Quinn Beato

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Education

2029 (expected) **PhD, Biomedical Engineering,** Northwestern University, *Evanston, IL*
GPA: 3.96/4.0

2024 **B.S., Biomedical Engineering,** University of Colorado Boulder, *Boulder, CO*
Electrical Engineering Minor, Pre-Medical Designation
Capstone: *Building and Characterizing a Ferromagnetic Electrosurgical Pencil*
GPA: 3.93/4.0

2024 **B.A., Philosophy,** University of Colorado Boulder, *Boulder, CO*
Honors Thesis: *Spinning the Ethical into the Metaphysical: Gilles Deleuze and Felix Guattari's Transformation of Friederich Nietzsche's Will-to-Power*
GPA: 3.93/4.0

2019 **Certification, Emergency Medical Technician,** Arapahoe Community College, *Littleton, CO*

Research Interests

Organic Semiconductors
Biosensing
Neural Rehabilitation
Neuromorphic Computing
Biohybrid Devices
Bioinspired Electronics

Professional Experience

2024-present **Graduate Researcher,** Rivnay Research Group
Northwestern University, *Evanston, IL*

- Developing neurotransmitter-mediated neuromorphic circuitry
- Integrating reagentless biosensing with OMIECs

2022-2024 **Undergraduate Research Assistant,** McLeod Research Group
University of Colorado Boulder, *Boulder, CO*

- Investigated membrane impedance of ionic solutions in a Membrane Electrode Assembly (MEA) to optimize Organic Electrochemical Transistor (OECT) performance.
- Designed and manufactured an Analytical Control Unit (ACU) to remotely control OECT sensors used in sustainable agriculture through wireless internet connection.

2021-2022 **Event/IFT Emergency Medical Technician**
Stadium Medical Inc., *Denver, CO*

- Used comprehensive first response medical knowledge to assess, treat, and rapidly transport patients in need of emergency medical care at large events and at Denver's temporary homeless shelter.
- Delivered vaccinations and performed PCR and rapid antigen COVID-19 testing at state funded sites during the COVID-19 pandemic

2019-2022 **Undergraduate Research Assistant,** Neu Soft Tissue Bioengineering Lab
University of Colorado Boulder, *Boulder, CO*

- Assisted in handling and recording data on mice and DNA extraction, developing CAD models for a cellular compression device, and creating new computational microscopy techniques

2020-2021 **Discovery Learning Apprentice,** Neu Soft Tissue Bioengineering Lab
University of Colorado Boulder, *Boulder, CO*

- Contributed to brain trauma research relating mechanical strain to chromatin architecture by indexing chromatin condensation of neuronal nuclei in MATLAB using a supercomputer cluster using deformation microscopy techniques.

2019-2020 **Wearables Quest Biomedical Engineer,** Colorado Space Grant Consortium
University of Colorado Boulder, *Boulder, CO*

- Assisted in developing an Organic Electrochemical Transistor (OECT)-based wearable technology that measures physiologic cortisol levels for use in space through research and development assistance.
- Awarded an Engineering Excellence Fund (EEF) grant from CU Boulder

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Teaching and Advising Experience

2020-2023 **Engineering Honors Program Recitation Leader,** EHON 1151: Critical Encounters
University of Colorado Boulder, *Boulder, CO*

- Taught one section (6-7 students) an introductory humanities curriculum on philosophy, literature, and film.

2022 **Course Assistant,** BMEN 1025: Computer-Aided Design & Fabrication
University of Colorado Boulder, *Boulder, CO*

- Supported one section (65 students) through hybrid office hours and in-person assistance during class time.
- Graded homework assignments,labs, and exams

Extracurriculars and Community Outreach

2025-present **Science Policy Outreach Taskforce**
Leadership Positions: Public Outreach & Engagement Co-Chair

2022-2024	**CU Boulder Tea Club** Leadership Positions: Tea Master
2019-2024	**Colorado Homeless Assistance with Medicine Program (CHAMP)** Leadership Positions: President, Outreach Coordinator
2019-2024	**Engineering Honors Program** Positions Held: EHP Scholar, Recitation Leader
2019-2020	**Residence Hall Association** Leadership Positions: Lead for Programming and Outreach

Honors and Awards

2025-2027	Multidisciplinary Vision T32 Training Program
2023	Biomedical Engineering Graduation Commencement Speaker
2023	Outstanding Senior Project Presentation Award (*Engineering Design Expo*)
2020	First Place Paper/Presentation in Session (*Undergraduate Space Research Symposium*)
2020	Engineering Excellence Fund Grant
2019	President Sewall Scholarship
2019-2023	Engineering Dean's List

Career Development

November 7-9, 2025	**ScienceWriters 2025** Chicago, Illinois
October 27-28, 2025	**American Institute for Medical and Biological Engineering (AIMBE) Public Policy Institute** Washington D.C.
September 18-20, 2023	**Neuromorphic Organic Devices Workshop** Bad Schandau, Germany

Publications

1. Mason, J.P., Werth A., West, C.G.,Youngblood, A., Woodraska, D.L., Peck, C.L., … **Beato, Q.I.**, et al. (2023). Coronal Heating as Determined by the Solar Flare Frequency Distribution Obtained by Aggregating Case Studies. *The Astrophysical Journal*, 948(2).

2. Schneider, S.E., Scott, A.K., Seelbinder, B., Elzen, C.V.D., Wilson, R.L., Miller, E.Y., **Beato, Q.I.**, Ghosh, S., Barthold, J.E., Bilyeu, J., Emery, N.C., Pierce, D.M., and Neu, C.P. (2023). Dynamic biophysical responses of neuronal cell nuclei and cytoskeletal structure following high impulse loading. *Acta Biomaterialia*, 163, 339-350.

Conference Activity

1. **Beato, Q.I.**, Bailey, N.C., and Renny, M.N. (2023, August 18). *Developing a Wireless and Handheld Potentiostat for Organic Bioelectronics in Agriculture* [Poster session]. 2023 Innovation in Materials Science Symposium, Boulder, CO, United States.

2. **Beato, Q.I.** (2023, May 4). *Evidence of AAA-ATPase Active Subunit to Associate with ClpP-Like Protease in M1 Bacteriophage Auspice* [Poster and Oral Presentation]. Spring 2023 Course-based Undergraduate Research Symposium, Virtual.

3. **Beato, Q.I.**, Cruz, A., Gunderson, N.M., Lewis, S.R., Mascio, C.A., and Salcido-Alcantar, A. (2023, April 28). *Building and Characterizing a Ferromagnetic Electrosurgical Pencil* [Poster and Oral Presentation]. 2023 Engineering Senior Design Capstone Exposition, Boulder, CO, United States.

4. **Beato, Q.I.**, and Sargent, N. (2021, December 9). *Bacteriophage Sisyphus Isolated from M. Smegmatis Exhibits Lytic Behavior and Siphoviridae Family Type* [Poster and Oral Presentation]. Fall 2021 Course-based Undergraduate Research Symposium, Virtual.

5. **Beato, Q.I.** (2021, April 22). *Utilization of Deformation Microscopy Imaging to Index Neural Cell Chromatin Organization Following a Mechanical Impulse* [Oral Presentation and Pre-Recorded Video]. 2021 Discovery Learning Apprenticeship Undergraduate Research Symposium, Virtual.

6. **Beato, Q.I.** (2021, April 12-14). *Utilization of Deformation Microscopy Imaging to Index Neural Cell Chromatin Organization Following a Mechanical Impulse* [Oral Presentation and Pre-Recorded Video]. 2021 National Conference for Undergraduate Research Symposium, Virtual.

7. Alvarado, N., **Beato, Q.I.**, Blanchsky, H., Bloomfield, Z., Curvey, B., Nguyen, A., and Venners, T. (2020, April 18). *Development of a Non-Invasive Cortisol Sensor* [Paper, Oral Presentation, and Pre-Recorded Video]. 2020 Colorado Undergraduate Space Research Symposium, Virtual.