

Graycen Wheeler

SCIENCE COMMUNICATION GRADUATE STUDENT

UNIVERSITY OF CALIFORNIA, SANTA CRUZ

EDUCATION

Master of Science in Science Communication University of California, Santa Cruz · Santa Cruz, CA	Jun 2022 (expected)
Doctor of Philosophy in Biochemistry University of Colorado Boulder · Boulder, CO Research advisor: Dr. Xuedong Liu GPA: 3.85	May 2021
Bachelor of Science in Biochemistry University of Oklahoma · Norman, OK Minor: History of Science Distinction: Magna cum laude GPA: 3.73	May 2015

SCIENCE COMMUNICATION

Science Writing Intern SLAC National Accelerator Laboratory Press & Publications	Sep 2021 - Present
Freelance Science Writer Santa Cruz Local Keypoint Newsletter Cosmic Evolution Project	
Podcast Host, Editor, & Producer Buffs Talk Science: a podcast featuring science from CU Boulder and beyond Website: buffstalkscience.com <ul style="list-style-type: none">Identify, research, and discuss relevant science stories from a wide variety of fieldsConduct casual, personable interviews with local scientistsEdit, produce, and promote episodes every other week	Apr 2018 - Dec 2020
Editor in Chief Science Buffs: a CU Boulder STEM blog Website: sciencebuffs.org <ul style="list-style-type: none">Coordinate publishing schedule for blogRun social media accountsPreside over blog meetings	Jan 2021 - Jul 2021
Managing Editor Science Buffs: a CU Boulder STEM blog Website: sciencebuffs.org <ul style="list-style-type: none">Receive and respond to pitches from blog writersRecruit and mentor new writersEdit and promote pieces	Sep 2019 - Jan 2021
Blog Writer & Editor Science Buffs: A CU Boulder STEM Blog Portfolio: sciencebuffs.org/tag/graycen-wheeler <ul style="list-style-type: none">Research and write scientist profiles and paper features	Sep 2017 - Jul 2021

Chair Moderator for eSymposia

Jun 2020 - Jul 2021

Keystone Symposia on Molecular and Cellular Biology

- Train and oversee session chairs for virtual conferences
- Help chairs select most scientifically relevant questions from large queues of submissions

TEACHING AND MENTORSHIP

General Chemistry I Teaching Assistant

Fall 2015, Fall 2018

University of Colorado Boulder • Boulder, CO

2015 Supervisors: Dr. Susan Hendrickson, Dr. Veronica Bierbaum

2018 Supervisors: Dr. Nabilah Carlon, Dr. Gary Abel

- Taught recitation lessons and lab sections, graded lab reports, oversaw tests, and held office hours

Advanced Biochemistry: Metabolism Teaching Assistant

Spring 2016

University of Colorado Boulder • Boulder, CO

Supervisor: Dr. Natalie Ahn

- Wrote and taught recitation lessons, which were focused around group projects, wrote a MATLAB script to process peer evaluations submitted by iClicker

General Chemistry II Teaching Assistant

Spring 2015

University of Oklahoma • Norman, OK

Supervisor: Dr. Laura Clifford

- Wrote and taught recitation lessons, taught lab sections, graded lab reports, oversaw tests, and generally advised students

Research Mentor

2017 - 2021

University of Colorado Boulder • Boulder, CO

- Advised Cathryn Toomey as she developed and executed her undergraduate research project from 2017-2018. Cat successfully defended her honors thesis on the project and contributed to a research publication (Sanchez GS et al. Nucleic Acids Research 2018).
- Advised Amrita Purkayastha from 2019-2020 on her undergraduate honors thesis as she learned cell culture, cell death assays, lentiviral transfection, and image analysis in MATLAB. Amrita received the CU Boulder Biological Science Initiative scholarship for her project.

Chemistry/Biochemistry Teaching Assistant Orientation Leader

2016 - 2018

University of Colorado Boulder • Boulder, CO

RESEARCH

Graduate Research Assistant

2016 - 2021

Advisor: Dr. Xuedong Liu

- Characterized adherens junction-mediated autocrine/paracrine cell signaling along the TACE/TGF- α /EGFR axis in keratinocytes using genetic and small molecule perturbations to study cell motility and ERK signaling via fluorescence microscopy
- Performed genomic analysis on brown and beige adipocytes after treatment with a novel browning agent using DNA microarray
- Studied the upregulation of pro-survival protein CLPTM1L in colon cancer cell lines upon treatment with various drugs using qRT-PCR, fluorescence microscopy, and cell survival assays

Undergraduate Research Assistant

2013 - 2015

Advisor: Dr. Ann H. West

- Purified mutant protein components of the Ypd1/Sln1 hybrid two-component system to study the kinetics of this osmotic stress response pathway in *C. glabrata* and *S. cerevisiae*

SCIENTIFIC PUBLICATIONS

Wheeler GE, Purkayastha A, Bunker EN, Bortz DM, Liu X. Protocol for analysis and consolidation of TrackMate outputs for measuring two-dimensional cell motility using nuclear tracking. *Journal of Visualized Experiments* 178: e62885, 2021.

Bunker EN*, Wheeler GE*, Chapnick DA, Liu X. Suppression of alpha-catenin and adherens junctions enhances epithelial cell proliferation and motility via TACE-mediated TGF-alpha autocrine/paracrine signaling. *Co-first author. *Molecular Biology of the Cell*, 2021. <https://doi.org/10.1091/mbc.E19-08-0474>

Smallegan MJ, Shehata S*, Spradlin S*, Swearingen A*, Wheeler G*, Das A, Corbet G, Nebenfuhr B, Ahrens D, Tauber D, Lennon S, Choi K, Huynh T, Wieser T, Schneider K, Bradshaw M, Lai M, Baskin J, Read T, Demasi J, Hynes-Grace M, Timmons, Rinn JL (2020). Genome-wide binding analysis of 195 DNA binding proteins reveals “reservoir” promoters and human-specific SVA-repeat family regulation. *Co-second author. *PLOS One*, 2021. <https://doi.org/10.1371/journal.pone.0237055>

Sanchez GJ, Richmond PA, Bunker EN, Karman SS, Azofeifa J, Garnett AT, Xu Q, Wheeler GE, Toomey CM, Zhang Q, Dowell RD, Liu X. Genome-wide dose-dependent inhibition of histone deacetylases studies reveal their roles in enhancer remodeling and suppression of oncogenic super-enhancers. *Nucleic Acids Research* 46(4): 1756-1776, 2018. <https://doi.org/10.1093/nar/gkx1225>

SCIENTIFIC PRESENTATIONS

Summer Multicultural Access to Research Training (SMART) Program University of Colorado Boulder • Boulder, CO Invited workshop leader, science communication workshop	Jun 26, 2020
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Signaling & Cellular Regulation Supergroup University of Colorado Boulder • Boulder, CO “Characterizing WKG-133, a novel fat-browning agent”	Oct 28, 2019
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Biochemistry Departmental Graduate Student Seminar University of Colorado Boulder • Boulder, CO “A quest to develop a high-throughput screen protocol for fat-browning agents”	Aug 7, 2019
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Teen Science Café University of Colorado Boulder • Boulder, CO Invited speaker for science speed dating presentation	Apr 20, 2019
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Women in Science & Engineering Science Communication Symposium University of Colorado Boulder • Boulder, CO Invited panelist for podcasting panel discussion	Mar 15, 2019
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Nerd Nite Outback Saloon • Boulder, CO “Drug resistance is futile”	Dec 3, 2018
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STEMinar University of Colorado Boulder • Boulder, CO “Understanding cell signaling to fight cancer drug resistance”	Oct 11, 2018
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Biochemistry Departmental Graduate Student Seminar University of Colorado Boulder • Boulder, CO	Jul 11, 2018
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“Understanding the upregulation of pro-survival protein
CLPTM1L upon cancer drug treatment”

Signaling & Cellular Regulation Supergroup University of Colorado Boulder • Boulder, CO “Understanding the upregulation of pro-survival protein CLPTM1L upon cancer drug treatment”	Mar 19, 2018
ASBMB Poster Session: Chromatin Structure, Remodeling and Gene Expression ASBMB EB Annual Meeting • San Diego, CA “Histone deacetylase inhibition leads to dose-dependent suppression of oncogene-associated super-enhancers.”	Apr 22, 2018
Biochemistry Departmental Retreat YMCA of the Rockies • Granby, CO “Bringing you into the Liu-p: Research highlights from the Liu lab”	Oct 14, 2017

LEADERSHIP AND COMMUNITY

CU Boulder Department of Biochemistry Diversity, Equity, and Inclusion Graduate Council Founding Member and Communications Officer	2020 - 2021
<ul style="list-style-type: none">• Write and distribute a monthly Biochemistry Graduate Newsletter to keep the biochemistry community informed about events, outreach opportunities, and the efforts of the newly-established DEI Graduate Council and Faculty Liaison Council• Organized an inter-departmental graduate student consortium for equity and racial justice in the CU Boulder Division of Natural Sciences• Started a supergroup for departmental discussions on equity and racial justice	
ComSciCon Flagship Programming Organizer	2020
<ul style="list-style-type: none">• Planned and led a workshop called “Storytelling with Data”• Planned a social hour, which evolved from a summer camp-style variety show to a science-themed virtual tabletop role-playing game night in response to Covid-19	
ComSciCon Rocky Mountain West Chairperson/ Lead Organizer	2019
<ul style="list-style-type: none">• Expanded service area of ComSciCon Rocky Mountain West to include small colleges and states beyond Colorado• Led weekly meetings of the organizing committee and oversaw the committee’s actions• Led fundraising and publicity efforts• Wrote and received a grant for funds to support four conference attendees from out-of-state• Oversaw admissions processes• Led a workshop on podcasting and another on data visualization	
ComSciCon Rocky Mountain West Organizer	2018
<ul style="list-style-type: none">• Designed logos and materials• Led a workshop on podcasting• Oversaw admissions processes	
Ignite Boulder Selected Speaker	Fall 2019
<ul style="list-style-type: none">• Talk title: “How I learned to stop worrying and awooooooo”• Spoke to ~1000 members of the Boulder community about the joys of tabletop RPGs and the behavior of wolf packs• Video: youtu.be/Sc4XvoSLQzs	

Boulder Public Library Volunteer	Spring 2020
<ul style="list-style-type: none"> Led a (sadly short-lived, due to Covid-19) Dungeons and Dragons game for the library's teen after-school program 	
Engineering Experiences Science Coach	Fall 2016
<ul style="list-style-type: none"> Piloted a National Science Foundation-funded after-school engineering program to teach middle schoolers in the I Have a Dream Program (underserved students, primarily low-income) principles of physics and iterative design using drones 	
Norman Regional Hospital Volunteer	Fall 2014 – Spring 2015
<ul style="list-style-type: none"> Cleaned and setup hospital rooms the emergency department Digitally archived physical records and served as a runner for doctors and nurses in the wound care department 	

HONORS AND AWARDS

CASW Taylor/ Blakeslee Graduate Fellow	2021 - 2022
Award for Innovation in Service to the CU Boulder Department of Biochemistry	2021
NIH Signaling and Cellular Regulation Graduate Trainee	2016 - 2018
CU Boulder Award for Graduate Teaching Excellence	2015
National Merit Scholar	2011 - 2015
Oklahoma State Regents Academic Scholar	2011 - 2015

PROFESSIONAL DEVELOPMENT

ComSciCon Flagship Attendee University of California San Diego • San Diego, CA	July 2019
Science Speak Easy Attendee University of Colorado • Boulder, CO	February 2019
ASBMB Experimental Biology Meeting Attendee San Diego, CA	April 2018
American Association for the Advancement of Science Member	
American Society for Biochemistry & Molecular Biology Member	

ADDITIONAL SKILLS

Programming proficiency in MATLAB, Linux, R, JavaScript, CSS, and HTML; Experience with remote team projects via GitHub; Software proficiency in Audacity/Adobe Audition, Affinity Designer/Adobe Illustrator, Affinity Photo/Adobe Photoshop; Language proficiency in German and classical Latin

INTERESTS AND DELIGHTS

Playing tabletop role-playing games, writing goofy movie reviews, solving crossword puzzles, roller skating badly, and trying to get my cat to sit next to me