – Jan. 2018

RIOK2: An Actionable Target in Host Specific Prostate Cancer
- Made significant contributions to investigation by generating three mutant clones of the RIOK2 gene; established stable cell lines and phenotyped cell proliferation, invasion and colony formation
- Develop programs in MATLAB R2016a for: 24-well format cell invasion assay quantification, 6-well format high density spheroid quantification, high throughput spheroid quantification, high throughput protein synthesis quantification, ScanScope Virtual Slide IHC quantification
- Prepare publication quality figures of image data with annotations
- Optimize and troubleshoot experiment protocols
- Assist with mouse colony maintenance
- Conduct weekly mouse tumor volume measurement with calipers
- Assist with mouse tumor harvesting
- Summarize and report results to lead investigator on weekly basis
- Conduct molecular cloning with transient and stable lentiviral transfections, western blot, tissue culture, PCR, qPCR, Co-IP, IHC
- Analyze and summarize DNA microarray and RNA-Seq data in R

University Of Illinois at Chicago, Dept. Anatomy and Cell Biology Chicago, IL.
Lab Manager, Aurora Lopez-Roasa, M.S. Aug. 2011 – May 2014

Mechanisms Underlying Muscle Wasting In a Mouse Model of Krabbe Disease
- Project lead
- Delivered data, under strict time frame, essential for publishing and accessing additional funding resources
- Characterize electrical activity in muscle cells by electrophysiology; Generate 3D tetrahedral mesh reconstructions of neuromuscular junctions; Perform biological assays to assess cellular, molecular, and pathological deficits; Quantify live cell calcium homeostasis with fluorescent probes
- Utilize hardware for laser scanning microscopy, biomechanics, stereo microscopy, and whole-cell patching
- Design and Program custom software analysis - automation, GUI, and theory (Matlab, Visual Basic)
- Train two M2 medical students - 3D reconstruction, data analysis, and tissue processing

Preclinical Validation: Combining Multiple Proven Therapeutics in a Mouse Model of Krabbe Disease

- R01 project lead
- Delivered pre-clinical data, under strict time frame, critical for R01 renewal application
- Assess clinical deficits; Conduct biochemical analysis; Deliver therapeutics via intracranial, intrathecal, and intravenous injections; Harvest and process biological samples; Maintain colony health and records
- Design and Build - custom LED guided needle syringe and custom tremor quantification device
- Design and Program custom software analysis - automation, GUI, and theory (C++, Matlab)
- Train three undergraduate honors students - Data analysis and tissue processing

University of New Mexico, Dept. Neuroscience Albuquerque, NM.
P.I., Michael C. Wilson, Ph.D. June 2010 – June 2011

- Perform molecular assays to verify genetic manipulations in transgenic mice
- Conduct electrophysiological assays to measure synaptic plasticity in mouse brains
- Utilize hardware for cellular field recordings and stereo microscopy
- Design and Program custom software analysis - automation and GUI (Axon, Matlab)
- Train two graduate students and one undergraduate - Data analysis

University of California-Irvine, Dept. Physiology and Biophysics Irvine, CA.
P.I., Gregory R. Adams, Ph.D. June 2009 – June 2010

- Data acquisition systems lead
- Design and Build custom hardware to quantify kinetics of custom exercise machinery
- Design and Program custom software analysis - GUI and theory (LabView)

University of California-Irvine, Dept. Ecology & Evolutionary Biology Irvine, CA.
P.I., Adam P. Summers, Ph.D. July 2007 – May 2009

- Data acquisition systems lead
- Engage in electromyography (EMG) data collection and surgeries
- Design and Program custom software analysis - automation, GUI, and theory (LabView)

INTERNSHIP

Cardiac Rhythm Disease Management, Medtronic Inc. Santa Ana, CA.
P.I., Walt Baxter, Ph.D. May 2008 – June 2010

- Conduct acute animal studies at the UCSD animal laboratory
- Utilize custom software to analyze motion, shape, and shape change of acutely and chronically implanted defibrillator leads in patients
- Present (PowerPoint) data to engineering design and test teams

PUBLICATIONS

- L. C. Castelvetri, **Erick Maravilla**, M. Marshall, T. Tamayo, L. D'auria, J. Monge, J. Jeffries, A. Lopez-Rosas, G. Li, K. Garcia, R. V. Bremmen, C. Vite, T. Sural, J. Garcia, and E. Bongarzone Mechanism of Neuromuscular Dysfunction in Krabbe Disease. Journal of Neuroscience (**2014**)
- Clark, A. J., **Maravilla, E.,** and Summers, A. P. A Soft Origin for a Forceful Bite: Motor Patterns of the Feeding Musculature in Atlantic Hagfish, *Myxine glutinosa*. Journal of Zoology (**2010**)

ABSTRACTS

- A. Stokes, S. Dambal, J. Cho, **E. Maravilla**, E. Macias. Inhibition of MST1/2 and NUAK2 Kinase Activity in Prostate Cancer Cells. Annual North Carolina Bioscience Collaborative Symposium (**2018**)
- A. Zadeh, **E. Maravilla**, E. Macias, and S. Freedland. A Mechanism for C-MYC Oncogene Stabilization in Prostate Cancer. Cedars Sinai Annual Poster Day (**2017**)
- A. Vidal, L. Howard, **E. Maravilla**, B. Knudsen, and S. Freedland. Racial Differences in Systemic and Prostatic Inflammation. AUA Annual Meeting (**2017**)

- S. Dambal, E. Macias, S. Sanders, **E. Maravilla**, S. Freedland. 27-Hydroxycholesterol Inhibits Prostate Cancer Growth by Reducing STAT3 Signaling. AUA Annual Meeting (**2017**)
- **E. Maravilla**, L. Cantuti, T. Tamayo, J. Garcia-Martinez, E. Bongarzone. Blockage of postsynaptic PI3K/Akt mediates the atrophy of neuromuscular junctions in Krabbe disease. UIC COM Research Forum (**2013**)
- **E. Maravilla**, A. Allan, L. Partridge, M. Wilson. A Conditional-KO Mutation of Snap25 and Prenatal Nicotine Exposure as a Model of Gene by Environment (GxE) Interactions. Jackson Laboratories (**2010**)
- **E. Maravilla**, A. Clark, A. Summers. Motor Patterns and Feeding Kinematics in Feeding Atlantic Hagfish (*Myxine glutinosa*). Sigma Xi Annual Meeting (**2009**)

FELLOWSHIPS AND RESEARCH GRANTS

- Minority Health and Health Disparities International Research Training — June 2011 - Aug. 2011
  Dept. of Virology, Autonomous University of Madrid, Spain
- Jackson Laboratories Short Course Grant — Aug. 2010
- Post Baccalaureate Research Experience Program Scholar, — June 2010 – June 2011
  University of New Mexico, funded by the National Institute of Health
- Minority Access to Research Careers, funded by the National Institute of Health — Sept. 2009 – June 2010

AWARDS

- Recipient, UIC COM Research Forum Honorable Mention — 2013
- Scholar, Student Achievement Guided by Experience — 2008 – 2010
- Recipient, HENAAC Role Model Scholar of the Week — 2009
- Recipient, Sigma Xi Superior Presenter Award — 2009
- Recipient, HENAAC-Core Consulting Scholarship — 2008
- Recipient, UCI-MSP Summer Symposium 1st Place Oral Presentation Competition — 2008

PROFESSIONAL ACTIVITES

- Active member: AAAS, BMES, IEEE
- Judge, Galileo Math and Science Academy Science Fair Poster Competition — 2013
- Dept. Rep., Anatomy and Cell Biology, Graduate Student Council — 2012 – 2013
- Panelist, Compton College Transfer Student Info. Session — 2009
- Panelist, El Esfuerzo Educativo Latino, El Sol Science and Arts Academy — 2009