

---

# JACKLYN P. NGUYEN

---

260 S 500 E #314, Salt Lake City, UT 84102 · (858) 216-6109 · jacklyn.nguyen@utah.edu

## **Education**

*California Polytechnic State University-San Luis Obispo (Cal Poly SLO), San Luis Obispo, CA*  
BS in Biological Sciences, 2011-2015

*University of Utah, Salt Lake City, UT*  
PhD in Pharmacology and Toxicology, 2020-present

## **Awards and Achievements**

- Mountain West Regional Chapter of the Society of Toxicology, Best Platform Presentation Award (2021)
- Biolegend Travel Award (2022)
- Society of Toxicology Graduate Student Travel Award (2022)
- Immunotoxicology Specialty Section Best Presentation by a Student Award (Society of Toxicology, 2022)

## **Professional Experience**

### **Graduate Student Researcher - Venosa Lab**

*August 2020 - Present*

University of Utah, College of Pharmacy, Department of Pharmacology & Toxicology

- Investigating the effects of repeated ozone exposure on the healthy, susceptible, and aging lung utilizing a novel murine model driven by mutation on the surfactant protein C gene
- Immunological means of analysis such a flow cytometry, cell sorting, and immunohistochemistry
- Assisting in managing lab operations, attending and presenting at interdepartmental seminars and talks

### **Research Engineering Scientist Associate II**

*Mar 2019 - July 2020*

University of Texas at Austin, Dell Medical School, Dept of Neurology, Austin TX

- Rodent cocaine self-administration to observe behavioral models of drug addiction liability in adolescents in the presence of fear or punishment
- Optogenetic stimulation of the lateral preoptic area to excite dopamine neurons, support self-stimulation, and elicit “positive affect” ultrasonic vocalizations
- Responsible in supervising and training all undergraduate students and rotating graduate students in data analysis, animal-handling, operant chamber functions, and day-to-day lab duties
- Co-managed the lab in maintaining lab operations, animal orders, developing lab protocols, and organizing lab meetings

### **Research Engineering Scientist Associate I**

*Feb 2018 - Jan 2019*

University of Texas at Austin, Department of Neuroscience, Austin TX

- Developed polyethylene glycol (PEG)-fusion technology by combining concepts in biochemical engineering, cell biology, and microsurgery to rapidly, effectively, and permanently restore the morphological continuity and behavioral function of severed peripheral nerve axons
- Performed microsurgical techniques in peripheral nerve repairs (autografts, allografts, xenografts) in rats with a variety of conventional and experimental techniques under development
- Developed an interferon-gamma (IFN $\gamma$ ) immunoassay to quantitatively observe the effects of inflammation in rat peripheral nerves following nerve damage and repair
- Supervised and trained all undergraduate students in rodent behavioral analyses, data analysis and presentation, and lab operations

**Research Associate***Oct 2016 - Feb 2018*

Inovio Pharmaceuticals Inc, San Diego CA

- Utilized DNA encoded monoclonal antibodies (DMAb) in combination with electroporation (EP) to optimize immune response with the overall focus on treatment and prevention of emerging infectious diseases
- Developed cell-based assays and optimized drug delivery protocols in pre-clinical models (mouse, cotton rat, guinea pig, swine, rabbit, non-human primate)
- Contributed to efforts in transfection efficiency, new device technology, IND enabling studies, and research collaborations with device manufacturing to develop needleless drug delivery
- Presented experimental results in departmental and company meetings

**Research Associate***Mar 2016 - Sep 2016*

BTS Research, San Diego CA

- Proficient in lab animal handling, Gross necropsy, specimen collection, and histopathology (mouse, rat, guinea pig, rabbit, swine, canine, non-human primate)
- Generated data and prepared protocols, reports, graphs, and analyses; GLP and non-GLP data documentation
- Experienced in communicating and collaborating with various clients and companies as a contract research organization (CRO)

**Clinical Medical Assistant***Oct 2015 - Mar 2016*

Carmel Obstetrics and Gynecology, San Diego CA

- Well versed in patient education, examination preparation, recording patient medical histories and vital signs, and prescription refills
- Administrative duties (e.g., answering phones, scheduling appointments, maintaining medical records, patient processing, billing and bookkeeping) via an EHR system, eClinicalWorks v10
- Processed out lab specimens for analyses & ensured compliance with HIPAA, CLIA and OSHA regulations

**Internship Experience****Public Health Researcher***Apr 2014 - Jun 2015*

SLO Noor Foundation, San Luis Obispo CA

- Researched health care quality and delivery models in Mauritania and Afghanistan
- Identified improvement strategies for the hospitals' public health systems
- Researched community and healthcare aides in hopes of forming a non-profit to provide assistance and support to better the lives of single parents and their children in the San Luis Obispo community

**Laboratory Instructor***Jan 2014 - Jun 2014*

"Learn By Doing Lab", California Polytechnic State University, San Luis Obispo CA

- Engaged underprivileged elementary through high school students through academic support in physical and life sciences within the Cal Poly funded program
- Incorporated Cal Poly's "Learn by Doing" initiative through a series of experiments with students to induce cognitive thinking and utilizing problem-solving techniques
- Gained an experience-based understanding of what it means to teach science

**Professional Society Memberships**

- Society of Toxicology (SOT) / Mountain West Society of Toxicology (MWSOT)
- Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS)
- American Association for the Advancement of Science (AAAS)
- American Society for Cell Biology (ASCB)
- 500 Women Scientists

## Mentoring Experience

- Rana Benhamou, Neuroscience Studies Foundation Summer Internship, University of Texas at Austin (2019)
- Rishob Dasgupta, Summer High School Research Academy, University of Texas at Austin (2019)
- Jason Tsai, Undergraduate Independent Researcher, University of Texas at Austin (2019-2020)
- Sofia Piperno, Undergraduate Independent Researcher, University of Texas at Austin (2019-2020)
- Ishana Syed, TIDES Advanced Summer Research Fellowship, University of Texas at Austin (2020)

## Techniques

Operant chamber - neurobehavioral testing	DNA & RNA extraction
3D modeling and printing	ELISA, ELISpot assays
Fluorescence & Confocal microscopy	Flow cytometry
Tissue culture - primary and cell line	Rodent perfusion & tissue extraction
Western Blotting, gel electrophoresis	Intradermal & Intramuscular drug delivery
Rodent peripheral nerve surgery (autograft, allograft)	Immunohistochemistry, Immunofluorescence

## Publications

1. **Nguyen J\***, Deering-Rice CE\*, Armstrong BS, Massa C, Veerabhadraiah SR, Reilly CA, Venosa A. Effects of Genetic Susceptibility on Single and Repeated Ozone Exposure-Induced Lung Injury. *Front. Immunol.* (Submitted).
2. **Nguyen J\***, Cowman S, Tomer Y, Armstrong BS, Veerabhadraiah SR, Beers MF, and Venosa A. Immunophenotyping of Acute Inflammatory Exacerbations of Lung Injury Driven by Mutant Surfactant Protein-C: A Role for Inflammatory Eosinophils. *Front. Pharmacol.* (2022).
3. Sircy LM, Harrison-Chau M, Novis CL, Baessler A, **Nguyen J**, Hale JS. Protein immunization induces memory CD4+ T cells that lack T helper lineage commitment. *J. Immunol.* (2021), doi:10.4049/jimmunol.2100210
4. Schultheis K, Pugh HM, Oh J, **Nguyen J**, Yung B, Reed C, Cooch N, Muthumani K, Humeau L, Weiner DB, Broderick KE, Smith TRF. Active immunoprophylaxis with a synthetic DNA-encoded monoclonal anti-respiratory syncytial virus scFv-Fc fusion protein confers protection against infection and durable activity. *Hum Vaccin Immunother* (2020), doi:10.1080/21645515.2020.1748979
5. Jiang J, Banglore P, Cashman KA, Schmaljohn CS, Schultheis K, Pugh H, **Nguyen J**, Humeau LM, Broderick KE, Ramos SJ. Immunogenicity of a protective intradermal DNA vaccine against lassa virus in cynomolgus macaques. *Hum Vaccin Immunother* (2019);15(9):2066-2074.
6. Ghergherehchi CL, Mikesh M, Sengelaub DR, Jackson D, Smith T, **Nguyen J**, Shores JT, Bittner GD. Polyethylene glycol (PEG) and other bioactive solutions with neurorrhaphy for rapid and dramatic repair of peripheral nerve lesions by PEG-fusion. *J Neurosci Methods* (2019); 314: 1–12.
7. Schommer NN, **Nguyen J**, Yung BS, Schultheis K, Muthumani K, Weiner DB, Humeau L, Broderick KE, Smith TRF. Active Immunoprophylaxis and Vaccine Augmentations Mediated by a Novel Plasmid DNA Formulation. *Hum Gene Ther* (2019); 30(4):523-533.
8. Schultheis K, Schaefer H, Pugh HM, Yung BS, Oh J, **Nguyen J**, Humeau L, Broderick KE, Smith TR. Optimized Interferon-gamma ELISpot Assay to Measure T Cell Responses in the Guinea Pig Model after Vaccination. *J Vis Exp* (2019); (143), e58595.

\* Contributed equally to the manuscript

## **Invited Speaker and Oral Presentations**

1. Immunological Characterization of Single and Repeated Ozone Exposure in the Healthy and Susceptible Lung. (Mountain West Society of Toxicology Platform Presentation 2021).

## **Abstracts**

1. Veerabhadraiah SR, **Nguyen JP**, Armstrong BS, Venosa A. Lung Epithelial Cell Susceptibility Driven by Surfactant Protein-C Mutation Enhances Ozone Induced Toxicity. (Presented at University of Utah 3i Initiative Global Health Symposium 2020).
2. **Nguyen J**, Armstrong B, Deering-Rice C, Reilly C, Venosa A. Immunological Characterization of Single and Repeated Ozone Exposure in the Healthy and Susceptible Lung. (Presented at 39th Annual Meeting of the Mountain West Society of Toxicology 2021).
3. **Nguyen J**, Armstrong B, Deering-Rice C, Massa C, Reilly C, Venosa A. Histopathological and Immunological Characterization of Repeated Ozone in the Healthy and Susceptible Lung. (Presented at Society of Toxicology 61st Annual Meeting and ToxExpo 2022).
4. **J. Nguyen**, B. S. Armstrong, S. Cowman, and A. Venosa. Immunological Characterization of Acute Inflammatory Exacerbations of Lung Fibrosis Induced by Expression of Mutant Surfactant Protein-C: A Novel Function for Eosinophils. (Submitted to Society of Toxicology 61st Annual Meeting and ToxExpo 2022).
5. (Presented at University of Utah 3i Initiative Global Health Symposium 2022)