**Kimberly Bennett**

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# Education

## Doctor of Philosophy, Medical Engineering and Medical Physics *Expected 2026*

*Harvard-MIT Division of Health Sciences and Technology*

## Bachelor of Science, Bioengineering *June 2021*

*University of California, Riverside* | *Cum Laude*

# Skills

**Laboratory:** Immunohistochemistry, Cell Staining, Pipetting, Microarray Analysis, Histology, Gene Expression

**Computer:** MATLAB, COMSOL, C/C++, Microsoft Office, ImageJ, Transcriptome Analysis Console

**Language:** English,Spanish

# Research Experience

## Research Assistant *May 2019 – September 2021*

*Biotransport & Bioreaction Kinetics Lab (B2K)* | *UC Riverside*

* Assisted in the optimization of the Osmotic Transport Device (OTD), which reduces cerebral edema, as a drug delivery method of a neuroprotective growth factor, neuregulin (NRG1), for use as a stroke treatment.
* Employed immunohistochemistry on rat brain sections to observe cell colocalization and identify target cells of NRG1.
* Studied expression of inflammatory genes in stroke-induced rat models and of gene regulation when rat models were dosed with NRG1 using mRNA microarray analysis.
* Formally presented progress and goals at weekly lab meetings with faculty advisors.

## MARC U-STAR Research Fellow *July 2020 – June 2021*

*National Institutes of Health (NIH)* | *UC Riverside*

* Participant in the Maximizing Access to Research Careers training program for disadvantaged and minority students.
* Funds full-time summer and part-time academic year research for my Research Assistant position in the B2K lab.

## International Research Intern [IRES #1555903]  *June 2018 - November 2018*

*National Science Foundation (NSF)* | *Beijing, China*

* Researched and fabricated a Resistive-Random Access Memory (RRAM) device at Tsinghua University (清华大学) in Beijing, China in collaboration with Chinese graduate students.
* Kept daily records, wrote abstract and NSF report, and presented findings at the 2018 SCCUR conference.

# Leadership Experience

## Chapter President *March 2020 – June 2021*

*Tau Beta Pi, The Engineering Honor Society* | *UC Riverside*

* Oversaw organization function, ensuring all operations ran smoothly by providing resources when needed.
* Maintained the continuity of the organization through documentation and communication with past leadership.
* Expanded organization's presence in the community by increasing member retention and engagement.
* Served as a professional liaison between chapter and students, faculty, district leaders, and national headquarters.

## Technical Writing Consultant *March 2020 – June 2020*

*University Writing Program* | *UC Riverside*

* Taught 153 engineering students in two upper division classes to hone their technical communication skills.
* Met with professors and program directors to strategize course delivery and student learning methods.
* Increased course engagement 10-fold; 124 students scheduled office hour appointments throughout the quarter, compared to an average of 12 students per quarter in past years.

## Lead Writing Tutor  *September 2018 – March 2020*

*University Writing Program* | *UC Riverside*

* Supported students with English proficiency difficulties meet university writing standards through 1-on-1 meetings.
* Managed professional development meetings with other tutors and created/presented lesson plans to use in sessions.

## International Education Intern  *May 2019 – August 2019*

*International Student Advisors (ISA)* | *Tokyo, Japan*

* Led English group discussions with Japanese high school students, encouraging participation and providing a welcoming opportunity for students to curate and express their own ideas in English.
* Adapted instruction style based on differing English proficiency levels due to frequent travel requirements.

# Publications

**Bennett, Kimberly;** Surles-Zeigler, Monique; Augello, Catherine; Ako, Etchi; Rodgers, Victor; and Ford, Byron. (2021). Upregulation of CREB1 and FOXO1 transcription factor pathways in Neuregulin-1 mediated neuroprotection following ischemic stroke. DOI: [10.1101/2021.11.17.468955](http://dx.doi.org/10.1101/2021.11.17.468955)

**Bennett, Kimberly;** Augello, Catherine; Cardullo, Richard; Rodgers, Victor; and Ford, Byron (2021). Transcriptomic Analysis of Molecular Mechanisms of Neuroprotection by Neuregulin-1 Following Ischemic Stroke. UC Riverside: University Honors. Retrieved from <https://escholarship.org/uc/item/1c89b11s>.

# Conferences

**Kimberly Bennett** (Advisors: Dr. Victor Rodgers, Dr. Byron Ford). "Neuregulin-1 May Upregulate Important Neuroprotective Genes Following Ischemic Stroke," *Proc. Annual Biomedical Research Conference for Minority Students (ABRCMS)*, Poster #EPCOM-327, Virtual, 11/09/2020.

Etchi Ako, **Kimberly Bennett**, Catherine Augello(Advisors: Dr. Victor Rodgers, Dr. Byron Ford). “Downregulation of Genes by Neuregulin-1 in pMCAO Stroke Models,” *Proc. Annual Biomedical Research Conference for Minority Students (ABRCMS)*, Poster #EPCOM-321, Virtual, 11/09/2020.

**Kimberly Bennett** (Advisors: Dr. Victor Rodgers, Dr. Byron Ford). “Neuregulin-1upregulates anti-inflammatory and pro-survival genes following ischemic stroke in rat model,” *MARC U-STAR Summer Symposium*, Virtual, University of California: Riverside, CA, 09/06/2020., 2020.

**Kimberly Bennett** (Advisors: Dr. Victor Rodgers, Dr. Byron Ford). “Cellular Targets of Exogenous NRG-1,” *Undergraduate Research Symposium*, University of California: Riverside, CA. Accepted 2020. *Cancelled due to the COVID-19 Pandemic.*

**Kimberly Bennett,** Jacob Poole, Catherine Lai, Jordan Keys, Leslie de Jesus, and Soraya Johnson (Advisor: Dr. Albert Wang). "Resistive Random-Access memory as an Electronic Synapse," *Proc. Southern California Conference on Undergraduate Research (SCCUR),* MS#3538, Harbeson 43, Poster #1, Pasadena City College, CA, 11/17/2018.

# Professional Memberships

**Member** ⦁ Tau Beta Pi Engineering Honor Society *February 2020 – Present*

**Member** ⦁ NIH MARC U STAR Program *July 2020 – June 2021*

**Member** ⦁ University Honors Program *September 2017 – June 2021*

**Member** ⦁ Biomedical Engineering Society *September 2017 – June 2019*

# Awards

## MIT-Sloan Scholar *August 2021*

## Tau Beta Pi Fellowship *August 2021*

## Cum Laude *June 2021*

## ABRCMS Presentation Award in Computational and Systems Biology *November 2020*

## Tau Beta Pi Grant Recipient *September 2020*

## NIH MARC U-STAR Undergraduate Research Fellow *July 2020*

## Tau Beta Pi Scholar *June 2020*

## MESA Edison Scholar *June 2020*

## Bourns Family Foundation Scholar *June 2019, 2020*

## Honors Residential & Excellence Scholar *April 2018, 2019, 2020*

## Howard H Hays Research Scholar *November 2019*

## Chancellor’s Scholar *September 2017*

## Valedictorian *May 2017*

# Projects

Thomas Dolan, **Kimberly Bennett**, Dmytro Solenko, Gerardo Rodriguez, Giovani Morales.“Non-Invasive Detection of Zinc Protoporphyrin Fluorescence as a Diagnostic Tool for Canines.” Senior Design Project*.* June 2021.

**Kimberly Bennett**, Thomas Dolan, Caroline Calkins, Giovani Morales. “Fluid Model Analysis of Stress and Pressure Changes Due to Applied Compression on Varicose Veins.” Circulation Physiology Cumulative Class Project. February 2020.

**Kimberly Bennett**. “Cloning, Expressing, and Purifying Neuregulin-1.” Biotechnology Cumulative Class Project. February 2020.

**Kimberly Bennett,** Himani Thakkar, Natalie Ozawa, Mohd Islam. “The Biomechanics and Tensile Strength of the Femoral Bone.” Biomechanics Cumulative Class Project. December 2019.

**Kimberly Bennett**. “MATLAB Model of the Tissue Factor Pathway for Thrombin Generation.” Biochemistry Cumulative Class Project. December 2019.