Dr. Faheem Ershad fershad@central.uh.edu
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Department of Electrical & Computer Engineering 713-743-0612
University of Houston

Department and Institutional Affiliation(s)

Department of Electrical and Computer Engineering, University of Houston

Building Reliable Advances and Innovations in Neurotechnology (BRAIN) Center, University of Houston

Highlights

- Principal investigator (PI) of the Bioelectronic Synergy Lab specializing in **wearable/implantable bioelectronics for physiological sensing and treatment**, focusing on cardiac/neural health, tissue engineering, and machine learning.
- Authored **28 publications** (11 first/co-first author) with 4 in *Nature Electronics*, 1 in *Nature Communications*, and 6 in *Science Advances* among several other journals.
- **Significant contributions in wearable bioelectronics** through the development of new technology to avoid motion artifacts (2020 Top 50 Chemistry and Materials Sciences Articles, *Nature Communications*).
- Recipient of several awards including the **NSF Graduate Research Fellowship**, with recognition at ASME IMECE, IEEE MEMS, and NASA Human Research Program Investigators' Workshop.

A. ACADEMIC APPOINTMENTS

- **Assistant Professor, Electrical & Computer Engineering** – University of Houston (Jan. 2025 – Present)
- **Postdoctoral Researcher, Electrical & Computer Engineering** – University of Illinois Urbana-Champaign (Aug. 2024 – Dec. 2024)
- **NSF Graduate Research Fellow, Biomedical Engineering** – Pennsylvania State University (Jan. 2022 – Aug. 2024), University of Houston (Aug. 2018 – Dec. 2021)

B. EDUCATIONAL BACKGROUND

University of Illinois Urbana-Champaign Urbana-Champaign, IL

Postdoc, Electrical & Computer Engineering (Aug. 2024 – Dec. 2024) Advisor: Dr. Cunjiang Yu

Pennsylvania State University University Park, PA

PhD, Biomedical Engineering (Jan. 2022 – Aug. 2024) Advisor: Dr. Cunjiang Yu

University of Houston (Aug. 2018 – Dec. 2021)

University of Houston Houston, TX

BS, Biomedical Engineering (Aug. 2014 – May 2018)

Minor in Nanoengineering, Summa Cum Laude

C. GRANTS & FELLOWSHIPS

Current

- **University of Houston Faculty Startup Package** (Principal Investigator): Jan. 2025 – Dec. 2027

Funding to establish the Bioelectronic Synergy Lab, including procurement of lab equipment, personnel hiring, and research in wearable/implantable bioelectronics for sensing and therapy.

Pending

- **NIH: MRI-Conditional Scalp Printed Neural Interface for Longitudinal EEG Monitoring Post Pediatric Cranial Radiation Therapy** (Principal Investigator): Apr. 2027 – Mar. 2029

Develop and safety-validate an MRI-conditional, scalp-printed neural interface for longitudinal EEG monitoring of pediatric cranial radiation therapy survivors.

- **NIH: Flexible Dosimeter for 3D In Vivo Radiation Dose Imaging** (Collaborating Investigator): Apr. 2027 – Mar. 2028

Soft, stretchable organic transistor-based wearable dosimeter system for spatially resolved radiation therapy verification.

Past

- **NSF Graduate Research Fellowship (GRFP)**: Jun. 2019 – Jun. 2024

Support for doctoral research in stretchable and drawn-on-skin electronics.

D. JOURNAL PUBLICATIONS

1. **F. Ershad**, A. Thukral, J. Yue, P. Comeaux, Y. Lu, H. Shim, K. Sim, N.-I. Kim, Z. Rao, R. Guevara, L. Contreras, F. Peng, Y. Zhang, Y.-S. Guan, P. Yang, X. Wang, P. Wang, X. Wu, C. Yu, Ultra-Conformal Drawn-on-Skin Electronics for Motion Artifact-Less Multifunctional Sensing and Point-of-Care Treatment, ***Nature Communications***, *11*(1), 1-13, 2020.

–2020 Top 50 Chemistry and Materials Sciences Articles in Nature Communications

–This work has been highlighted by many media outlets, such as Science Daily, Scientific American, Physics World, EurekAlert, Fast Company, etc.

2. **F. Ershad**†, Z. Rao†, S. Maharajan†, F. C. Paccola Mesquita, J. Ha, L. Gonzalez, T. Haideri, E. Curty da Costa, S. Jang, Y. Lu, S. Patel, X. Wang, Y. Tao, J. Weygant, C. Garciamendez-Mijares, L. C. Orrantia Clark, M. Zubair, X. Lian, A. Elgalad, J. Yang, C. Hochman-Mendez, Y. S. Zhang, C. Yu, Bioprinted Optoelectronically Active Cardiac Tissues, ***Science Advances***, *11*(4), eadt7210, 2025. †These authors contributed equally.
3. K. Sim†, **F. Ershad**†, Y. Zhang†, P. Yang, H. Shim, Z. Rao, Y. Lu, A. Thukral, A. Elgalad, Y. Xi, B. Tian, D. Taylor, C. Yu, An Epicardial Bioelectronic Patch Made From Soft Rubbery Materials and Capable Of Spatiotemporal Mapping Of Electrophysiological Activity, ***Nature Electronics***, *3*(12), 775-784, 2020. † These authors contributed equally.

–This work has been highlighted by many media outlets, such as Science Daily, The Medical News, Medgadget, ScienMag, Bioengineer, etc.

4. S. Patel†, **F. Ershad**†, J. Lee, L. Chacon-Alberty, Y. Wang, M. A. Morales-Garza, A. Haces-Garcia, S. Jang, L. Gonzalez, L. Contreras, A. Agarwal, Z. Rao, G. Liu, I. R. Efimov, Y. S. Zhang, M. Zhao, R. R. Isseroff, A. Karim, A. Elgalad, W. Zhu, X. Wu, C. Yu, Drawn-on-Skin Sensors from Fully Biocompatible Inks toward High-Quality Electrophysiology, ***Small***, 2107099, 2022. †These authors contributed equally.

–Selected as the Back Cover of the issue

5. **F. Ershad**, M. Houston, S. Patel, L. Contreras, B. Koirala, Y. Lu, Z. Rao, Y. Liu, N. Dias, A. Haces-Garcia, W. Zhu, Y. Zhang, C. Yu, Customizable, reconfigurable, and anatomically coordinated large-area, high-density electromyography from drawn-on-skin electrode arrays, ***PNAS Nexus***, *2*(1), pgac291, 2023.
6. **F. Ershad**, K. Sim, A. Thukral, Y.S. Zhang, C. Yu, Emerging Soft Bioelectronics for Cardiac Health Diagnosis and Treatment, ***APL Materials***, *7*(3), 031301, 2019.
7. **F. Ershad**, S. Patel, C. Yu, Wearable Bioelectronics Fabricated In Situ on Skins, ***npj Flexible Electronics***, *7*, 32, 2023.
8. **F. Ershad**, W. Song, C. Yu, Hand-Drawing Perovskite Devices, ***Nature Photonics***, *17*, 928-930, 2023.
9. L. Chang†, Y. Wang†, **F. Ershad**†, R. Yang, C. Yu, Y. Fan, Wearable Devices for Single Cell Sensing and Transfection, ***Trends in Biotechnology***, *37*(11), 1175-1188, 2019. †These authors contributed equally.
10. Z. Rao†, **F. Ershad**†, A. Almasri, L. Gonzalez, C. Yu, Soft Electronics for the Skin: from Health Monitors to Human-Machine Interfaces, ***Advanced Materials Technologies***, 2000233, 2020. † These authors contributed equally.

–Selected as the Frontispiece of the issue

–Hall of Fame Article of Advanced Materials Technologies.

11. **F. Ershad**, K. Sim, C. Yu, Fully Rubbery Epicardial Bioelectronic Patch, ***2022 IEEE 35th International Conference on Micro Electro Mechanical Systems (MEMS) Conference***, 2022.
12. H. Shim, **F. Ershad**, S. Patel , Y. Zhang , B. Wang , Z. Chen , T. Marks , A. Facchetti, C. Yu, An Elastic, Reconfigurable Synaptic Transistor with Stretchable Bilayer Semiconductors, ***Nature Electronics***, *5*(10), 660-671, 2022.
13. Y. Liu, **F. Ershad**, Y. Tao, C. Yu, Better Electronics from Immiscibility, ***Nature Materials***, *22*(7), 801-802, 2023.
14. N. Prodan, **F. Ershad**, A. R. Alcaraz, L. Li, B. Mistretta, L. Gonzalez, Z. Rao, C. Yu, P. Gunaratne, N. Li, R. J. Schwartz, B. K. McConnell, Direct Reprogramming of Cardiomyocytes into Cardiac Purkinje-like Cells, ***iScience***, *25*(11), 105402, 2022.
15. Y.-S. Guan, **F. Ershad**, Z. Rao, Z. Ke, E. Curty da Costa, Q. Xiang, Y. Lu, X. Wang, J. Mei, P. Vanderslice, C. Hochman-Mendez, C. Yu, Elastic Electronics Based on Micromesh-Structured Rubbery Semiconductor Films, ***Nature Electronics***, *5*(12), 1-12, 2022.
16. Z. Rao, **F. Ershad**, Y.-S. Guan, F. C. Paccola Mesquita, E. Curty da Costa, M. A. Morales-Garza, B. Kan, Y. Lu, S. Patel, H. Shim, K. Chen, W. Wu, T. Haideri, X. Lian, A. Karim, J. Yang, A. Elgalad, C. Hochman-Mendez, C. Yu, Ultra-Thin Rubbery Bio-optoelectronic Stimulators for Untethered Cardiac Stimulation, ***Science Advances***, *10*(49), eadq5061, 2024.
17. K. Sim, Z. Rao, **F. Ershad**, C. Yu, Rubbery Electronics Fully Made of Stretchable Elastomeric Electronic Materials, ***Advanced Materials***, *32*(15), 1902417, 2020.

–Selected as Inside Back Cover of the issue

18. A. Thukral, **F. Ershad**, N. Enan, Z. Rao, C. Yu, Soft Ultrathin Silicon Electronics for Soft Neural Interfaces, ***IEEE Nanotechnology Magazine***, *12*(1), 21-34, 2018.
19. K. Sim, Z. Rao, Z. Zou, **F. Ershad**, J. Lei, A. Thukral, J. Chen, Q. Huang, J. Xiao, C. Yu, Metal Oxide Semiconductor Nanomembrane based Soft Unnoticeable Multifunctional Electronics for Wearable Human-Machine Interfaces, ***Science Advances***, *5*(8), eaav9653, 2019.

–Selected as Cover of the issue

20. K. Sim, S. Chen, Z. Li, Z. Rao, J. Liu, Y. Lu, S. Jang, **F. Ershad**, J. Chen, J. Xiao, C. Yu, Three-Dimensional Curvy Electronics Enabled by Conformal Additive Stamp Printing, ***Nature Electronics***, *2*(10), 471-479, 2019.

–Selected as the Cover the issue

–This work has been highlighted by many media outlets, such as Nature, Science Daily, Tech Xplore, PV Magazine, Medium, etc.

21. H. Shim, K. Sim, **F. Ershad**, P. Yang, Z. Rao, Y. Liu, H. Kim, Y. Chai, C. Yu, Stretchable Elastic Synaptic Transistors for Neurologically Integrated Soft Engineering Systems, ***Science Advances***, *5*(10), eaax4961, 2019.
22. Y. Zhang, K. Sim, H. Shim, **F. Ershad**, S. Patel, Y.-S. Guan, C. Yu, Stretchable Complementary Integrated Electronics Based On Elastic Dual-Type Transistors, ***Science Advances***, *11*(45), eaea1867, 2025.
23. H. Shim, K. Sim, **F. Ershad**, S. Jang, C. Yu, Recent Advances in Materials and Device Technologies for

Soft Active Matrix Electronics, ***Journal of Materials Chemistry C***, *8*(31), 10719-10731, 2020.

24. Y.-S. Guan, A. Thukral, S. Zhang, K. Sim, X. Wang, Y. Zhang, **F. Ershad**, Z. Rao, F. Pan, P. Wang, J. Xiao, C. Yu, Air/water Interfacial Assembled Rubbery Semiconducting Nanofilm for Fully Rubbery Integrated Electronics, ***Science Advances***, *6*(38), eabb3656, 2020.
25. B. Kan, **F. Ershad**, Z. Rao, C. Yu, Flexible Organic Solar Cells for Biomedical Devices, ***Nano Research***, 1-13, 2021.
26. Q. Wang, H. Sheng, Y. Lv , J. Liang, Y. Liu, N. Li, E. Xie, Q. Su, **F. Ershad**, W. Lan, J. Wang, C. Yu, A Skin-Mountable Hyperthermia Patch based on Metal Nanofiber Network with High Transparency and Low Resistivity towards Subcutaneous Tumor Treatment, ***Advanced Functional Materials***, 2111228, 2022.
27. S. Patel, **F. Ershad**, M. Zhao, R. R. Isseroff, B. Duan, Y. Zhou, Y. Wang, C. Yu, Wearable Electronics for Skin Wound Monitoring and Healing, ***Soft Science***, *2*(2), 9, 2022.
28. K. Pu, Z. Xu, Y. Gao, C. Zhao, **F. Ershad**, Y. Li, R. Wang, C. Yu, G. Wei, A Flexible Sensitive Visible-NIR Organic Photodetector with High Durability, ***Advanced Materials Technologies***, 202300207, 2023.

E. PUBLICATIONS UNDER PREPARATION

1. S. Patel, M. Zubair, M. Yang, **F. Ershad**, C. Shang, M. Zhao, C. Yu, Drawn-on-Skin Electrode Array Enables Acupuncture Point Localization via Bioimpedance Mapping, *Under review*, Biosensors and Bioelectronics, 2026.
2. Y. Huang, Z. Chen, J. Zhou, H. Jia, R. L. Chow, Y. Zhou, S. Jia, B. Zhang, **F. Ershad**, S. Patel, C. K. Yiu, Y. Gao, Q. Zhang, X. Huang, J. Li, K. Yao, G. Zhao, P. Chen, H. Peng, D. Sun, C. Yu, X. Yu, Drawn-on-skin Electronic Tattoo as a Closed-loop Sensing-Stimulation System for the Muscles, *Under review*, Science Advances, 2026.
3. M. Zubair, S. Patel, **F. Ershad,** S. Duan, L. Chen, H. Xu, S. Sekhar, P. Comeaux, L. Gonzalez, C. Yu, Long-Hair Compatible, Imperceptible Drawn-on-Scalp Interfaces for Wireless Multimodal Neurophysiology and Ambulatory Stress Quantification, *In submission*, Nature Biomedical Engineering, 2026.
4. S. Patel, M. Zubair, M. Hussain, S. Sekhar, L. Contreras, X. Wang, Y. Lu, X. Wang, W. Zhu, **F. Ershad**, C. Yu, High Fidelity Electrophysiological Sensing On Non-Glabrous Skin With Drawn-On-Skin Bioelectronics, *In submission*, Advanced Healthcare Materials, 2026.
5. A. Thukral†, **F. Ershad**†, P. Comeaux, S. Jang, A. Almasri, D. An, R. Li, C. Yu, Hybridized Soft Robotic Hand Innervated With 3D Structured Rubbery Electronics for Nursing Care Units, *In preparation*, 2026. † These authors contributed equally.
6. **F. Ershad**, S. Patel, Y. Lu, L. Contreras, C. Yu, Drawn-on-Skin Continuous, Cuffless Blood Pressure Monitoring, *In preparation*, 2026.

F. CONFERENCE LEADERSHIP & INVITED TALKS

1. *Focused session chair*: **F. Ershad**. Session title: Ultra-thin, High-Performance Bioelectronics Enabled by 2D Materials. IEEE International Conference on Flexible Printable Sensors and Systems (FLEPS); (2026) Jul 14; Atlanta, GA, USA.
2. *Invited talk*: **F. Ershad**. Uniting Soft Devices and Interfaces for Medical Applications. Talk given at Joint EBRAINS - AccelNet Initiative & AccelNet Summit; (2026) June 27; Florence, Italy.
3. *Invited talk*: **F. Ershad**. Bioprinted Optoelectronic Tissues for Wireless Modulation of Cardiac Activity. International Meeting on Information Display (iMiD); (2025) August 22; Busan, South Korea.
4. *Technical program committee*: **F. Ershad**. Program title: Bio-integrated Optoelectronics and Interactive Displays. International Meeting on Information Display (iMiD); (2025); Busan, South Korea.

5. *Invited talk*: **F. Ershad**. Bioelectronic Synergy: From Wearables to Implantables. Talk given at Yonsei University; (2025) August 19; Seoul, South Korea.
6. *Focused session chair*: **F. Ershad**. Session title: Multifunctional Bioelectronics for Sensing, Stimulation, and Biological Integration. IEEE International Conference on Flexible Printable Sensors and Systems (FLEPS); (2025) June 25; Singapore.
7. *Invited talk*: **F. Ershad**. Brain Capital. Talk given at Movement, Music, and Brain Health AccelNet 2025 (NSF Award# 2412731); (2025) June 8; Baltimore, MD, USA.
8. *Invited talk*: **F. Ershad**. Drawn-on-Skin Bioelectronics to Seamlessly Interface with the Body. Talk given for Yonsei University; (2024) August 26; Virtual.
9. *Invited talk*: **F. Ershad**, C. Yu. Drawn-on-Skin Bioelectronics for In Situ, Motion Artifact-Less Physiological Sensing and Customizable Treatments. Talk given at iCAN-X Youth Talks, Vol. 20; (2023) June 27; Virtual.

G. CONFERENCE PRESENTATIONS

1. **F. Ershad**. Tattoo Bioelectronics for Multifunctional Devices and Physiological Sensing. Poster presented at EBRAINS Summit 2025; (2025) December 10; Brussels, Belgium.
2. **F. Ershad**, Z. Rao, S. Maharjan, Y. S. Zhang, C. Yu. Light-Modulatable Optoelectronic Scaffolds for Cardiac Tissue Interfaces. Poster presented at Biomedical Engineering Society 2025; (2025) October 10; San Diego, CA, USA.
3. **F. Ershad**, C. Yu. Drawn-on-Skin (DoS) Bioelectronics for Customizable & Reconfigurable High-Density Surface Electromyography. Poster presented at Biomedical Engineering Society 2023; (2023) October 14; Seattle, WA, USA.
4. **F. Ershad**. Bioelectronic Synergy for Advanced Healthcare: Uniting Soft Devices, Multimodal Analysis, and Machine Learning. Poster presented at Meet the Faculty Candidate Forum, Biomedical Engineering Society 2023; (2023) October 11; Seattle, WA, USA.
5. **F. Ershad**. Bioelectronic Synergy for Advanced Healthcare: Uniting Soft Devices, Multimodal Analysis, and Machine Learning. Poster presented at Future Faculty Symposium, Society of Engineering Science 2023; (2023) October 10; Minneapolis, MN, USA.
6. **F. Ershad**, C. Yu. Anatomically Coordinated Muscle Activity Detection from Reconfigurable Drawn-On-Skin (DoS) Electrode Arrays. Poster presented at Graduate Exhibition 2023; (2023) March 24; University Park, PA, USA.
7. **F. Ershad**, C. Yu. Ultraconformal Drawn-on-Skin Bioelectronics for Motion Artifact-Free Physiological Sensing and Customizable Treatments. Poster presented at Materials Day PSU 2022; (2022) October 20; University Park, PA, USA.
8. **F. Ershad**, C. Yu. Drawn-on-Skin Bioelectronics for Motion Artifact-Less Physiological Sensing and Point-of-Care Treatment. Talk given at Society of Engineering Science 2022; (2022) October 18; College Station, TX, USA.
9. **F. Ershad**, K. Sim, C. Yu. Spatiotemporal Mapping of Cardiac Electrophysiology with Fully Rubbery Epicardial Bioelectronics. Poster presented at Society of Engineering Science 2022; (2022) October 17; College Station, TX, USA.
10. **F. Ershad**, C. Yu. Drawn-on-Skin Bioelectronics for Motion Artifact-Free Sensing and Point-of-Care Treatment. Talk given at Engineering Science and Mechanics (ESM) Today 2022; (2022) February 26; University Park, PA, USA.
11. **F. Ershad**, C. Yu. Drawn-on-Skin Bioelectronics for Motion Artifact-Free Sensing and Point-of-Care Treatment. Poster presented at Engineering Science and Mechanics (ESM) Today 2022; (2022) February 26; University Park, PA, USA.
12. **F. Ershad**, K. Sim, C. Yu. Fully Rubbery Epicardial Bioelectronic Patch. Talk given at IEEE MEMS 2022; (2022) January 10; Tokyo, Japan.
13. **F. Ershad**, K. Sim, C. Yu. Fully Rubbery Epicardial Bioelectronic Patch. Poster presented at IEEE MEMS 2022; (2022) January 11; Tokyo, Japan.
14. **F. Ershad**, A. Ravindran, A. Craik, M. R. Amin, Y. Lu. The BRAIN Student Group. Poster presented at BRAIN NSF I/UCRC Industry Advisory Board Interim Meeting; (2021) November 4; Virtual.
15. **F. Ershad**, C. Yu. Drawn-on-Skin Bioelectronics for Multifunctional, Motion Artifact-Free Sensing and Point-of-Care Treatment. Talk given at Texas Center for Superconductivity Scholarship Symposium; (2021) May 25; Houston, TX, USA.
16. **F. Ershad**, A. Ravindran, A. Craik, M. R. Amin. The BRAIN Student Group. Poster presented at BRAIN NSF I/UCRC Industry Advisory Board Interim Meeting; (2021) May 20; Virtual.
17. A. Ravindran, **F. Ershad**. The BRAIN Student Group. Poster presented at BRAIN NSF I/UCRC Industry Advisory Board Meeting; (2020) December 3; Virtual.

18. **F. Ershad**, C. Yu. Drawn-on-Skin Bioelectronics for Motion Artifact-Free Sensing and Point-of-Care Treatment. Talk given at 2020 ASME IMECE; (2020) November 19; Virtual.
19. **F. Ershad**, C. Yu. Drawn-on-skin Electronics: A Technological Platform for Motion Artifact-Free Sensing and Point-of-Care Treatment. Talk given at 2020 ASME IMECE; (2020) November 17; Virtual.
20. **F. Ershad**, C. Yu. Ultra-Conformal Drawn-on-skin Bioelectronics for Multifunctional, Motion Artifact-Free Sensing and Point-of-Care Treatment. Talk given at 2020 ASME IMECE; (2020) November 16; Virtual.
21. **F. Ershad**, C. Yu. Multifunctional, Motion Artifact-Free Sensing and Point-of-Care Treatment With Drawn-on-Skin Electronics. Poster presented at 2020 ASME IMECE; (2020) November 16-19; Virtual.
22. **F. Ershad**, C. Yu. Drawn-on-Skin Electronics for Multifunctional, Motion Artifact-Free Sensing and Point-of-Care Treatment. Poster presented at 2020 ASME IMECE; (2020) November 16-19; Virtual.
23. **F. Ershad**, C. Yu. Drawn-on-Skin Electronics for Multifunctional, Motion Artifact-Free Sensing and Point-of-Care Treatment. Talk given at 2020 BMES Annual Meeting; (2020) October 17; Virtual.
24. **F. Ershad**, K. Sim, C. Yu. Soft Unnoticeable Multifunctional Electronics for Wearable Human-Machine Interfaces. Poster presented at NASA Human Research Program Investigators' Workshop 2020; (2020) January 28; Galveston, TX, USA.
25. **F. Ershad**, K. Sim, C. Yu. Fully Rubbery Circuits, Sensors, And Smart Skins. Poster presented at NASA Human Research Program Investigators' Workshop 2020; (2020) January 27; Galveston, TX, USA.
26. **F. Ershad**, Drawn Electronic Tattoos: Improving, Simplifying, and Customizing Medical Sensing and Treatment. Talk given at UH Graduate Research Showcase: 3 Minute Thesis; (2019) November 1; Houston, TX, USA.
27. **F. Ershad**, A. Thukral, J. Yue, P. Comeaux, X. Wu, C. Yu. Drawn Electronic Tattoos: A Simple and Customizable Platform for Improved Medical Sensing and Treatment. Poster presented at UH Graduate Research Showcase: Poster Presentations; (2019) November 1, Houston, TX, USA.
28. **F. Ershad**, C. Yu. Drawn-On-Skin Electronics for Motion Artifact-Less Multifunctional Sensing and Point-Of-Care Treatment. Poster presented at UH Materials Research Society Poster Symposium; (2019) October 14; Houston, TX, USA.
29. L. Gonzalez, A. Almasri, **F. Ershad**, P. Comeaux, C. Yu. Soft Electronics Innervated Bioprinted Cardiac Cells and Tissues. BRAIN REU Conference; (2019) July 30; Houston, TX, USA.
30. **F. Ershad**, K. Sim, C. Yu. Soft Tissue-Like Electronics for the Brain. Poster presented at BRAIN NSF I/UCRC Industry Advisory Board Meeting Spring 2019; (2019) May 16; Tempe, AZ, USA.
31. J. Cruz-Garza, **F. Ershad**, R. Adams. The BRAIN Student Group: Fostering interdisciplinary collaboration and building community. Poster presented at BRAIN NSF I/UCRC Industry Advisory Board Meeting Spring 2019; (2019) May 16; Tempe, AZ, USA.
32. **F. Ershad**, K. Sim, C. Yu. Sol-Gel-On-Polymer Processed Oxide Semiconductor Nanomembrane Based Soft Unnoticeable Electronics for Wearable Human-Machine Interfaces. Poster presented at NASA Human Research Program Investigators' Workshop 2019; (2019) January 24; Galveston, TX, USA.
33. **F. Ershad**, K. Sim, C. Yu. Fully Rubbery Electronic Materials, Integrated Electronics, and Sensory Skins. Poster presented at NASA Human Research Program Investigators' Workshop 2019; (2019) January 22; Galveston, TX., USA

H. TEACHING EXPERIENCE

University of Houston *Assistant Professor* Fall 2025

Taught circuit analysis (ECE 2201/2202), a second-year undergraduate course covering circuit analysis techniques and equivalent circuits, operational amplifiers, inductors, capacitors, $1^{st}/2^{nd}$ order circuits, and complex power.

Pennsylvania State University *Guest Lecturer* January 2024, September 2022

Prepared and presented a seminar for BME 100, a first-year undergraduate course introducing students to biomedical engineering. The seminar focused on the development of soft and stretchable medical devices.

Pennsylvania State University *Guest Lecturer* March 2023

Created and taught a lecture for BIOE 510, a graduate course on biomedical applications of microelectromechanical systems (BioMEMS) and bionanotechnology. The lecture focused on the implementation of BioMEMS for genomic and proteomic assays.

I. EDITORIAL ROLES & PEER REVIEW

2024-2026: Guest Editor for Special Issue in *Biosensors*

2025: Reviewer for *Aggregate*, *APL Bioengineering*

2024: Reviewer for *IEEE Sensors Letters*, *Heliyon*, *JoVE*

2022: Reviewer for *Nano Select*

J. OUTREACH & COMMUNITY ENGAGEMENT

2025: Seminar for NSF RE-PST program (teachHouston)

2025: Mentored high school teachers and K-12 students in “Sparklabs” electrical engineering summer camp (Horizon Learning Academy)

2022: Jared Box Project

2020: Attendee Facilitator, Technology Expo Aqsa Masjid

2019: Booth Manager, 24th Annual ExxonMobil Children’s Festival

2017-2018: Metropolitan Volunteer Program, University of Houston

K. HONORS AND AWARDS

2026: UH President’s Circle Award

2019-2024: National Science Foundation (NSF) Graduate Research Fellowship

2023: Future Faculty Symposium NSF Travel Grant at SES

2022: Outstanding Student Paper Finalist at IEEE MEMS

2020: Best Presenter Award in NSF Poster Competition at ASME IMECE

2020: NSF Poster Competition Travel Grant at ASME IMECE

2020: 1st Place in Poster Competition at NASA Human Research Program Investigators’ Workshop

L. PROFESSIONAL ORGANIZATIONS

2025: BRAIN Center – Faculty Member

2022-Current: BMES (Biomedical Engineering Society) Member

2019-Current: IEEE (Institute of Electrical and Electronics Engineers) Member