Stanford

Alexandra LaPat Polasko

Postdoctoral Scholar, Urology

NIH Biosketch available Online

Curriculum Vitae available Online

Bio

BIO

Dr. Alexandra Polasko is a postdoctoral fellow at Stanford University School of Medicine in the Department of Urology in Dr. James Brooks's lab. She received her M.S. and Ph.D. from UCLA in Civil and Environmental Engineering in Dr. Shaily Mahendra's lab and bachelors from UC Berkeley. Before coming to Stanford, she was a postdoctoral fellow at UCLA in the School of Dentistry, Oral Biology Division under Dr. Hung Ton-That where she studied the role motility plays as a virulence factor in oral pathogens. Currently, Dr. Polasko's research focuses on elucidating the mechanisms that drive benign prostate hyperplasia, which is the abnormal growth of the prostate and affects nearly 80% of men over eighty and can result in impaired urine storage and voiding as well as renal failure. She is a co-inventor on two patents and received UCLA's prestigious Distinguished Teaching Award for Teaching Assistants (2021).

HONORS AND AWARDS

- Dean's Postdoctoral Fellowship, Stanford School of Medicine (2024)
- 1st Place Poster Presentation: Techniques, Models & Measures, Collaborating for the Advancement of Interdisciplinary Research in Benign Urology-CAIRIBU Conference (2023)
- Institutional Research and Academic Career Development 3-Year Award Postdoctoral Fellow Recipient, University of California Los Angeles | Center for the Integration of Research, Teaching, & Learning (2022)
- School of Dentistry Research Day Oral Presentation Competition, 1st Place, University of California, Los Angeles (2022)
- NIH T90 Dentist-Scientist and Oral Health-Researcher Training Fellowship, University of California, Los Angeles (2021)
- Distinguished Teaching Award for Teaching Assistants, University of California, Los Angeles (2021)
- Eugene V. Cota Robles 4-Year Graduate Fellowship, University of California (2015-2020)
- SILQ Industry-Sponsored Research Fellowship, SILQ Technologies (2019, 2020)
- Center for the Advancement of Teaching Classroom Mini-Grant, University of California, Los Angeles (2019)
- American Water Works Association Drinking Water National Scholarship, American Water Works Association (2019)
- Emerging Contaminants Conference Poster Presentation Award, 1st Place, Emerging Contaminants Summit (2018)
- Distinguished Master's Thesis Award (Engineering), University of California, Los Angeles (2017)
- Campus Wide Research Pitch Competition (GradSlam), 3rd Place, University of California, Los Angeles (2017)
- American Society of Microbiology Agar Art Finalist, "Don't Cry Over Spilt Bacteria", American Society of Microbiology (2017)
- Brown and Caldwell Women in Leadership Fellowship, Brown and Caldwell Consulting (2016)
- New England Biolabs National Passion in Science Award, New England Biolabs (2016)
- National Science Foundation Graduate Research Fellowship, Honorable Mention, National Science Foundation (NSF) (2016)
- Malcom R. Stacey Research Fellowship, University of California, Los Angeles (2015)
- Charlene Conrad Liebau Prize for Undergraduate Research, Honorable Mention, University of California, Berkeley (2015)

- Len Assante National Groundwater Research Fellowship, University of California, Berkeley (2015)
- Stockholm Junior Water Prize, Arizona State Winner, Water Environment Federation (2011)

PROFESSIONAL EDUCATION

- Doctor of Philosophy, University of California Los Angeles (2021)
- Master of Science, University of California Los Angeles (2017)
- Postdoctoral Fellow, University of California, Los Angeles , Oral Biology, Dentistry (2022)
- Ph.D., University of California, Los Angeles , Civil and Environmental Engineering (2021)
- M.S., University of California, Los Angeles , Civil Engineering (2017)
- B.S., University of California, Berkeley , Environmental Science (2015)

STANFORD ADVISORS

- James Brooks, Postdoctoral Faculty Sponsor

COMMUNITY AND INTERNATIONAL WORK

- Stanford Undergraduate Pre-Renal Mentorship Program, Stanford University
- Nanovation Youth Program
- CNSI Nanoscience Education Outreach

PATENTS

- 1. Shaily Mahendra and Alexandra L. Polasko. "United States Patent 62/590,030 Anaerobic-Aerobic Bioremediation of Contaminated Water", The Regents of the University of California, Nov 26, 2020
- 2. Richard B. Kaner, Dayong Chen, Brian T. McVerry, Ethan Rao, and Alexandra L. Polasko. "United States Patent 10,729822 Biofouling Resistant Coatings and Methods of Making and Using The Same", The Regents of the University of California, Hydrophilix, Aug 24, 2020

LINKS

- 2017 UCLA GradSlam "Hero for Water": https://www.youtube.com/watch?v=I9599UQBvGM
- Lab website: https://med.stanford.edu/brooks-lab/team.html

Research & Scholarship

LAB AFFILIATIONS

- James Brooks, Brooks Lab (9/26/2022)

Teaching

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Urogynecology (Fellowship Program)

Publications

PUBLICATIONS

- **Original Proteomics analysis of urine and catheter-associated biofilms in spinal cord injury patients** *AMERICAN JOURNAL OF CLINICAL AND EXPERIMENTAL UROLOGY*
  Garcia-Marques, F. J., Zakrasek, E., Bermudez, A., Polasko, A. L., Liu, S., Stoyanova, T., Brooks, J., Lavelle, J., Pitteri, S. J.
  2023; 11 (3): 206-219
- **A Readily Scalable, Clinically Demonstrated, Antibiofouling Zwitterionic Surface Treatment for Implantable Medical Devices** *ADVANCED MATERIALS*
  McVerry, B., Polasko, A., Rao, E., Haghniaz, R., Chen, D., He, N., Ramos, P., Hayashi, J., Curson, P., Wu, C., Bandaru, P., Anderson, M., Bui, et al

2022; 34 (20): e2200254

- **Profiling microbial community structures and functions in bioremediation strategies for treating 1,4-dioxane-contaminated groundwater** *JOURNAL OF HAZARDOUS MATERIALS*
  Miao, Y., Heintz, M. B., Bell, C. H., Johnson, N. W., Polasko, A., Favero, D., Mahendra, S.
  2021; 408: 124457

- **Vinyl chloride and 1,4-dioxane metabolism by Pseudonocardia dioxanivorans CB1190** *Journal of Hazardous Materials Letters*
  Polasko, A. L., Miao, Y., Kwok, I., Park, J. O., Mahendra, S.
  2021; 2 (100039)

- **A multipronged approach for accurate in vitro quantification of catheter-associated biofilms** *Journal of Hazardous Materials Letters*
  Polasko, A. L., Ramos, P., Kaner, R. B., Mahendra, S.
  2021; 2 (10032)

- **A Mixed Microbial Community for the Biodegradation of Chlorinated Ethenes and 1,4-Dioxane** *ENVIRONMENTAL SCIENCE & TECHNOLOGY LETTERS*
  Polasko, A., Zulli, A., Gedalanga, P. B., Pornwongthong, P., Mahendra, S.
  2019; 6 (1): 49-54

- **Co-contaminant effects on 1,4-dioxane biodegradation in packed soil column flow-through systems** *ENVIRONMENTAL POLLUTION*
  Zhao, L., Lu, X., Polasko, A., Johnson, N. W., Miao, Y., Yang, Z., Mahendra, S., Gu, B.
  2018; 243: 573-581

- **Development of bioreactors for comparative study of natural attenuation, biostimulation, and bioaugmentation of petroleum-hydrocarbon contaminated soil** *JOURNAL OF HAZARDOUS MATERIALS*
  Safdari, M., Kariminia, H., Rahmati, M., Fazlollahi, F., Polasko, A., Mahendra, S., Wilding, W., Fletcher, T. H.
  2018; 342: 270-278

- **Effects of Sulfate Reduction on Trichloroethene Dechlorination by Dehalococcoides-Containing Microbial Communities** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Mao, X., Polasko, A., Alvarez-Cohen, L.
  2017; 83 (8)

- **Efficient Metabolic Exchange and Electron Transfer within a Syntrophic Trichloroethene-Degrading Coculture of Dehalococcoides mccartyi 195 and Syntrophomonas wolfei** *APPLIED AND ENVIRONMENTAL MICROBIOLOGY*
  Mao, X., Stenuit, B., Polasko, A., Alvarez-Cohen, L.
  2015; 81 (6): 2015-2024

- **Using electron balances and molecular techniques to assess trichoroethene-induced shifts to a dechlorinating microbial community** *BIOTECHNOLOGY AND BIOENGINEERING*
  Ziv-El, M., Popat, S. C., Parameswaran, P., Kang, D., Polasko, A., Halden, R. U., Rittmann, B. E., Krajmalnik-Brown, R.
  2012; 109 (9): 2230-2239

PRESENTATIONS

- Establishment and characterization of a patient-derived xenograft model of human benign prostatic hyperplasia. - Collaborating for the Advancement of Interdisciplinary Research in Benign Urology (CAIRIBU) (11/29/2023)
- Establishing and characterizing the molecular profiles, cellular features, and clinical utility of patient-derived xenograft models using benign prostatic tissues. - Stanford Urology Symposium (7/27/2023)
- Establishing and characterizing a patient-derived xenograft model of benign prostatic hyperplasia - Collaborating for the Advancement of Interdisciplinary Research in Benign Urology (CAIRIBU) (6/22/2023)