

Diego Alba Burbano

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EDUCATION

University of Washington Seattle, WA
Doctor of Philosophy, Chemical Engineering and Data Science 2024

Johns Hopkins University Baltimore, MD
Bachelor of Science in Chemical and Biomolecular Engineering, Minor in Mathematics May '19
GPA: 3.81; ChemBE: 3.96

PROFESSIONAL & RESEARCH EXPERIENCE

University of Washington Seattle, WA
Research Assistant: Carothers Lab Sept. '19

- Developed and modeled CRISPRa and CRISPRi gene regulatory networks in cell-free systems.

Teaching Assistant: Process Dynamics and Control Theory

- Led weakly labs where MATLAB and Simulink were used to control a hydraulic pumping system.

Johns Hopkins University Baltimore, MD
Research Assistant: Hur Lab Jan. '17-Aug. '19

- Applied neural networks to characterize the inertial focusing behavior of asymmetric particles in microfluidic channels.
- Developed data analysis tools for automatic cell detection in microchannels. Improved high-throughput single-cell encapsulation protocols.

Teaching Assistant: Chemical and Biological Process Analysis

- Tutored 6-12 students and led weekly problem-solving sessions on chemical engineering foundations.
- Assisted in organizing and grading the course, and lectured on phase equilibria and energy balances.

Research Assistant: Gracias Lab

- Designed novel drug delivery tools based on self-folding microdevices and studied sustained drug release from wax matrices.

IMEC: Interuniversity Microelectronics Center Leuven, BEL
Research Assistant: Jun.-Aug. '17

- Advanced the study of self-folding 3D tetrode shells for single, live cells recordings.
- Microfabricated and tested the devices, cultured the cardiomyocytes, and improved the data analysis software performance by 8-fold.

AWARDS & PUBLICATIONS

- *Achievement Rewards for College Scientists Fellowship* Aug. '19
- *Loy Wilkinson Award*, for academic excellence, leadership, and service in ChemBE. May '19
- *Paul A.C. Cook Award*, for best all-around junior ChemBE. May '18
- *A micropatterned multielectrode shell for 3D spatiotemporal recording from live cells*, J. Cools, Q. Jin, E. Yoon, D. A. Burbano, Z. Luo, D. Cuypers, G. Callewaert, D. Braeken, D. H. Gracias, *Advanced Science*, 2018.

VOLUNTEERING & EXTRACURRICULAR ACTIVITIES

- *SoundBio Lab*: Workshop Coordinator and member of the Educational Committee
- *Association of Chemical Engineering Graduate Students*: Co-chair of Graduate Student Symposium

SKILLS & INTERESTS

- Computer skills: Python, MATLAB, Maple, Java, basic R, and Mathematica
- Languages: native fluency in Spanish and Galician
- Interests: Photography, Karate, Soccer, Travelling, Brewing, Cuisine