

# HAIDER ALI BHATTI

---

## Researcher | Educator | PhD Candidate

2785 Shasta Rd | Berkeley, CA | 94708

201-567-4211 | haideralibhatti@berkeley.edu | BIALIGY.com/Ali

---

---

### OBJECTIVE

I am determined to make undergraduate STEM education more **inclusive**, **interpersonal**, and **interdisciplinary**. I specialize in assessment, survey-based research, and design-based research.

---

---

### EDUCATION

#### UNIVERSITY OF CALIFORNIA, BERKELEY / PhD

SCIENCE AND MATHEMATICS EDUCATION | 2019 - PRESENT | BERKELEY, CA

Advisor: Robert J. Full, Integrative Biology

Co-advisor: Marcia C. Linn, Berkeley School of Education

Thesis committee member: Mark Wilson, Berkeley School of Education

#### RUTGERS UNIVERSITY / EdM

BIOLOGICAL SCIENCE EDUCATION | CLASS OF 2017 | NEW BRUNSWICK, NJ

Advisor: Ravit G. Duncan, Graduate School of Education

#### RUTGERS UNIVERSITY / BA

BIOLOGICAL SCIENCES | CLASS OF 2016 | NEW BRUNSWICK, NJ

---

---

### RESEARCH

#### HHMI EYES TOWARD TOMORROW / Doctoral Researcher

UC BERKELEY | JULY 2019 - PRESENT | BIODESIGN.BERKELEY.EDU

Assess educational interventions through the *Berkeley Assessment System* (BAS) and Wilson's *Four Building Blocks* approach in interdisciplinary discovery-based course called *Bioinspired Design*

Specializations: Design-Based Research; Assessment; Rasch Analysis; Item Response Theory

#### ADVANCING INCLUSION & ANTI-RACISM / Assessment Lead

UC BERKELEY | SUMMER 2022 - PRESENT | TINYURL.COM/BIO-ANTI-RACISM

Implemented both Level 1 and 2 topics from the *Advancing Inclusion and Anti-Racism in the College Classroom* toolkit in *Biology 1B* general biology course

Currently utilizing Wilson's *Four Building Blocks* approach to assessment to develop novel constructs that measure anti-racist pedagogy in STEM courses

#### DUNCAN PRACCIS LAB / Graduate Researcher

RUTGERS UNIVERSITY | JAN 2017 - MAY 2017 | PRACCIS.ORG

Actively investigated how biology students formulated arguments based on their analysis of the quality, validity, and informative capacity of evidence within a model-based inquiry assessment on modes of genetic inheritance

## COVEY IMMUNOLOGY LAB / Undergraduate Researcher

RUTGERS UNIVERSITY | SEP 2014 - JAN 2015

Wet lab work focused on understanding how interactions at the surface of B cells influence their differentiation into antibody-producing cells

## HENDERSON PHYSIOLOGY LAB / Undergraduate Researcher

RUTGERS UNIVERSITY | OCT 2013 - SEP 2014

Dynamically researched the effects of low-intensity exercise on the fuel selection and metabolism of macronutrients (e.g., fats and carbohydrates) using indirect calorimetry in human exercise trials

---

## SCHOLARSHIP

---

## PUBLICATIONS

Bhatti, H. A., Mehta, S., McNeil, R., Yao, S., & Wilson, M. (2023). **A Scientific Approach to Assessment: Rasch Measurement and the Four Building Blocks**. In X. Liu & W. J. Boone (Eds.), *Advances in Applications of Rasch Measurement in Science Education*. Springer Nature.

Bhatti H. A. (2021). **Toward "Inclusifying" the Underrepresented Minority in STEM Education Research**. *Journal of Microbiology & Biology Education*, 22(3), e00202-21. <https://doi.org/10.1128/jmbe.00202-21>

Full, R. J., Bhatti, H. A., Jennings, P., Ruopp, R., Jafar, T., Matsui, J., Flores, L. A., & Estrada, M. (2021). **Eyes Toward Tomorrow Program Enhancing Collaboration, Connections, and Community Using Bioinspired Design**. *Integrative and Comparative Biology*, icab187. <https://doi.org/10.1093/icb/icab187>

## PRESENTATIONS

Bhatti, H. A., Mehta, S., McNeil, R., Yao, S., & Wilson, M. (2023, April 18-21). **A Scientific Approach to Assessment: Rasch Measurement and the Four Building Blocks** [Conference presentation]. International Conference for the National Association for Research in Science Teaching (NARST), Chicago, IL, USA. (Accepted Sep 2022)

Bhatti, H. A. (2022, July 13-15). **Toward "Inclusifying" the Underrepresented Minority in STEM Education Research** [Conference presentation]. American Society for Microbiology Conference for Undergraduate Educators (ASMCUE), Online. ([Video Recording](#))

\*Rein, T., \*Magallanes, E., \*Rodriguez, E., Bhatti, H. A., (2022, April 4-8). **Student-Generated Inquiry in an Interdisciplinary Undergraduate STEM Course Informs Pedagogy and Instruction** [Conference presentation]. National Conference on Undergraduate Research (NCUR), Online. (\*Undergraduate Researcher)

Bhatti, H. A., Gochyev, P., Wilson, M., & Full, R. J. (2022, March 27-30). **Improving Self-Reported Measures of Innovation Skills in an Interdisciplinary Undergraduate STEM Course** [Conference presentation]. International Conference for the National Association for Research in Science Teaching (NARST), Vancouver, BC, Canada. ([Video Recording - Full Paper](#))

Bhatti H. A., Ruopp R., McPherson A., Full R. J. 2021. **Early technology-based intervention promotes self-efficacy in a Bioinspired Design course** [abstract]. In: *The Society for Integrative and Comparative Biology 2021 annual meeting*; 2021 Jan. 3-Feb. 28; Virtual. Herndon (VA): The Society for Integrative and Comparative Biology. S4-4. ([Video Recording](#))

Full R. J., Estrada M., Watson L., Bhatti H. A. 2021. **Eyes toward tomorrow program: Bioinspired design realized by creativity, collaboration, and connection** [abstract]. In: The Society for Integrative and Comparative Biology 2021 annual meeting; 2021 Jan. 3–Feb. 28; Virtual. Herndon (VA): The Society for Integrative and Comparative Biology. S4–3.

Flores, L. A., Estrada, M., Bhatti, H. A., & Full, R. J. (2021). **Effect of Team Diversity on Creativity of Bioinspired Design Inventions**. Understanding Interventions, 12(Supplemental 1).  
<https://www.understandinginterventionsjournal.org/article/27205-effect-of-team-diversity-on-creativity-of-bioinspired-design-inventions>

Bhatti, H. A. (2020). **STEM research as a framework to reimagine undergraduate STEM education using the TrI Model**. NASEM Imagining the Future of Undergraduate STEM Education, Virtual.  
<http://dx.doi.org/10.13140/RG.2.2.29491.14880>

---

## TEACHING

---

### **BIOINSPIRED DESIGN** / Lead Graduate Student Instructor

UC BERKELEY | SPRING 2020 - PRESENT

Facilitated the creative design process driven by interdisciplinary exchange among engineering, biology, art, architecture and business students

Guided diverse teams of students to collaborate, create, and present original bioinspired design projects

Received Outstanding Graduate Student Instructor Award (Spring 2022)

### **LAWRENCE HALL OF SCIENCE** / Public Education Specialist

BERKELEY, CA | JULY 2019 - PRESENT

Lead instructor responsible for delivering fun, engaging, and meaningful hands-on science learning for in-person camps at The Lawrence

Designed entire teen summer camp curriculum that fostered principles of bioinspired design through project-based learning

### **BIALIGY.COM** / Founder & Lead Instructor

BERKELEY, CA | JULY 2015 - PRESENT

Meticulously developed a comprehensive and completely free website to teach two notoriously difficult Rutgers courses—General Biology 115 and General Biology 116

Since its launch, with 600+ recorded lecture videos, the site has amassed ~2M video views, ~1M page views, ~70k unique visits, and ~3.5k subscribers

### **KHAN ACADEMY** / Biology Content Fellow

MOUNTAIN VIEW, CA | JULY 2018 - JULY 2019

Developed biology content on Khan Academy's free, self-directed learning platform to help students internalize concepts in high school and AP biology

Ensured high quality content development by working with students and teachers, tracking content performance, and modifying content based on quantitative data and qualitative feedback

### **MLHS BIOTECH ACADEMY** / Teacher & Program Coordinator

MOUNTAIN LAKES, NJ | JUNE 2017 - JUNE 2018

Coordinated the establishment of the Biotechnology Academy at Mountain Lakes High School, a top 20 high school within New Jersey

Designed the Biotechnology Academy's course sequence and taught its associated curricula, while also teaching both AP Biology and Honors Biology

**ODASIS / Head Supplemental Biology Instructor**

RUTGERS UNIVERSITY | JUNE 2014 - MAY 2017

Supplemental instructor for 100+ ODASIS (Office for Diversity and Academic Success in the Sciences) students enrolled in General Biology 115/116

Managed a team of 8 co-instructors and distributed actionable feedback to increase teaching effectiveness

**ACADEMIES@ENGLEWOOD / Clinical Intern (Student Teacher)**

ENGLEWOOD, NJ | SEP 2016 - DEC 2016

Instructed AP Biology students through pedagogical techniques rooted on the Big Ideas, Enduring Understandings, and Science Practices of the revised AP Biology Curriculum Framework

Consistently implemented instructional improvement based on feedback, ultimately achieving "Distinguished" observational remarks on the Danielson Framework for teaching evaluation

**UNCOMMON SCHOOLS / Science Teaching Fellow**

NEWARK, NJ | SUMMER 2015

Instructed summer science courses to students at the North Star Academy, a middle school within the Uncommon charter school network

Created and implemented an extensive summer science curriculum grounded in hands-on, inquiry-based learning

---

**DIVERSITY,  
EQUITY, &  
INCLUSION**

---

**PATH TO THE PROFESSORIATE - STEM / Designer & Instructor**

UC BERKELEY | SUMMER 2022 - PRESENT | [TINYURL.COM/STEMP2P](https://tinyurl.com/STEMP2P)

Designed entire curriculum for P2P STEM, a program for first-year STEM PhD students from underrepresented backgrounds in workshops and structured activities to demystify the route to professorship in STEM

Lead weekly meetings with over 80 registered participants to execute outcomes based on the "Core Educational Elements of the STEM PhD" and the "Systemic Change Recommendations" outlined in the NASEM *Graduate STEM Education for the 21st Century* report

**DIVERSITY & COMMUNITY FELLOW / Office for Graduate Diversity**

UC BERKELEY | FALL 2021 - PRESENT | [TINYURL.COM/OGDDCF](https://tinyurl.com/OGDDCF)

Advance and implement the diversity and inclusion goals of the Office for Graduate Diversity and the Graduate Division through team-based projects

Work across and within academic units to build an inclusive graduate community that enhances the cultural, academic, and professional experience of historically underrepresented students at Berkeley

**STEM\*FYI / Graduate Student Coordinator**

UC BERKELEY | FALL 2020 - PRESENT | [TINYURL.COM/STEMFYI](https://tinyurl.com/STEMFYI)

Lead a diverse team of 15 STEM\*FYI (First-Year Initiative) ambassadors to host academic workshops, social events, and conduct mentorship that fosters a strong, inclusive community of practice amongst graduate STEM scholars

Received the 2022 *Inspiring Programs in STEM Award* from *INSIGHT Into Diversity* magazine, the largest and oldest diversity and inclusion publication in higher education

### **CIENTÍFICO LATINO / GSMI Mentor**

REMOTE | FALL 2020 - PRESENT | [CIENTIFICOLATINO.COM/GSMI](http://CIENTIFICOLATINO.COM/GSMI)

The Científico Latino Project comes from a drive to increase the pool of minority scientists and professionals by creating a platform where everyone has equitable access to graduate school opportunities

Provided 1-on-1 mentorship through the Graduate School Mentorship Initiative (GSMI), which supports underrepresented graduate school applicants through their application process (Mentee accepted into University of Michigan Social Psychology PhD Program)

### **BCA SENIOR EXPERIENCE / Internship Mentor**

HACKENSACK, NJ | FALL 2020 - PRESENT | [BIALIGY.COM/CHEM](http://BIALIGY.COM/CHEM)

At Bergen County Academies, Senior Experience places high school seniors in internships where they gain practical experience in chosen fields of interest

Through BIALIGY.com, provided a content creation internship and mentored BCA students that developed chemistry content

### **GIRLS IN ENGINEERING / Volunteer & Presenter**

UC BERKELEY | SUMMER 2020 - PRESENT | [GIRLSINENGINEERING.BERKELEY.EDU](http://GIRLSINENGINEERING.BERKELEY.EDU)

Girls in Engineering cultivates a welcoming, inclusive, and fun environment that shows how exciting engineering can be to students from all over the Bay Area

Presented a live, whole-day curriculum centered on bioinspired design to promote nature as an inspiration for engineering societally-impactful designs

### **Poly-PEDAL LAB / DEI Meetings Coordinator**

UC BERKELEY | SUMMER 2020 - PRESENT | [POLYPEDAL.BERKELEY.EDU](http://POLYPEDAL.BERKELEY.EDU)

Coordinated monthly DEI lab meetings to formulate actionable steps lab members can take for a more diverse, equitable, and inclusive environment within the lab and the department at-large

DEI lab meetings generated a dedicated “DEI” subsection of the lab website, with various public-facing statements, resources, and calls to action

---

## **ADDITIONAL INFORMATION**

---

### **BECOMING AN ANTI-RACIST CAMPUS SYMPOSIUM / Closing Plenary Speaker**

UC BERKELEY | FEB 2022

Campus symposium dedicated to identifying and defining what being anti-racist means and what actions are needed on personal, departmental, and institutional levels to achieve anti-racist goals

Presented work on faculty and graduate students redesign of 10 courses to embed anti-racist pedagogical principles and activities in each course

### **DBER-SiT / Elected Co-Chair, Outreach Subcommittee**

REMOTE | FALL 2020 - PRESENT | [DBERSIT.WEEBLY.COM](http://DBERSIT.WEEBLY.COM)

DBER-SiT is a network of “Scholars-in-Training” (SiT), namely graduate students and postdocs, conducting disciplinary-based education research

As part of the Outreach Subcommittee, work to enhance communication in the

DBER-SiT community and promote community members' achievements through the DBER-SiT website (personally developed) and listserv

### **The Graduate Assembly / Delegate, Berkeley School of Education**

UC BERKELEY | FALL 2021 - PRESENT | GA.BERKLEY.EDU

Delegate for the Graduate Assembly, UC Berkeley's official legislative body for graduate and professional students

Promote inclusiveness, activism, community service, educational improvement, and professional development for graduate students as departmental delegate

### **ORGANIZATIONS / Member**

- American Educational Research Association (AERA)
- National Association for Research in Science Teaching (NARST)
- National Association of Biology Teachers (NABT)
- Society for Integrative and Comparative Biology (SICB)
- Society for the Advancement of Biology Education Research (SABER)
- American Society for Microbiology (ASM)

### **CONFERENCES & WORKSHOPS / Attendee**

- Becoming an Anti-Racist Campus Symposium (UC Berkeley)
- ASMCUE 2022
- SABER 2022
- NARST 2022
- Understanding Interventions 2021 Winter Dissemination Workshop
- Summer 2021 Teaching & Mentoring BURET Workshop
- SICB 2021
- SABER 2020

### **AWARDS & ACHIEVEMENTS**

- NARST Jhumki Basu Scholar Award (Fall 2022)
- Center for Measurement Justice Travel Scholarship for Minoritized Professionals in Educational Measurement (Fall 2022)
- SABER PEER Network Travel Award (Summer 2022)
- 2022 Inspiring Programs in STEM Award from *INSIGHT Into Diversity* magazine (as coordinator of STEM\*FYI)
- Outstanding Graduate Student Instructor Award (Spring 2022)
- Recipient of Baraba White Bequest grant to attend NARST 2022
- Graduate Assembly Professional Development Award (Spring 2022)
- Personally featured by [At the Roots](#), a project that spotlights underrepresented scientists
- Honorable Mention - [NASEM Idea Competition](#), Imagining the Future of Undergraduate STEM Education
- SESAME Grant - Berkeley School of Education
- ETS Recognition of Excellence, Biology: Content Knowledge (top 15%)
- Rutgers Dean's List - Spring 2013, Fall 2014, Spring 2015, Fall 2015, Spring 2016
- NJ State Teaching Certification - Certificate of Eligibility with Advanced Standing (CEAS)
- Website featured in the [Rutgers Daily Targum](#)
- Personally featured for Biotechnology Academy in the [Daily Record](#)
- Student-led [petition](#) with 600+ signees advocating for my appointment as an official TA

### **MISCELLANEOUS**

- Computer Skills: Learning management systems, website development, content creation, Microsoft Office, G Suite
- Activities/Interests: Basketball, baseball, soccer, video games
- Languages: Urdu