

KELLEN JAMES CAVAGNERO

Website: www.inflammatorycontent.com

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EDUCATION:

University of California, San Diego	2019 – Present
Doctor of Philosophy, Biomedical Sciences	
University of California, Santa Barbara	2010 – 2014
Bachelor of Science, Pharmacology	

FELLOWSHIPS:

National Science Foundation Graduate Research Fellowship (NSF 2038238)	2021 – Present
ARCS Foundation Fellowship	2022 – Present
UCSD Gastroenterology T32 Predoctoral Fellowship (NIH DK007202)	2020 – 2021

OTHER AWARDS & HONORS:

National Cancer Institute Outreach Award	2022
Society for Investigative Dermatology (SID) Travel Award	2022
Society for Investigative Dermatology (SID) Future Leaders Retreat Invitation	2022

FIRST AUTHOR ORIGINAL ARTICLES:

- Marotz C*, Cavagnero KJ*,..., Knight R. *Evaluation of the effect of storage methods on fecal, saliva, and skin microbiome composition.* **mSystems**. 2021. *Authors contributed equally to this work.
- Cavagnero KJ*,..., Doherty T. *Cyclic-di-GMP induces STING-dependent ILC2 to ILC1 shift during innate type 2 lung inflammation.* **Front Immunol**. 2021.
- Cavagnero KJ*,..., Doherty T. *Unconventional ST2- and CD127-negative lung ILC2 populations are induced by the fungal allergen Alternaria.* **J Allergy Clin Immunol**. 2019.
- Karta M*, Cavagnero K*,..., Doherty T*, Broide D*. *Platelets attach to lung type 2 innate lymphoid cells (ILC2s) expressing P-selectin glycoprotein ligand 1 and influence ILC2 function.* **J Allergy Clin Immunol**. 2019. *Authors contributed equally to this work.

COAUTHORED ORIGINAL ARTICLES:

- Nakatsuji T, Brinton SL, Cavagnero KJ*,..., Gallo RL. *Host antimicrobial peptides compete with bacteriocins from commensal Staphylococci to promote Staphylococcus aureus survival during Th2 inflammation.* In review.
- O'Neill A*,..., Cavagnero KJ*,..., Gallo RL. *Molecular typing and functional profiling of acne-derived Cutibacterium acnes isolates reveal determinants of skin inflammation.* In review.
- Badrani J*,..., Cavagnero K*,..., Doherty T. *RNA-binding protein RBM3 negatively regulates innate Lymphoid Cells (ILCs) and lung inflammation.* **Nat Commun**. 2022.
- O'Neill A*,..., Cavagnero KJ*,..., Gallo RL. *Antimicrobial production by perifollicular dermal preadipocytes is essential to the pathophysiology of acne.* **Sci Transl Med**. 2022.
- Dokoshi T, Seidman JS, Cavagnero KJ*,..., Gallo RL. *Skin inflammation activates intestinal stromal fibroblasts and promotes colitis.* **J Clin Invest**. 2021.
- Lund SJ, Portillo A, Cavagnero K*,..., Doherty TA. *Leukotriene C4 potentiates IL-33-induced group 2 innate lymphoid cell activation and lung inflammation.* **J Immunol**. 2017.
- Eastman JJ, Cavagnero KJ*,..., Doherty TA. *Group 2 innate lymphoid cells are recruited to the nasal mucosa in patients with aspirin-exacerbated respiratory disease.* **J Allergy Clin Immunol**. 2017. *Highlighted as 'The Editor's Choice'.*
- Tkachenko E*,..., Cavagnero K*,..., Aceves SS. *Rigid substrate induces esophageal smooth muscle hypertrophy and eosinophilic esophagitis fibrotic gene expression.* **J Allergy Clin Immunol**. 2016.

REVIEWS, COMMENTARIES, AND TEXTBOOK CHAPTERS:

- Cavagnero KJ, Gallo RL. *Essential immune functions of fibroblasts in innate host defense.* **Front Immunol**. In press.
- Cavagnero KJ, Doherty TA. *Lipid-mediated innate lymphoid cell recruitment and activation in AERD.* **Ann Allergy Asthma Immunol**. 2020.
- Cavagnero KJ, Doherty TA. *ILC2s: Are they what we think they are?* **J Allergy Clin Immunol**. 2020.
- Doherty TA, Cavagnero K. *Chapter 13: Innate Lymphoid Cells.* **Middleton's Allergy 9th edition**. 2019.
- Cavagnero K, Doherty TA. *Cytokine and lipid mediator regulation of group 2 innate lymphoid cells (ILC2s) in human allergic airway disease.* **J Cytokine Biol**. 2017.

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SPEAKING ENGAGEMENTS:

- **Cavagnero KJ.** . AAAAI. 2023. (20mins)
- ***Plenary: Cavagnero KJ. Immune fibroblastic cell (IFC)-neutrophil communication during bacterial infection.*** SID. 2022. (12mins)
- **Cavagnero KJ. CDG induces STING-dependent ILC2 to ILC1 shift during innate type 2 lung inflammation.** AAAAI. 2021. (5mins)
- **Cavagnero KJ. Unconventional ST2- and CD127-negative lung ILC2 populations are induced by Alternaria.** AAAAI. 2019. (2mins)
- **Cavagnero KJ. Innate mechanisms of allergic airway inflammation.** UC San Diego RAI Annual Scientific Retreat. 2019. (15mins)

RESEARCH EXPERIENCE:

Ph.D. Student, Gallo Lab, UC San Diego. La Jolla, CA. 2020 – Present

- Investigates the role of immune fibroblastic cells (IFCs) in neutrophil-associated skin diseases

Lab Manager, Staff Research Associate III, Doherty Lab, UC San Diego. La Jolla, CA. 2017 – 2019

- Studied the underlying mechanisms of allergic airway disease, with a focus on group 2 innate lymphoid cells (ILC2s), using human samples and mouse models
- Conceived of studies, designed and performed experiments, analyzed data and generated figures for manuscripts, wrote and peer reviewed manuscripts, presented findings
- Oversaw a team that included a staff research associate, two master's students, and four undergraduate students
- Recruited undergraduate and master's students, and taught students how to perform mouse asthma models and downstream assays – with an emphasis on flow cytometry (also consulted other labs in flow cytometry)
- Served as the EH&S Area Safety Coordinator
- Held responsibility for lab procurement
- Awarded UCSD Green Labs Platinum Certification

Lab Manager, Staff Research Associate II, Doherty Lab, UC San Diego. La Jolla, CA. 2017

Lab Manager, Staff Research Associate I, Doherty Lab, UC San Diego. La Jolla, CA. 2015 – 2017

Volunteer Research Assistant, Croft Lab, LJI. La Jolla, CA. 2014 – 2015

Laboratory Technician, Critical Care Diagnostics. San Diego, CA. 2014 – 2015

Undergraduate Research Assistant, Mazer Lab, UC Santa Barbara. Goleta CA. 2012 – 2013

RELEVANT VOLUNTEER, OUTREACH, & LEADERSHIP EXPERIENCE:

Host and Creator of the Science Podcast “Inflammatory Content”. *Sponsored by the National Cancer Institute* 2019 – Present

Head Graduate Instructional Apprentice, UC San Diego BIMM124 Medical Microbiology 2022 – Present

Associate Faculty Member, F1000Prime. 2020 – Present

UC San Diego Biomedical Sciences Graduate Program. La Jolla, CA.

- President 2021 – Present
- Vice President 2021 – 2022
- Admissions & Recruitment Committee Member 2021 – 2022
- Student Invited Speaker Committee Member 2021 – 2022
- Welcome Committee Member 2020 – 2021
- Journal Club Committee Member 2019 – 2020

Teaching Assistant, UC Santa Barbara. Goleta, CA. 2012 – 2013