

Thomas P. Clements

Vanderbilt University
Department of Biological Sciences
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Education

Rice University

PhD, Biochemistry and Cell Biology (BCB) – 2018

Thesis Title: A Rice CRISPy Treat: Improving CRISPR-Cas9 gene editing in the zebrafish to facilitate analysis of genes implicated in neural angiogenesis in an F0 screen.

Advisor: Dr. Daniel S. Wagner

National Academies Education Fellow in the Life Sciences

Graduate Student Fellow at the Rice Center for Teaching Excellence

Graduate Certificate in Teaching and Learning

President: BCB Graduate Student Association

Purdue University

BS, Biochemistry – 2012

Minors in Biology and Forensic Science

Undergraduate Research with Dr. Kavita Shah and Dr. Jenna Rickus

Internship at Cargill in Dayton, OH

President: Purdue Science Student Council

Appointments

Vanderbilt University

Senior Lecturer in Biological Sciences – 2019 to present

Lecturer in Biological Sciences – 2018 to 2019

Vanderbilt Learning Assistant (LA) Program

Co-Founder: 2019

Steering Committee – 2019 to present

Assistant Director – 2023 to 2024

Teaching Experience

Vanderbilt University (2018 to present)

BSCI 1510: Molecules and Cells (Introduction to Biological Sciences I)

Fall 2024 – 209 undergraduate and 1 graduate student enrolled

Fall 2023 – 166 undergraduate students enrolled

Fall 2022 – 175 undergraduate students enrolled

Fall 2021 – 178 undergraduate and 2 graduate students enrolled

Fall 2020 – 168 undergraduate students enrolled

Fall 2019 – 195 undergraduate students enrolled

Fall 2018 – 222 undergraduate students enrolled

Summer 2024 – 20 undergraduate students enrolled

Summer 2023 – 15 undergraduate students enrolled

Summer 2022 – 16 and 7 undergraduate students enrolled in two sections

Summer 2021 – 15 and 10 undergraduate students enrolled in two sections

Summer 2020 – 25 and 7 undergraduate students enrolled in two sections
Summer 2019 – 19 undergraduate students enrolled

BSCI 1510L: Introduction to Biological Sciences Lab

Fall 2023 – 48 undergraduate students enrolled across three sections
Fall 2022 – 48 undergraduate students enrolled across three sections
Fall 2021 – 48 undergraduate students enrolled across three sections
Spring 2021 – 50 undergraduate students enrolled across three sections
Fall 2020 – 47 undergraduate students enrolled across four sections
Fall 2019 – 48 undergraduate students enrolled across three sections
Fall 2018 – 48 undergraduate students enrolled across three sections

Summer 2022 – 2 undergraduate students enrolled

Summer 2019 – 5 undergraduate students enrolled

BSCI 1511L: Introduction to Biological Sciences Lab II

Spring 2023 – 48 undergraduate students enrolled across three sections
Spring 2022 – 16 undergraduate students enrolled across one section
Spring 2020 – 47 undergraduate students enrolled across four sections
Spring 2019 – 48 undergraduate students enrolled across three sections

BSCI 1512L: Introduction to Biological Sciences Research Based Lab

Spring 2024 – 7 undergraduate students enrolled
Spring 2022 – 8 undergraduate students enrolled
Spring 2020 – 7 undergraduate students enrolled
Spring 2019 – 7 undergraduate students enrolled

BSCI 2210: Principles of Genetics

Spring 2025 – 87 undergraduate students enrolled
Spring 2024 – 66 undergraduate students enrolled
Spring 2023 – 59 undergraduate and 1 graduate student(s) enrolled
Spring 2022 – 52 undergraduate and 1 graduate student(s) enrolled
Spring 2021 – 71 undergraduate and 2 graduate students enrolled

BSCI 2210L: Genetics Laboratory

Fall 2024 – 19 undergraduate students enrolled

BSCI 6320: Graduate Seminar in Biological Sciences

Spring 2021 – 16 graduate students enrolled

CHM 1111: The Chemistry of Everyday Life

Spring 2020 – Guest Lecture on Antibiotic Resistance

CORE 1020: Science, Technology, and Values

Spring 2025 – 15 undergraduate students enrolled

CORE 2500: Exploratory Core Course – Gene Editing & Ethics

Fall 2024 – 15 undergraduate students enrolled

CSET 1001: Laughable – The Science of Humor and Humor of Science
Spring 2023 – Guest Lecture on Learning Science through Improv

CSET 3890: Special Topics - Improv in Sci Communication
Spring 2025 – 12 undergraduate students enrolled
Spring 2024 – 17 undergraduate students enrolled

Rice University (2013 – 2017)

Instructor of Record

BIOC 111: Intro Lab in Biology

August 2015 – Spring 2017

Graduate Teaching Assistant

BIOC 211: Intermediate Lab in Biology

Fall 2017

BIOC 115: Introduction to Scientific Literature

Fall 2014, Spring 2015

BIOC 443/544: Development

Spring 2014

BIOC 301: Biochemistry I

Fall 2013

Purdue University (2010-2012)

Staff Member in Chemistry Resource Room

Publications

12.) Katherine A. Clements, Kyle T. Vallone, **Thomas P. Clements**, Elizabeth H. Catania, Lily L. Claiborne, Katherine L. Friedman, Todd R. Graham, Heather J. Johnson, Savanna R. Starko, Tara D. Todd, Jessica Watkins, Cynthia J. Brame. March 2025. "Learning Assistants have comparable impacts on student belonging and confidence across science disciplines and course contexts." *CBE-Life Sciences Education*.

11.) Cynthia J. Brame, Elizabeth H. Catania, Katherine L. Friedman, Heather J. Johnson, Jessica Watkins, Hemant Badgandi, Lily Claiborne, Katherine A. Clements, Nicole Creanza, Jessica Gilpin, Lars Plate, Adriane E. Seiffert, and **Thomas P. Clements**. 2024. "Best practices for expanding an undergraduate learning assistant program: observations from a learning community of instructors." Book Chapter in *Faculty Learning Communities: Communities of Practice that Support, Inspire, Engage and Transform Higher Education Classrooms* (Rainville, Title, & Desrochers, Information Age Publishers)

10.) Katherine A. Clements, Cristina D. Zepeda, Allison Leich Hilbun, Tara Todd, **Thomas P. Clements**, Heather J. Johnson, Jessica Watkins, Katherine L. Friedman, and Cynthia J. Brame. Oct 2023. "They have shown me it is possible to thrive within STEM": Incorporating Learning Assistants in General Chemistry increases student belonging and confidence. *Journal of Chemical Education* DOI: 10.1021/acs.jchemed.2c01224

9.) Olivia G. Pembridge, Natalie S. Wallace, **Thomas P. Clements**, and Lauren P. Jackson. Jan 2023. "AP-4 loss in CRISPR-edited zebrafish affects early embryo development." *Advances in Biological Regulation* DOI: 10.1016/j.jbior.2022.100945

8.) Drugan K. Brady, Aashi R. Gurijala, Liyu Huang, Ali A. Hussain, Audrey L. Lingan, Olivia G. Pembridge, Brina A. Ratangee, Tristan T. Sealy, Kyle T. Vallone, and **Thomas P. Clements**. Oct 2022. "A Guide to COVID-19 Antiviral Therapeutics: A Summary and Perspective of the Antiviral Weapons Against SARS-CoV-2 Infection." *FEBS J*. DOI: 10.1111/febs.16662

Recognized as a top downloaded paper for Wiley in the *FEBS Journal* for its first 12 months of publication

The Editor-in-Chief selected Figure 1 to feature on the electronic front cover of volume 291, issue 8 in April 2024 of the *FEBS Journal*

7.) **Thomas P. Clements**, Katherine L. Friedman, Heather J. Johnson, Cole J. Meier, Jessica Watkins, Amanda J. Brockman, and Cynthia J. Brame. June 2022. "It made me feel like a bigger part of the STEM community": Incorporation of Learning Assistants Enhances Students' Sense of Belonging in a Large Introductory Biology Course. April 2022. *CBE-Life Sciences Education* 2022 Jun;21(2):ar26. DOI: 10.1187/cbe.21-09-0287.

6.) Cassandra L. Atzrodt, Insha Maknojia, Robert D. P. McCarthy, Tiara M. Oldfield, Jonathan Po, Kenny T. L. Ta, Hannah E. Stepp, and **Thomas P. Clements**. May 2020. "A Guide to COVID-19: A Global Pandemic Caused by the Novel Coronavirus SARS-CoV-2." *FEBS J*. DOI: 10.1111/febs.15375

Recognized as a top cited paper for Wiley in the *FEBS Journal* for 2020-2021

5.) Qilin Gu, Xiaojie Yang, Jie Lv, Jiaxiong Zhang, Bo Xia, Jun-dae Kim, Ruoyu Wang, Feng Xiong, Shu Meng, **Thomas P. Clements**, Bhavna Tandon, Daniel S. Wagner, Miguel F. Diaz, Pamela L. Wenzel, Yury I. Miller, David Traver, John P. Cooke, Wenbo Li, Leonard I. Zon, Kaifu Chen, Yongping Bai, and Longhou Fang. Jan 2019. "AIBP-mediated Cholesterol Efflux Instructs Hematopoietic Stem and Progenitor Cell Fate." *Science* DOI: 10.1126/science.aav1749

4.) **Thomas P. Clements**, Bhavna Tandon, Hendrik A. Lintel, Joseph H. McCarty, and Daniel S. Wagner. June 2017. "RICE CRISPR: Rapidly Increased Cut Ends by an Exonuclease Cas9 Fusion in Zebrafish." *Genesis* DOI: 10.1002/dvg.23044

3.) Shinya Hirota, **Thomas P. Clements**, Leung K. Tang, John E. Morales, Hye Shin Lee, S. Paul Oh, Gonzalo M. Rivera, Daniel S. Wagner, and Joseph H. McCarty. Nov 2015. "Neuropilin-1 and $\beta 8$ Integrin Cooperatively Balance TGF β Signaling to Control Sprouting Angiogenesis in the Brain." *Development* DOI: 10.1242/dev.113746

Selected to be highlighted in the Editors' Choice section of *Science Signaling*, a weekly journal from the publisher of *Science* magazine.

Summary titled: "Guiding Vessels in the Developing Brain" by Nancy R. Gough

Sci. Signal. 22 Dec 2015; Vol. 8, Issue 408, pp. ec378 DOI: 10.1126/scisignal.aaf1137

2.) Troy G. Hammerstrom, Kathryn Beabout, **Thomas P. Clements**, Gerda Saxer, and Yousif Shamoo. October 2015. "*Acinetobacter baumannii* repeatedly evolves a hypermutator phenotype in response to tigecycline that effectively surveys evolutionary trajectories to resistance." *PLOS ONE* DOI: 10.1371/journal.pone.0140489

1.) Kathryn Beabout, Troy G. Hammerstrom, Anisha Perez, Bárbara Magalhães, Amy Prater, **Thomas P. Clements**, Cesar Arias, Gerda Saxer, and Yousif Shamoo. June 2015. "The ribosomal S10 protein is a general target for decreased tigecycline susceptibility." *Antimicrobial Agents and Chemotherapy* DOI: 10.1128/AAC.00547-15

Grants Received

7) co-Principal Investigator on "Investigating the Impact of Video-based Analysis of Classroom Teaching on STEM Teacher Preparation, Effectiveness, and Retention" (PI: Heather Johnson). \$244,815 NSF 23-586 Robert Noyce Teacher Scholarship Program, 2024-2027.

6) Received a \$5000 *Course Development Summer Salary Grant* to work on my Genetics Lab Course in Summer 2024

5.) Received a \$1000 *NTT Professional and Teaching Development Grant* to explore cat genetics in my BSCI 1512L course in Spring 2024

4.) Received a \$1285 *NTT Professional Travel Grant* to attend the International Learning Assistant Conference (ILAC) in Fall 2023

3.) Collaborating Faculty Member on “Maximizing the impact of learning assistants: Identifying and promoting mechanisms by which LAs foster belonging and self-efficacy in underserved student populations” (PI: Cynthia Brame, co-PIs: Heather Johnson and Cristina Zepeda). \$280,806 *NSF IUSE Grant*, 2023-2025

2.) Received a \$5,000 *Provost's Faculty Grant for Culminating Projects in Immersion* to develop support for returning LAs with a cohort of senior LAs in Spring 2023

1.) Received a \$25,000 *Faculty Strong Grant* from BSCI Department and the A&S Dean's Office to expand the LA program in several BSCI courses in Spring 2021

Seminars and Conferences: Invited Talks, Workshops, and Poster Presentations

7.) CONNECTUR 2025 Annual Conference June 16-18, 2025
Council on Undergraduate Research (CUR) Author on poster presentation
Grand Rapids, MI

Daniel J. Catanese, Jr., Elizabeth Eich, Thomas P. Clements, and Beth Beason-Abmayr

“Collaborating with research faculty in course-based undergraduate research experiences at the introductory, intermediate, and advanced levels.”

6.) International Learning Assistant Conference (ILAC) October 27-29, 2023
University of Colorado, Boulder 1 hour interactive sessions

Lead: “Growing your LA Program: Do's and Dont's”

Team Member: “What is the Weekly Prep Session?”

Team Member: “Learning Environment Roundtable: Large Classes with Multiple LAs”

5.) Intellectual Discussion of Advancements and Affairs Conference (IDAA) October 12-13, 2023
Theme: Exploring the “New Normal” in the post COVID Pandemic Era
Vanderbilt University 1 hour interactive talk

“COVID-19 Antiviral Therapeutics: Leveraging the Scientific Literature and how to Spot Pseudoscience.”

4.) International Learning Assistant Conference (ILAC) November 11-13, 2022
University of Colorado, Boulder 15 minute talk

“Best practices for expanding an undergraduate learning assistant program: observations from a learning community of instructors.”

Served on a panel: “Building a strong LA Program Leadership Team”

Served as a discussant for the poster session: Theme: “Program Posters”

3.) The Learning Assistant (LA) Research Symposium October 21, 2021
Online 15 minute talk

“Best practices for expanding an undergraduate Learning Assistant (LA) program: observations from a learning community of instructors and creating an inclusive online learning environment.”

2.) Biological Sciences Seminar Series
Vanderbilt University, Online

February 1, 2021
50 minute talk

“Best practices for expanding an undergraduate Learning Assistant (LA) program: observations from a learning community of instructors and creating an inclusive online learning environment.”

1.) The Learning Assistant (LA) Research Symposium
Online

November 21, 2020
15 minute talk

“The use of Learning Assistants (LAs) enhances a student’s sense of belonging in a large, Introductory Biology Course.”

Served as a discussant for the poster session.

Honors and Awards

2021 Ernest A. Jones Award for Excellence in Undergraduate Advising
2021 Junior Faculty Teaching Fellow (JFTF)
2021 COVID-19 Innovative Teaching Award: Developing Innovative Approaches to Teaching Science
2020 \$5000 Directed Gift from the parents of a current student and LA to support my work
2018 Rice University 3-Minute Thesis Competition: 2nd place
2017 Finalist for the 2016-2017 Rice Graduate Teaching Award for Course Support
2016 Biochemistry and Cell Biology Excellence in Teaching Award
2015 Graduate Certificate in Teaching and Learning (GCTL)
2015 Outstanding Research Poster Award: 2nd Place at the *Biosciences at Rice Research Symposium*
2013 Young Researcher Award: 2nd Place at the *BCB Research Symposium*
2013 NSF GRFP Honorable Mention
2012 Learning Beyond the Classroom (LBC) certification at Purdue University
2008 Hammond College Bound Scholarship
2008 Purdue Trustee’s Scholarship
2008 Northwest IN Scholarship

Department Service

Academic advising for undergraduates (22 currently, 31 in 2024)

*Biochemistry and Chemical Biology (BCB)

Drew Nelles – Class of 2027

Sarah Son – Class of 2027

Ishaan Gadiyar – Class of 2026

Justin He* – Class of 2026

Patricia Williams – Class of 2026

Justin Adler – Class of 2025

Eshani Arumalla – Class of 2025

Sarah Barnes – Class of 2025

Jay Bhatia – Class of 2025

Sebastian Bujoi* – Class of 2025

Dylan Conger* – Class of 2025

Mason Engle – Class of 2025

Luke Halpern – Class of 2025

Kaustubh Koya – Class of 2025

Dorian Lawson-Qureshi* – Class of 2025

Rachael Lee – Class of 2025

Aiden Machanic – Class of 2025

Keval Patel – Class of 2025

Saksham Saksena – Class of 2025

Kyle Vallone – Class of 2025

Noah Weitzel – Class of 2025

Sagnik Yarlagadda – Class of 2025

Avery Fortier – Class of 2024

Max Kohn – Class of 2024

Tristan Sealy* – Class of 2024

Chuyuan Xu – Class of 2024

Henoc Zinga* – Class of 2024

Annika Hsu – Class of 2024

Mary Catherine Pope – Class of 2024

Veronica Wroblewski – Class of 2024

Yang Zhou – Class of 2024

Tucker Apgar* – Class of 2023

Chandrahass Kona – Class of 2023

Elena Solopova – Class of 2023

Rebecca Dubin – Class of 2023

Robert McCarthy – Class of 2023

Mason Engle – Class of 2024

Brittnee Boule – Class of 2022

Matt Chvasta* – Class of 2022

Cindy Nwokedi – Class of 2022

Jacqueline Pinon – Class of 2022

Andres Concepcion – Class of 2022

Kaitlyn Linney – Class of 2022

Olivia Pembridge – Class of 2022

Anica Mohammadkhah – Class of 2021

Anish Raman – Class of 2021

Jessica Petrey – Class of 2021

Christopher Rhee – Class of 2021

Academic minor advising for undergraduates (0 currently, 4 in 2024)

Olivia Antonetti – Class of 2024

Priya Bhatt – Class of 2024

Noah Kelley – Class of 2024

Vamsi Veeramachaneni – Class of 2024

Mina Aziz – Class of 2023

Aryan Gupta – Class of 2023

Kennya Ta – Class of 2023

Max Garcia – Class of 2022

Hanwen Feng – Class of 2022

Research Advising: Co-Mentor for Directed Research (17 currently, 17 in 2025)

Eldaah Paulraj in Dr. Kasey Vickers' Lab: Spring 2025

Sarah Son in Dr. Carrie Jones' Lab: Spring 2025

Riya Narayan in Dr. Alan Brash's Lab: Spring 2025

Dakota Musgrave in Dr. Buddy Creech's Lab: Spring 2025

Ethan Eisenstein in Dr. Daniel Escudero's Lab: Spring 2025

Musab Nuh in Dr. Eric Gamazon's Lab: Fall 2024, Spring 2025

Joshua Tan in Dr. Matt Alexander's Lab: Fall 2024, Spring 2025

Declan McSherry in Dr. Joseph Schlesinger's Lab: Fall 2024, Spring 2025

Jessica Martin in Dr. Ray Blind's Lab: Fall 2024

Kate Goncalves in Dr. Andrea Locke's Lab: Spring 2024, Fall 2024, Spring 2025

Will Zipf in Dr. Anna Patrick's Lab: Fall 2023, Spring 2024, Fall 2024, Spring 2025

Pranoy Sangowdar in Dr. Irina Kaverina's Lab: Fall 2023, Spring 2024, Fall 2024, Spring 2025

Justin Adler in Dr. Amanda Doran's Lab: Fall 2023, Fall 2024, Spring 2025

Roy Rao in Dr. Elaine Shelton's Lab: Spring 2023, Fall 2023, Spring 2024, Fall 2024, Spring 2025

Sagnik Yarlagadda in Dr. Todd Giorgio's Lab: Fall 2024, Spring 2025

Jay Bhatia in Dr. Ray Blind's Lab: Spring 2023, Fall 2023, Spring 2024, Fall 2024, Spring 2025

Heather Bryant in Dr. Elma Zaganjor's lab: Spring 2023, Fall 2023, Spring 2024, Fall 2024, Spring 2025

Urmika Nandwani in Dr. Mary Phillip's Lab: Fall 2023, Fall 2024

Keval Patel in Dr. Marcela Brissova's Lab: Spring 2024, Fall 2024

Kaustubh Koya in Dr. Kasey Vickers' Lab: Spring 2023, Spring 2024, Fall 2024

Ishaan Gadiyar in Dr. Simon Vandekar's Lab: Fall 2023, Spring 2024, Fall 2024

Musab Nuh in Dr. Chuck Sander's Lab: Spring 2024

Eshani Arumalla in Dr. Carissa Cascio's Lab: Fall 2022, Spring 2023, Fall 2023, Spring 2024

Sarah Barnes in Dr. Antje Mefferd's Lab: Fall 2023, Spring 2024

Sarah Qaddo in Dr. Danielle Dean's Lab: Fall 2023, Spring 2024

Will Murray in Dr. Mary Philip's Lab: Fall 2022, Fall 2023, Spring 2024

Avery Fortier in Dr. Matthew Bachetta's Lab: Fall 2022, Fall 2023, Spring 2024

Yang Zhou in Dr. Ann Richmond's Lab: Fall 2022, Spring 2023, Fall 2023, Spring 2024

Annika Hsu in Dr. Deepak Gupta's Lab: Spring 2022, Fall 2022, Spring 2023, Fall 2023, Spring 2024

Ria Mirchandani in Dr. Louise Rollins-Smith's Lab: Fall 2023

Sagnik Yarlagadda in Dr. Rebecca Ihrie's Lab: Fall 2022, Spring 2023, Fall 2023

Justin Adler in Dr. Tina Hartert's Lab: Fall 2022, Spring 2023

Juliana Bronzini in Dr. Justin Balko's Lab: Fall 2021, Spring 2022, Fall 2022, Spring 2023

Samuel Liu in Dr. Joseph Schlesinger's Lab: Fall 2022, Spring 2023

Veeraj Shah in Dr. Craig Duvall's Lab: Fall 2021, Spring 2023

Brennen Keuchel in Dr. Kris Burkewitz's Lab: Spring 2023

Rebecca Dubin in Dr. Paul Brent Ferrell's Lab: Spring 2021, Fall 2021, Fall 2022, Spring 2023

Kenny Ta in Dr. Katherine DelGiorno's Lab: Spring 2021, Fall 2021, Fall 2022, Spring 2023

Elena Solopova in Dr. Matthew Schrag's Lab: Fall 2020, Spring 2021, Fall 2021, Spring 2022, Fall 2022, Spring 2023

Molly Rosenthal in Dr. MaryJo Gilmer's Lab: Fall 2022

Haseeb Tariq in Dr. Wesley Thayer's Lab: Spring 2022, Fall 2022

Vivek Kumar in Dr. Meenakshi Madhur's Lab: Spring 2022, Fall 2022

Justin Yu in Dr. Janet Markle's Lab: Fall 2022

Dev Patel in Dr. Erin Calipari's Lab: Spring 2022

Mingyang Yuan in Dr. Guoqiang Gu's Lab: Fall 2021, Spring 2022

Jacqueline Pinon in Dr. Alyssa Hasty's Lab: Fall 2021, Spring 2022

Chandrahass Kona in Dr. Robert Carnahan's Lab: Fall 2021

Dev Patel in Dr. Javid Moslehi's Lab: Spring 2021, Fall 2021

Benjamin Wong in Dr. Craig Duvall's Lab: Spring 2020, Fall 2020, Spring 2021

Abigail Manning in Dr. Todd Giorgio's Lab: Fall 2019, Spring 2020, Fall 2020, Spring 2021

Mary Grace Carroll in Dr. Justin Balko's Lab: Spring 2019, Fall 2019, Spring 2020, Fall 2020, Spring 2021

Caroline Carlson in Dr. Cynthia Reinhart-King's Lab: Spring 2021

Jacqueline Pinon in Carlos Henrique Serezani's Lab: Summer 2020, Fall 2020, Spring 2021

Krislyn Porter in Dr. Tom Aune's Lab: Spring 2020, Fall 2020

Robby Espano in Dr. David Zald's Lab: Fall 2019, Spring 2020, Fall 2020

Christopher Rhee in Dr. Jin Chen's Lab: Spring 2019, Fall 2019, Spring 2020

Andrew Hanna in Dr. Craig Duvall's Lab: Spring 2020

Ashwin Inala in Dr. Jin Chen's Lab: Fall 2019, Spring 2020

Jessica Petrey in John Ayers's Lab: Spring 2020
Julia Thomas in Dr. Mariana Byndloss' Lab: Fall 2019

Natalie Goldfield in Dr. Cynthia Reinhart-King's Lab: Spring 2019

Research Advising: Undergraduate Honors Research Committee (6 currently, 10 in 2024)

*Biochemistry and Chemical Biology (BCB)

**Neuroscience

Dorian Lawson-Qureshi in Dr. Roger Colbran's Lab*: Fall 2024 – Spring 2025

Sagnik Yarlagadda in Dr. Todd Giorgio's Lab: Fall 2024 – Spring 2025

Jay Bhatia in Dr. Ray Blind's Lab: Fall 2024 – Spring 2025

Heather Bryant in Dr. Elma Zaganjor's lab: Fall 2024 – Spring 2025

Aashi Gurijala in Dr. Kendal Broadie's Lab**: Fall 2024 – Spring 2025

Corey Wiseman in Dr. Antonis Rokas' Lab*: Fall 2024 – Spring 2025

Liyu Huang in Dr. James Patton's Lab**: Fall 2023 – Spring 2024

Yang Zhou in Dr. Ann Richmond's Lab: Fall 2023 – Spring 2024

Avery Fortier in Dr. Matthew Bachetta's Lab: Fall 2023 – Spring 2024

Thomas Raymond in Dr. Carmelo Rizzo's Lab*: Fall 2023 – Spring 2024

Rebecca Dubin in Dr. Paul Brent Ferrell's Lab: Fall 2022 – Spring 2023

Kenny Ta in Dr. Katherine DelGiorno's Lab*: Fall 2022 – Spring 2023

Ariel Liu in Dr. Ivelin Georgiev's Lab*: Fall 2022 – Spring 2023

Elena Solopova in Dr. Matthew Schrag's Lab: Fall 2022 – Spring 2023

Kate Spears in Dr. Michelle Southard-Smith's Lab*: Fall 2022 – Spring 2023

Olivia Pembridge in Dr. Lauren Jackson's Lab: Fall 2021-Spring 2022

Mingyang Yuan in Dr. Guoqiang Gu's Lab: Fall 2021-Spring 2022

Emily Heathcote in Dr. Hemant Badgandi's Lab*: Fall 2020 – Spring 2021

Mary Grace Carroll in Dr. Justin Balko's Lab: Fall 2020 – Spring 2021

Junqin Zhu in Dr. Garrett Kaas's Lab: Fall 2019

Undergraduate Directed Research Co-Adviser

Olivia Pembridge with Dr. Lauren Jackson: Summer 2019 – Spring 2022

Carli Needle joined the project with Dr. Lauren Jackson: Spring 2020 – Spring 2021

Paper published in Jan 2023 in *Advances in Biological Regulation*

University Service

Academic Panels

Panelist on "Navigating the Academic Job Market"	Mar 27 th , 2023
Rice University Center for Teaching Excellence (CTE) (virtual)	
Panel with several alumni of the Rice Graduate Certificate in Teaching	
Panelist on "Using LAs in a STEM course: Principles and practices, benefits and costs"	Jan 26 th , 2023
HHMI Inclusive Excellence-3 Seminar Miniseries	
Panel with Tara Todd, Elizabeth Catania, and Alice Mark	
Panelist on "Using LAs in different contexts"	Oct 27 th , 2022
LA Evening Event Fall 2022	
Panel with Tara Todd, Savanna Starko, and Alice Mark	
Panelist on "Teaching and Race: What Faculty can do to close performance gaps"	Apr 2 nd , 2021
Center for Teaching (CFT) Conversation on Teaching	

Panel with William Robinson, Kathy Friedman, and Adriane Seiffert
 Panelist on “*Conversation on Teaching: Synchronous sessions in online courses*” Jan 21st, 2021
 Center for Teaching (CFT) Conversation on Teaching
 Panel with Kathy Friedman, Diana Heney, and Jessica Watkins

Student Group Advising

Vanderbilt Nutrition Club Fall 2024-present
 Vanderbilt Pokémon Club Fall 2023-present
 Vanderbilt Hopepedia Fall 2022-present
 Hopepedia is a 501c4 nonprofit that aims to support local pediatric cancer centers and spread hope and joy to pediatric cancer patients.
 Vanderbilt Hearts for the Homeless Fall 2020-present
 A student-run organization centered on outreach to homeless communities in Nashville.
 Vanderbilt Vanguard Fall 2019-present
 A student-run, online-based STEM newspaper

Other Service

Mayfield Faculty Advisor: “Mental Health Awareness in Geriatric Populations” Fall 2025 – Spring 2026
 Invited speaker to discuss “Gene Editing and Ethics” for HEAL VU Student Organization Spring 2025
 Guest Speaker for Association of Biology Students (ABS) Bio Bites Event Spring 2025
 Reviewer for Undergraduate Writing Symposium (UWS) Spring 2025
 Faculty Marshall for Commencement Spring 2025, 2024, 2023
 Reviewer for Vanderbilt Undergraduate Summer Research Program (VUSRP) Spring 2021-present
 Judge for Vanderbilt Undergraduate Research Fair (VURF) Fall 2024, Spring 2024
 Academic Night event for first year students Fall 2024, 2023, 2020, 2019
 Co-Lead: Workshop on Improvisational Teaching with Office of Education and Design (OEDD) Sp. 24
 Multicultural Leadership Council (MLC) Dessert Reception Faculty Guest Spring 2024
 Mentor for the First Generation Low Income (FGLI) Program Spring 2024
 Coffee Chat with College Scholars Program Spring 2024
 Student VUceptor application reviewer and interviewer Spring 2020-2024
 Faculty VUceptor Fall 2019-2023
 Open Classroom (host faculty teaching visits) with Center For Teaching (CFT) Fall 2023
 CASPAR Temporary Advisor Fall 2022
 Faculty Advising Award Committee Fall 2022
 Judge for Three Minute Thesis Competition Apr 1st, 2022
 SIM Faculty Dinner Series with Dr. Katie Clements Apr 13, 2021
 Journal Review for *Future Medicinal Chemistry* June 2020
 Journal Review for *Future Medicinal Chemistry* June 2020
 Journal Review for *Advances in Microbiology, Infectious Diseases and Public Health (AIMI)* May 2020
 Undergraduate Interview Workshop with Inclusivity in BioSciences Association (IBA) Jan 2020
 Participated in Faculty VUceptor recruitment video Spring 2020
 Pizza (or Pasta) with Professors at Zeta Tau Alpha sorority Fall 2018, Spring 2020
 Apple Pie with Alpha Chi sorority Fall 2018, 2019
 Personal Statement Workshop with Inclusivity in BioSciences Association (IBA) Nov 2019
 Biological Sciences Department Reading Group Summer 2019
 Judge for Undergraduate Research Fair Sept 27, 2018

Letters of recommendation written for students in 2024:

Summer Programs: 48

Scholarships: 17

Master's/Graduate School Programs: 44
 Medical/Dental School: 38
 Other: 10

Professional Development

Learning Communities

LA Instructor Learning Community	Spring 2021-present
Lead one of these meetings in the 2023-2024 Academic Year	
Anti-Racist Teaching	2022-2023
Howard Hughes Medical Institute (HHMI) Faculty Learning Community	2022-2023
Persistence in STEM	2020-2021
Evidence-Based Teaching Journal Club	2019-2020
Active Learning	Spring 2019
Digital Literacies	2018-2019

Course Design Institutes and Workshops

Exploratory Core Workshop: 2025-2026 Academic Year	May 2025
Exploratory Core Workshop 3: Learning Assessment.	Nov 2024
Exploratory Core Workshop 2: Creative and Collaborative Engagement in Larger Classes	Oct 2024
Exploratory Core Workshop 1: Interdisciplinarity	Sept 2024
Participant in two workshops on increasing classroom equity	May 2024
Workshop 1: Equity, status, and smartness	
Workshop 2: Creating group-worthy tasks	
Participant in the Vanderbilt A&S CORE Workshop	April and May 2024
Participant in the Inclusive Teaching CDI from the Vanderbilt Center for Teaching.	May 2021
A week-long CDI to help instructors learn about and include more inclusive practices in their teaching.	
Participant in the Online CDI from the Vanderbilt Center for Teaching.	May 2020
A two week-long CDI to help instructors learn how to adapt their courses for online learning.	
Focused best practices for video lectures, teacher and social presence, and student equity.	
Served as a mentor for subsequent participants in the CDI <i>via</i> online class visits (June 2020).	
Attended a presentation from Elisabeth Sandberg (Psychology) on how to best apply these practices to large lecture courses (September 2020).	

Genetics Society of America (GSA) graduate student member (2013 – 2018)

Trainee representative: GSA Public Policy Committee (2016 – 2018)

Interview: http://genestogenomes.org/early-career-scientist-leadership-spotlight-thomas-clements/?utm_content=buffer9abf8&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer

Early Career Scientist (ECS) Policy Subcommittee general member (2017-2019)

Worked as a team to create a monthly newsletter for GSA with policy resources and opportunities (upcoming conferences, fellowships, and jobs).

Worked to design and implement a fellowship database for policy opportunities:

<http://genestogenomes.org/the-gsa-policy-fellowship-database-a-searchable-resource-for-scientists/>

Interview about the Genetics and Public Policy Fellowship: <http://genestogenomes.org/the-genetics-and-public-policy-fellowship-an-inside-view/>

Interview about the Research!America Science Policy Fellowship Part I:

<http://genestogenomes.org/researchamerica-science-policy-fellowship-an-inside-view/>

ComSciCon Houston

March 9th and 16th, 2018

Outreach

Improv Science Theater 4000 (IST4K) Spring 2020– present
Science improv comedy show where scientist guests come to the stage to talk about their research and this inspires improv comedy scenes. Founder, Producer, and Member. Full list of shows and more info available upon request.

Workshops

- Improv and Scicomm Workshop for Vanderbilt Summer Program for Talented Youth (PTY)
 - Microbes are Everywhere, extended session for 11-12th graders July 12th, 2025
- Improv and Scicomm Workshop for Belmont Summer Research Students May 2025
- Improv Workshop for Vanderbilt Genetic Counseling Students Sept 4th, 2024
- Improv and Scicomm Workshop for Vanderbilt Summer Program for Talented Youth (PTY)
 - Microbes are Everywhere, for 9th-10th graders June 14th, 2024
 - Inflammation: A Double-Edged Sword, for 12th graders June 28th, 2024
 - Microbes are Everywhere, extended session for 11-12th graders July 13th, 2024
- Communication of Science and Technology (CSET) Improv Night October 24th, 2023
 - Combination of a show centered on science communication and opportunity for audience at the end to play some games centered on this theme.
 - Vanderbilt University

Member of the Unscripted Board

Feb 2021 – present

- Secretary: April 2023 – March 2025
- Chair of the Governance Subcommittee: March 2025 - present
- A nonprofit organization that heals, connects, and empowers our community through improv.

DNA Day Invited Guest at my HS alma mater Bishop Noll Institute

Apr 25th, 2022

Outreach event where I spoke to an Honors Freshman Biology Course about my research over zoom

Skype a Scientist

Leah Hayes' 7th grade class, Oliver Middle School in Nashville, TN

Nov 30th, 2020

Nora Griffin-Snipes's 7th grade class, Frankford Friends School in Philadelphia, PA

Feb 19th, 2020

Jill Long's 10-12th grade class Loreburn Central School in Saskatchewan Canada

Feb 27th, 2020

Vanderbilt Center for Science Outreach (CSO) #STEMoutreach chat on twitter

Oct 11th, 2018

Other media participation

My course "Improv in Science Communication" was a College of Arts of Sciences featured course in the Spring 2024 semester. Highlight video here:

https://www.youtube.com/watch?v=onvxOgUATGI&ab_channel=VanderbiltUniversity

Interviewed in and subject of: Morgan Linstead (2024): "Yes, and: A Professor's Mission to Combine Science and Improv." *The Vanderbilt Vanguard (Online)*, <https://vanderbiltvanguard.com/yes-and-a-professors-mission-to-combine-science-and-improv/>

Quoted in: Danny Nguyen (2023): "Marine identified and buried at Arlington nearly 80 years after WWII death." *The Washington Post (Online)* WP Company LLC d/b/a The Washington Post. Oct 5, 2023.

Interviewed in: Amy Mayer, Lessons from Pandemic Education: How biology professors pivoted and what they may keep doing., *BioScience*, 2021; biab097, <https://doi.org/10.1093/biosci/biab097>

Quoted in and subject of: Addison Cipowski (2021) "2008 Bishop Noll alum makes groundbreaking discovery with DNA research." *JourNoll Online* <https://www.journollonline.com/news/2021/05/13/2008-bishop-noll-alum-makes-groundbreaking-discovery-with-dna-research/?fbclid=IwAR1I8r00YGQFis5QZweSU5qMAUNBlh70vsKZ6kslUsjIlpynXuQl9gsHxKo#photo>

Story on "Conversation on Teaching: Synchronous sessions in online courses" Panel (2021) <https://cft.vanderbilt.edu/2021/03/we-were-doing-all-that-hard-work-of-helping-students-practice-how-to-apply-their-knowledge-together-thomas-clements-and-kathy-friedman-talk-about-their-synchronous-sessions-in-thei/>

Featured in Vanderbilt's Adjusted Spaces video in response to COVID-19 on Dec 1st 2020: <https://www.youtube.com/watch?v=nHPMaaAHqbY&feature=youtu.be>

Story on my Spring 2020 BSCI 1512L course: <https://as.vanderbilt.edu/news/2020/04/21/biological-sciences-course-coronavirus/?fbclid=IwAR1fRO-P-uYphzbWcbnu4WNhVdtRUfQGMRBoZd0alfZgHxiXi2adrUkAgPk>

Quoted in: Fancy Comma LLC (2020): "SciComms Weigh in on How to Write about Science in a Pandemic." *Fancy Comma LLC Blog* <https://fancycomma.wordpress.com/2020/09/13/science-communication-tips-covid-19-pandemic/>

Thomas P. Clements (2019): "CRISPR Human Babies: Too Soon, Not Never." *PLOS SynBio Community Blogs*. <https://theplosblog.plos.org/2019/02/crispr-human-babies-too-soon-not-never/>

Quoted in: Deborah Netburn (2019): "CRISPR revolutionized gene editing. Now its toolbox is expanding." *Los Angeles Times*. <https://www.latimes.com/science/sciencenow/la-sci-sn-crisper-casx-cas12b-20190204-story.html>

Quoted in: Colleen Flaherty (2018): "A Very Mixed Record on Grad Student Mental Health." *Inside Higher Ed*. <https://www.insidehighered.com/news/2018/12/06/new-research-graduate-student-mental-well-being-says-departments-have-important>

Clements, Thomas (2012): "Characterization and Comparison of Cancer Stem Cells in Human and Canine Glioma Cell Lines." *The Journal of Purdue Undergraduate Research*: Vol. 2, Article 21. DOI: 10.5703/1288284314689

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