# Yasser Khan

Assistant Professor, Electrical and Computer Engineering, University of Southern California
1002 Childs Way, #270D, Los Angeles, CA 90089
+1-214-914-1726 • yasser.khan@usc.edu • khan.usc.edu

## Summary

I am an engineer/maker/scientist working at the intersection of engineering, medicine, and artificial intelligence. My research combines additive manufacturing and hardware-enabled AI to build wearable, implantable, and ingestible medical systems to understand brain and behavior, including brain–gut communication, for precision health and psychiatry.

## Research Interests

**Materials and Devices:** wearable/implantable/ingestible electronics, sensors, medical devices, bioelectronics. **Manufacturing and Systems:** flexible/stretchable/printed/hybrid electronics, additive manufacturing, in-sensor processing, machine learning on edge systems. **Application:** precision health/psychiatry.

## Training / Education

**Postdoctoral Scholar in Chemical Engineering** — Stanford University, CA, USA
*Sensor Systems, Advisor: Prof. Zhenan Bao; Co-Advisor: Prof. Boris Murmann.* — *Jan '19–Dec '21*

**Ph.D. in Electrical Engineering and Computer Sciences** — University of California, Berkeley, CA, USA
*GPA 3.95/4.00, Physical Electronics. Advisor: Prof. Ana Arias.* — *Dec '18*

**M.S. in Electrical Engineering** — KAUST, KSA
*GPA 3.92/4.00, Optoelectronics and Photonics. Advisor: Prof. Boon Ooi* — *Dec '12*

**B.S. in Electrical Engineering** — University of Texas at Dallas, TX, USA
*GPA 3.98/4.00, Summa Cum Laude, Electronics and Materials Science.* — *May '10*

## Experience

**Assistant Professor of Electrical and Computer Engineering** — University of Southern California, CA, USA
*Andrew and Erna Viterbi Early Career Chair* — *Jan '22–Present*

- Awards: 2025 AFOSR YIP, 2024 Packard Fellowship, 2023 Google Research Award
- Students: 10 PhD (7 ECE 3 BME), 16 MS, 50+ undergraduate students (total in 3.5 years).
- Funding: $2.75M individual, $7.2M total (2022-2025), from NSF, NIH, DoD, Packard Foundation, Google, Samsung, Pratt & Whitney Institute for Collaborative Engineering, Schlumberger Foundation, USC Zumberge.
- Teaching: Developed 2 new courses – Introduction to Electrical Engineering (EE105) and Bioelectronics (EE599).

**Research Intern** — **Oxford University, OX, UK**, *Jul '11–Aug '11*
*Dye-sensitized solar cells, Advisors: James Kirkpatrick and Prof. Henry Snaith.*

**Hardware Design Intern** — **Zyvex Labs, TX, USA**, *Jan '10–Jun '10*
*Computer controlled electrochemical etcher to produce extremely sharp tips for use in STM*

## Awards / Honors

- Air Force Office of Scientific Research Young Investigator Award *2025*
- IEEE Sensors Council Technical Achievement Award in Sensors – Early Career *2025*
- Andrew and Erna Viterbi Early Career Chair *2025*
- USC Viterbi School of Engineering Junior Faculty Research Award *2025*
- Packard Fellowship *2024*
- IEEE Senior Membership *2024*
- USC Zumberge Award *2024*
- Google Research Award *2023*
- Best Poster Award, Flex 2018 Conference, Monterey, CA, USA *2018*
- Best Project Award, Systems On Nanoscale Information fabriCs (SONIC) Meeting, Urbana, IL, USA *2017*
- Best Oral Presentation Award, MRS Fall Meeting, Boston, MA, USA *2015*
- Best Poster Award, NASCENT IAB Meeting, UT Austin, TX, USA *2014*
- EECS Departmental Fellowship, UC Berkeley *2013*
- Best Poster Award, EE – Photonics Track, Electrical Engineering Days, KAUST *2012*
- Academic Excellence Award, (Top 5% in Graduating Class), KAUST *2011*
- Finalist, DOW Sustainability Innovation Student Challenge *2011*
- Best Poster Award, First Graduate Research Symposium, KAUST *2011*
- Best Poster Award, Winter Enrichment Period Research Poster Session, KAUST *2011*
- KAUST Provost Award, (Top 15% in Matriculating Class), KAUST *2010*
- Phi Kappa Phi, Honor Society, (Top 10% in Graduating Class), UT Dallas *2010*
- Dean's List, All Semesters, (Top 10% in Erik Jonsson School of ECS), UT Dallas *2010*
- KAUST Graduate Fellowship *2010*
- Golden Key Honor Society, (Top 15% in School of ECS), UT Dallas *2009*
- KAUST Discovery Scholarship *2008*
- Academic Excellence Scholarship, UT Dallas *2008*
- Undergraduate Scholarship for three years, OIC *2005*
- Merit Scholarships, Education Board, Government of Bangladesh, (Top 1% in Graduating Class) *2001, 2003, 2005*

## Grants

**2022– Funding Summary**
- **Individual Share:** $2.75M (non-USC: $2.6M, USC: $.15M)
- **Total Funding:** $7.25M

**List of Grants:**
- Granting Agency: **National Science Foundation**
  Type of Grant: Grant
  Project Title: Embodied Intelligence in Smart Workspaces: Bidirectional Sensorimotor Interactions for Stress

Reduction
**co-PI: Yasser Khan**
Start and End Dates: 2025–2027
Amount (Candidate's Portion): $**180,000**
Total Grant Amount: $**540,000**

- Granting Agency: **Samsung**
  Type of Grant: Gift
  Project Title: Metaphotonics for health sensing
  **PI: Yasser Khan**
  Start and End Dates: 2025–2026
  Amount (Candidate's Portion): $**50,000**
  Total Grant Amount: $**50,000**

- Granting Agency: **Air Force Office of Scientific Research**
  Type of Grant: Young Investigator Award
  Project Title: AI-enabled implantable and ingestible electronics for understanding neurotransmitter dynamics in the brain and gut
  **PI: Yasser Khan**
  Start and End Dates: 2025–2028
  Amount (Candidate's Portion): $**450,000**
  Total Grant Amount: $**450,000**

- Granting Agency: **Packard Foundation**
  Type of Grant: Fellowship
  Project Title: Ultra-miniaturized neurotechnologies for the brain and gut
  **PI: Yasser Khan**
  Start and End Dates: 2024–2029
  Amount (Candidate's Portion): $**875,000**
  Total Grant Amount: $**875,000**

- Granting Agency: **National Institute of Health (NIH)**
  Type of Grant: R61/33
  Grant Number: 1R61MH135407-01
  Project Title: Novel multimodal neural, physiological, and behavioral sensing and machine learning for mental states
  PI: Maryam Shanechi
  **Co-I: Yasser Khan**
  Start and End Dates: 2024–2028
  Amount (Candidate's Portion): $**852,777**
  Total Grant Amount: $**5,684,619**

- Granting Agency: Pratt & Whitney Institute for Collaborative Engineering
  Type of Grant: USC
  Project Title: Printed Sensors for Continuous Monitoring of Stress Corrosion Cracking in Aircraft Materials
  PI: Sifat Muin
  **Co-PI: Yasser Khan**
  Start and End Dates: 2024–2025
  Amount (Candidate's Portion): $**100,000**

Total Grant Amount: $**300,000**

- Granting Agency: **USC Zumberge**
  Type of Grant: USC Zumberge Award
  Project Title: Skin-line wearable sensor development for diagnostic ECG and MRI at 0.55 T
  **PI: Yasser Khan**
  Co-PIs/Investigators: Krishna Nayak
  Start and End Dates: 2024–2025
  Amount (Candidate's Portion): $**50,000**
  Total Grant Amount: $**50,000**

- Granting Agency: **Google**
  Type of Grant: Google Research Scholar Award
  Project Title: Racial Bias Correction in Oximetry using Google's Skin Tone Framework
  **PI: Yasser Khan**
  Start and End Dates: 2023–2024
  Amount (Candidate's Portion): $**60,000**
  Total Grant Amount: $**60,000**

- Granting Agency: **Schlumberger Foundation**
  Type of Grant: Fellowship for Student
  Project Title: Hardware technologies for mental health applications
  **PI: Yasser Khan**
  Mentee: Munia Ferdoushi
  Start and End Dates: 2023–2024
  Amount (Candidate's Portion): $**100,000**
  Total Grant Amount: $**100,000**

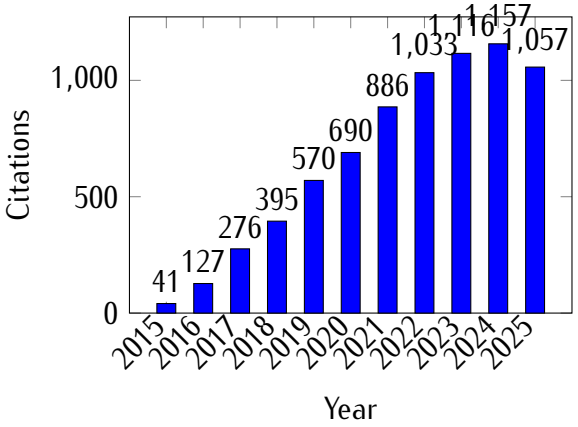
## Co-authored Grants during PhD and postdoc

- $750,000 funding from National Science Foundation (NSF) for a project proposed by Stanford University to develop "Artificial Intelligence-enabled Multimodal Stress Sensing for Precision Health" *2020–2022*
- $700,000 funding from NextFlex, America's Flexible Hybrid Electronics (FHE) Manufacturing Institute for a project proposed by UC Berkeley, UCSD, and Jabil Circuits to develop "Integration Processes for Flexible and Wearable Wound Monitoring and Therapeutic Bandage" *2017–2018*
- $375,000 funding from Intel Corporation via. Semiconductor Research Corporation Grant No. 2014-IN-2571 for a project proposed by UC Berkeley to develop "Printable and Flexible Electronics for Wearable System Integration" *2015–2017*
- $425,000 funding from Nano-Bio Manufacturing Consortium (NBMC), an industry-academia partnership with the United States Air Force Research Laboratory (AFRL), for a project proposed by Binghamton University, UC Berkeley, and electronics packaging firm i3 Electronics, Inc. (Endicott, N.Y.) to develop "Electronics and Biometric Sensor Platforms for Human Performance Monitoring (HPM)" *2014–2015*

# Publications

Please check Google Scholar
for the most up-to-date publications list.
Summary of the citation metrics:

- **Total Citations:** 7460, **h-index:** 29, **i10-index:** 35
- **Nature Electronics, Nature Communications, Nature Photonics:** 5,
- **Science Advances:** 2,
- **PNAS:** 2,
- **Advanced Materials, Advanced Functional Materials, Advanced Intelligent Systems, Advanced Electronic Materials, Advanced Materials Technologies:** 12,
- **IEEE Journals:** 6, **Device:** 1, **Cell Reports:** 1




## Journal Articles


[1] Felix Munoz, Ye Tian, Ted Le, Jaehwan Jang, Helmut Stark, Mohammad Shafiqul Islam, Min gu Kim, Krishna S. Nayak, and **Yasser Khan**. Improved dynamic mri of the wrist and heart at 0.55t enabled by rapid 3d printed flexible coils. **Nature Communications**, 202X. **In Revision**.

[2] Md Farhad Hassan, Shounak Das, Dolendra Vikas Addepalli, Leikhang Xiong, Mohammad Shafiqul Islam, A.K.M. Rakib, Samiha Tasnim, Xiao Yu, Emily Rowson, Mohammad Arfan, Adam Frank, and **Yasser Khan**. All-optical sensing of dermal activity enables an ai-powered wearable ring for continuous stress monitoring. **Nature Communications**, 202X. **In Review**.

[3] Mohammad Shafiqul Islam, Brince Paul Kunnel, Munia Ferdoushi, Md Farhad Hassan, Sangwon Cha, Wenxin Cai, Adam Frank, and **Yasser Khan**. Wearable organic-electrochemical-transistor-based lithium sensor for precision mental health. **Device**, 2025. doi: 10.1016/j.device.2025.100862. URL http://dx.doi.org/10.1016/j.device.2025.100862. **Media coverage: USC News, Newsweek, Psychiatrist.com, and many more.**

[4] Mohammad Shafiqul Islam, Sangwon Cha, Wenxin Cai, Munia Ferdoushi, and **Yasser Khan**. A wearable sweat rate sensor with adaptive sweat ion concentration calibration. **IEEE Sensors Letters**, 2025. doi: 10.1109/LSENS.2025.3579329. URL http://dx.doi.org/10.1109/LSENS.2025.3579329.

[5] Felix Muñoz, Krishna S. Nayak, and **Yasser Khan**. Wearable sensing in low-field (0.55t) mri environment. **IEEE Sensors Letters**, 2025. doi: 10.1109/LSENS.2025.3528305. URL http://dx.doi.org/10.1109/LSENS.2025.3528305.

[6] Mohammad Shafiqul Islam, Sangwon Cha, Md Farhad Hassan, Wenxin Cai, Tahsin Sejat Saniat, Cedar Rose Leach, and **Yasser Khan**. Printed wearable sweat rate sensor for continuous in situ perspiration measurement. **Advanced Intelligent Systems**, 2024. doi: 10.1002/aisy.202400927. URL http://dx.doi.org/10.1002/aisy.202400927. **Cover Article**.

[7] Angsagan Abdigazy, Mohammed Arfan, June Shao, Mohammad Shafiqul Islam, Md Farhad Hassan, and **Yasser Khan**. 3d gas mapping in the gut with ai-enabled ingestible and wearable electronics. **Cell Reports Physical Science**, 2024. doi: 10.1016/j.xcrp.2024.101990. URL http://dx.doi.org/10.1016/j.xcrp.2024.101990. **Media coverage: USC News, Interesting Engineering, Neuroscience News, and many more.**

[8] Angsagan Abdigazy, Mohammed Arfan, Gianluca Lazzi, Constantine Sideris, Alex Abramson, and **Yasser Khan**. End-to-end design of ingestible electronics. **Nature Electronics**, pages 1–17, 2024. doi: 10.1038/s41928-024-01122-2. URL http://dx.doi.org/10.1038/s41928-024-01122-2.

[9] Peter H Charlton, John Allen, Raquel Bailón, Stephanie Baker, Joachim A Behar, Fei Chen, Gari D Clifford, David A Clifton, Harry J Davies, Cheng Ding, and others. The 2023 wearable photoplethysmography roadmap. **Physiological Measurement**, 44(11):111001, 2023. doi: 10.1088/1361-6579/acead2. URL http://dx.doi.org/10.1088/1361-6579/acead2.

[10] Alex Abramson, Carmel Chan, **Yasser Khan**, Alana Mermin-Bunnell, Naoji Matsuhisa, Robyn Fong, Rohan Shad, William Hiesinger, Parag Mallick, Sanjiv Sam Gambhir, and Zhenan Bao. A flexible electronic strain sensor for the real-time monitoring of tumor progression. **Science Advances**, 2022. doi: 10.1126/sciadv.abn6550. URL http://dx.doi.org/10.1126/sciadv.abn6550. **Media coverage: USC News, Stanford News, Georgia Tech News, and many more.**

[11] **Yasser Khan**, Matthew L. Mauriello, Parsa Nowruzi, Akshara Motani, Grace Hon, Nicholas Vitale, Jinxing Li, Jayoung Kim, Amir Foudeh, Dalton Duvio, Erika Shols, Megan Chesnut, James Landay, Jan Liphardt, Leanne Williams, Keith D. Sudheimer, Boris Murmann, Zhenan Bao, and Pablo E. Paredes. Design considerations of a wearable electronic-skin for mental health and wellness: balancing biosignals and human factors. **bioRxiv**, 2021. doi: 10.1101/2021.01.20.427496. URL https://www.biorxiv.org/content/early/2021/01/21/2021.01.20.427496.

[12] **Yasser Khan** and Zhenan Bao. A soft-electronic sensor network tracks neuromotor development in infants. **Proceedings of the National Academy of Sciences of the United States of America**, 118(46):e2116943118, 2021. doi: 10.1073/pnas.2116943118. URL http://dx.doi.org/10.1073/pnas.2116943118.

[13] Sara RA Ruth, Min-gu Kim, Hiroki Oda, Zhen Wang, **Yasser Khan**, James Chang, Paige M Fox, and Zhenan Bao. Post-surgical wireless monitoring of arterial health progression. **Iscience**, 24(9):103079, 2021. doi: 10.1016/j.isci.2021.103079. URL http://dx.doi.org/10.1016/j.isci.2021.103079.

[14] Megan Chesnut, Sahar Harati, Pablo Paredes, **Yasser Khan**, Amir Foudeh, Jayoung Kim, Zhenan Bao, and Leanne M. Williams. Stress markers for mental states and biotypes of depression and anxiety: A scoping review and preliminary illustrative analysis. **Chronic Stress**, 5, 2021. doi: 10.1177/24705470211000338. URL http://dx.doi.org/10.1177/24705470211000338.

[15] Ali Moin, Andy Zhou, Abbas Rahimi, Alisha Menon, Simone Benatti, George Alexandrov, Senam Tamakloe, Jonathan Ting, Natasha Yamamoto, **Yasser Khan**, Fred Burghardt, Luca Benini, Ana C. Arias, and Jan M. Rabaey. A wearable biosensing system with in-sensor adaptive machine learning for hand gesture recognition. **Nature Electronics**, 4(1):54–63, 2020. doi: 10.1038/s41928-020-00510-8. URL http://dx.doi.org/10.1038/s41928-020-00510-8.

[16] Sara Rachel Arussy Ruth, Vivian Rachel Feig, Min-gu Kim, **Yasser Khan**, Jason Khoi Phong, and Zhenan Bao. Flexible fringe effect capacitive sensors with simultaneous high-performance contact and non-contact sensing capabilities. **Small Structures**, page 2000079, 2020. doi: 10.1002/sstr.202000079. URL http://dx.doi.org/10.1002/sstr.202000079.

[17] Alla M. Zamarayeva, Natasha A. D. Yamamoto, Anju Toor, Margaret E. Payne, Caleb Woods, Veronika I. Pister, **Yasser Khan**, James W. Evans, and Ana Claudia Arias. Optimization of printed sensors to monitor sodium, ammonium, and lactate in sweat. **APL Materials**, 8(10):100905, 2020. doi: 10.1063/5.0014836. URL http://dx.doi.org/10.1063/5.0014836.

[18] Xiaodong Wu, Maruf Ahmed, **Yasser Khan**, Margaret E. Payne, Juan Zhu, Canhui Lu, James W. Evans, and Ana C. Arias. A potentiometric mechanotransduction mechanism for novel electronic skins. **Science Advances**, 6(30), 2020. doi: 10.1126/sciadv.aba1062. URL http://dx.doi.org/10.1126/sciadv.aba1062.

[19] **Yasser Khan**, Hossain Mohammad Fahad, Sifat Muin, Hongquan Li, Ray Chang, Karthik Gopalan, Syed Tariq Reza, and Manu Prakash. A low-cost, helmet-based, non-invasive ventilator for covid-19. 2020. URL https://arxiv.org/abs/2005.11008.

[20] Donggeon Han, **Yasser Khan**, Jonathan Ting, Juan Zhu, Craig Combe, Andrew Wadsworth, Iain McCulloch, and Ana C. Arias. Pulse oximetry using organic optoelectronics under ambient light. **Advanced Materials Technologies**, page 1901122, 2020. doi: 10.1002/admt.201901122. URL http://dx.doi.org/10.1002/admt.201901122.

[21] Xiaodong Wu, **Yasser Khan**, Jonathan Ting, Juan Zhu, Seiya Ono, Xinxing Zhang, Shixuan Du, James W. Evans, Canhui Lu, and Ana C. Arias. Large-area fabrication of high-performance flexible and wearable pressure sensors. **Advanced Electronic Materials**, page 1901310, 2020. doi: 10.1002/aelm.201901310. URL http://dx.doi.org/10.1002/aelm.201901310.

[22] **Yasser Khan**, Arno Thielens, Sifat Muin, Jonathan Ting, Carol Baumbauer, and Ana C. Arias. A new frontier of printed electronics: Flexible hybrid electronics. **Advanced Materials**, 32(15):1905279, 2020. doi: 10.1002/adma.201905279. URL http://dx.doi.org/10.1002/adma.201905279.

[23] **Yasser Khan**, Donggeon Han, Jonathan Ting, Maruf Ahmed, Ramune Nagisetty, and Ana C. Arias. Organic multi-channel optoelectronic sensors for wearable health monitoring. **IEEE Access**, 2019. doi: 10.1109/ACCESS.2019.2939798. URL http://dx.doi.org/10.1109/ACCESS.2019.2939798.

[24] Varun Soman, **Yasser Khan**, Madina Zabran, Mark Schadt, Paul Hart, Michael Shay, Frank Egitto, Konstantinos Papathomas, Natasha AD Yamamoto, Donggeon Han, Ana C Arias, Kanad Ghose, Mark D Poliks, and James N Turner. Reliability challenges in fabrication of flexible hybrid electronics for human performance monitors: A system level study. **IEEE Transactions on Components, Packaging and Manufacturing Technology**, 2019. doi: 10.1109/TCPMT.2019.2919866. URL http://dx.doi.org/10.1109/TCPMT.2019.2919866.

[25] **Yasser Khan**, Donggeon Han, Adrien Pierre, Jonathan Ting, Xingchun Wang, Claire M Lochner, Gianluca Bovo, Nir Yaacobi-Gross, Chris Newsome, Richard Wilson, and Ana C Arias. A flexible organic reflectance oximeter array. **Proceedings of the National Academy of Sciences**, 115(47):E11015–E11024, 2018. doi: 10.1073/pnas.1813053115. URL http://dx.doi.org/10.1073/pnas.1813053115. **Media coverage: Physics World, UC Berkeley News Center, KCBS Radio, Innovators Magazine, The Engineer (UK), Medgadget, ScienceDaily, and many more.**

[26] Donggeon Han, **Yasser Khan**, Karthik Gopalan, Adrien Pierre, and Ana C Arias. Emission area patterning of organic light-emitting diodes (oleds) via printed dielectrics. **Advanced Functional Materials**, 28(37):1802986, 2018. doi: 10.1002/adfm.201802986. URL http://dx.doi.org/10.1002/adfm.201802986.

[27] Donggeon Han, **Yasser Khan**, Jonathan Ting, Simon M King, Nir Yaacobi-Gross, Martin J Humphries, Christopher J Newsome, and Ana C Arias. Flexible blade-coated multicolor polymer light-emitting diodes for optoelectronic sensors. **Advanced Materials**, 29(22):1606206, 2017. doi: 10.1002/adma.201606206. URL http://dx.doi.org/10.1002/adma.201606206.

[28] **Yasser Khan**, Mohit Garg, Qiong Gui, Mark Schadt, Abhinav Gaikwad, Donggeon Han, Natasha AD Yamamoto, Paul Hart, Robert Welte, William Wilson, Steve Czarnecki, Mark Poliks, Zhanpeng Jin, Kanad Ghose, Frank Egitto, James Turner, and Ana C Arias. Flexible hybrid electronics: Direct interfacing of soft and hard electronics for wearable health monitoring. **Advanced Functional Materials**, 26(47):8764–8775, 2016. doi: 10.1002/adfm.201603763. URL http://dx.doi.org/10.1002/adfm.201603763.

[29] Aminy E Ostfeld, Abhinav M Gaikwad, **Yasser Khan**, and Ana C Arias. High-performance flexible energy storage and harvesting system for wearable electronics. **Scientific reports**, 6:26122, 2016. doi: 10.1038/srep26122. URL http://dx.doi.org/10.1038/srep26122.

[30] **Yasser Khan**, Aminy E Ostfeld, Claire M Lochner, Adrien Pierre, and Ana C Arias. Monitoring of vital signs with flexible and wearable medical devices. **Advanced Materials**, 28(22):4373–4395, 2016. doi: 10.1002/adma.201504366. URL http://dx.doi.org/10.1002/adma.201504366.

[31] **Yasser Khan***, Felippe J Pavinatto*, Monica C Lin, Amy Liao, Sarah L Swisher, Kaylee Mann, Vivek Subramanian, Michel M Maharbiz, and Ana C Arias. Inkjet-printed flexible gold electrode arrays for bioelectronic interfaces. **Advanced Functional Materials**, 26(7):1004–1013, 2016. doi: 10.1002/adfm.201503316. URL http://dx.doi.org/10.1002/adfm.201503316. **Cover article.**

[32] Abhinav M Gaikwad, **Yasser Khan**, Aminy E Ostfeld, Shishir Pandya, Sameer Abraham, and Ana Claudia Arias. Identifying orthogonal solvents for solution processed organic transistors. **Organic Electronics**, 30: 18–29, 2016. doi: 10.1016/j.orgel.2015.12.008. URL http://dx.doi.org/10.1016/j.orgel.2015.12.008. **Solvents visualization program is available in the Downloads section: http://arias.berkeley.edu/downloads/.**

[33] Sarah L Swisher, Monica C Lin, Amy Liao, Elisabeth J Leeflang, **Yasser Khan**, Felippe J Pavinatto, Kaylee Mann, Agne Naujokas, David Young, Shuvo Roy, Michael R Harrison, Ana C Arias, Vivek Subramanian, and Michel M Maharbiz. Impedance sensing device enables early detection of pressure ulcers in vivo. **Nature communications**, 6:6575, 2015. doi: 10.1038/ncomms7575. URL http://dx.doi.org/10.1038/ncomms7575. **Media coverage: BBC News, UC Berkeley News Center, Futurity, NSF News, ACM Communications, and many more.**

[34] Claire M Lochner*, **Yasser Khan***, Adrien Pierre*, and Ana C Arias. All-organic optoelectronic sensor for pulse oximetry. **Nature communications**, 5:5745, 2014. doi: 10.1038/ncomms6745. URL http://dx.doi.org/10.1038/ncomms6745. ***Equal contribution. Media coverage: UC Berkeley Grad News, NSF Science 360 News, UC Berkeley News Center, Phys.Org, ScienceDaily, MSN News, Yahoo News, and many more.**

[35] Changxu Liu, Andrea Di Falco, D Molinari, **Yasser Khan**, Boon S Ooi, Thomas F Krauss, and Andrea Fratalocchi. Enhanced energy storage in chaotic optical resonators. **Nature Photonics**, 7(6):473, 2013. doi: 10.1038/nphoton.2013.108. URL http://dx.doi.org/10.1038/nphoton.2013.108. **Cover article. Media coverage: EurekAlert!, nanowerk, Photonics.com, ScienceDaily, Phys.Org, and many more.**

[36] **Yasser Khan**, Hisham Al-Falih, Yaping Zhang, Tien Khee Ng, and Boon S Ooi. Two-step controllable electrochemical etching of tungsten scanning probe microscopy tips. **Review of Scientific Instruments**, 83(6): 063708, 2012. doi: 10.1063/1.4730045. URL http://dx.doi.org/10.1063/1.4730045.

## Conference Proceedings

[1] Angsagan Abdigazy, Mohammad Shafiqul Islam, Mohammed Arfan, Md Farhad Hassan, Hossein Hashemi, and **Yasser Khan**. A self-orienting single-chip ingestible pill for electrochemical sensing in the gi tract. In *2024 IEEE Biomedical Circuits and Systems Conference (BioCAS)*. IEEE, 2024. doi: 10.1109/BioCAS61083.2024.10798307. URL http://dx.doi.org/10.1109/BioCAS61083.2024.10798307.

[2] Munia Ferdoushi, Mohammad Shafiqul Islam, Wenxin Cai, Sandra Lara Galindo, Md Farhad Hassan, and **Yasser Khan**. Fully-printed sensor based extended gate field effect transistors for wireless monitoring of potassium and ammonium ions. In *2024 IEEE SENSORS*, pages 1–4. IEEE, 2024.

[3] Felix Muñoz, Mohammad Shafiqul Islam, Helmut Stark, Ted Le, Krishna Shrinivas Nayak, and **Yasser Khan**. Flexible receiver coil using direct-3d-write technology at 0.55 t. In *International Society for Magnetic Resonance in Medicine Annual Meeting*, 2024.

[4] **Yasser Khan**, Matthew Louis Mauriello, Parsa Nowruzi, Akshara Motani, Grace Hon, Nicholas Vitale, Jinxing Li, Jayoung Kim, Amir Foudeh, Dalton Duvio, and others. On stress: Combining human factors and biosignals to inform the placement and design of a skin-like stress sensor. In *Proceedings of the CHI Conference on Human Factors in Computing Systems*, pages 1–13, 2024. doi: 10.1145/3613904.3643473. URL http://dx.doi.org/10.1145/3613904.3643473.

[5] **Yasser Khan**, Mohammad Shafiqul Islam, Munia Ferdoushi, and Md Farhad Hassan. Printed organic-electrochemical-transistor-based sensors for precision health. In *Soft Mechatronics and Wearable Systems*, page PC129480V. SPIE, 2024.

[6] Md Farhad Hassan, Samiha Tasnim, Leikhang Xiong, Munia Ferdoushi, Mohammed Arfan, and **Yasser Khan**. Ml driven optical monitoring of stress through electrodermal activity. In *Soft Mechatronics and Wearable Systems*, page PC129481H. SPIE, 2024.

[7] Mohammad Shafiqul Islam, Brince Kunnel, Md Farhad Hassan, Angsagan Abdigazy, and **Yasser Khan**. Fully-printed micro-oect patch for real-time sweat multi-analyte detection. In *MRS Spring Meeting, San Francisco, CA, USA*. MRS, 2023.

[8] Felix Munoz, Krishna Nayak, and **Yasser Khan**. Evaluation of a wearable bluetooth sensor at 0.55 t. In *International Society for Magnetic Resonance in Medicine Annual Meeting*, 2023.

[9] Md Farhad Hassan, Zijie Li, Mohammad Shafiqul Islam, Kathryne Keenan, Cevina Manzano, **Yasser Khan**, and Sifat Muin. A robust printed strain sensor for large-area structural health monitoring. In *2023 IEEE International Flexible Electronics Technology Conference (IFETC)*, pages 1–3. IEEE, 2023.

[10] **Yasser Khan**, Boris Murmann, and Zhenan Bao. Mentaid: A skin-like sensor system for decoding mental health. In *2020 eWEAR Annual Meeting, Stanford, CA, USA*, February 2020.

[11] **Yasser Khan**, Donggeon Han, Adrien Pierre, Jonathan Ting, Xingchun Wang, Claire M. Lochner, and Ana C. Arias. System design for flexible all-organic reflectance oximeter. In *MRS Spring Meeting, Phoenix, AZ, USA*, 2018.

[12] Donggeon Han, **Yasser Khan**, Karthik Gopalan, and Ana C. Arias. Emission area patterning of blade-coated organic light-emitting diodes (oleds) via printed dielectrics. In *MRS Spring Meeting, Phoenix, AZ, USA*, 2018.

[13] Ali Moin, Andy Zhou, Abbas Rahimi, Simone Benatti, Alisha Menon, Senam Tamakloe, Jonathan Ting, Natasha Yamamoto, **Yasser Khan**, Fred Burghardt, and others. An emg gesture recognition system with flexible high-density sensors and brain-inspired high-dimensional classifier. In *Circuits and Systems (ISCAS), 2018 IEEE International Symposium on*, pages 1–5. IEEE, 2018. doi: 10.1109/ISCAS.2018.8351613. URL http://dx.doi.org/10.1109/ISCAS.2018.8351613.

[14] Jonathan Ting*, Natasha Yamamoto*, **Yasser Khan***, Abhinav Gaikwad, and Ana Claudia Arias. Fully screen-printed nio thermistor arrays. In *Flexible Electronics Conference and Exhibition - 2018 FLEX, Monterey, CA, USA*, February 2018. **Best Poster Award.**

[15] Mark Poliks, James Turner, Kanad Ghose, Zhanpeng Jin, Mohit Garg, Qiong Gui, Ana Arias, Yasser Kahn, Mark Schadt, and Frank Egitto. A wearable flexible hybrid electronics ecg monitor. In *Electronic Components and Technology Conference (ECTC), 2016 IEEE 66th*, pages 1623–1631. IEEE, 2016. doi: 10.1109/ECTC.2016.395. URL http://dx.doi.org/10.1109/ECTC.2016.395.

[16] **Y. Khan** and A. C. Arias. Flexible electrode arrays for bioelectronic interfaces. In *Flexible and Printed Electronics Conference, CA, USA*, 2016.

[17] Ana Arias, **Yasser Khan**, Claire Lochner, Adrien Pierre, and Felippe Pavinatto. Use of polymeric semiconductors in flexible sensors. In *ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY*, volume 251. AMER CHEMICAL SOC 1155 16TH ST, NW, WASHINGTON, DC 20036 USA, 2016.

[18] **Yasser Khan**, Mark Schadt, Mohit Garg, Qiong Gui, Paul Hart, Robert Welte, Stephen Cain, Bill Wilson, Zhanpeng Jin, Mark Poliks, Kanad Ghose, Steve Czarnecki, Frank Egitto, James Turner, and Ana Claudia Arias. Inkjet-printed sensors for wearable health monitoring. In *MRS Fall Meeting, Boston, MA, USA*, 2015. **Best Oral Presentation Award**.

[19] **Yasser Khan**, Claire M Lochner, Adrien Pierre, and Ana Claudia Arias. System design for organic pulse oximeter. In *Advances in Sensors and Interfaces (IWASI), 2015 6th IEEE International Workshop on*, pages 83–86. IEEE, 2015. doi: 10.1109/IWASI.2015.7184975. URL http://dx.doi.org/10.1109/IWASI.2015.7184975.

[20] **Y. Khan**, M. Garg, M. Schadt, Q. Gui, P. Hart, Z. Jin, M. Poliks, R. Welte, S. Czarnecki, F. Egitto, K. Ghose, J. Turner, and A. C. Arias. Interfacing printed sensors to conventional electronics for wearable sensor patch. In *Flexible and Printed Electronics Conference, CA, USA*, 2015.

[21] Amy Liao, Monica C Lin, Lauren C Ritz, Sarah L Swisher, David Ni, Kaylee Mann, **Yasser Khan**, Shuvo Roy, Michael R Harrison, Ana C Arias, Vivek Subramanian, David Young, and Michel M Maharbiz. Impedance sensing device for monitoring ulcer healing in human patients. In *Engineering in Medicine and Biology Society (EMBC), 2015 37th Annual International Conference of the IEEE*, pages 5130–5133. IEEE, 2015. doi: 10.1109/EMBC.2015.7319546. URL http://dx.doi.org/10.1109/EMBC.2015.7319546.

[22] **Yasser Khan**, Adrien Pierre, Claire Lochner, and Ana C. Arias. All-organic green light pulse oximeter for wearable medical sensing. In *MRS Fall Meeting, Boston, MA, USA*, 2014.

[23] **Yasser Khan**, Felippe Pavinatto, and Ana Claudia Arias. Flexible printed circuit board for wearable physiological monitoring. In *MRS Spring Meeting, San Francisco, CA, USA*, April 2014. **Best Poster Award Nominee.**

[24] **Yasser Khan**, Adrien Pierre, Claire Lochner, and Ana Claudia Arias. Printed pulse oximeter for wearable medical sensor patch. In *NASCENT IAB Meeting, Austin, TX, USA.*, January 2014. **Best Poster Award**.

[25] **Yasser Khan**, Changxu Liu, Diego Molinari, Boon Ooi, and Andrea Fratalocchi. Energy harvesting in complex systems. In *Electrical Engineering Days, King Abdullah University of Science and Technology.*, February 2012. **Best Poster Award.**

[26] Hisham Al-Falih, **Yasser Khan**, Yaping Zhang, Damain Pablo San-Roman-Alerigi, Dongkyu Cha, Boon Siew Ooi, and Tien Khee Ng. Fabrication of tuning-fork based afm and stm tungsten probe. In *High Capacity Optical Networks and Enabling Technologies (HONET), 2011*, pages 190–192. IEEE, 2011. doi: 10.1109/HONET.2011.6149815. URL http://dx.doi.org/10.1109/HONET.2011.6149815.

[27] **Yasser Khan**, Josh Ballard, Yaping Zhang, Justin Alexander, Miles Larkin, and Boon Ooi. Facile method for fabricating reproducible tungsten probe tips with varying cone angles. In *International Conference on Materials for Advanced Technologies (ICMAT)*, 2011.

[28] **Yasser Khan**, Yaping Zhang, Muhammad Amin, A Bayraktaroglu, Tien Khee Ng, H Bağcı, J Phillips, and Boon S Ooi. Zno nanorods for simultaneous light trapping and transparent electrode application in solar cells. In *Photonics Conference (PHO), 2011 IEEE*, pages 619–620. IEEE, 2011. doi: 10.1109/PHO.2011.6110700. URL http://dx.doi.org/10.1109/PHO.2011.6110700.

[29] **Yasser Khan** and John Randall. Wireless embedded control system for atomically precise manufacturing. In *Information Technology: New Generations (ITNG), 2011 Eighth International Conference on*, pages 965–969. IEEE, 2011. doi: 10.1109/ITNG.2011.165. URL http://dx.doi.org/10.1109/ITNG.2011.165.

[30] **Yasser Khan**, Josh Ballard, Justin Alexander, Miles Larkin, and Boon Ooi. Controllable electrochemical etching of tungsten stm tips. In *First WEP Research Poster Session, King Abdullah University of Science and Technology.*, January 2011. **Best Poster Award.**

[31] **Yasser Khan**, Yaping Zhang, Muhammad Amin, Tien Khee Ng, Jamie Phillips, Hakan Bagci, and Boon Ooi. Zno nanorods for simultaneous light trapping and transparent electrode application in solar cells. In *First Graduate Research Symposium, King Abdullah University of Science and Technology.*, May 2011. **Best Poster Award.**

## Patents

[1] **Yasser Khan**, Donggeon Han, Adrien Pierre, Jonathan Ting, Xingchun Wang, Claire Meyer Lochner, and Ana Arias. Printed all-organic reflectance oximeter array, April 23 2024. US Patent 11,963,764.

[2] Ana Claudia Arias, Xiaodong Wu, **Yasser T Khan**, Jonathan KangYu Ting, and Natasha Ariane Diniz Yamamoto. Scalable and high-performance pressure sensors for wearable electronics, May 12 2022. US Patent App. 17/503,999.

[3] Ana Claudia Arias, Donggeon Han, **Yasser T Khan**, Jonathan KangYu Ting, and Igor Igal Deckman. Pulse oximetry using ambient light, February 10 2022. US Patent App. 17/373,345.

[4] **Yasser T Khan**, Donggeon Han, Jonathan KangYu Ting, Maruf Ahmed, and Ana Claudia Arias. Organic multi-channel optoelectronic sensors for wearable health monitoring, June 23 2022. US Patent App. 17/691,437.

[5] Yuxin Liu, Zhenan Bao, and **Yasser Khan**. Stretchable electrocardiogram (ecg) apparatuses, November 24 2022. US Patent App. 17/772,457.

[6] Ana Claudia Arias, Claire Lochner, Adrien Pierre, and **Yasser Khan**. Reflectance based pulse oximetry systems and methods, February 4 2020. US Patent 10,548,519.

[7] Michel Maharbiz, Vivek Subramanian, Ana Claudia Arias, Sarah Swisher, Amy Liao, Monica Lin, Felippe Pavinatto, **Yasser Khan**, Daniel Cohen, Elisabeth Leeflang, and others. Methods and apparatus for monitoring wound healing using impedance spectroscopy, November 5 2019. US Patent 10,463,293.

[8] Claire Meyer Lochner, Rachel Nancollas, Jacob Sadie, **Yasser Khan**, and Ana Claudia Arias. Flexible, non-invasive real-time hematoma monitoring system using near-infrared spectroscopy, May 3 2018. US Patent App. 15/852,366.

## Invited Talks

1. **November 2025, R.K. Cho Medical Forum on advancing medical engineering at Yonsei University, Korea**
2. **August 2025, IEEE International Flexible Electronics Technology Conference (IFETC) in Vancouver, BC** *3D Gas and Chemical Mapping in the Gut with AI-Enabled Ingestible and Wearable Electronics.*
3. **June 2025, University of California, Santa Cruz**
4. **June 2025, IEEE International Conference on Flexible Printable Sensors and Systems. IEEE FLEPS 2025, Singapore** *3D Gas and Chemical Mapping in the Gut with AI-Enabled Ingestible and Wearable Electronics.*
5. **May 08, 2025, Purdue University**
6. **March 01, 2025, Bangladesh University of Engineering and Technology, Bangladesh**
7. **February 26, 2025, Islamic University of Technology, Bangladesh**
8. **February 15, 2025, Chittagong University of Engineering and Technology, Bangladesh**

9. **October 29, 2024, Icahn School of Medicine at Mount Sinai, New York** *Hardware Technologies for Precision Mental Health.*
10. **September 14, 2024, Global AI (GAIN) Summit, Riyadh, Saudi Arabia** *AI in Health.*
11. **March 27, 2024, SPIE Soft Mechatronics and Wearable Systems** *Printed organic-electrochemical-transistor-based sensors for precision health.*
12. **February 14, 2024, Sharif University** *Hardware Technologies for Precision Mental Health.*
13. **November 1, 2023, Terasaki Institute, CA:** *Hardware technologies for mental health.*
14. **September 29, 2023, Invited seminar, Berkeley BETR Center, Berkeley, CA:** *Wearables for Health and Mind.*
15. **August 19, 2023, USC Micro Seminar:** *Wearables for Health and Mind.*
16. **1-3, 2023, IEEE International Flexible Electronics Technology Conference (IFETC), San Jose, CA:** *Soft sensor systems for precision health and psychiatry.*
17. **April 25, 2023, Distinguished BMEN GSA Seminar series, Dallas, TX:** *Soft sensor systems for precision health and psychiatry.*
18. **March 16, 2023, USC AI Futures Symposium: AI on the Edge:** *Sensing biosignals through electronic skin.*
19. **February 24, 2023, C2SHIP: Center to Stream Healthcare in Place:** *Soft sensor systems for precision health and psychiatry.*
20. **February 3, 2023, USC Institute for Creative Technologies:** *Soft sensor systems for precision health and psychiatry.*
21. **December 7, 2022, Northrop Grumman, Los Angeles, CA:** *Printed and flexible electronics for health and performance monitoring.*
22. **December 5, 2022, Department of Electrical Engineering and Computer Sciences, Washington State University:** *Skin-like, scalable, and accessible wearables for mental health.*
23. **August 19, 2022, USC Micro Seminar:** *Wearables for Health and Mind.*
24. **April 8, 2022, Department of Biomedical Engineering Seminar Series at Texas A&M University:** *Skin-like, scalable, and accessible wearables for mental health.*
25. **March 3, 2022, Frontiers in Neuropsychiatry Seminars at Weil Cornell Medicine Psychiatry:** *Skin-like, scalable, and accessible wearables for mental health.*
26. **February 24, 2022, 2nd International Conference on Advancement in Electrical and Electronic Engineering, Dhaka, Bangladesh:** *Skin-like, scalable, and accessible wearables for mental health.*
27. **May 2020, eWear Seminar, Stanford University:** *A low-cost, helmet-based, non-invasive ventilator for COVID-19.*
28. **January 2020, Catalyst Symposium on Mental Health, Stanford University:** *Mentaid: A skin-like sensor system for decoding mental health.*
29. **June 2019, eWear Seminar, Stanford University:** *Soft, skin-like, organic optoelectronic sensors for wearable oximetry.*
30. **December 2018, Kateeva:** *Wearable medical sensors enabled by printed bioelectronics and biophotonics.*
31. **March 2018, University of Southern California:** *Integration of printed sensors to flexible hybrid electronics for wearable health monitoring.*
32. **February 2018, Purdue University:** *Integration of printed sensors to flexible hybrid electronics for wearable health monitoring.*

## Selected News Coverage

1. **2024, USC News:** *First Aid.* [Link]
   USC physicians are creating byte-size miracles through AI innovation.
2. **2024, Packard Foundation:** *Meet our 2024 Packard Fellows for Science and Engineering!.* [Link]
   The David and Lucile Packard Foundation Announces the 2024 Class of Packard Fellows for Science and Engineering.
3. **December 2019, Medical Device Developments:** *Your heart on your sleeve.* [Link]
   Interview with Medical Device Developments magazine regarding materials for next-generation wearables.

4. **November 2018, Physics World:** *Flexible sensor maps blood oxygen levels.* [Link]
5. **November 2018, Berkeley News:** *Skin-like sensor maps blood-oxygen levels anywhere in the body.* [Link]
6. **December 2018, American Society of Mechanical Engineers:** *Oxygen-Mapping Sensor Could Improve Organ Transplants, Skin Grafts.* [Link]
7. **November 2018, The Engineer:** *Flexible oximeter maps blood-oxygen anywhere on the body.* [Link]
8. **March 2015, Daily Californian:** *Smart bandage shows early tissue damage not visible to the eyes.* [Link]
9. **March 2015, BBC News:** *Smart bandage to detect bedsores.* [Link]
10. **January 2015, Berkeley Graduate Division:** *Engineering Team Invents Affordable Medical Sensor.* [Link]
11. **March 2015, ACM Communications:** *'Smart Bandage' Detects Bedsores Before They Are Visible to Doctors.* [Link]
12. **December 2014, Berkeley News:** *Organic electronics could lead to cheap, wearable medical sensors.* [Link]
13. **May 2013, Photonics:** *Chaos Overcomes Order ... for Light Storage.* [Link]

## Professional Activities

- **Editor and review services:**
- Editor (2021-2022) IEEE Photonics Journal
- Reviewer: Nature, Nature Electronics, Nature Communications, Proceedings of the National Academy of Sciences, PNAS, Science Advances, ACS Nano, Advanced Optical Materials, Advanced Engineering Materials, IEEE Sensors Journal, IEEE Sensors Letters, IEEE Transactions of Electron Devices, AIP Advances, and many others.

- **USC services:**
- 2024 PhD fellowship committee
- 2025 Faculty hiring committee
- PhD Qualifying exam committee: Sandeep Zechariah George Kollannur (CS), Yanyu Li (ECE), Ray Sun (ECE), Akash Roy (ECE), Alyssa Donawa (ECE)
- 2022, 2023, 2025 Committee member - USC Munushian seminar series
- 2024, 2025, Judge USC MHI scholars program
- 2023 Panelist Viterbi ECE undergrad admission outreach, Viterbi Undergraduate honors class

- **IEEE services:**
- 2025 Track Chair: IEEE International Conference on Flexible, Printable Sensors and Systems (FLEPS 2025)
- 2024 Session Chair IEEE IFETC
- 2022 Subcommittee Member for IFETC 2022 in San Jose
- 2022 Subcommittee Member for IEEE FLEPS 2022 in Boston

## Teaching

### EE 105, Introduction to Electrical Engineering, (new course) – *Fa '24*

This introductory course is designed to provide a high-level understanding of electronic systems from both hardware and software perspectives. Students will learn about the building blocks of these systems, including basic circuits and passive and active electronic components such as resistors, capacitors, inductors, diodes, transistors, optoelectronic components, and sensors. The course will culminate in the design, construction, and testing of an optical biosensor, integrating the various concepts covered. Additionally, topics in linear algebra, signals and systems, and neural networks will be introduced to implement an image classification system. Another key aspect of the course focuses on communication systems, particularly free-space optical communication, where students will work with pairs of emitters and detectors. Throughout the course, a custom demonstration board equipped with hardware modules on circuits, devices, systems, and embedded machine learning for image

classification will be used to provide hands-on learning experiences. In summary, this course introduces students to electrical engineering, emphasizing practical, hands-on learning of hardware and software systems utilizing AI and ML tools.

### EE 599, Bioelectronics, (new course) – *Fa '22, Sp '24*

Bioelectronics is the discipline resulting from the convergence of biology and electronics. Exciting developments in the field of soft electronics and miniaturized integrated circuits in the past three decades have added a new dimension to bioelectronics – we now can design sensor and actuator systems that are as soft as the biological matter, and as small as the size of human fingertips. In this graduate-level introductory class, students will learn about the exciting new developments in the field of flexible and stretchable wearables, implantable, and ingestible medical devices. Starting from biochemical and biophysical concepts and methods, materials, fabrication, device, and sensor design for bioelectronics will be presented. Materials/form factor design will be addressed from the perspective of new concepts in bioelectronics for multimodal wearable patches and implanted probes for diagnostic and therapeutic applications. The course will include two problem sets, a final exam, and a group project on current leading-edge research topics in bioelectronics.

### ENGR 102, Freshman Academy – *Fa '23, Fa '24*

The primary purpose of Freshman Engineering Academy (ENGR 102) is to introduce first-year students to the "Viterbi Experience." The faculty in the Viterbi School recognize that entering engineering, computer and materials science students are highly qualified to pursue undergraduate studies at Viterbi; and, that the identity of each student relative to any given major is important. Viterbi is a high-performance and academically demanding environment that will stretch the skill set of most students. Thus, a major focus of the course is to introduce students to subject matter, contexts, skills, experiences, faculty, advanced students, and staff that can assist in the onboarding undergraduate experience that is critical for all students as they are welcomed into the Trojan Family, and thereby situate students for success in Viterbi academic programs. The ENGR 102 course content is positioned around three themes: (1) Engineering and Computer Science Skills and Strategies, (2) Research, and (3) Career Preparedness. Accordingly, the course topics are divided among these themes.

### Teaching at Berkeley and KAUST

| | |
|---|---|
| Lab / Content TA, EE 16A, Designing Information Devices and Systems I, UC Berkeley | *Fall '17* |
| Lab / Content TA, EE 16A, Designing Information Devices and Systems I, UC Berkeley | *Spring '17* |
| Lab TA, EE 306, Electronic and Optical Properties of Semiconductors, KAUST | *Fall '12* |

## Bio

Yasser Khan is the Andrew and Erna Viterbi Early Career Chair and an Assistant Professor in the Ming Hsieh Department of Electrical and Computer Engineering at the University of Southern California, which he joined in 2022. He earned his B.S. and M.S. degrees in Electrical Engineering from the University of Texas at Dallas and KAUST, respectively. Dr. Khan completed his Ph.D. in Electrical Engineering and Computer Sciences at the University of California, Berkeley, in 2018, and later conducted postdoctoral research in the Department of Chemical Engineering at Stanford University. Dr. Khan's research focuses on additive manufacturing and hardware-enabled AI to develop next-generation wearables, implantables, and ingestibles for precision health and psychiatry. He has received several prestigious honors, including the 2024 Packard Fellowship, the 2025 Air Force Office of Scientific Research Young Investigator Award, the 2025 IEEE Sensors Council Early Career Technical Achievement Award, the 2025 USC Viterbi Junior Faculty Research Award, and the 2023 Google Research Scholar Award. Earlier in his career, he received the EECS Departmental Fellowship at UC Berkeley, the Discovery Scholarship and Graduate Fellowship at KAUST, and the Academic Excellence Scholarship at UT Dallas. His work has been published in Nature and Science family of journals, Cell Reports, Advanced Materials, PNAS, and other leading platforms, and has been featured by major outlets including BBC News, The Wall Street Journal, Newsweek, and NSF News.

# Students

## PhD students:

1. **Ansa Abdigazy** (ECE) Start Date: 01/01/2022
2. **Felix Muñoz** (BME)(co-advised with Krishna Nayak) Start Date: 03/01/2022
3. **Mohammad Shafiqul Islam** (ECE) Start Date: 08/15/2022
4. **Md Farhad Hassan** (ECE) Start Date: 08/15/2022
5. **Munia Ferdoushi** (ECE) Start Date: 01/01/2023
6. **Sandra Lara Galindo** (BME) Start Date: 01/01/2024
7. **Lama Almofeez** (BME) Start Date: 08/15/2024
8. **June Shao** (ECE) Start Date: 08/15/2025
9. **Thilina Ambagahawaththa** (ECE) Start Date: 08/15/2025
10. **Sudipta Saha** (ECE) Start Date: 01/01/2026

## MS students:

1. **Shounak Das** (MS in ECE) (2025-)
2. **Ananth Soundarya Sundara Ananth** (MS in ECE) (2025-)
3. **Wenxin Cai** (MS in MSE) (2024-)
4. **Vikas Addepalli** (MS in ECE) (2024-)
5. **Samiha Tasnim** (MS in ECE, currently at Abbott) (2023-2024)
6. **Mohammed Arfan** (MS in ECE, currently at Apple) (2022-2023)
7. **Zijie Li** (MS in MSE, currently at Terasaki Institute) (2022-2023)
8. **Aobo Zhang** (MS in ECE, currently at USC) (2022-2023)
9. **Chad Derosier** (MS in ECE, currently at Boeing) (2022-2023)
10. **Manoj Sunkara** (MS in ECE, currently at Qualcomm) (2022-2023)

## Undergraduate students:

1. **Sangwon Cha** (2022-2025)
2. **June Shao** (2022-2025)
3. **Liekhang Xiong** (2022-2025)
4. **Jaden Coward (Duke)** (2024-2025)
5. **Hansini Ramacharan** (2024-2025)
6. **Kaiden Ko** (2024-2025)
7. **Owen Zeng** (2024-2025)
8. **Emily Rowson** (2024-2025)
9. **Katherine** (2024-2025)
10. **Ted Le** (2024-2025)
11. **Kyle Woo** (2024-2025)
12. **Krishna Srikanth** (2024-2025)
13. **Rachel Kurian (Texas A&M)** (2024-2025)
14. **Anchal Srivastava** (2023-2024)
15. **Cathy Zhu** (2023-2024)
16. **Cedar Rose Leach** (2023-2024)
17. **Erin Coulon** (2023-2024)
18. **Marshall Graves** (2023-2024)
19. **Owen Zheng** (2023-2024)
20. **Adre Rodrigues** (2023-2024)
21. **Kevin Luo Cha** (2023-2024)
22. **Tessa Wills** (2022-2023)
23. **Jessica Yuan** (2022-2023)

24. **Kathryne Keenan** (2022–2023)
25. **Diego Garcia** (2022–2023)
26. **Cevina Manzano** (2022–2023)
27. **Reo Tseng** (2022–2023)
28. **Arda Caliskan** (2022–2023)
29. **Emily Zhou** (2022–2023)

## References

Available upon request.

Updated: November 30, 2025