

Abigail Pajulas

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Summary of Qualifications

- Interdisciplinary collaborator with 6+ years of research experience in kinesiology, neuroscience, psychology, microbiology, and immunology
- Engages in a diverse set of STEM outreach initiatives at a K-12, undergraduate, and graduate-level
- 3+ years of experience working with murine models of allergic diseases: atopic dermatitis and asthma.

Education

Indiana University – Indianapolis, Indianapolis, IN Expected Defense: Spring 2023
PhD Candidate in Microbiology and Immunology (PhD Minor: Life Science)

California State University, Northridge, Northridge, CA Graduation: May 2018
Bachelors of Science in Kinesiology – Exercise Science (Honors Track)
Cumulative GPA: 3.8
Major GPA: 3.9

Technical Skills & Certifications

Wet Laboratory

Mouse breeding and handling
Protein & RNA extraction
Quantitative PCR
Western blot
Mouse organ harvesting
Mouse injections (og, in, iv, ro, ip, id)
Mouse Airway Resistance Testing

Dry Laboratory

FlowJo – flow cytometry data analyses
Adobe Illustrator – Figure creation
Microsoft office suites
R studio – RNAseq Differential Gene Expression
Experienced in Python
Experienced in IBM SPSS Statistics software
Experienced in fNIR brain imaging

Languages: Fluent in English, Advanced in Tagalog, Conversational French

Research Experience

Graduate Research Assistant, Mark Kaplan Laboratory January 2019 – present
Indianapolis, IN – IUPUI, *Department of Microbiology and Immunology*

- Identify the role of $\gamma\delta$ T cells in wound healing using atopic dermatitis-like mouse models
- Utilize flow cytometry analyses to investigate the role of T helper 9 cells in allergic airway disease and lung cancer
- Perform functional airway testing in murine models of allergic airway disease

Undergraduate Research Assistant, Sean Murray Laboratory September 2018 – May 2019
Northridge, CA – CSUN, *Department of Microbiology*

- Performed bacterial transformation assays to investigate the role of PhaA, PhaB, and PhaC in promoting (p)ppGpp accumulation in *Caulobacter crescentus*

Undergraduate Research Assistant, Stefan Pukatzki Laboratory June 2017 – July 2017
Aurora, CO – UC Denver, *Department of Microbiology*

- Examined the role of toxin-coregulated pilus on *Vibrio cholerae* and its effects on type VI secretion system by using killing assays with *Escherichia coli*.

Undergraduate Research Assistant, Luciana Lagana Laboratory June 2016 – August 2018
Northridge, CA – CSUN, *Department of Psychology*

- Utilized SPSS statistical software analyses for behavioral studies of students interested in healthcare professions
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Work Experience

Adaptive Physical Activity Personal Trainer

August 2016 – May 2018

Center of Achievement, CSU Northridge, CA

- Instructed clients through 1 hour of exercise and assisted-stretching
- Modified exercises for clients depending on physical capabilities
- Collected data of client progression and range of motion with assisted stretching

Sales Associate

August 2014 – May 2016

UNIQLO, Glendale, CA

- Maintained visual display standards and ensured products were well-stocked
- Ensure company policies and procedures as a cashier
- Provided outstanding customer service, receiving 100% in customer feedback surveys

Co-Curricular & Leadership Experience

President

October 2019 – present

SACNAS at IUSM Chapter, Indianapolis, IN

- Secured \$4,000 of annual funding from Diversity Affairs Office at IUSM
- Organized professional development events including: CV/Resume trade and Career panels
- Hosted K-12 and undergraduate STEM outreach events: STEM demonstrations and Q&A Panel

President

October 2021 – present

Communicators at IUPUI, Indianapolis, IN

- Prepared and hosted speech contests with local clubs
- Awarded President's Distinguished Club under my leadership as VP of Education

Publications & Presentations

Presentations:

Pajulas, A. and Kaplan, M. (2021, May). *Generation of mice with a conditional Il9 allele*. Poster accepted for presentation at American Association of Immunologist Annual Meeting, Virtual Conference.

Pajulas, A. and Kaplan, M. (2020, October). *Elucidating the Role of IL-9 Secreting CD4+ T Helper Cells in Promoting Mast Cell Expansion in Pulmonary Models of Inflammation*. Poster accepted for oral presentation at SACNAS Conference, Virtual Conference.

Pajulas, A., Rocha, A., Stott, K., Bueno, D., Schreiner, S., Arvizu, I., Vu, S., and Murray, S. (2018, March). Identification of genes essential for PHB Biosynthesis in *Caulobacter crescentus*. Poster accepted for presentation at the Annual Bay Area Microbial Pathogenesis Symposium, San Francisco, CA.

Lagana, L.*, Nakhla, M., Chavez, S., Balian, O., Grewe, D., and **Pajulas, A.** (2018, April). A Literature Review on How to Improve Attitudes towards Individuals with Physical Impairments. Poster accepted for presentation at the 98th Annual Convention of the Western Psychological Association, Portland, Oregon.

Pajulas, A., Anderegg, A., and Pukatzki, S. (2017, October). Bacterial Competition: Difference in the translocation of effector proteins from *Vibrio cholerae* to *Escherichia coli*. Poster accepted for presentation at the Society for Advancement of Chicanos and Native Americans in Science, Salt Lake City, UT.

Publications:

Ulrich BJ*, Kharwadkar R*, Chu M, **Pajulas A**, Muralidharan C, Koh B, Fu Y, Gao H, Hayes TA, Goplen NP, Nelson AS, Liu Y, Linnemann A, Licona-Limón P, Flavell RA, Sun J, and Kaplan MH.* IL-9

is required for multi-cytokine producing tissue-resident memory CD4+ T cell-dependent allergic airway recall responses. *Manuscript in revision for Science Immunology*.

Fu Y*, Wang J, Zhou B, Gao H, Zhou H, Fisher AJ, Omstead D, Khan S, Han L, **Pajulas A**, Renauld JC, Paczesny S, Liu Y, Yang L, Tighe RM, Licona-Limón P, Flavell RA, Takatsuka S, Kitamura D, Sun J, Bilgic B, Sears CR, Yang K, Kaplan MH.* Pulmonary interstitial macrophages are required to mediate the pro-tumorigenic effects of IL-9. *Manuscript in revision for Nature Communication*.

Fu Y*, Wang J, Zhou B, **Pajulas A**, Gao H, Ramdas B, Koh B, Ulrich BJ, Yang S, Kapur R, Renauld JC, Paczesny S, Liu Y, Tighe RM, Licona-Limon P, Flavell RA, Takatsuka S, Kitamura D, Tepper RS, Sun J, Kaplan MH.* An IL-9-pulmonary macrophage axis defines the allergic lung inflammatory environment. *Science Immunology*. DOI: 10.1126/sciimmunol.abi9768

Wang J*, **Pajulas A***, Fu Y, Adom J, Zhang W, Nelson AS, Kaplan MH.* T cell-mediated wound healing is diminished by allergic skin inflammation. *Manuscript in revision for the Journal of Investigative Dermatology*.

Fellowships, Scholarships, & Funding (Grants)

T32 AI060519 Immunology and Infectious Disease Training Program, IUSM	March 2019 - present
NIH Maximizing Access to Research Careers Fellowship, CSUN	June 2016 - May 2018
SACNAS Conference Travel Scholarship, SACNAS	October 2017
Graduate Experiences for Multicultural Students, UC Denver	June 2017 - July 2017
\$10,000 Presidential Scholarship Awardee, CSUN	August 2017
\$2,000 Associated Students Scholarship Awardee, CSUN	August 2014