



## Alice Cheng

Clinical Assistant Professor, Medicine - Gastroenterology & Hepatology

### CLINICAL OFFICE (PRIMARY)

- **Stanford Gastroenterology and Digestive Health Clinic**

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### Bio

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#### CLINICAL FOCUS

- Gastroenterology

#### ACADEMIC APPOINTMENTS

- Clinical Assistant Professor, Medicine - Gastroenterology & Hepatology

#### PROFESSIONAL EDUCATION

- Fellowship: UCSF Gastroenterology Fellowship (2019) CA
- Board Certification: Gastroenterology, American Board of Internal Medicine (2018)
- Board Certification: Internal Medicine, American Board of Internal Medicine (2015)
- Residency: Massachusetts General Hospital Internal Medicine Residency (2015) MA
- Medical Education: Pritzker School of Medicine University of Chicago Registrar (2012) IL

### Research & Scholarship

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#### CURRENT RESEARCH AND SCHOLARLY INTERESTS

My research involves high throughput anaerobic culture of gut microbes to generate complex defined microbial communities. These synthetic microbiomes have genetic content, metabolic output, and immunologic effect that is comparable to existing native human gut microbiomes. Moreover these synthetic communities allow for precise control of species and abundance and the opportunity for disease-specific research and therapy.

Currently I am designing and investigating the biological effects of various synthetic communities on recurrent *C. difficile* colitis, inflammatory bowel disease (IBD), and nonalcoholic fatty liver disease (NAFLD). My research entails engraftment of various synthetic communities in germ free mouse models of IBD (IL 10 deficient and DSS) and NAFLD (FDD fibrosis) to identify microbes that are important for disease modification.

## Publications

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### PUBLICATIONS

- **Strain dropouts reveal interactions that govern the metabolic output of the gut microbiome.** *Cell*  
Wang, M., Osborn, L. J., Jain, S., Meng, X., Weakley, A., Yan, J., Massey, W. J., Varadharajan, V., Horak, A., Banerjee, R., Allende, D. S., Chan, E. R., Hajjar, et al  
2023; 186 (13): 2839-2852.e21
- **ENGINEERING A COMPLEX SYNTHETIC MICROBIAL COMMUNITY FOR MODULATION OF BILE ACIDS**  
Cheng, A.  
WILEY.2022: S176
- **Design, construction, and invivo augmentation of a complex gut microbiome.** *Cell*  
Cheng, A. G., Ho, P., Aranda-Diaz, A., Jain, S., Yu, F. B., Meng, X., Wang, M., Iakiviak, M., Nagashima, K., Zhao, A., Murugkar, P., Patil, A., Atabakhsh, et al  
2022