

# Graycen Wheeler

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FREELANCE SCIENCE JOURNALIST

SANTA CRUZ, CALIFORNIA

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## EDUCATION

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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

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## SCIENCE COMMUNICATION

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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 Bufs Talk Science: a podcast featuring science from CU Boulder and beyond Website: <a href="http://buffstalkscience.com">buffstalkscience.com</a> <ul style="list-style-type: none"><li>Identify, research, and discuss relevant science stories from a wide variety of fields</li><li>Conduct casual, personable interviews with local scientists</li><li>Edit, produce, and promote episodes every other week</li></ul>	Apr 2018 - Dec 2020
Editor in Chief Science Buffs: a CU Boulder STEM blog Website: <a href="http://sciencebuffs.org">sciencebuffs.org</a> <ul style="list-style-type: none"><li>Coordinate publishing schedule for blog</li><li>Run social media accounts</li><li>Preside over blog meetings</li></ul>	Jan 2021 - Jul 2021
Managing Editor Science Buffs: a CU Boulder STEM blog Website: <a href="http://sciencebuffs.org">sciencebuffs.org</a> <ul style="list-style-type: none"><li>Receive and respond to pitches from blog writers</li><li>Recruit and mentor new writers</li><li>Edit and promote pieces</li></ul>	Sep 2019 - Jan 2021
Blog Writer & Editor Science Buffs: A CU Boulder STEM Blog Portfolio: <a href="http://sciencebuffs.org/tag/graycen-wheeler">sciencebuffs.org/tag/graycen-wheeler</a> <ul style="list-style-type: none"><li>Research and write scientist profiles and paper features</li></ul>	Sep 2017 - Jul 2021

Chair Moderator for eSymposia Keystone Symposia on Molecular and Cellular Biology	Jun 2020 - Jul 2021
<ul style="list-style-type: none"> <li>• Train and oversee session chairs for virtual conferences</li> <li>• Help chairs select most scientifically relevant questions from large queues of submissions</li> </ul>	

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## TEACHING AND MENTORSHIP

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General Chemistry I Teaching Assistant University of Colorado Boulder · Boulder, CO 2015 Supervisors: Dr. Susan Hendrickson, Dr. Veronica Bierbaum 2018 Supervisors: Dr. Nabilah Carlon, Dr. Gary Abel	Fall 2015, Fall 2018
<ul style="list-style-type: none"> <li>• Taught recitation lessons and lab sections, graded lab reports, oversaw tests, and held office hours</li> </ul>	
Advanced Biochemistry: Metabolism Teaching Assistant University of Colorado Boulder · Boulder, CO Supervisor: Dr. Natalie Ahn	Spring 2016
<ul style="list-style-type: none"> <li>• Wrote and taught recitation lessons, which were focused around group projects, wrote a MATLAB script to process peer evaluations submitted by iClicker</li> </ul>	
General Chemistry II Teaching Assistant University of Oklahoma · Norman, OK Supervisor: Dr. Laura Clifford	Spring 2015
<ul style="list-style-type: none"> <li>• Wrote and taught recitation lessons, taught lab sections, graded lab reports, oversaw tests, and generally advised students</li> </ul>	
Research Mentor University of Colorado Boulder · Boulder, CO	2017 - 2021
<ul style="list-style-type: none"> <li>• 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).</li> <li>• 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.</li> </ul>	
Chemistry/Biochemistry Teaching Assistant Orientation Leader University of Colorado Boulder · Boulder, CO	2016 - 2018

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## RESEARCH

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Graduate Research Assistant Advisor: Dr. Xuedong Liu	2016 - 2021
<ul style="list-style-type: none"> <li>• Characterized adherens junction-mediated autocrine/paracrine cell signaling along the TACE/TGF-<math>\alpha</math>/EGFR axis in keratinocytes using genetic and small molecule perturbations to study cell motility and ERK signaling via fluorescence microscopy</li> <li>• Performed genomic analysis on brown and beige adipocytes after treatment with a novel browning agent using DNA microarray</li> <li>• 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</li> </ul>	
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*

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## SCIENTIFIC PUBLICATIONS

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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, Nebenfuehr 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>

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## SCIENTIFIC PRESENTATIONS

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Summer Multicultural Access to Research Training (SMART) Program Jun 26, 2020  
University of Colorado Boulder · Boulder, CO  
Invited workshop leader, science communication workshop

Signaling & Cellular Regulation Supergroup Oct 28, 2019  
University of Colorado Boulder · Boulder, CO  
"Characterizing WKG-133, a novel fat-browning agent"

Biochemistry Departmental Graduate Student Seminar Aug 7, 2019  
University of Colorado Boulder · Boulder, CO  
"A quest to develop a high-throughput screen protocol for fat-browning agents"

Teen Science Café Apr 20, 2019  
University of Colorado Boulder · Boulder, CO  
Invited speaker for science speed dating presentation

Women in Science & Engineering Science Communication Symposium Mar 15, 2019  
University of Colorado Boulder · Boulder, CO  
Invited panelist for podcasting panel discussion

Nerd Nite Dec 3, 2018  
Outback Saloon · Boulder, CO  
"Drug resistance is futile"

STEMinar Oct 11, 2018  
University of Colorado Boulder · Boulder, CO  
"Understanding cell signaling to fight cancer drug resistance"

Biochemistry Departmental Graduate Student Seminar Jul 11, 2018  
University of Colorado Boulder · Boulder, CO

“Understanding the upregulation of pro-survival protein CLPTM1L upon cancer drug treatment”

Signaling & Cellular Regulation Supergroup Mar 19, 2018

University of Colorado Boulder · Boulder, CO

“Understanding the upregulation of pro-survival protein CLPTM1L upon cancer drug treatment”

ASBMB Poster Session: Chromatin Structure, Remodeling and Gene Expression Apr 22, 2018

ASBMB EB Annual Meeting · San Diego, CA

“Histone deacetylase inhibition leads to dose-dependent suppression of oncogene-associated super-enhancers.”

Biochemistry Departmental Retreat Oct 14, 2017

YMCA of the Rockies · Granby, CO

“Bringing you into the Liu-p: Research highlights from the Liu lab”

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## LEADERSHIP AND COMMUNITY

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CU Boulder Department of Biochemistry Diversity, Equity, and Inclusion 2020 - 2021

Graduate Council Founding Member and Communications Officer

- 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

- 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

- 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

- Designed logos and materials
- Led a workshop on podcasting
- Oversaw admissions processes

Ignite Boulder Selected Speaker Fall 2019

- Talk title: “How I learned to stop worrying and awoooooo”
- Spoke to ~1000 members of the Boulder community about the joys of tabletop RPGs and the behavior of wolf packs
- Video: [youtu.be/Sc4XvoSLQzs](https://youtu.be/Sc4XvoSLQzs)

Boulder Public Library Volunteer	Spring 2020
<ul style="list-style-type: none"> <li>Led a (sadly short-lived, due to Covid-19) Dungeons and Dragons game for the library's teen after-school program</li> </ul>	
Engineering Experiences Science Coach	Fall 2016
<ul style="list-style-type: none"> <li>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</li> </ul>	
Norman Regional Hospital Volunteer	Fall 2014 – Spring 2015
<ul style="list-style-type: none"> <li>Cleaned and setup hospital rooms the emergency department</li> <li>Digitally archived physical records and served as a runner for doctors and nurses in the wound care department</li> </ul>	

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## HONORS AND AWARDS

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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

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## PROFESSIONAL DEVELOPMENT

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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	

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## ADDITIONAL SKILLS

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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

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## INTERESTS AND DELIGHTS

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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