

# Corey Lynn Murphey

corey.murphey@colorado.edu  
Website | ORCID | Github

## EDUCATION

- Ph.D.** **University of Colorado – Boulder** **8/2021 – present**  
*In Progress* *Department of Computer Science*  
Advisors: Elizabeth Bradley and Jed Brown  
Focus: Numerical Computation and Scientific Computing
- M.S.** **Stanford University** **4/2012 – 4/2014**  
*Department of Mechanical Engineering*  
Advisor: Reginald Mitchell  
Focus: Energy Systems; Breadth: Biomechanics and Manufacturing
- B.S.** **Stanford University** **8/2008 – 1/2013**  
*Department of Mechanical Engineering*  
Advisor: Ellen Kuhl  
Focus: Computational Biomechanics and Biomechanical Engineering

## RESEARCH EXPERIENCE

- 6/2021 – present **University of Colorado – Boulder**  
*Graduate Research Assistant, Advised by Elizabeth Bradley*
- 9/2012 – 6/2013 **Stanford University, Hearing Dynamics**  
*Research Assistant, Advised by Sunil Puria*  
Built a model of Békésy's pendulum to demonstrate hair cell dynamics.  
Developed a computational model of Békésy's analogy for the inner ear.
- 5/2010 – 8/2012 **Stanford University, Living Matter Laboratory**  
*Research Assistant, Advised by Ellen Kuhl*  
Modeled electrochemical conductive pathways of the heart.  
Generated electrocardiogram plots of simulated cardiac pacing.  
Developed patient-specific models of implant-induced skin growth.  
Worked with graduate students to create a model of red blood cell division.  
Designed a continuum growth model of the vocal folds and vocal polyps.

## PROFESSIONAL EXPERIENCE

- 10/2018 - 7/2021 **Bolder Industries**, Boulder, CO  
*R&D Engineer, IP Manager, and Chief of Staff*
- 5/2018 – 8/2018 **Caban Systems**, San Mateo, CA  
*Thermal Engineer, Consultant*
- 3/2017 – 4/2018 **Run8 Patent Group**, San Francisco, CA  
*Patent Agent*
- 6/2015 – 3/2017 **Nebia**, San Francisco, CA  
*R&D Engineer and Engineering Project Manager*
- 4/2014 – 4/2015 **Schox Patent Group**, San Francisco, CA  
*Patent Agent*
- 6/2013 – 9/2013 **Benvenue Medical Inc.**, Santa Clara, CA  
*R&D Engineering Intern*

## TEACHING

- Spring 2023 **Chaotic Dynamics (CSCI 4446/5446)**  
*Course Manager*, University of Colorado - Boulder  
 Advised graduate student final projects.
- Fall 2013 **Patent Law and Strategy for Engineers (ME 208)**  
*Course Assistant*, Stanford University
- Fall 2012 **Engineering Dynamics (E15)**  
*Grader*, Stanford University

## FELLOWSHIPS AND AWARDS

- 2023 **Outstanding Departmental Service Award**  
 University of Colorado – Boulder, Computer Science Department
- 2022 **CS Endowed Founder’s Fellowship**  
 University of Colorado – Boulder, Computer Science Department
- 2021 **Early Career Professional Development Fellowship**  
 University of Colorado – Boulder, Computer Science Department

## GRANTS

- 2019 **Colorado Advanced-Industries Early-Stage Capital and Retention Grant**  
 State of Colorado, OEDIT
- 2010 – 2012 **Vice Provost of Undergraduate Education (VPUE) Grant**  
 Stanford University

- 2010 – 2012      **Summer Undergraduate Research Institute (SURI) Grant**  
Stanford University
- 2008              **Stanford Summer Engineering Academy (SSEA) Grant**  
Stanford University

## CONFERENCES

- 2023      SIAM Conference on Applications of Dynamical Systems (DS23), Portland, OR.
- 2023      15th International Conference on Advances in Quantitative Laryngology, Voice and Speech Research 2023, Phoenix, AZ.
- 2023      Dynamics Days US 2023, Virtual.
- 2011      ASME 2011 Summer Bioengineering Conference, Portland, OR.
- 2011      IUTAM Symposium on Computer Models in Biomechanics, Stanford, CA.

## Conference & Travel Grants

- 2023      **Conference Support Fellowship**  
Department of Computer Science, University of Colorado - Boulder.  
*For SIAM Conference on Applications of Dynamical Systems (DS23).*
- 2023      **Student Registration Award**  
15th International Conference on Advances in Quantitative Laryngology, Voice and Speech Research 2023.  
*For 15th International Conference on Advances in Quantitative Laryngology, Voice and Speech Research 2023.*
- 2023      **Graduate School Domestic Travel Grant**  
University of Colorado - Boulder.  
*For 15th International Conference on Advances in Quantitative Laryngology, Voice and Speech Research 2023.*

## PUBLICATIONS

### Reviewed Conference Papers<sup>1</sup>

- 2011      **C. L. Murphey**, J. Wong, and E. Kuhl, “Computational Simulation of Biventricular Pacing in an Asymptomatic Human Heart,” in SBC2011, ASME 2011 Summer Bioengineering Conference, Parts A and B, Jun. 2011, pp. 917–918, doi: 10.11105/SBC2011-53110.
- 2011      **C. L. Murphey**, J. Wong, and E. Kuhl, “Computational simulation of biventricular pacing in a human heart,” in Proceedings of the IUTAM Symposium on Computer Models in Biomechanics, Stanford, California, 2011, p. 56.

---

<sup>1</sup>All peer-reviewed

**Presentations****Posters**

- 2023     **C. L. Murphey**, A. Hilger, E. Bradley, “A dynamics-inspired model for phonation-induced aerosolization,” SIAM Conference on Applications of Dynamical Systems (DS23), Portland, OR, May 2023.
- 2023     **C. L. Murphey**, A. Hilger, E. Bradley, “A Computational Model of Phonation-induced aerosolization,” 15th International Conference on Advances in Quantitative Laryngology, Voice and Speech Research 2023, Phoenix, AZ, Mar. 2023.
- 2023     **C. L. Murphey**, A. Hilger, E. Bradley, “A dynamics-inspired model for phonation-induced aerosolization,” University of Colorado - Boulder Applied Math Department’s Research Poster Session, Mar. 2023.
- 2023     **C. L. Murphey**, A. Hilger, E. Bradley, “A dynamics-inspired model for phonation-induced aerosolization,” Dynamics Days US 2023, Virtual, Jan. 2023.
- 2011     **C. L. Murphey**, J. Wong, and E. Kuhl, “Computational Simulation of Biventricular Pacing in an Asymptomatic Human Heart,” ASME Summer Bioengineering Conference, Farmington, PA, Jun. 2011.

**Patents***Inventor*

- 2020     US D881,340, “Showerhead and arm,” Apr. 14, 2020.
- 2019     US 10,421,083, “Immersive showerhead,” Sep. 24, 2019.
- 2019     US D855,759, “Shower wand,” Aug. 06, 2019.
- 2018     US 9,931,651, “Immersive showerhead,” Apr. 03, 2018.
- 2018     US 9,925,545, “Immersive showerhead,” Mar. 27, 2018.
- 2018     US D810,233, “Shower wand and adjustable mount,” Feb. 13, 2018.
- 2018     US D810,234, “Showerhead and adjustable bracket,” Feb. 13, 2018.

**Books**

- 2013     J. Schox, Not So Obvious: An Introduction to Patent Law and Strategy, 3rd ed. CreateSpace Independent Publishing Platform, 2013.<sup>2</sup>

**Articles**

- 2016     G. Parisi-Amon and **C. L. Murphey**, “Full Steam Ahead,” ANSYS Advantage, vol. 10, no. 1, pp. 10–12, 2016.

**SERVICE****Academic Service**

- 2023 – 2024     **Computer Science Graduate Student Association (CSGSA)**  
                         *CSGSA Chair*, University of Colorado – Boulder

---

<sup>2</sup>Contributor and Editor

Spring 2023	<b>CS PhD Open House</b> <i>Graduate Student Organizer and Panelist, University of Colorado – Boulder</i>
2022 – 2023	<b>Computer Science Graduate Student Association (CSGSA)</b> <i>Graduate Committee Representative, University of Colorado – Boulder</i>
2022 – 2023	<b>Computer Science Graduate Committee</b> <i>Ph.D. Student Representative, University of Colorado – Boulder</i>
Spring 2022	<b>Summer Program for Undergraduate Research (SPUR)</b> <i>Advisor to Undergraduate Mentors, University of Colorado – Boulder</i>
Spring 2022	<b>Discovery Learning Apprenticeship (DLA) Program</b> <i>Mentor and Judge, University of Colorado – Boulder</i>
Spring 2022	<b>Admitted CS PhD Student Open House</b> <i>Graduate Student Panelist, University of Colorado – Boulder</i>

**Other Service and Affiliations**

2021 – Present	Renova New Music Ensemble: Founding Member, Webmaster, Soprano/Alto
2021 – Present	Westview Lutheran Church: Alto section leader
2021 – 2023	CU – Chamber Singers: Alto 1
2018 – 2021	St. Thomas Aquinas – Boulder: Cantor, Soprano 2 Section Leader
2018 – 2020	St. Vrain Innovation Center: Middle School Robotics Mentor
2018 – 2020	Boulder Area Masters Swimming
2012 – 2018	Stanford Masters Swimming
2012 – 2018	NorCal Golden Retriever Rescue : Volunteer
2011 – 2012	Stanford Women’s Varsity Swimming: Team Manager

**Peer Mentorship**

2022 – 2023	Zach Atkins, Ph.D. Student: Computer Science, CU-Boulder
2022 – 2023	Maria Valentini, Ph.D. Student: Computer Science, CU-Boulder
2022 – 2023	Aditya Pandey, M.S. Student: Computer Science, CU-Boulder
2022 – 2023	Armin Gholampoor, M.S. Student: Computer Science, CU-Boulder

**PROFESSIONAL MEMBERSHIPS & CERTIFICATIONS****Certifications**

2015 – Present	United States Patent and Trademark Office, Registered Patent Agent
----------------	--

**General Membership**

2022 – Present	Acoustical Society of America (ASA)
2022 – Present	Society for Industrial and Applied Mathematics (SIAM)
2022 – Present	The Voice Foundation

2020 – Present      Society of Women Engineers (SWE)  
2011 – Present      American Society of Mechanical Engineers (ASME)

Updated May 2023