

# ASHLEY M. LAKODUK, PHD

## EDUCATION

- 2019 **PhD**, Biomedical Sciences (Cell and Molecular Biology) and Mechanisms of Disease and Translational Sciences, UT Southwestern Medical Center
- 2012 **MS**, Biology, University of California, San Diego
- 2008 **BS**, Molecular Biology, Minors: Spanish Literature and Health Care, University of California, San Diego

## RESEARCH EXPERIENCE

- 2019-2020 **Postdoctoral Researcher**, Schmid Lab, Department of Cell Biology, UT Southwestern Medical Center (Dallas, TX)  
Project: Conduct a genome-wide CRISPR-mediated knockout screen and epistasis analysis for the molecular regulators of early endosomal trafficking.
- 2013-2019 **Graduate Research Assistant**, Schmid Lab, Department of Cell Biology, UT Southwestern Medical Center (Dallas, TX)  
Project 1: Quantitative analysis of integrin and focal adhesion turnover to study integration of early endocytic trafficking, signaling and migration.  
Project 2: Development of new techniques and methods to detect rapid integrin and RTK uptake and recycling and new quantitative image analysis software.
- 2012-2013 **Research Assistant II**, Schmid Lab, Department of Cell Biology, UT Southwestern Medical Center (Dallas, TX)  
Project: Regulation of clathrin-mediated endocytosis by hierarchical allosteric activation of AP2.
- 2011-2012 **Research Assistant**, Schmid Lab, Department of Cell Biology, The Scripps Research Institute (La Jolla, CA)  
Project: Identifying the molecular regulators involved in the fidelity checkpoint of clathrin-mediated endocytosis.
- 2008-2010 **Graduate Researcher**, Firtel Lab, Section of Cell and Developmental Biology, University of California, San Diego (La Jolla, CA)  
Project: Characterization of a novel protein, PHR, in regulating *Dictyostelium discoideum* chemotaxis.
- 2008 **Undergraduate Senior Project**, Cleveland Lab, Department of Cellular and Molecular Medicine, Ludwig Institute for Cancer Research (La Jolla, CA)  
Project: Investigation of 10 post-translational modifications in the auto-inhibition of a cellular kinesin, CENP-E, and effects on cell cycle arrest.
- 2005-2007 **Undergraduate Research Assistant**, Mercola Lab, Sanford Burnham Prebys Medical Discovery Institute (La Jolla, CA)  
Project: Roles of Nodal and Wnt antagonists in heart induction and cardiogenesis.

## TEACHING EXPERIENCE

- 2022-Present **Instructor**, Department of Biology  
Texas Christian University
- Develop curriculum for undergraduate courses in Cellular, Molecular and Developmental Biology (BIOL 30603) and Unity of Life: Molecules to Cells (BIOL 10503)

- 2020-2022 **Assistant Professor of Instruction**, Department of Biological Sciences, The University of Texas and Dallas
- Develop curriculum for and taught undergraduate courses in the areas of molecular and cell biology (BIOL 2311/2111, BIOL 2281), biochemistry (BIOL 3361, BIOL 3362, BIOL 3380) and microbiology (BIOL 3520)
- 2016-2018 **Instructor**, CoCONNECT Program, Graduate School Division of Biomedical Sciences, UT Southwestern Medical Center
- Facilitated training workshops that focus on translating basic biomedical concepts for a general audience by using narrative, or storytelling.
- 2017 **Instructor**, Know Path Program, Graduate School Division of Biomedical Sciences, UT Southwestern Medical Center
- Delivered workshops to help biomedical PhDs prepare for the job market through self-assessment and interview preparation techniques.
- 2014-2017 **Section lead and Tutor**, Graduate School Division of Biomedical Sciences, UT Southwestern Medical Center
- Led weekly review and discussion sections for 100+ graduate students in the areas of biochemistry, cell and molecular biology.
- 2010-2011 **Student Teacher and Tutor**, AVID Program, Escondido High School
- Prepared students for academic success in general sciences (biology and chemistry) by leading specialized and individualized review classes.
- 2009-2010 **Teacher's Assistant (TA)**, Department of Biology, University of California, San Diego
- Prepared independent weekly review and discussion sections for undergraduates in the areas of biochemistry and molecular biology.

## PROFESSIONAL COMMUNICATIONS EXPERIENCE

- 2019-Present **Scientific Writer**, Freelance
- Provide scientific and technical writing assistance in the development of peer-reviewed manuscripts.
- 2017-Present **Curriculum Designer and Facilitator**, Freelance
- Create and deliver tailored and immersive improvisation and science communication workshops for all audience types, including evaluation metrics.
- 2020-2022 **Consultant**, Intellectual Property, Chan Zuckerberg Biohub
- Draft and publish market summary statements to garner licensing opportunities for international scientific and technical patents.
- 2020 **Policy Intern**, Declaration on Research Assessment (DORA)
- Conducted interviews with various global stakeholders and developed a series of case studies on responsible academic assessment reform.
- 2016-2018 **Curriculum Designer and Facilitator**, Cultivating Narrative for Effective Communication (CoCONNECT) Program, UT Southwestern Medical Center
- Developed curriculum for, project-managed and led a 10-week science communication program to improve PhD trainee verbal and writing skills.
- 2017 **Career and Professional Development Intern**, Graduate School for Biomedical Sciences, UT Southwestern Medical Center
- Contributed to the scripting, copy-editing and production of online video lecture segments and web resources for a for-credit course, *Know Path*.
- 2016 **Communications and Marketing Intern**, Center for Translational Medicine, UT Southwestern Medical Center
- Translated basic and clinical research findings for general consumption.

## CLINICAL EXPERIENCE

- 2016 **Bedside to Bench Internship**, Harold C. Simmons Cancer Center, UT Southwestern Medical Center. Mentor: Barbara Haley, MD.
- Built and maintained relationships with oncology Key Opinion Leaders. Gained further insight into cancer diagnosis, and personalized medicine.
- 2014 **Clinical Research Immersion**, Harold C. Simmons Cancer Center, UT Southwestern Medical Center. Mentor: David E. Gerber, MD
- Became knowledgeable of all stages of cancer clinical trials, including IRB protocol development, patient enrollment and treatment modalities.

## AWARDS AND GRANTS

- 2019 ASCB Travel Award, Washington, DC.
- 2018 ASCB Travel Award, Regulation of Membrane Trafficking. San Diego, CA
- 2016 Burroughs Wellcome Fund Travel Award, Translational Science. Washington, DC
- 2016 ASCB Travel Award, Membrane Trafficking. San Francisco, CA
- 2015 NIH TL1 Pre-Doctoral Clinical Scholar Training Grant (1-year support)
- 2015 Best Poster Award, Texas Regional CTSA Consortium. Dallas, TX
- 2015 Travel Award, IASLC 15th Annual Targeted Therapies for the Treatment of Lung Cancer. Santa Monica, CA
- 2014 NIH T32 Mechanisms of Disease Training Grant (1-year support)
- 2013 HHMI Med into Grad Grant

## LEADERSHIP AND COMMITTEE SERVICE

- 2015-2021 Founding member and Co-Chair, ASCB LGBTQ+ Task Force
- Founded a special Task Force to assess, promote and ensure the inclusion of all ASCB members. Task Force became official Committee in 2021.
- 2015-2020 Member, ASCB Committee of Postdocs and Students (COMPASS)
- Offer opportunities and support for early career scientists in cell biology by creating resources and programs.
- 2017-2019 Member, ASCB Education Committee
- Collaboratively planned education-related programming and developed online resources for educators.
- 2015-2019 Organizer, ASCB Meeting Microsymposia Sessions
- Judged submitted abstracts, organized and moderated Microsymposia
- 2019 Co-Chair, COMPASS Career Development Committee
- Created and delivered professional development opportunities for researchers
- 2018 Selection Committee, ASCB Porter Prizes for Research Excellence
- 2018 Selection Committee, ASCB Merton Bernfield Memorial Award
- 2016-2018 Co-Chair, COMPASS Communications Subcommittee
- Contributed to, solicited blog entries and edited for "Emerging Voices" blog
- 2016-2018 Founding member and Officer, oSTEM at UT Southwestern
- 2016-2017 Selected Representative, Student Leadership Council, UT Southwestern
- Represented graduate students to the Office of the Dean for Student Affairs.
- 2016-2017 Selected Representative, University of Texas System Student Advisory Council
- Drafted and presented official recommendations on DEI recommendations and graduate mentor compacts to the UT System Chancellor and UT Board of Regents.
- 2015-2017 Student Representative, Admissions Committee, UT Southwestern Graduate School of Biomedical Sciences
- Assisted with graduate school recruitment efforts and admissions decisions.
- 2015-2017 Student Leader, Students Emerging Academy of Leaders (SEALs), UTSW

- Conducted workshops aimed at promoting effective leadership skills for graduate and medical students.
- 2014-2017 Founding member and Officer, Committee of Postdocs and Students (COPS), Department of Cell Biology, UT Southwestern Medical Center
  - Organized and managed journal clubs, seminars, and departmental retreat
- 2014-2017 Founding member and Officer, Science Policy Education and Communication (SPEaC), UT Southwestern
  - Coordinated outreach and communication programming, including facilitating communication and improvisation workshops.
  - Created and project managed the "Ask A Scientist" outreach program.

## PUBLICATIONS

1. **Lakoduk AM**, Lee CF, Chen PH. Gain-of-'endocytic'-function in mutant p53 cancer cells. *Int J Biochem Cell Biol.* 2020. doi: 10.1016/j.biocel.2020.105905
2. Bhave M, Mino R, Wang X, Lee J, Grossman HM, **Lakoduk AM**, Danuser G, Schmid SL, Mettlen M. Functional characterization of 67 endocytic accessory proteins using multi-parametric quantitative analysis of CCP dynamics. *Proc Natl Acad Sci USA.* 2020. doi: 10.1073/pnas.2020346117
3. **Lakoduk AM**, Kadlecova Z, Schmid SL. A functionally neutral single chain antibody to measure beta-1 integrin uptake and recycling. *Traffic.* 2020. doi: 10.1111/tra.12754
4. **Lakoduk AM**, Roudot P, Mettlen M, Grossman H, Schmid SL, Chen PH. Mutant p53 amplifies a dynamin-1/APPL1 endosome feedback loop that regulates recycling and migration. *J Cell Biol.* 2019. doi: 10.1083/jcb.201810183 (**Selected as cover image**)
5. Ditlev JA, Vega JR, Köster DV, Su X, **Lakoduk AM**, Vale RD, Mayor S, Jaqaman K, Rosen MK. A composition-dependent molecular clutch between T cell signaling condensates and actin. *eLife.* 2019. doi: 10.7554/eLife.42695
6. Elkin SR, **Lakoduk AM**, Schmid SL. Endocytic pathways and endosomal trafficking: a primer. *Wien Med Wochenschr.* 2016. doi: 10.1007/s10354-016-0432-7
7. Gerber DE, **Lakoduk AM**, Priddy LL, Yan J, Xie XJ. Temporal trends and predictors for cancer clinical trial availability for medically underserved populations. *The Oncologist.* 2015. doi: 10.1634/theoncologist.2015-0083
8. Charest PG, Shen Z, **Lakoduk AM**, Sasaki AT, Briggs SP, Firtel RA. A Ras signaling complex controls the RasC-TORC2 pathway and directed cell migration. *Dev Cell.* 2010. doi: 10.1016/j.devcel.2010.03.017 (**Selected as cover image**)

## CONFERENCES

1. ASCB|EMBO. Washington, DC. Selected panelist and Session Chair. 2019.
2. ASCB|EMBO. San Diego, CA. Invited Oral Presentation and Poster. 2018.
3. National Postdoctoral Association meeting. Cleveland, OH. Poster Presentation. 2018.
4. Graduate Career Consortium regional meeting. New Orleans, LA. Presentation. 2018.
5. ASCB|EMBO. Philadelphia, PA. Selected panelist and workshop lead. 2017.
6. ASCB. San Francisco, CA. Poster Presentation. 2016.
7. Translational Science conference. Washington, DC. Invited Oral Presentation. 2016.
8. ASCB. San Diego, CA. Session moderator. 2015.
9. Texas Regional CTSA Consortium meeting. Dallas, TX. Poster Presentation. 2015.
10. IASLC 15th Annual Targeted Therapies for the Treatment of Lung Cancer. Santa Monica, CA. Poster Presentation. 2015.

## COMMUNITY ENGAGEMENT AND OUTREACH

- 2018-Present Science Fair Category Judge, Dallas Regional Science & Engineering Fair, Dallas, TX
- 2017-Present LGBTQ+ Youth Mentor and Volunteer, Youth First Program, Resource Center, Dallas, TX
- 2014-Present Creator and Volunteer, "Ask a Scientist" Bar Night, Dallas, TX

- 2014-Present
  - Inspiration for the "Ask a Scientist" events at ASCB|EMBO meetings.Outreach Volunteer, SPEaC, Dallas, TX
- 2014-2018
  - Various events throughout DFW (e.g. Science Fairs, Career days and science cafés)Volunteer Video Content Editor and Publisher, "Ask a Scientist" Youtube Program, SPEaC, Dallas, TX
- 2014-2018 Volunteer, The Perot Museum of Nature and Science, Dallas, TX