

ELLIS F. MENG

University of Southern California
USC Viterbi School of Engineering
Alfred E. Mann Department of Biomedical Engineering
Michelson Center for Convergence Bioscience 471 (MCB 471)

<http://biomems.usc.edu>
1042 Downey Way, 140 DRB
Los Angeles, CA 90089-1111
tel: (213) 740-6952, fax: (213) 821-3897
ellis.meng@usc.edu

EDUCATION

Doctor of Philosophy, Electrical Engineering January 2003
California Institute of Technology, Pasadena, CA
Thesis Advisor: Yu-Chong Tai, Ph.D.
Thesis Title: MEMS Technology and Devices for a Micro Fluid Dosing System

Master of Science, Electrical Engineering June 1998
California Institute of Technology, Pasadena, CA

Bachelor of Science with Honors, Engineering and Applied Science June 1997
California Institute of Technology, Pasadena, CA

HONORS AND AWARDS

2022 Mentor and University of Southern California Representative, Asia Pacific Women in Leadership (APWIL) Mentoring Program

2021 Member and Executive Program Committee, California Academy of Bioengineering

2021 Provost's Mentoring Award

2020 Shelly and Ofer Nemirovsky Chair in Convergent Biosciences

2019 IEEE Sensors Council Technical Achievement Award in Sensors (Advanced Career)

2018 Fellow, National Academy of Inventors (NAI)

2018 Member, National Academies Intelligence Community Studies Board Planning Committee for Facilitating Greater S&T Access

2018 IEEE EMBS Technical Achievement Award

2017 Fellow, Biomedical Engineering Society (BMES)

2017 Fellow, American Society of Mechanical Engineers (ASME)

2017 Invited Speaker, Frontiers of Engineering, National Academies of Engineering

2016-2019 Gabilan Distinguished Professorship in Science and Engineering, USC Women in Science and Engineering Program

2016 IEEE Electron Devices Society Microelectromechanical Systems Technical Committee

2016 USC Mentoring Award, Faculty Mentoring Faculty

2016 Fellow, IEEE

2015 Orange County Engineering Council Distinguished Engineering Merit Award

2014 Fellow, American Institute for Medical and Biological Engineering (AIMBE)

2014 American Society for Engineering Education, Engineering Research Council – Curtis W. McGraw Research Award

2013 2nd Place Student Paper Award, IEEE EMBS Neural Engineering Conference

2013 California Dreamin' Business Plan Competition, 3rd place award

2013 Member, Phi Tau Phi Scholastic Honor Society of America

2013 Maseeh Entrepreneurship Prize Competition 1st place Alumni Choice Award

2013 Best Poster Award, 7th International Conference of Microtechnologies in Medicine and Biology

2013 USC Mellon Mentoring Culture of Mentoring Award

2012 Medical Device and Diagnostic Industry's MedTech 40 under 40

2011 Viterbi School of Engineering Use-Inspired Research Award

2011 NSF I-Corps (Innovation Corps) Award (first class)

2011 TATRC/Qualcomm Wireless Health Innovation Challenge Winner

2011 Invited Participant in Women's International Research Engineering Summit

2010 Innovative Young Engineering Educator selected for participation in National Academies Frontiers of Engineering Education Symposium

2010 Participant in President's Innovation and Technology Advisory Committee (PITAC)/President's Council of Advisors on Science and Technology (PCAST) Workshop on Nano, Bio, and Info Technology Infrastructure

2010 USC Stevens Center for Innovation Ideas Empowered Program Winner (first class)

2009 Technology Review Young Innovators Under 35

2009 IEEE Senior Member

2009 Best Paper Award, 15th International Conference on Solid-State Sensors, Actuators & Microsystems (Transducers 2009)

2009 Nomination for Denice Denton Emerging Leader Award

2008 Wallace H. Coulter Foundation Early Career Award

2008 Nomination for AAAS Mentor Award

2008 Nomination for NSF A.T. Waterman Award

2008 Nomination for Denice Denton Emerging Leader Award

2007-2009 Viterbi Early Career Chair

2006 Best Student Poster Award, 10th Micro Total Analysis System Conference

2006 NSF CAREER Award

2005 Nomination for Packard Foundation Fellowship

2004 3rd Place Student Paper Award, IEEE EMBS Conference

2004 Charles Lee Powell Foundation Award

2004 University of Southern California Women in Science and Engineering Award

1997 Caltech Special Institute Fellowship

1997 Caltech Alumni Association Donald S. Clark Award

1996 College Women's Club of Pasadena Scholarship

1996 Intel Women in Science and Engineering (WISE) Scholar

1996 Member, Tau Beta Pi

WORK EXPERIENCE

7/20- present	University of Southern California Shelly and Ofer Nemirovsky Chair in Convergent Biosciences	Los Angeles, CA
5/19-present	University of Southern California Vice Dean for Technology Innovation and Entrepreneurship, Viterbi School of Engineering	Los Angeles, CA
11/13-present	University of Southern California Director, Biomedical Microsystems Laboratory Professor, Department of Biomedical and Electrical and Computer Engineering	Los Angeles, CA
07/15-present	University of Southern California PI, USC Coulter Translational Research Partnership Program	Los Angeles, CA
07/15-06/18	University of Southern California Dwight C. and Hildagarde E. Baum Chair, Department of Biomedical Engineering	Los Angeles, CA
07/10-07/15	University of Southern California Chair, Women in Science and Engineering Program, Viterbi School of Engineering	Los Angeles, CA
04/10-11/13	University of Southern California Director, Biomedical Microsystems Laboratory Associate Professor, Department of Biomedical and Electrical Engineering	Los Angeles, CA
07/04-04/10	University of Southern California Director, Biomedical Microsystems Laboratory Assistant Professor, Department of Biomedical and Electrical Engineering Viterbi Early Career Chair	Los Angeles, CA
01/04-06/04	Berkeley Sensor and Actuator Center, University of California Assistant Director	Davis, CA
10/03-06/04	University of California Assistant Professor, Department of Mechanical and Aeronautical Engineering Assistant Professor, Electrical and Computer Engineering Graduate Group	Davis, CA
10/03-04/08	California Institute of Technology Visiting Associate	Pasadena, CA
02/03-10/03	California Institute of Technology Postdoctoral Scholar Advisors: Yu-Chong Tai, Ph.D. and Jerome Pine, Ph.D.	Pasadena, CA

07/98-02/03	California Institute of Technology Graduate Research Assistant Advisor: Yu-Chong Tai, Ph.D.	Pasadena, CA
04/97-07/97	California Institute of Technology Undergraduate Research Assistant Advisor: Yu-Chong Tai, Ph.D.	Pasadena, CA
07/96-09/96	NIPPONDENSO Co., Ltd. Caltech-Japan Summer Intern	Kariya-shi, Aichi-ken, Japan
01/95-10/95	California Institute of Technology Undergraduate Research Assistant Advisors: Harry A. Atwater, Ph.D.	Pasadena, CA
06/94-12/94	California Institute of Technology Caltech Summer Undergraduate Research Fellow	Pasadena, CA

OTHER WORK EXPERIENCE

04/17-present	Co-Founder and Chief Scientific Officer Senseer LLC	Pasadena, CA
01/10-present	Co-Founder and Chief Scientific Officer Fluid Synchrony LLC	Pasadena, CA
08/03-07/06	California Institute of Technology Resident Associate in Off-Campus Housing	Pasadena, CA
08/99-08/03	California Institute of Technology Resident Associate in Lloyd House	Pasadena, CA
11/00-03/02	California Institute of Technology Assistant Coach (for Caltech NCAA Division III Womens' Basketball Team)	Pasadena, CA
07/95-09/95	California Institute of Technology Caltech Young Engineers and Science Scholars (YESS) Program Counselor	Pasadena, CA

TEACHING EXPERIENCE

10/95-03/02	California Institute of Technology Teaching Assistant APh 9 Solid-State Electronics for Integrated Circuits; Instructor: Axel Scherer, Ph.D.	Pasadena, CA
08/01-10/01	California Institute of Technology Research Mentor (for Caltech Freshman Summer Institute Program)	Pasadena, CA
01/98-03/98	California Institute of Technology Teaching Assistant APh 77 Laboratory in Applied Physics; Instructor: Stephen Quake, Ph.D.	Pasadena, CA
04/98-06/98	California Institute of Technology Teaching Assistant EE 90 Analog Electronics Project Laboratory; Instructor: Barry Megdal, Ph.D.	Pasadena, CA
07/98-09/98	California Institute of Technology Young Engineers and Science Scholars (YESS) Program Instructor	Pasadena, CA

COURSES TAUGHT

- Fall 2022, BME 451L: Fundamentals of Biomedical Microdevices, USC
- Fall 2020, BME 499: Microtechnology-enabled Biomedical Devices (online), USC
- Summer 2019, BME 490: Directed Research, Robert Sutherland, USC
- Spring 2018, ENGR 395: Cooperative Education Work Experience, USC; co-op supervisor for Holly Huber, USC
- Fall 2013, ENGR 101: Introduction to Engineering, USC
- Fall 2013-14, BME 551: Introduction to Bio-MEMS and Nanotechnology, USC
- Fall 2006-08, 2011-12, ENGR 102: Engineering Freshman Academy, USC

- Fall 2005-09, 2012-13, 2015, 2016, 2017, 2019; Spring 2011-12, 2015, BME 451: Fundamentals of Biomedical Microdevices, USC
- Spring 2005-11, BME 650: Biomedical Measurement and Instrumentation, USC
- Winter 2004, EME 165: Fundamentals of Heat Transfer, UC Davis
- Spring 2003, EE 40: Introduction to Solid-State Sensors and Actuators (co-taught with Y.C. Tai), Caltech

COURSES DEVELOPED

- Fall 2006, ENGR 102: Engineering Freshman Academy, USC
- Fall 2005, BME 451: Fundamentals of Biomedical Microdevices, USC
- Spring, 2005, BME 650 Biomedical Measurement and Instrumentation, USC
- Fall 2022, BME 451L: Fundamentals of Biomedical Microdevices, USC

INVITED LECTURES

- Fall 2004, BME 551: Introduction to Bio-MEMS and Nanotechnology, 1 lecture
- Fall 2007, 2009-10 BME 452: Introduction to Biomimetic Neural Engineering, 1 lecture
- Fall 2007-8, ENGR 150L: Engineering Science and Systems: From Humans to Robots, 4 lectures
- Fall 2009, ENGR 101: Introduction to Engineering, 1 lecture
- Fall 2009, ENGR 102: Engineering Freshman Academy, 2 lectures
- Fall 2009, (Keck School of Medicine) Medicine at the Benchtop and Bedside, 1 lecture
- Spring 2010, EE 454 (Cal State Los Angeles) Biomedical Signal Processing, 1 lecture
- Spring 2012, BAEP 557: Technology Commercialization, 1 lecture
- Spring 2015, BME 201: Biomedical Engineering Practice, 1 lecture
- Fall 2015, ENGR 101: Introduction to Engineering, 1 lecture
- Fall 2019, BME804L: Developments in Neural Engineering at Duke University, 1 lecture
- Spring 2021, BME 552: Neural Implant Engineering, 1 lecture
- Spring 2022, EE 2: Electrical Engineering Entrepreneurial and Research seminar at Caltech, 1 lecture
- Fall 2024, ENGS 127: Bioelectronics at Dartmouth University, 1 lecture

GRADUATE STUDENT SUPERVISION

Member of Thesis Committee

1. Jaehoon Lee, "Integrated Wireless Piezoelectric Ultrasonic Transducer System for Biomedical Applications," Ph.D. in Electrical Engineering, University of Southern California, 2023, thesis advisor: Eun Sok Kim.
2. Wenxuan Jiang, "Design and application of a C-shaped miniaturized coil for transcranial magnetic stimulation in rodents," Ph.D. in Biomedical Engineering, University of Southern California, 2023, thesis advisor: Dong Song.
3. Aria Samiei, "Bidirectional Neural Interfaces for Neuroprosthetics," Ph.D. in Electrical and Computer Engineering, University of Southern California, 2021, thesis advisor: Hossein Hashemi.
4. Yongkui Tang, "Piezoelectric Ultrasonic and Acoustic Microelectromechanical Systems (MEMS) for Biomedical, Manipulation and Actuation Applications," Ph.D. in Electrical and Computer Engineering, University of Southern California, 2021, thesis advisor: Eun Sok Kim.
5. Ke Xu, "Neuromorphic Mechanical Computation for Decentralized Control of Soft Fluidic Robots," Ph.D. in Mechanical Engineering, University of Southern California, 2021, thesis advisor: Nestor Perez-Arancibia.
6. Florian Fallegger, "Integration of Hybrid Material Systems in Conformable Neural Interfaces," Ph.D. in Microsystems and Microelectronics, École Polytechnique Fédérale de Lausanne, 2020, thesis advisor: Stephanie Lacour.
7. Sahar Elyahoodayan, "Next Generation Neural Interface for Neural Modulation and Prosthesis," Ph.D. in Biomedical Engineering, University of Southern California, 2020, thesis advisor: Dong Song.
8. Christine Cheng, "Scale-up of Vapor-Phase Deposition of Polymers: Towards Large-Scale Processing" 2020, Ph.D. in Chemical Engineering, University of Southern California, 2020, thesis advisor: Malancha Gupta.
9. Joycelyn Yip, "Engineering Complementary In Vitro and Ex Vivo Cardiac Microphysiological Systems Towards Disease Modeling and Drug Screening" Ph.D. in Biomedical Engineering, University of Southern California, 2020, thesis advisor: Megan McCain.
10. Huijing Xu, "Multi-Region Recordings from the Hippocampus with Conformal Multi-electrode Arrays." Ph.D. in Biomedical Engineering, University of Southern California, 2019, thesis advisor: Dong Song.

11. Xiamo Zhou, "OSTE Microfluidic Technologies for Cell Encapsulation and Biomolecular Analysis," Ph.D. in Electrical Engineering, KTH – Royal Institute of Technology, 2017, thesis advisor: Wouter van der Wijngaart.
12. Xuechen Huang, "A Percutaneously Implantable Wireless Neurostimulator for Treatment of Stress Urinary Incontinence," Ph.D. in Biomedical Engineering, University of Southern California, 2017, thesis advisor: Gerald Loeb.
13. Benny Chen, "Selective Deposition of Polymer Coatings onto Structured Surfaces," Ph.D. in Chemical Engineering, University of Southern California, 2015, thesis advisor: Malancha Gupta.
14. Adriana Nicholson Vest, "Electronics Design and In Vivo Evaluation of a Wirelessly Rechargeable Fetal Micropacemaker," Ph.D. in Biomedical Engineering, University of Southern California, 2015, thesis advisor: Gerald Loeb.
15. Philip Kwong, "The Patterning of Polymer Thin Films on Porous Substrates via Initiated Chemical Vapor Deposition," Ph.D. in Chemical Engineering, University of Southern California, 2014, thesis advisor: Malancha Gupta.
16. Anna Rissanen, "Microsystems for Biological Cell Characterization," Ph.D. in Electrical Engineering, Aalto University, Finland, 2012
17. David Hyung Ham Kim, "Array Transducers for High Frequency Ultrasound Imaging," Ph.D. in Biomedical Engineering, University of Southern California, 2010, thesis advisor: Kirk Shung.
18. Jong Seob Jeong, "Transducers and Signal Processing Techniques for Simultaneous Ultrasonic Imaging and Therapy," Ph.D. in Biomedical Engineering, University of Southern California, 2010, thesis advisor: Kirk Shung.
19. Lisong Ai, "Spatial Mapping of Real-time Quantitative Shear Stress with Vascular Oxidative Stress," Ph.D. in Biomedical Engineering, University of Southern California, 2009, thesis advisor: Tzung Hsiai.
20. Brooke Basinger, "Modeling Retinal Prosthesis Mechanics," Ph.D. in Biomedical Engineering, University of Southern California, 2009, thesis advisor: Jim Weiland.
21. Nick Lo, "Thin Film Silicon for Implantable Electronics," Ph.D. in Electrical Engineering, California Institute of Technology, 2008, thesis advisor: Yu-Chong Tai.
22. Po-Jui Chen, "Implantable Wireless Intraocular Pressure Sensors," Ph.D. in Electrical Engineering, California Institute of Technology, 2008, thesis advisor: Yu-Chong Tai.
23. Kinon Chen, "Soft Tissue Characterization for Improving Surgical Procedures," Ph.D. in Biomedical Engineering, University of Southern California, 2008, thesis advisor: Jim Weiland.
24. Shivaram Selvam, "An *in vitro* Evaluation of Various Biomaterials for the Development of a Tissue-engineered Lacrimal Gland," Ph.D. in Chemical Engineering, University of Southern California, 2008, thesis advisor: Sam Yiu.
25. Mahsa Rouhanizadeh, "Interfacing Fluid Shear Stress with Vascular Oxidative Stress: Application of Nano and Micro Sensors," Ph.D. in Biomedical Engineering, University of Southern California, 2007, thesis advisor: Tzung K. Hsiai.
26. Jin Ho Chang, "Development of a Back-End Processing System for High Frequency Ultrasound B-Mode Imaging," Ph.D. in Biomedical Engineering, University of Southern California, 2007, thesis advisor: Kirk K. Shung.
27. Rachel Bitton, "A High Frequency Array-Based Photoacoustic Microscopy Imaging System," Ph.D. in Biomedical Engineering, University of Southern California, 2007, thesis advisor: Kirk K. Shung.
28. Damien Rodger, "Development of Flexible Parylene-based Microtechnologies for Retinal and Spinal Cord Stimulation and Recording," Ph.D. in Bioengineering, California Institute of Technology, 2007, thesis advisor: Yu-Chong Tai.
29. Tina Givrad, "Induction Power Microbolus Infusion Pump Used for Functional Neuroimaging Applications in Rodents," Ph.D. in Biomedical Engineering, University of Southern California, 2007, thesis advisor: David D'Argenio, Jean-Michel Maarek.
30. Chuang-Yuan Lee, "Acoustic Ejector Employing Lens with Air-Reflectors and Piezoelectrically Actuated Tunable Capacitor," Ph.D. in Electrical Engineering, University of Southern California, 2007, thesis advisor: Eun Sok Kim.
31. Angela Tooker, "Development of Biocompatible Parylene Neurocages for Action Potential Stimulation and Recording," Ph.D. in Electrical Engineering, California Institute of Technology, 2007, thesis advisor: Yu-Chong Tai.
32. Scott Miserendino, "A Modular Microfluidic Approach to Nano High-Performance Liquid Chromatography with Electrochemical Detection," Ph.D. in Electrical Engineering, California Institute of Technology, 2007, thesis advisor: Yu-Chong Tai.
33. Ashmita Gaur, "Intensity Discrimination in Single and Multi-Electrode Patterns in Cochlear Implants," M.S. in Biomedical Engineering, University of Southern California, 2007, thesis advisor: Robert Shannon.

34. Jungwoo Lee, "Theoretical Analysis of Single Beam Acoustic Tweezer using High Frequency Focused Ultrasound," Ph.D. in Biomedical Engineering, University of Southern California, 2006, thesis advisor: Kirk K. Shung.
35. Jongrit Lerdworatawee, "Low Noise Amplifier and Mixer Design Techniques for the Ultra Wideband Radio," Ph.D. in Electrical Engineering, University of Southern California, 2005, thesis advisor: Won Namgoong.
36. Matt Liger, "Uncooled Carbon Microbolometer Imager," Ph.D. in Electrical Engineering, California Institute of Technology, 2005, thesis advisor: Yu-Chong Tai.

Thesis Advisor

1. Po-Ying Brian Li, "Implantable BioMEMS Drug Delivery Systems," Ph.D. in Electrical Engineering – Electrophysics, 2009. – now at Alcon
2. Ronalee Lo[^], "Reusable BioMEMS: An Intraocular Drug Delivery Device and Microfluidic Interconnects," Ph.D. in Biomedical Engineering, 2009. – now at Cruise
3. Christian Gutierrez*, "Development of Flexible Polymer-Based MEMS Technologies for Integrated Mechanical Sensing in Neuroprosthetic Systems," Ph.D. in Biomedical Engineering, 2011. – now at Twenty Twenty Therapeutics
4. Jonathan Kuo, "Development of Micromachined Technologies for Neural Interfaces," Ph.D. in Biomedical Engineering, 2013. – now at USPTO
5. Heidi Gensler[^], "A Wireless Implantable MEMS Micropump System for Site-Specific Anti-cancer Drug Delivery," Ph.D. in Biomedical Engineering, 2013. – now at Beckman Coulter
6. Roya Sheybani[^], "Wireless Electrochemical Drug Delivery Micropump with Fully Integrated Electrochemical Dose Tracking Feedback System," Ph.D. in Biomedical Engineering, 2015. – now at Cytovale
7. Curtis Lee, "Strategies for Improving Mechanical and Biochemical Interfaces Between Medical Implants and Tissue," Ph.D. in Biomedical Engineering, 2015. – now at Beckman Coulter
8. Seth Hara, "Electrochemical Evaluation of Parylene-based Electrodes for Neural Applications," Ph.D. in Biomedical Engineering, 2015. – now at Mayo Clinic
9. Brian Kim, "Development of Implantable Parylene-based MEMS Technologies for Cortical Applications," Ph.D. in Biomedical Engineering, 2015. – now at Verily (formerly Google Life Sciences)
10. Lawrence Yu, "Thin Film Polymer Electrochemical Impedance Sensors for Microfluidic Measurement," Ph.D. in Biomedical Engineering, 2016. – now at Verily
11. Angelica Cobo^{^*}, "Parylene-Based Implantable Interfaces for Biomedical Applications," Ph.D. in Biomedical Engineering, 2017. – now at CERENOVUS
12. Ahuva Weltman (Hirschberg)[^], "Penetrating Parylene Neural Probe Array for Dense, *In Vivo*, Chronic Recordings," Ph.D. in Biomedical Engineering, 2018. – now at Abbott
13. Alexander Baldwin, "Thin-Film Impedimetric Sensors for Chronic *In Vivo* Use," Ph.D. in Biomedical Engineering, 2018. – now at University of Southern California
14. Jessica-Lizbeth Ortigoza-Diaz[^], "Development of Fabrication Technologies for Robust Parylene Medical Implants," Ph.D. in Biomedical Engineering, 2019. – now at Medtronic
15. Eugene Yoon, "Parylene C BioMEMS for Implantable Devices with Electrochemical Interfaces," Ph.D. in Biomedical Engineering, 2021. – now at University of Southern California
16. Trevor Hudson, "Liquid Flow Rate Sensing via Solution Resistance for *In Vivo* Applications," Ph.D. in Biomedical Engineering, 2021. – now at OPPO
17. Xuechun Wang[^], "Parylene-Based BioMEMS Sensors for Multiple Physiological Systems," Ph.D. in Biomedical Engineering, 2022. – now at Harvard University
18. James Yoo, "Compact Electronics for Enhanced Neural Interfaces and Microneedles," Ph.D. in Biomedical Engineering, 2024.
19. Brianna Thielen, "Fabrication and Packaging of Three-Dimensional Parylene C Neural Interfaces," Ph.D. in Biomedical Engineering, 2024.

Nikolas Barrera, Department of Biomedical Engineering
 Ruitong Chen, Department of Biomedical Engineering
 Yingyi Cindy Gao[^], Department of Biomedical Engineering
 Christopher Larson, Department of Biomedical Engineering
 Max Li, Department of Biomedical Engineering
 Jeannie Liang[^], Department of Biomedical Engineering
 Emmanuel Ramirez*, Department of Biomedical Engineering

Rotation Advisor

Alice Cho[^], 2007-2008, Department of Biomedical Engineering
Gabriela Mallén-Ornelas^{^*}, 2007-2008, Department of Biomedical Engineering
Heidi Gensler, 2008-2009[^], Department of Biomedical Engineering
Nadav Izvan, 2008-2009, Department of Biomedical Engineering
Jonathan Kuo, 2008-2009, Department of Biomedical Engineering
Man Nguyen, 2008-2009, Department of Biomedical Engineering
Sadaf Soleymani, 2008-2009[^], Department of Biomedical Engineering
Guru Sundar, 2008-2009, Department of Biomedical Engineering
Vijay Srinivasan, 2009, Department of Biomedical Engineering
Jinhyoung Park, 2009, Department of Biomedical Engineering
Sirish Nandyala, 2009-2010, Department of Biomedical Engineering
Seth Hara, 2009-2010, Department of Biomedical Engineering
Curtis Lee, 2009-2010, Department of Biomedical Engineering
Jun Seob Shin, 2009-2010, Department of Biomedical Engineering
Brian Kim, 2010-2011, Department of Biomedical Engineering
Roya Sheybani, 2010-2011[^], Department of Biomedical Engineering
Lawrence Yu, 2011-2012, Department of Biomedical Engineering
Nestor Cabrera Munoz, 2011^{*}, Department of Biomedical Engineering
Adriana Nicholson, 2012[^], Department of Biomedical Engineering
Yu Chen, 2012, Department of Biomedical Engineering
Chris Ramos, 2012, Department of Biomedical Engineering
Angelica Cobo^{^*}, 2013, Department of Biomedical Engineering
Li Zhou, 2013, Department of Biomedical Engineering
Alex Baldwin, 2013, Department of Biomedical Engineering
Alejandra Gonzalez Calle[^], 2013, Department of Biomedical Engineering
Xuecheng Huang, 2014, Department of Biomedical Engineering
Ahuva Weltman[^], 2014, MD/PhD Program
Jessica Ortigoza-Diaz[^], 2014 Department of Biomedical Engineering
Christopher Girard, 2015, Department of Biomedical Engineering
Eugene Yoon, 2015-2016, Department of Biomedical Engineering
James Yoo, 2015, Department of Biomedical Engineering
Trevor Hudson, 2015-2016, Department of Biomedical Engineering
Joycelyn Yip[^], 2016, Department of Biomedical Engineering
Sam Huynh[^], 2016, Department of Biomedical Engineering
Christopher Larson, 2016-2017, Department of Biomedical Engineering
Xuechun Sue Wang[^], 2017-2018, Department of Biomedical Engineering
Wenxuan Jiang[^], 2018, Department of Biomedical Engineering
Brianna Thielen[^], 2018-2019, Department of Biomedical Engineering
Catherine Yunis[^], 2018, Department of Biomedical Engineering
Ping Hu[^], 2018-2019, Department of Biomedical Engineering
Garret Soler, 2019-2020, Department of Biomedical Engineering
Nikolas Barrera, 2020, Department of Biomedical Engineering
Chen Gong, 2021, Department of Biomedical Engineering
Luciana Custer[^], 2022, Department of Biomedical Engineering
Sandra Lara Galindo[^], 2022, Department of Biomedical Engineering
Yingyi Cindy Gao[^], 2022, Department of Biomedical Engineering
Emmanuel Ramirez^{*}, 2022, Department of Biomedical Engineering
Jeannie Liang[^], 2023, Alfred E. Mann Department of Biomedical Engineering
Max Li, 2023, Alfred E. Mann Department of Biomedical Engineering
Ruitong Chen, 2023, Alfred E. Mann Department of Biomedical Engineering
Christine Ly[^], 2024, Alfred E. Mann Department of Biomedical Engineering
Jinghua Jenna Wen[^], 2024, Alfred E. Mann Department of Biomedical Engineering

Visiting Ph.D. Students (3 students)

Christoffer Abrahamsson, 2014-2015, Chalmers University of Technology, Gothenburg, Sweden
Aziliz Lecomte[^], 2015, University of Toulouse, Toulouse, France
Zachary Slingsby-Smith, 2018-2019, Imperial College, UK (Charles M. Vest NAE Grand Challenges for Engineering International Scholar)

POSTDOCTORAL FELLOW SUPERVISION (8)

Jonathan Kuo, 2014 – now at USPTO
 Kee Scholten, 2015-2019 – now at USC
 Alexander Baldwin, 2018-2019 – now at USC
 Tuo Zhou, 2023
 Quentin Rezard*, 2023-
 Alberto Esteban Linares, 2023-2024 – now at Elegen Bio
 Yan Gong, 2024-
 Paritosh Rustogi, 2024-

RESEARCH STAFF SUPERVISION (9)

Rachael Gallonio^, 2021-2022
 Xin Liu^, Ph.D., 2021-2022
 Steven Orler, 2022-2024, now at graduate school in physics at Florida A&M
 Jessica Ortigoza-Diaz^*, Ph.D., 2019-2021, now at Medtronic
 Artin Petrossians, Ph.D., 2022-
 Kee Scholten, Ph.D., 2019-
 Sahar Elyahoodayan^, Ph.D., 2022-
 Alexander Baldwin, Ph.D., 2023-
 Pallavi Gunalan^, 2023-2024

MASTERS STUDENT SUPERVISION (6 STUDENTS)

Ruitong Chen (USC)
 Michael Enferadi (USC)
 Kartikeya Gupta (USC)
 Mei Nickles (USC^*)
 Roya Sheybani (USC^)
 Michael Wang (USC)
 Lawrence Yu (USC)

UNDERGRADUATE STUDENT SUPERVISION (159 STUDENTS)

Tim Abram (Cal Poly SLO)	Madeleine Combs (USC^)	Lynn Jane Ho (USC^)
Bonnie Adams (USC^)	Jay Creech (USC)	Van Hoang (U Maryland^)
Erik Aguillon (USC^*)	Travis Dang (USC)	Jason Hoffman (USC)
Alex Alvarado (USC^*)	Jon Dawson (USC)	Brandon Hui (USC)
Asha Anderson (USC^*)	Jia Han Deng (USC^)	Edgardo Castro Ibarra (USC^*)
Brock Andrews (USC)	Iwari DeWees (USC^*)	Tanmay Iyer (USC)
Nethika Ariyashinghe (USC^)	Yakshita Desai (USC^)	Longpeng Jiao (USC)
Tim Auran (USC)	Catherine Desmond (USC^)	Aduragbemi Jibodu (USC)
Janelle Baker (Stanford^*)	Jordan Domanico (USC)	Willa Jin (USC^)
Analiiese Marie Bancroft (Stanford^)	Diya Dwarakanath (USC^)	David Johnson (USC)
Kevin Barr (USC)	Sahar Elyahoodayan (USC^)	Christopher Jones (USC)
Jennifer Benbow (USC^)	Gerson Estrada (USC^*)	Leila Jones (USC^)
Barbara Boyajian (USC^)	Michael Enferadi (USC)	Louis Jug (USC)
Kwayera Burrows (USC^*)	Jared Fleitman (USC^*)	Brian Kim (Duke)
Emma Calderone (USC^*)	Stephanie Fong (USC^)	Jason Kim (Northwestern)
Alex Castaneda (UC Berkeley^*)	Alexis Foroozan (USC^)	"Alex" Young Ouk Kim (USC)
James Chan (USC)	Tanya Gandhi (USC^)	David King (USC)
Neiloy Chaudhuri (USC)	Jason Geathers (U. Michigan^*)	Chris Koo (Harvey Mudd)
Christina Chen (USC^)	Daniela Gergley (USC^)	Gavin Kress (USC)
Heather Chen (USC^)	Amreeta Gill (MIT^)	Nithya Kubendran (USC^)
Jason Chen (USC)	Julia Gloria (USC^)	Swarun Kulasekaran (USC)
Ruitong Chen (USC)	SriVaishnavi Gomatham (IIT Madras^)	Wunna Kyaw (USC)
Kylie Chinn (USC^)	Monica Guerrero (USC^*)	Christopher Larson (USC)
Erica Chiu (USC^)	Maneesh Gujrati (U Miami)	Lauren Lawson (USC^)
Alexander Chung (USC)	Jeffrey Guo (U Wisconsin)	Cedar Rose Leach (USC^)
Diana Ciontea (USC^)	Dewi Harjanto (Olin College^)	Kalan Leaks (USC^*)
Jonathan Cohan (Cornell)	Audrey Harker (USC^)	Benjamin Lee (UC Berkeley)
		Priya Lee (USC^)

Tristan Lerner (USC)	George Ore (Caltech*)	Margo Tomka (USC^)
Jason Lewis (USC)	Jessica Ortigoza Díaz (UNAM^*)	Luis Torres (USC*)
Connie Li (USC^)	Janice Park (USC^)	Eng Tran (USC^)
Ryan Loomba (USC)	Mrinal Pawha (U. Minnesota)	Jayburt Tsang (USC)
Matthew Louie (USC)	Kelly Phillips (USC^)	Aye Thu (USC^)
Ryan Louie (USC)	Saachi Pole (USC^)	Jorge Vázquez-Alvarez (UNAM*)
Fanglu Lu (Tsinghua U.)	Madelina Pratt (USC^)	Michael Wang (USC)
Kristi Lu (USC^)	“Ewina” Tsam Kiu Pun (USC^)	Zhihui Wang (Tsinghua U.^)
Paul Luna (USC*)	Anugraha Rajendra (USC^)	Lilian Ware (USC^)
Connor McCarty (USC)	Francisco Rebolledo (U Veracruzana*)	Peter Washabaugh (U Michigan)
Kara Malhotra (Cornell^)	Rhys Richmond (USC^)	Eric Welder (Stanford)
Jenna Matus (USC^)	Daniela Saldana (USC^*)	Janeline Wong (USC^)
Danielle Meder (U Mass Amherst^)	Artin Sarraf (USC)	Joy Wong (USC^)
Jeff Meng (U. Michigan)	Sundeep Sampath (UC Berkeley)	Brian Wu (USC)
Jeremy Middleton (USC)	Tania Sanchez (UNAM^*)	William Wu (USC)
Dibya Deepta Mishra (IIT)	Briana Savage (USC^*)	Arwen Wyatt-Mair (USC^)
Jacqueline Molina (USC^*)	Roya Sheybani (USC^)	Andy Xie (U. Connecticut)
Elliott Myong (USC)	Bryan Sheu (U. Texas)	Neha Yadav (USC^)
Divya Narayanan (USC^)	Jasmine Shu (Vanderbilt^)	Hsiu Michael Yang (USC)
Mei Nickles (USC^*)	Robert Sutherland (USC)	Grace Yakutis (USC^)
Jeffrey Nishida (USC)	Kim Swertfager (USC^)	Jinho Yoo (USC)
Tina Nguyen (Texas A&M)	Jordan Talia (U. Michigan)	Lawrence Yu (USC)
Scott Nomura (USC)	Alexander Tarashansky (USC)	Yuanxi Zhang (Tsinghua U.)
Sarah Norgaard (USC^)	Samantha Taylor (USC^)	Lingyun Zhao (Tsinghua U.)
Alanna Nowlen (USC^)	Velin Tchalakov (USC)	Evan Zhou (USC)
Nehi Ogbevoen (USC*)		
Jacqueline Ojeda (USC^*)		

* Designates underrepresented minority

^ Designates female

HIGH SCHOOL STUDENT SUPERVISION (11 STUDENTS)

Shirley Duong (UCLA^)	Alexia Sabogal (^*)	Alex Tang (Columbia)
Derek Hu (UC Berkeley)	Lauren Schurmeier (UC Santa Cruz^)	Kevin Thompson (UC Berkeley)
Erin Lee (Dartmouth^)	Leo Siow (Johns Hopkins)	Lilian Tran (Stanford^)
Sally Mouakkad (UC Irvine^)		Wilma Wong (UC Irvine^)

HIGH SCHOOL TEACHER SUPERVISION (7 TEACHERS)

Allison Mitchell (Francisco Bravo Medical Magnet HS^)
 Henri Same Etame (Inglewood HS*)
 Ralph Gomez (APEX Academy HS*)
 Brendan Gonzales (Manual Arts HS*)
 Craig Gross (Foshay Learning Center HS*)
 Isabel Baeza (Diego Rivera Learning Complex^*)
 Duke Alloh (Inglewood High School*)

RESEARCH GRANTS & PROJECTS

Current Funding

9/1/24-8/31/27 Non-contact flow sensors for pediatric vascular shunts

Additional Ventures

Total Costs: \$625,487

PI (4% effort)

9/1/24-8/31/25 U41NS129514-02S4 Supplement for HORNET Center for Autonomic Nerve Recording and Stimulation Systems (CARSS); OpenNerve Platform for Post-Stroke Dysphagia and Aspiration Pneumonia NIH

Total Costs: \$293,369

PI (% effort)

9/1/24-8/31/25 U41NS129514-02S3 Supplement for HORNET Center for Autonomic Nerve Recording and Stimulation Systems (CARSS); OpenNerve Platform for Chronic Constipation
NIH
Total Costs: \$306,631
PI (2% effort)

4/24 Supplemental Research Award
Women in Science and Engineering Program
Total Costs: \$2,500
Contributions: PI (0% effort)

4/1/24-8/31/25 U41NS129514-02S2 Supplement for HORNET Center for Autonomic Nerve Recording and Stimulation Systems (CARSS)
NIH
Total Costs: \$1,806,105
PI (4% effort)

9/1/23-8/31/25 U41NS129514-02S1 Supplement for HORNET Center for Autonomic Nerve Recording and Stimulation Systems (CARSS)
NIH
Total Costs: \$743,415
PI (1% effort)

4/23 Supplemental Research Award
Women in Science and Engineering Program
Total Costs: \$2,500
Contributions: PI (0% effort)

9/23/22-8/31/25 U41NS129514: HORNET Center for Autonomic Nerve Recording and Stimulation Systems (CARSS)
NIH
Total Costs: \$11,654,694
Contributions: PI (33.5% effort)

8/1/22-7/31/26 U01NS126046: Optimization of flexible neural probe arrays for multi-region recordings in rodents and nonhuman primates
NIH
Total Costs: \$5,777,297
Contributions: PI (19.2% effort)

3/22 Supplemental Research Award
Women in Science and Engineering Program
Total Costs: \$2,500
Contributions: PI (0% effort)

01/02/22-12/31/26 IIP-2048703: NSF I-Corps Hub: West Region
NSF
Total Costs: \$15,000,000
Contributions: co-PI (5% effort)

09/15/21-08/31/25 ECCS-2133138: ASCENT: Ultra-high Throughput Neural Recording using Flexible, Polymer-based Shanks as Terahertz Dielectric Waveguides
NSF
Total Costs: \$1,500,000
Contributions: co-PI (2.5% effort)

07/20/20-7/31/24 N00014-20-1-2764: A wearable platform supporting high-frequency, in vivo molecular measurements
ONR
Total Costs: \$399,000
Contributions: Co-I (5.8% effort)

12/31/19-12/31/24 An Endovascular Device for Transvenous Electroencephalography
USC Provost's New Directions in Research and Scholarship Award (PNDRSA)

Total Costs: \$250,000
Contributions: PI (4% effort)

09/30/19-07/31/24 U24NS113647: A Technology Resource for Polymer Microelectrode Arrays
NIH

Total Costs: \$6,126,596
Contributions: co-PI (30% effort)

8/15/19-8/14/24 ECCS-1933318: A wearable monolithic wireless multi-sensor system based on reflected impedance
NSF

Total Costs: \$361,109
Contributions: PI (5.4% effort)

7/1/19 – 8/31/24 In Vivo Validation of a Smart Hydrocephalus Shunt
USC Ming Hsieh Institute for Research on Engineering Medicine for Cancer

Total Costs: \$148,500
Contributions: co-PI (0% effort)

8/1/18-1/31/25 IIP-1827773: PFI-TT: Sensor System for Early Warning of Hydrocephalus Shunt Failure with INTERN Supplement and SPRINT Supplement
NSF

Total Costs: \$398,047
Contributions: PI (4% effort)

5/23/18-no end date Health Care and Medical Engineering (HealME) Center
USC Viterbi Internal Center Incubator (VICI)

Total Costs: \$40,000
Contributions: PI (0% effort)

Pending Funding

NIH
The Polymer Implantable Electrode (PIE) Foundry Technology Resource
04/01/24 – 03/31/29 (Co-PI with Song)
\$9,174,170

NIH
The Polymer Implantable Electrode (PIE) Foundry Technology Resource
12/01/24 – 11/30/29 (Co-PI with Song and Won)
\$9,423,493

NIH
A Microfabricated Endovascular Multielectrode Array for Transvenous Electroencephalography
04/01/25 – 03/31/30 (Co-PI with Liu, Mack, Selvan, and Song)
\$3,589,378

NSF
POSE: Phase I: Open Source Ecosystem for Neuromodulation Devices
04/01/25 – 03/31/26 (PI)
\$300,000

NIH
Development of a Biocompatible, Thin, and Flexible Deep Brain Stimulating Electrode and Oscillated Insertion Tool to Enable Long-term Neuromodulation in Patients with Treatment Resistant Depression
04/01/25 – 03/31/28 (subaward PI, lead PI Snook)
\$380,018 (USC portion)

NIH
SmartStim, a novel implantable neuromodulation system to cure chronic pain
06/01/25 – 05/31/28 (subaward PI, lead PI Feng)
\$309,685 (USC portion)

Past Funding

4/01/05-4/01/07 Implantable Glaucoma Devices and Ocular Drug Delivery System

Bausch and Lomb

Total Costs: \$285,000

Contributions: Investigator (8% effort) (M. Humayun, PI; Y.C. Tai, R. Agrawal, W. Fink, Co-Is)

7/01/05-6/30/09 R01NS050171: Microinfusion Pump for Animal Functional Brain Mapping

NIH/NINDS

Total Costs: \$28,447

Contributions: Investigator (4% effort) (D. Holschneider, PI)

1/06 Geobiological Interface Imaging and Microfluidics (GIIM)

USC College Initiative

Total Costs: \$20,000

Contributions: Investigator (0% effort) (W. Berelson, PI; K. Edwards, F. Corsetti, T. Pottebaum, K. Neelson, Co-PIs)

5/1/07-4/30/09 R21EB005202: Development of Acoustic Tweezers

NIH/NIBIB

Total Costs: \$23,700

Contributions: Investigator (5% effort) (K.K. Shung, PI)

9/1/07-8/30/10 R21EY018490: Implantable MEMS Drug Delivery Device for Glaucoma Management

NIH/NEI

Total Costs: \$451,637

Contributions: PI (4% effort) (M. Humayun & R. Varma, Co-PIs)

2008-2009 Center for Deep Energy Biosphere Investigations

James H. Zumberge Faculty Research & Innovation Fund, Multi-School Interdisciplinary Research Grants

Total Costs: \$50,000

Contributions: Co-PI (0% effort) (with K. Edwards)

11/08 Junior Faculty Development Fund

Viterbi School of Engineering

Total Costs: \$1,875

Contributions: PI (0% effort)

12/08 Supplemental Research Award

Women in Science and Engineering Program

Total Costs: \$2,500

Contributions: PI (0% effort)

2009 Radiation Dose Reduction: A Novel Approach

L.K. Whittier Foundation

Total Costs: \$50,000

Contributions: Investigator (U. Sinha, PI)

11/09 Junior Faculty Development Fund

Viterbi School of Engineering

Total Costs: \$2,425.35

Contributions: PI (0% effort)

12/09 Supplemental Research Award

Women in Science and Engineering Program

Total Costs: \$2,500

Contributions: PI (0% effort)

2009-2010 Development of C-DEBI: an NSF-sponsored Center for Dark Energy Biosphere Investigations

James H. Zumberge Faculty Research & Innovation Fund, Multi-School Interdisciplinary Research Grants

Total Costs: \$50,000

Contributions: Co-PI (0% effort) (with K. Edwards)

12/10 Supplemental Research Award

Women in Science and Engineering Program

Total Costs: \$2,500

Contributions: PI (0% effort)

8/15/09-8/14/11 R21DA026970: Implantable Minipump for Tetherless Drug Self-Administration in Mice
NIH/NIDA

Direct Costs: \$100,000/year

Contributions: Investigator (4% effort) (D. Holschneider, PI)

11/20/09-11/19/11 New Biomimetic Technology for "Just-In-Time" Delivery of Anti-Convulsants Following
Traumatic Brain Injury

CURE Foundation

Total Costs: \$244,846

Contributions: Co-Investigator (S. Lee, PI)

4/1/06-3/31/12 ECS-0547544: CAREER: Biologically-Inspired Polymer MEMS for Bi-Directional Neural
Interfaces

NSF Early Career Award

Total Costs: \$400,000

Contributions: PI (4% effort)

8/15/09-8/14/12 R21HD065287: An Ex-Vivo Placental Perfusion System to Study Materno-fetal Biology
NIH/NIMH

Total Costs: \$487,250

Contributions: Investigator (4% effort) (A. Bonnin, PI)

8/1/08-7/31/12 Implantable MEMS Drug Delivery Device for Sustained Administration of Neurotrophic Factors
to Treat Retinitis Pigmentosa

Wallace H. Coulter Foundation Early Career Translational Research Award;

Total Costs: \$290,000

Contributions: PI (4% effort) (R. Agrawal, Co-PI)

10/7/11-10/6/12 Wireless Drug Delivery System for Remote Chronic Pain Management

TATRC/Qualcomm Wireless Health Innovation Challenge

Total Costs: \$92,000

Contributions: PI (0% effort)

2011-2012 Electrical Signaling in Microbial Communities

James H. Zumberge Faculty Research & Innovation Fund, Multi-School Interdisciplinary Research Grants

Total Costs: \$0

Contributions: Co-Investigator (M. El-Naggar & U. Mitra, PIs)

1/12 Supplemental Research Award

Women in Science and Engineering Program

Total Costs: \$2,500

Contributions: PI (0% effort)

10/1/11-3/31/13 IIP-1157852: Establishing an innovation ecosystem for technology transition of MEMS-based
drug infusion pumps

NSF

Total Costs: \$50,000

Contributions: PI (0% effort)

5/15/12-6/30/13 An Undergraduate Research Experience in Biomedical Microdevices for Treating
Hydrocephalus

Undergraduate Research Associates Program

Total Costs: \$6,600

Contributions: PIP (0% effort)

5/15/12-6/30/13 Enhancing Student Learning in BME 451: Fundamentals of Biomedical Microdevices

Fund for Innovative Undergraduate Teaching

Total Costs: \$7,500

Contributions: PI (0% effort)

1/1/13-12/31/13 Wirelessly Operated Implantable Infusion Micropump for On-demand Drug Administration in
Laboratory Animals

NSF SBIR IIP-1248956

Total Costs: \$150,000

Contributions: Senior Personnel (4% effort)

9/29/11-3/29/14 N66001-11-1-4207: Polymer MEMS Hybrid Fascicle Microelectrode Array for Reliable Cortical Interface

DARPA/RCI

Total Costs: \$1,665,708

Contributions: PI (25% effort)

1/13 Supplemental Research Award

Women in Science and Engineering Program

Total Costs: \$2,500

Contributions: PI (0% effort)

4/1/13-3/31/14 2013 Microtechnologies in Medicine and Biology Conference

NSF CBET-1314901

Total Costs: \$5,000

Contributions: PI (0% effort)

8/15/12-9/15/13 Engineering the on-demand generation of chemical gradients for biological studies

USC Zumberge Interdisciplinary Grant

Total Costs: \$30,000 (including \$5,000 Viterbi School of Engineering cost share)

Contributions: Co-PI (0% effort)

5/22/12-5/21/14 Major Faculty Support

Women in Science and Engineering Program

Total Costs: \$21,000

Contributions: PI (0% effort)

5/29/12-6/1/14 Novel Paper-Polymer Composites for 3D Low-Cost Biomedical Sensors

USC Viterbi Research Innovation Fund

Total Costs: \$10,000

Contributions: Co-PI (0% effort)

9/01/03-8/31/14 EEC-0310723: An Engineering Research Center for Biomimetic Microelectronic Systems

NSF

Total Costs: \$562,489

Contributions: Investigator (8% effort) (M. Humayun, PI)

Leadership Roles: Team Member (Implantable Retinal Prosthesis Testbed), Thrust Leader (Interface Technology Thrust), Associate Director of Education and Student Diversity

1/1/11-12/31/14 High Performance Fluid Synchrony Drug Micropumps: Delivery of the Right Dose at the Right Time

USC Ideas Empowered Program

Total Costs: \$60,000

Contributions: PI (0% effort)

6/13/13-2/1/15 Development of Sample Concentration and Preparation Module, an Integral part of a future MEMS device

JPL #1483834

Total Costs: \$10,000

Contributions: PI (% effort)

2/14 Supplemental Research Award

Women in Science and Engineering Program

Total Costs: \$3,500

Contributions: PI (0% effort)

10/1/10-9/30/15 Center for Dark Energy Biosphere Investigations (C-DEBI)

NSF STC

Total Costs: \$0

Contributions: Investigator (K. Edwards, PI)

9/1/13-2/28/16 PFI: AIR Technology Translation – Wireless control of distributed and implanted micro infusion pumps

NSF IIP-1343467

Total Costs: \$150,000

Contributions: PI (8% effort)

3/15 Supplemental Research Award

Women in Science and Engineering Program

Total Costs: \$3,500

Contributions: PI (0% effort)

5/15 Supplemental Research Award

Women in Science and Engineering Program

Total Costs: \$3,500

Contributions: PI (0% effort)

8/20/12-6/30/2016 Wirelessly-Operated Implantable MEMS Micropumps for Drug Infusion in Mice

NIH/NIGMS R21GM104583

Total Costs: \$562,028

Contributions: PI (8% effort)

8/15/12-7/31/16 Trapped Microbubbles in Polymer MEMS Microcapsules as a Novel Pressure Sensing Principle Based on Electrochemical Impedance Transduction

NSF ECCS-1231994

Total Costs: \$323,451

Contributions: PI (8% effort)

5/1/14-4/30/17 Therapy for leptomeningeal medulloblastoma by a novel implantable pump

NIH/NINDS R21NS088965

Total Costs: \$462,166

Contributions: Co-I (3%)

5/16 Supplemental Research Award

Women in Science and Engineering Program

Total Costs: \$3,500

Contributions: PI (0% effort)

12/17 Supplemental Research Award

Women in Science and Engineering Program

Total Costs: \$5,000

Contributions: PI (0% effort)

3/31/15-3/30/19 HR0011-15-2-0006: Lyse-and-Attract Cuff Electrodes (LACE)

DARPA

Total Costs: \$663,806

Contributions: PI (8% effort)

2/19 Supplemental Research Award

Women in Science and Engineering Program

Total Costs: \$3,500

Contributions: PI (0% effort)

10/1/13-9/30/19 EFRI-1332394: EFRI-BioFlex: Hybrid polymer-paper based multi-sensor implants for continuous remote monitoring

NSF

Total Costs: \$2,000,000

Contributions: PI (8% effort)

5/1/16-10/31/19 IIP-1601340: PFI:AIR-TT: Wireless implantable pressure sensor for continuous monitoring of chronic disorders

NSF

Total Costs: \$206,000

Contributions: PI (8% effort)

2/15/17-12/31/19 Multimodal Microsensors for Wireless-Operated Diagnostic Monitoring of Cerebrospinal Fluid Compartments for Multiple Disease States

Viterbi Mousetrap

Total Costs: \$75,000

Contributions: PI (8% effort)

6/15/15-6/14/20 Non-invasive Validation of an Integrated Multi-Sensor Platform for Quantitative Monitoring of Intracranial Pressure, Cerebrospinal Fluid Flow, and Ventricular Catheter Patency

Rudi Schulte Research Institute

Total Costs: \$41,535.75

Contributions: Co-PI (0% effort)

3/30/19 – 6/30/20 An Undergraduate Research Experience in Biomedical Microdevices for Enabling Hybrid Electro-fluidic Neural Interfaces

Undergraduate Research Associates Program

Total Costs: \$4,650

Contributions: PI (0% effort)

8/15/14-9/30/20 CBET-1343193: INSPIRE: Bioelectronic Systems for Investigating Neural Plasticity
NSF

Total Costs: \$2,999,995

Contributions: Co-I (8%)

9/30/16-6/30/21 U01NS099703: Flexible neural probe arrays for large-scale cortical and subcortical recording
NIH

Total Costs: \$1,166,649

Contributions: PI (8% effort)

9/1/18 – 8/31/21 EEC-1840636: Planning Grant: Engineering Research Center for Auditory Bioengineering
NSF

Total Costs: \$98,227

Contributions: co-PI (0% effort)

7/1/18-03/31/22 IIP-1837941: I-Corps: Discovery of Customer and Market Needs for Microsensor Platforms in the Management of Hydrocephalus

NSF

Total Costs: \$50,000

Contributions: PI (0% effort)

4/1/12-6/30/23 The USC-Coulter Translational Research Partners Program in Biomedical Engineering
Wallace Coulter Foundation

Total Costs: \$2,668,000

Contributions: PI (0%) starting 1/1/15

7/1/13-6/30/23 Self-Aware Hydrocephalus Shunts

USC Coulter

Total Costs: \$30,000

Contributions: Co-PI (0% effort)

7/1/12-6/30/23 Novel drug infusion pump enabling sustained intrathecal delivery of topotecan for leptomeningeal metastasis in pediatric patients

USC Coulter

Total Costs: \$407,701

Contributions: Co-PI (0% effort)

05/01/21-04/30/23 N00014-21-1-2447: Precision laser micromachining system for advanced microneedle-based molecular-level physiological monitoring

ONR DURIP

Total Costs: \$1,051,234

Contributions: PI (0% effort)

2/25/20 – 2/24/24 N00014-20-1-2164: A wearable platform supporting high-frequency measurements of molecular performance markers

ONR

Total Costs: \$475,000

Contributions: co-I (2% effort)

6/1/20 – 3/31/24 R21EB028399: Flexible bioelectronic sensors for non-contact detection of obstruction in pediatric vascular shunts

NIH

Total Costs: \$476,849

Contributions: PI (8% effort)

PROFESSIONAL MEMBERSHIP

Current

- American Institute for Medical and Biological Engineering (AIMBE) – Fellow
- American Society of Engineering Education (ASEE)
- American Society of Mechanical Engineers (ASME) – Fellow
- Biomedical Engineering Society (BMES) – Fellow
- California Academy of Bioengineering – Member, Executive Program Committee
- Chinese International Nanotechnology Network (CINN)
- Engineering Innovation Leadership Council (EILC) – Member, Steering Committee
- Institute of Electrical and Electronics Engineers (IEEE) – Fellow
 - Electron Devices Society (EDS)
 - Engineering in Medicine and Biology Society (EMBS)
 - Ultrasonics, Ferroelectrics, and Frequency Control Society (UFFC-S)
- National Academy of Inventors (NAI) – Fellow
- North American Neuromodulation Society (NANS) – Member
- Society for Neuroscience (SfN)
- Women in Neural Engineering (WINE)
- Phi Tau Phi
- Tau Beta Pi

Past

- American Chemical Society (ACS)
- Association for Research in Vision and Ophthalmology (ARVO)
- Materials Research Society (MRS)
- Society of Women Engineers (SWE)

PROFESSIONAL ACTIVITIES

Proposal Reviewer

Army Research Office (ARO), National Science Foundation (NSF) (International Research Fellowships Program, Micro and Nano Systems, Graduate Research Fellowship Program, Research Initiation Awards for Historically Black Colleges and Universities Undergraduate Program (HBCU-UP)), Sigma Delta Epsilon/Graduate Women in Science (SDE/GWIS), Zumberge Interdisciplinary Program (USC), National Institutes of Health (NIH) (Challenge Grant; Special Emphasis Panel ZRG1 DKUS-G(12); Special Emphasis Panel ZRG1 CB-G(90); Special Emphasis Panel ZRG ETTN-E(12); Bioengineering of Neuroscience, Vision and Low Vision Technologies Study Section BNVT; Special Emphasis Panel ZRG1 ETTN-B(51); Instrumentation and Systems Development Study Section ISD; Special Emphasis Panel ZNS1 SRB-G(02); Southern California – Clinical and Translational Science Institute Pilot Funding, City University of Hong Kong, International Contest of Applications of Nano-Micro Technology (iCAN), Department of Defense (DOD) (Peer Reviewed Medical Research Program Discovery Awards), National Defense Science and Engineering Graduate Fellowship Program, NIH SPARC Initiative 1 Panel NGTT(53), Special Emphasis Panel ZNS1 SRB-G(21), ECCS-NSF CAREER Panel, Special Emphasis Panel ZRG1 SBIB-Q(03), Special Emphasis Panel ZRG1 ETTN-B(50), Clinical Neurophysiology, Devices, Neuroprosthetics and Biosensors Small Business Panel ETTN-C(10), NSF Multimodal Sensor Systems for Precision Health Enabled by Data Harnessing, Artificial Intelligence, and Learning (SenSE) Program, Special Emphasis Panel ZEY1 VSN(08), NSF PFI: Medical Devices and Biomedical Engineering, NASA Space Technology Graduate Research Opportunities 2021-2023, Special Emphasis Panel 2022/05 ZEB1 OSR-D (M1) S, Ming Hsieh Institute, NSF FDA Scholars in Residence Special Program

Society Service Activities

- IEEE Microelectromechanical Systems (MEMS) Technical Community Founding Member (2018)
- IEEE EMBS Administrative Committee (AdCom) North America Representative (1/1/19-12/31/21)

- IEEE UFFC-S Fellow Evaluating Committee (2019)
- IEEE Medal for Innovations in Healthcare Technology Committee Member (2019-2022)
- IEEE Transactions on Nanobioscience Steering Committee (2020-2022)
- National Academy of Inventors Senior Member Advisory Committee (2020-2021)
- IEEE EMBS Executive Committee (ExCom) Vice President of Technical Activities – Elect (term 1/1/21-12/31/21)
- IEEE EMBS Executive Committee (ExCom) Vice President of Technical Activities (term 1/1/22-12/31/23)
- IEEE EMBS Executive Committee (ExCom) Past Vice President of Technical Activities (term 1/1/24-12/31/24)
- IEEE Future Directions Committee Member (2021-2022)
- IEEE BRAIN Technical Community Steering Committee Member (2021-2022)
- IEEE Microelectromechanical Systems (MEMS) Technical Community Vice President (2022-)

Study Section Membership

Bioengineering of Neuroscience, Vision, and Low Vision Technologies (BNVT) (2015-2019)

Neurological Sciences and Disorders D (NSD) (2023-2028)

Journal Editor

- Guest editor for Journal of Neuroscience Methods special issue on “Methods for Interfacing with the Peripheral Nervous System”
- Guest editor for Lab on a Chip and Integrative Biology combined online web collection of papers from the 7th International Conference on Microtechnologies in Medicine and Biology (MMB 2013)
- Guest editor for Journal of Micromechanics and Microengineering special issue on “the 7th International Conference on Microtechnologies in Medicine and Biology (MMB 2013)”
- Guest editor for Advanced Drug Delivery Reviews special issue on “Emerging Micro and Nanotechnologies for the Development of Novel Drug Delivery Devices and Systems”
- Journal of Micromechanics and Microengineering
- Frontiers in Mechanical Engineering, Micro- and Nano-mechanical Systems
- IEEE/ASME Journal of Microelectromechanical Systems

Journal Reviewer

- ACS Chemical Neuroscience
- Advanced Drug Delivery Reviews
- Advanced Science
- Analytical Chemistry
- Annals of Biomedical Engineering
- Applied Physics Letters
- Biomaterials
- Biomedical Microdevices
- Current Drug Delivery
- Frontiers in Neuroprosthetics
- IEEE/ASME Journal of Microelectromechanical Systems
- IEEE Reviews in Biomedical Engineering
- IEEE Sensors Journal
- IEEE Sensors Letters
- IEEE Transactions on Biomedical Circuits and Systems
- IEEE Transactions on Biomedical Engineering
- IEEE Transactions on Device and Materials Reliability
- IEEE Transactions on Neural Systems & Rehabilitation Engineering
- International Journal of Pharmaceutics
- Journal of Microfluidics and Nanofluidics
- Journal of Micromechanics and Microengineering
- Journal of Neural Engineering
- Journal of Neuroscience Methods
- Lab-on-a-Chip
- Langmuir

- Materials Science and Engineering C
- Measurement Science and Technology
- Micro & Nano Letters
- Micromachines
- Nanomedicine
- Neuroscience Letters
- Science Advances
- Scientific Reports
- Sensors
- Sensors and Actuators A: Physical
- Sensors and Actuators B: Chemical
- Therapeutic Delivery

Book Reviewer

- 2007 iNEER Special Volume: INNOVATIONS 2007 - WORLD INNOVATIONS IN ENGINEERING EDUCATION AND RESEARCH, International Network for Engineering Education and Research
- Prentice Hall
- Springer
- John Wiley & Sons, Inc.

Conference Organization

- Discussion Leader, Session on Implantable MEMS Devices, 2006 Gordon Research Conference on MEMS Technology and Biomedical Applications (June 25-30, New London, Connecticut, USA)
- Technical Program Committee, 2006 IEEE Sensors Conference (October 22-25, Daegu, Korea)
- Technical Program Committee, 2007 IEEE Sensors Conference (October 28-31, Atlanta, Georgia, USA)
- Technical Program Committee, 2008 IEEE Sensors Conference (October 26-29, Lecce, Italy)
- Session Chair, 2008 Nano/Micro Engineered and Molecular Systems (NEMS) Conference (January 6-9, Sanya, Hainan Island, China)
- Breakout Moderator, 2008 MEMS Educational Workshop (January 13, Tucson, Arizona, USA)
- Technical Program Committee, 2008 American Vacuum Society Topical Conference on BioMEMS: from Science Discovery to Technology to Clinic (October 19-24, Boston, Massachusetts, USA)
- Session Chair, 2008 American Vacuum Society Topical Conference on BioMEMS: from Science Discovery to Technology to Clinic (October 19-24, Boston, Massachusetts, USA)
- International Steering Committee, 2009 Microtechnologies in Medicine and Biology Conference (April 1-3, Quebec City, Canada)
- Technical Program Committee & Session Chair, 2009 Transducers Conference (June 21-25, Denver, Colorado, USA)
- Reviewer, 2009 BMES Annual Fall Meeting (October 1-4, Pittsburgh, Pennsylvania, USA)
- Session Chair, 2009 BMES Annual Fall Meeting (October 1-4, Pittsburgh, Pennsylvania, USA)
- Technical Program Committee & Session Chair, 2010 IEEE Microelectromechanical Systems Conference (January 24-28, Hong Kong, China)
- Reviewer, 2010 BMES Annual Fall Meeting (October 6-9, Austin, Texas, USA)
- Technical Program Committee, 2010 IEEE Sensors Conference (November 1-4, Waikoloa, Hawaii, USA)
- Technical Program Committee & Session Chair, 2011 IEEE Microelectromechanical Systems Conference (January 23-27, Cancun, Mexico)
- Executive Technical Program Committee, 2011 Transducers Conference (June 5-9, 2011, Beijing, China)
- International Steering Committee, 2011 Microtechnologies in Medicine and Biology Conference (April, Lucerne, Switzerland)
- Conference Co-Chair, 2011 Microtechnologies in Medicine and Biology Conference (April, Lucerne, Switzerland)
- Track Chair, 2011 Engineering in Medicine and Biology Conference (August 30-September 3, Boston, Massachusetts, USA)
- Technical Program Committee, 2012 IEEE Sensors Conference (October 28-31, Taipei, Taiwan)
- Theme Chair and Associate Editor, 2012 Engineering in Medicine and Biology Conference (August 28-September 1, San Diego, California, USA)

- Reviewer, 2012 Engineering in Medicine and Biology Conference (August 28-September 1, San Diego, California, USA)
- Reviewer, 2012 Microfluidics Conference (December 3-4, Heidelberg, Germany)
- Conference Chair, 2013 Microtechnologies in Medicine and Biology Conference (April 10-12, Marina del Rey, California, USA)
- Reviewer, 2013 Engineering in Medicine and Biology Conference (July 3-7, Osaka, Japan)
- Associate Editor, Theme 3: Bioinstrumentation, Biosensors, and Bio-micro/nano Technologies; 2013 Engineering in Medicine and Biology Conference (July 3-7, Osaka, Japan)
- Reviewer, 2013 IEEE EMBS Neural Engineering Conference (November 6-8, San Diego, California, USA)
- Associate Editor and Reviewer, Theme 3: Bioinstrumentation, Biosensors, and Bio-micro/nano Technologies; 2014 Engineering in Medicine and Biology Conference (Aug 26-30, Chicago, USA)
- Review Committee Member, 2014 IEEE Biomedical Circuits and Systems (BioCAS) Conference (Oct 22-24, 2014 Lausanne, Switzerland)
- International Steering Committee, IEEE Microelectromechanical Systems Conference (2015-2020)
- Technical Program Committee, 2015 IEEE MEMS (January 18-22, 2015, Estoril, Portugal)
- Executive Technical Program Committee, 2015 Transducers Conference (June 21-25, 2015, Anchorage, Alaska)
- Conference Organizer, 2015 Napa Institute Workshop: Enabling Future Health Care: the Role of Micro and Nano Technologies (August 23-26, 2015, Napa, California, USA)
- Technical Program Committee, 2016 IEEE MEMS (January 24-28, 2016, Shanghai, China)
- Session Chair, 2016 Microtechnologies in Medicine and Biology Conference (April 20-22, Seoul, Korea)
- Board of Directors, Transducers Research Foundation (2016-)
- Conference Co-Chair and Technical Program Committee, 2017 IEEE Microelectromechanical Systems Conference (January 22-26, 2017, Las Vegas, Nevada, USA)
- International Steering Committee, Transducers Conference (2017-)
- Technical Program Committee, 2017 Microfluidic Handling Systems (October 4-6, 2017, Enschede, The Netherlands)
- International Steering Committee, 2018 Microtechnologies in Medicine and Biology Conference (March 26-28, 2018, Monterey, California)
- Steering Committee, 2018 NIC Conference (June 25-27, 2018, Minneapolis, MN)
- Associate Editor, Theme 7: Biomedical Sensors and Wearable Systems; 2018 Engineering in Medicine and Biology Conference (July 17-21, Honolulu, Hawaii)
- Reviewer, 2018 IEEE Engineering in Medicine and Biology Conference (July 17-21, Honolulu, Hawaii)
- Women in Engineering (WIE): MEMS Organizer, 2019 IEEE MEMS Conference (January 27-31, Seoul, South Korea)
- Steering Committee, 2019 IEEE EMBS Conference on Neural Engineering (March 20-23, San Francisco, California)
- Workshop Organizer, 2019 IEEE EMBS Conference on Neural Engineering (March 20-23, San Francisco, California)
- Steering Committee Co-Chair, Neural Interfaces Conference (2018-present)
- Associate Editor, Theme 7: Biomedical Sensors and Wearable Systems; 2019 Engineering in Medicine and Biology Conference (July 23-27, Berlin, Germany)
- Steering Committee, First National Workshop for Associate Deans of Innovation and Entrepreneurship (February 26-27, 2020, Washington, DC)
- Steering Committee, Neuromodulation: The Science (October 1-4, 2020, Napa Valley, California) - postponed
- Reviewer, 2020 IEEE Engineering in Medicine and Biology Conference (July 20-24, Montreal, Canada)
- Session Chair, 2021 IEEE EMBS Conference on Neural Engineering (May 4-6, 2021, online)
- Executive Technical Program Committee, 2021 Transducers Conference (June 20-25, 2021, online)
- Plenary Moderator, 2021 Transducers Conference (June 20-25, 2021, online)
- Session Chair, 2021 Transducers Conference (June 20-25, 2021, online)
- Co-Chair, 2021 North American Neuromodulation Society - Neural Interfaces Conference (June 25-26, 2021, online)
- Reviewer, 2021 IEEE Engineering in Medicine and Biology Conference (July 20-24, 2021, Montreal, Canada)

- Live Demo Judge, Brain Mind Body: Cognitive Neuroengineering for Health and Wellness Virtual Symposium and Workshop (December 15-16, 2021, online)
- Reviewer, 2022 IEEE Engineering in Medicine and Biology Conference (July 11-15, 2022, Glasgow, Scotland)
- Steering Committee, Engineering Innovation Leadership Council Workshop (November 2, 2022, University of Maryland)
- Regional Program Chair, 2023 Transducers Conference (June 25-29, 2023, Kyoto, Japan)
- Reviewer, 2023 IEEE Engineering in Medicine and Biology Conference (July 24-28, 2023, Sydney, Australia)
- Panelist, "Past, Present, and Future of MEMS," 2024 IEEE MEMS Conference (January 21-25, 2024, Austin, Texas), Women in Engineering – MEMS Event
- Steering Committee, Engineering Innovation Leadership Council Workshop (June 11-12, 2023, University of Maryland)
- Reviewer, 2024 IEEE Engineering in Medicine and Biology Conference (July 15-19, 2024, Orlando, Florida)
- Symposium Chair, "Bioelectronic Medicine," 13th Congress of the International Society of Neuroscience (July 25-27, 2024, Birmingham, UK)
- Technical Program Chair, 2025 Transducers Conference (June 29-July 3, 2025, Orlando, Florida)
- Steering Committee, 2025 Neural Interfaces (June 12-14, 2025, Arlington, Virginia)

Other Reviewer

University of California, Merced, new graduate Bioengineering program
 Brain and Behavior Initiative 2019 Seed Grant Reviewer, University of Maryland
 Viterbi School of Engineering, Reviewer for NSF CAREER proposal drafts and institutionally limited proposals/awards
 MD/PhD application reviewer, USC Keck School of Medicine

UNIVERSITY SERVICE

University of Southern California, Los Angeles, CA

2024	Reviewer, USC Provost Mentoring Award
2024-	Chair of Selection Committee, Ershaghi Faculty Mentorship Award
2024	Poster Judge, Alfred E. Mann Department of Biomedical Engineering Grodins Graduate Symposium
2024-	Mentor, KIUEL Mentorship Program
2024	Moderator, Grant Proposals, WiSE Faculty Development Series
2023-	Affinity Group Lead, Devices, Alfred E. Mann Department of Biomedical Engineering
2023-2024	Steering Committee, Keck-Viterbi on "Neurotechnologies: from Design to Clinical Implementation"
2023-	Advisory Committee, USC Nanofabrication Core
2023-	Steering Committee, USC NEMO Prize
2023	Search Committee, USC Stevens Center for Innovation Executive Director Search
2023-24	Graduate Curriculum Committee, Alfred E. Mann Department of Biomedical Engineering
2022-24	Coffee Chat with Associated Students of Biomedical Engineering
2022	Internal Reviewer, Moore Inventor Fellows
2022	Internal Reviewer, Johnson & Johnson WISTEM2D Technology Applicants
2022	Speaker on Networking, Mentoring, & Collaboration, Navigating Research and Scholarship at USC
2022	Reviewer, Ming Hsieh Institute Proposals
2022	Member, USC Regional Innovation Accelerators Working Group
2022-	Member, USC Precision Medicine Working Group
2021-	Advisory Board, USC Center for Healthcare Delivery Services
2021-22	Reviewer, USC Provost Mentoring Award
2021	Reviewer, USC Viterbi Undergraduate Mentorship Award
2021-2022	Member, Neuroscience Research Task Force
2021-2022	co-Chair, University Innovation Council
2020-2022	Member, University Innovation Council
2020-2022	Member, Faculty Environment and Employment Committee

2020-2021	Member, BME Chair Search Committee
2020	Chair, Women in Science and Engineer Program Cisco Fellowships Review Committee
2020	Member, Technology Transfer Working Group
2019-2020	Member, Viterbi Corporate Council
2019-2020	Member, Committee on Tenure and Privileges Appeals
2019-	Member, Faculty Steering Committee of Viterbi School of Engineering and Keck School of Medicine
2019-2020	Member, Viterbi Faculty Space Council
2019-2022	Member, Cleanroom Advisory Board
2019-	Steering Committee, Engineering Innovation Leadership Council
2019-	Member, USC NASEM Action Collaborative on Preventing Sexual Harassment in Higher Education
2018	Reviewer, Provost's Postdoctoral Scholar Research Grant Program
2018	Member, USC Biotech Working Group – Incubator Models and Commercialization
2018	Reviewer, Core Instrumentation Fund – Type A Funding
2018-	Viterbi School of Engineering Ambassador to Southern California Clinical and Translational Science Institute (SC CTSI)
2018-	Steering Committee Member, West Coast Consortium for Technology and Innovation in Pediatrics (CTIP)
2017-2020	Member, UPC Child Care Advisory Committee
2016-2018	Member, University Committee on Academic Review (UCAR) Chemical Engineering Materials Science
2015-2017	Member, Ad-hoc Viterbi Tech Transfer Committee
2015-2018	Faculty Advisory, Associated Students of Biomedical Engineering (ASBME)
2015	Panelist, Ph.D. Welcome Reception
2015-2018	Chair, Department of Biomedical Engineering
2015	Member, Biomedical Engineering Curriculum Committee
2015	Member, Biomedical Engineering Faculty Promotion Review Committee
2015	Panelist, Keck Medicine of USC Retreat
2014-2015	Member, Provost Search Committee
2014-2015	Member, University Committee on Appointments, Promotions and Tenure (UCAPT) Natural Sciences and Engineering Panel
2013-2015	Member, Biomedical Engineering Faculty Search Committee
2013	Panelist, Early Connect Conference
2013-14	Reviewer, Discovery Scholar Prize
2013-14	Member, Viterbi Transformative Faculty Committee
2013	Member, Biomedical Engineering Faculty Search Committee
2013	Panelist, Engineering and Computer Science Career Panel for “Beyond the PhD”
2013	Panelist, “What is Innovation” for Women in Engineering
2012	Panelist, “Work Family Balance for Engineers” for Women in Science and Engineering
2012-2014	Member, Faculty Advisory Committee to USC Stevens Institute for Innovation
2012-2013	Member, Research Space Committee, Viterbi School of Engineering
2012	Panelist, Mentoring Panel on “Managing a Scientific Laboratory”
2012	Reviewer, Southern California – Clinical and Translational Science Institute (SC-CTSI) Spring Pilot Funding
2011-2012	Faculty Advisor, USC Questbridge Chapter
2011-2015	Member, USC Mellon Mentoring Forum
2011-2012	Member, Advisory Committee for Transformational and Interdisciplinary Faculty Hiring, Viterbi School of Engineering
2011-2015	Chair, Women in Science and Engineering Program, Viterbi School of Engineering
2011	Member, Conflict of Interest Review Committee
2011-2018	Member, Ad-hoc Planning Committee for Nanofabrication Facility for Convergence of Molecular Science Building
2011-2017	Member, Ad-hoc Planning Committee for Convergence of Molecular Science Building
2011	Panelist, Academic Mentoring Panel on “Academic Career Work-Life Balance”
2010	Reviewer, Core Instrumentation Fund
2010	Member, University Strategic Planning Committee

2010	Member, Viterbi School of Engineering, Committee to on MS program in Wireless Health
2009	Member, Pharmacy Faculty Search Committee
2008	Chair, Department of Biomedical Engineering Graduate Admissions Committee
2008	Chair, Department of Biomedical Engineering Machine Shop Oversight Committee
2008	Diversity Panelist, USC Center for Women and Men
2007-2010	Microbiology Program Executive Committee
2007-2009	University Research Committee
2007-2008	Faculty Advisor, Engineering Honors Program
2007	Ad-hoc Committee on Research Ethics, Viterbi School of Engineering
2007	Viterbi Spring Spotlight
2007	Center for Engineering Diversity Summer Research Panel
2007	Viterbi Merit Research Program Seminars
2006-2010	Department of Biomedical Engineering Graduate Admissions Committee
2006-2010	Viterbi School of Engineering Women in Science and Engineering Committee
2005-2010	Biomedical Nanoscience Initiative Committee
	Chair, Microfluidics Subcommittee
2005-present	USC Explore
2004-2013	Science and Technology Research (STAR) Program Mentor
2004-present	Viterbi School of Engineering Presidential and Trustee Scholarship Finalist Interviewer
2004-present	Women in Science and Engineering Networking Group
University of California, Davis, CA	
2003	Department of Mechanical and Aeronautical Engineering Program Planning and Assessment Committee

OTHER ACTIVITIES

2024	Mentor, NIH BRAIN Conference Pilot Mentor/Mentee Matching
2024	Steering Committee for 2024 Annual NIH SPARC Grantees meeting
2023-24	Consultant, GEM (in partnership with NSF Partnerships for Innovation Program)
2023-	Volunteer, STEM at La Canada Unified School District Parent Committee
2023	Breakout session leader, NSF and GEM: Partnerships for Innovation Convening (4/20/23)
2022	Innovation Judge, First Lego League Tournament at La Canada High School (11/5/22)
2022	Mentor and University of Southern California Representative, Asia Pacific Women in Leadership (APWiL) Mentoring Program
2022	Member, Engineering Research Visioning Alliance (ERVA) Thematic Task Force for " <i>Leveraging Biology to Power Engineering Impact</i> "
2019	Evaluator, IEEE Ultrasonics, Ferroelectrics, and Frequency Control Society Fellow Evaluating Committee
2018-present	Steering Committee Member, Consortium for Technology and Innovation in Pediatrics (CTIP)
2018	Chair, Drug Delivery Fellow Selection Subcommittee, AIMBE College of Fellows
2018	Member, National Academies Intelligence Community Studies Board Planning Committee for Facilitating Greater S&T Access
2017	Co-Founder: Senseer LLC (electrochemical impedance based sensors developer)
2017	President, Phi Tau Phi, Southern California Chapter
2012	Mentor and USC Faculty Liaison for Women in Tech Share Online (WitsOn)
2011	Invited Participant, Women's International Research Engineering Summit (WIRES)
2010	Co-Founder: Fluid Synchrony, LLC. (medical micropumps developer and manufacturer)
2009-2010	AIChE Speaker's Corner Featured Speaker
2004	Alumni Recruiter for Caltech Undergraduate Admissions (specifically female students)
2001	Caltech Womens Center Director Search Committee Member
1998-2000	Caltech Y Excomm Member
1998-2000	Caltech Y Board Member
1997-2003	Student Member of NSF Center for Neuromorphic Systems Engineering at Caltech
1998	Caltech Womens' Basketball Team MVP
1997	University of Redlands Women's Basketball Tournament All-Tournament Team
1997-1998	Caltech Chapter Society of Women Engineers President
1996-1997	Caltech Chapter Society of Women Engineers Treasurer

INVITED TALKS

1. *Open-Source Neural Technology Platforms*, Bioelectronics Course Seminar, Dartmouth College, November 11, 2024.
2. *Scaling Polymer Implantable Electrode Interfaces*, Materials Science Seminar, West Virginia University, April 26, 2024.
3. *Scaling Polymer Implantable Electrode Interfaces*, 9th International Winterschool on Bioelectronics, Tirol, Austria, March 16-23, 2024.
4. *Translating Neural Technologies Using NIH-Funded Open-Source Platforms*, Gordon Research Conference on Neuroelectronic Interfaces, Galveston, Texas, USA, March 10-15, 2024.
5. *Polymer-based Microfabricated Implants for Neural Applications*, Biomedical Engineering Departmental Seminar, University of Arizona, February 12, 2024.
6. *From Silicon to Polymer Microelectromechanical Systems*, NSF TIP/ENG Distinguished Innovation and Entrepreneurship Lecture Series, December 6, 2023.
7. *Wet Parylene-Based Sensors*, SelectBIO Lab-on-a-Chip and Microfluidics 2023, Laguna Hills, California, USA, November 28-30, 2023.
8. *Enabling Scalable Polymer Implantable Electrode Interfaces for the Nervous System*, NanoBioTech Conference, Montreux, Switzerland, November 15, 2023. (keynote)
9. *Polymer-based Microfabrication Implants for Neural Applications*, Seminar, Wallace H. Coulter Department of Biomedical Engineering, Georgia Institute of Technology & Emory University, October 20, 2023.
10. *Polymer-based Microfabricated Implants for Neural Applications*, Transformation in Health Care: Smart Technologies Online Lecture Series, IEEE EMBS Madras Section, August 26, 2023 (virtual).
11. *Polymer Implantable Electrode Interfaces to the Nervous System*, Thin Film Devices, Barriers, and their Reliability under Extreme Conditions Symposium, MRS 2023 Spring Meeting, April 12, 2023.
12. *Polymer-based Microfabricated Implants for Neural Applications*, Department of Mechanical Engineering Seminar, University of Washington, March 28, 2023.
13. *NAMS from an Implantable Medical Device Perspective*, NIH Novel Alternative Methods Working Group March Meeting, NIH Advisory Committee to the Director Novel Alternative Methods Working Group, March 13, 2023. (hybrid, presented online, panelist)
14. *Polymer Implantable Electrode Foundry for Neural Interfaces*, IEEE Micro and Nanotechnology in Medicine Conference, Kapolei, Hawaii, December 8, 2022.
15. *Polymer Implantable Electrode (PIE) Interfaces to the Nervous System*, Neurotechnologies, Leuven, Belgium, September 27-29, 2022.
16. *Polymer Implantable Electrode (PIE) Interfaces to the Nervous System*, IEEE SF-Bay Area MEMS & Sensors Chapter, August 31, 2022.
17. *Polymer Microelectrode Array Interfaces to the Nervous System*, Microelectrode Array Meeting, Tübingen, Germany, July 6-8, 2022.
18. *Polymer-based Microfabricated Implants for Neural Applications*, Department of Biomedical Engineering Seminar, University of Connecticut, April 15, 2022.
19. *A Caltech EE Journey*, EE 2 – Electrical Engineering Entrepreneurial and Research Seminar, California Institute of Technology, February 9, 2022.
20. *Panel: Transforming global health through innovation in sustainable technology*, Brain Mind Body: Cognitive Neuroengineering for Health and Wellness Virtual Symposium and Workshop, December 15-16, 2021. (online, panelist)
21. *Polymer-based Microfabricated Implants*, Department of Biomedical Engineering Seminar, City College of New York, October 6, 2021. (online)

22. *Polymer Implantable Microelectrode Array Neural Interfaces*, Neural Engineering VII: New Neural Interface for Recording and Stimulation, Society for Brain Mapping and Therapeutics, July 11, 2021. (hybrid, presented online)
23. *How to navigate the Neural Interfaces Conference*, North American Neuromodulation Society – Neural Interfaces Conference Pre-Conference Diversity Session, June 25, 2021. (online)
24. *Polymer-Based Microfabricated Implants*, University of Wisconsin-Madison, Wisconsin Institute for Translational Neuroengineering (WITNE) Seminar Series, June 1, 2021. (online)
25. *Polymer-Based Microfabricated Implants*, Caltech Kavli Nanoscience Institute Distinguished Seminar Series, May 25, 2021. (online)
26. *Polymer-Based Microfabricated Implants*, APT Center Distinguished Lecture Series, Advanced Platform Technology Center and Cleveland Clinic, May 21, 2021. (online)
27. *Parylene Implantable Microelectrode Neural Interfaces*, IEEE EMBS Conference on Neural Engineering, Mini Symposia, May 5, 2021. (online)
28. *Starting an Academic Career*, PhD Postdoc Academic Careers Mentoring Panel, USC Viterbi School of Engineering, April 21, 2021. (online)
29. *Tiny Electrodes that Overhear Neural Conversations*, Caltech Y Friends Webinar, March 18, 2021. (online)
30. *Thin Film Microfabricated Medical Implants*, Nanoelectronics and Biotechnology Seminar, MIT, December 9, 2020. (online)
31. *Polymer Implantable Microelectrode Arrays as Neural Interfaces*, Flexible Bioelectronics Seminar, École Polytechnique Fédérale de Lausanne (EPFL), November 20, 2020. (online)
32. *Flexible, Thin Film Polymer Multielectrode Arrays as Neural Interfaces*, 5th Advanced Technology Workshop on Advanced Packaging for Medical Microelectronics, San Diego, California, January 28, 2020. (keynote speaker)
33. *MEMS for Unlocking the Secrets of the Nervous System*, 2020 IEEE MEMS Conference, Vancouver, Canada, January 22, 2020. (plenary speaker)
34. *Flexible, Thin Films Polymer Multielectrode Arrays as Neural Interfaces*, Biomedical Engineering Seminar, University of Texas at Austin, September 26, 2019.
35. *Thin Film Microfabricated Medical Implants*, Neuroengineering Seminar, Duke University, September 12, 2019.
36. *Flexible, Thin Films Polymer Multielectrode Arrays as Neural Interfaces*, Neuroengineering Seminar, Rice University, April 25, 2019.
37. *Thin Film Microfabricated Medical Implants*, Department of Biomedical Engineering, Purdue University, West Lafayette, IN, March 6, 2019.
38. *Parylene Neural Interfaces for High Density, Large Scale Recording*, 2018 IEEE EMBC Micro and Nanotechnology in Medicine Conference, Koloa, Hawaii, December 11, 2018.
39. *Flexible, Thin Film Microfabricated Polymer Implants*, Department of Biomedical Engineering, University of Miami, Miami, MN, October 24, 2018.
40. *Flexible, Thin Film Microfabricated Polymer Implants*, Department of Biomedical Engineering, University of Minnesota, Minneapolis, MN, September 19, 2018.
41. *Towards High Density Parylene Neural Recording Arrays for Large Scale Recording*. IEEE Engineering in Medicine and Biology Conference, Honolulu, Hawaii, July 19, 2018.
42. *Thin Film Polymer MEMS Implants*, Department of Bioengineering, University of California, Riverside, CA, May 23, 2018.
43. *Polymer Neural Probe Arrays for Large Scale Recording*, KAIST, South Korea, April 24, 2018.
44. *Thin Film Polymer MEMS Implants*, KTH – Royal Institute of Technology, Stockholm, Sweden, December 15, 2017.

45. *Towards High Density Neural Probe Arrays*, Daegu Gyeongbuk Institute of Science and Technology (DGIST), Daegu, South Korea, November 20, 2017.
46. *Technologies to Interface with the Brain for Recording and Modulation*. National Academy of Engineering 2017 US Frontiers of Engineering, Hartford, CT, September 25-27, 2017.
47. *Thin Film Polymer MEMS Implants*, University of California, Irvine, CA, October 27, 2017.
48. *MEMS Enabled Technologies for Ocular Monitoring and Therapy*, 19th International Conference on Solid-State Sensors, Actuators and Microsystems, June 21, 2017.
49. *Wet Implantable Sensors*, Gordon Research Conference on Physics & Chemistry of Microfluidics, Barga, Italy, June 6, 2017.
50. *Parylene Neural Probe Arrays for Large-scale, High-density Recording*, SPIE Defense + Commercial Sensing, Anaheim, CA, April 13, 2017.
51. *Thin Film Polymer MEMS Implants*, Department of Bioengineering, Rice University, Houston, TX, April 11, 2017.
52. *Chronic Neural Interfaces Enabled by Polymer MEMS*, The 6th International Multidiscipline Conference on Optofluidics, Beijing, China, July 24-27, 2016. **Keynote speaker**
53. *Flexible Polymer MEMS Implants*, Northwestern Polytechnical University, Xi'an, China, May 17, 2016.
54. *Microfabricated Devices for Medical and Biological Applications*, Department of Electrical Engineering, Seoul National University, Seoul, Korea, April 20, 2016.
55. *Implantable Microdevices*, Department of Bioengineering, University of California, Los Angeles, CA, October 22, 2015.
56. *Implantable Micro Devices: from Neural Interfaces to Drug Infusion Pumps*, Huntington Medical Research Institute, Pasadena, CA, September 15, 2015.
57. *Microtechnology-Enabled Implants*, The Saban Research Institute Seminar Series, Children's Hospital of Los Angeles, Los Angeles, CA, June 19, 2015.
58. *Implantable MEMS: from Neural Interfaces to Drug Infusion Pumps*, Department of Mechanical Engineering, University of California, Santa Barbara, CA, April 6, 2015.
59. *Implantable Microdevices*, Achievement Rewards for College Scientists (ARCS) Foundation Dinner, Wilshire Country Club, Los Angeles, CA, March 19, 2015.
60. *Making a Difference: Biomedical Engineering*, Women in Science, Technology, Engineering, Arts, and Mathematics, Mirman School, Los Angeles, CA, March 18, 2015.
61. *Implantable Micro Infusion Pumps for Chronic Localized Delivery of Nanomedicines*, 3rd Nanomedicine for Imaging and Treatment Conference, Los Angeles, CA, March 13-14, 2015.
62. *Implantable Neural Interfaces and Drug Infusion Pumps*, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, October 21, 2014.
63. *Chronic Reliability Challenges of Parylene Sheath Electrodes*, IEEE Engineering in Medicine and Biology Conference, Minisymposium on Chronic Neural Prosthetics, Chicago, Illinois, August 26-30, 2014.
64. *Encapsulation of Smart Polymers in Chronic Neural Interfaces*, Neural Interfaces Conference, Dallas, Texas, June 23-25, 2014.
65. *Scalable Drug Infusion Technologies*, AAAS Pacific Division 95th Annual Meeting, Riverside, California, June 17-20, 2014.
66. *Implantable Microsystems*, Eli and Edythe Broad Center for Regenerative Medicine and Stem Cell Research at USC, Los Angeles, California, December 17, 2013.
67. *Implantable Cortical Electrodes*, USC Brain Mapping Retreat, La Canada Flintridge, CA, September 13, 2013.
68. *Implantable Micro Infusion Pumps*, 2013 CMOS Research Symposium, Whistler, Canada, July 18, 2013.
69. *Microdevices for the Eye*, CooperVision, Pleasanton, California, July 12, 2013.

70. *3D Parylene Sheath Neural Probes*, Ritsumeikan University, Kyoto, Japan, July 9, 2013.
71. *Wireless Implantable MEMS Drug Infusion Pumps*. IEEE Engineering in Medicine and Biology Conference, Osaka, Japan, July 5, 2013.
72. *Implantable Drug Infusion Micropumps*, City of Hope, Duarte, California, May 13, 2013.
73. *MEMS and Microfluidics for Drug Delivery*, Biomedical MEMS and Sensors 2013, April 18, 2013.
74. *Polymer and Electrochemical MEMS for Biomedical Applications*, Jet Propulsion Laboratory, Pasadena, California, April 2, 2013.
75. *Microtechnologies Advancing Medicine*, WiSE Research Horizons: A Day Honoring Professor Hanna Reisler, University of Southern California, Los Angeles, California, March 27, 2013.
76. *Electrochemical Medical MEMS*, National Tsing Hua University, Taipei, Taiwan, January 25, 2013.
77. *Implantable Drug Infusion Micropumps*, IEEE Engineering in Medicine and Biology Buenaventura Chapter Event, California Lutheran University, Thousand Oaks, California, September 26, 2012.
78. *Implantable Drug Infusion Micropumps in Pediatrics*, Center for Diabetes, Endocrinology and Metabolism, Children's Hospital Los Angeles, Los Angeles, California, July 5, 2012.
79. *Electrochemical Drug Infusion Pumps and Sensors*, USC/Scripps Research Institute Research Retreat, San Diego, California, May 22, 2012.
80. *Gene Delivery Using Implantable MEMS Drug Infusion Pumps for Radiosensitization of Head and Neck Cancer*. European Materials Research Society Spring Meeting, Strasbourg, France, May 15, 2012.
81. *Smart Implantable Microtechnology-Enabled Drug Pumps*, Engineer's Council Technical Conference, Northridge, California, April 20, 2012.
82. *Medical MEMS Electrochemical Actuators and Sensors for Drug Delivery Applications*, Design of Medical Devices Conference, Minneapolis, Minnesota, April 10, 2012.
83. *Implantable MEMS Drug Infusion Pumps*, Biomedical MEMS and Sensors Conference, Cleveland, Ohio March 22, 2012.
84. *Tomorrow's Wireless Medical Devices: Overcoming Privacy Hurdles to Build a New Wireless Medical Infrastructure – A Research & Development Perspective*, Mini-Plenary Session on Wireless Medical Devices, Licensing Executives Winter Meeting, Anaheim, California, March 13, 2012.
85. *Smart Implantable Microtechnology-Enabled Drug Pumps*, IEEE San Fernando Valley Chapter Event, Sylmar, California, March 6, 2012.
86. *Implantable Drug Infusion Micropumps in Pediatrics*, Center for Technology and Innovation in Pediatrics (CTIP) Pediatric Medical Device Rounds, Children's Hospital of Los Angeles, Los Angeles, CA, February 8, 2012.
87. *Drug Delivery – Enabling Technology for Discovery and Development*, Drug Discovery Today Webinar, December 7, 2011.
88. *Wireless Feedback-Controlled Drug Delivery Pumps for Small Animal Research*, Materials Research Society Fall Meeting, Boston, Massachusetts, November, 30, 2011.
89. *Miniature Implantable Drug Delivery Pumps*, SoCal AIChE Dinner Meeting, Montebello, California, June 21, 2011.
90. *Electrochemical MEMS Actuators and Sensors for Biomedical Applications*, University of California, Los Angeles, Mechanical and Aeronautical Engineering, February 25, 2011.
91. *Electrochemical MEMS Actuators and Sensors for Biomedical Applications*, Hughes Research Laboratories, February 24, 2011.
92. *A MEMS Approach to Implantable Drug Delivery Systems*, Pennsylvania State University, Bioengineering, April 7, 2010.
93. *Miniature Implantable Drug Delivery Pumps*, Neurosurgery Grand Rounds, Keck School of Medicine, University of Southern California, March 24, 2010.

94. *Miniature Implantable Drug Delivery Pumps*, Keck School of Medicine Research Seminar Series, University of Southern California, March 8 2010.
95. *A MEMS Approach to Drug Delivery*, Stanford University, Mechanical Engineering, February 18, 2010.
96. *Implantable Drug Delivery Devices Enabled by Polymer BioMEMS*, University of Riverside, Biomedical Engineering, November 4, 2009.
97. *Microfluidic Integration into Neural Implants*, BMES Annual Fall Meeting, Pittsburg, Pennsylvania, October 7-10, 2009.
98. *Wireless Chronic Drug Delivery Platforms*, USC Body Computing Slam, Los Angeles, California, October 8, 2009.
99. *Implantable MEMS Drug Delivery Pumps for Small Animal Research*, "BioMEMS" Session of the IEEE Engineering in Medicine and Biology Conference, Minneapolis, Minnesota, September 2-6, 2009.
100. *Parylene-Based Encapsulated Fluid MEMS Sensors*, "Bioelectric Sensors" Session of the IEEE Engineering in Medicine and Biology Conference, Minneapolis, Minnesota, September 2-6, 2009.
101. *Small Animal Drug Delivery Platform for Cancer Therapy*, 5th Annual International Head & Neck Symposium - Beyond Survivorship: Emerging Technology and Surgical Techniques in the Management and Rehabilitation of Head and Neck Cancer, Los Angeles, California, July 11, 2009.
102. *Microfluidics for Microbial Systems*, Microbial Systems Institute Retreat, USC, Los Angeles, California, May 30, 2009.
103. *Polymer BioMEMS for Hybrid Neural Interfaces and Implantable Drug Delivery Systems*, Peking University, Beijing, China, May 25, 2009.
104. *Biologically-Inspired Smart Microfabricated Sensor and Actuator Networks*, 3rd THU-USC Joint Faculty Forum on Green and Smart IT for a Sustainable Future, Beijing, China, May 20-22, 2009.
105. *Polymer BioMEMS for Hybrid Neural Interfaces and Implantable Drug Delivery Systems*, University of Southern California Engineering, Neuroscience, and Health Seminar Series, Los Angeles, California, March 2, 2009.
106. *The Women in Science and Engineering Program at the University of Southern California*, American Association of University Women Women in Technology Program: Technology is a Girl's Best Friend, Torrance, California, USA, January 20, 2009.
107. *Polymer BioMEMS for Implantable Drug Delivery Systems*, NEMS 2009, Shenzhen, China, January 7, 2009.
108. *Hybrid Neural Interfaces and Implantable Drug Delivery Systems*. Nanotechnology as an Enabler for Neuroscience, Neuroengineering and Neural Prostheses Workshop, Stanford University, Palo Alto, California, USA, December 11, 2008.
109. *Polymer BioMEMS for Hybrid Neural Interfaces and Implantable Drug Delivery Systems*. Booz Allen Hamilton Distinguished Colloquium Series, University of Maryland, College Park, Maryland, USA, December 5, 2008.
110. *Polymer-Based MEMS for Biomedical Applications*, Tsinghua University-USC Workshop on Emerging Information Technologies, Los Angeles, California, USA, April 30, 2008.
111. *Polymer Microfluidics and BioMEMS*, Hong Kong University of Science and Technology, Mechanical Engineering, Hong Kong, China, January 3, 2008.
112. *Polymer Microfluidics and BioMEMS*, Tsinghua University Workshop on Emerging Technologies, Beijing, China, May 24, 2007.
113. *BioMEMS Approaches to Ocular Drug Delivery*, University of Tokyo, Mechanical Engineering, Tokyo, Japan, November 10, 2006.
114. *Development of Integrated Parylene Microfluidics for Biological Applications*, Harvey Mudd College, Claremont, California, USA, February 1, 2006.

115. *Biomimetic Microelectronic Systems Research*, National Society of Black Engineers Fall Regional Conference, Los Angeles, California, USA, November 12, 2005.
116. *Strategies and Tips on Getting into Graduate School*, USC-Caltech-UC Santa Cruz Biomimetic MicroElectronic Systems Student Association/REU Seminar, Los Angeles, California, USA, August 3, 2005.
117. *Is academia right for me? Making career path decisions after graduate school*, USC-Caltech-UC Santa Cruz Biomimetic MicroElectronic Systems Student Association Seminar, Los Angeles, California, USA, November 10, 2004.
118. *From Neuromorphic to Biomimetic MEMS*, Caltech Center for Neuromorphic Systems Engineering Anniversary Symposium, Pasadena, California, USA, November 8, 2004.
119. *Parylene Technology in Microfluidics and BioMEMS Applications*, University of Southern California, Biomedical Engineering, Los Angeles, California, USA, March 23, 2004.
120. *Parylene MEMS: Material, Technology and Applications*, ACS Polymer MEMS Symposia, New York, New York, USA, September 2003.
121. *Caltech MEMS Pumps*, Quallion LLC, Sylmar, California, USA, July 30, 2003.
122. *Development of Integrated Parylene Microfluidics for Biological Application*, University of Michigan, Electrical Engineering and Computer Science, Ann Arbor, Michigan, USA, April 17, 2003.
123. *Development of Integrated Parylene Microfluidics for Biological Application*, University of California, Davis, Mechanical and Aeronautical Engineering, Davis, California, USA, April 15, 2003.
124. *Development of Integrated Parylene Microfluidics for Biological Application*, University of California, Davis, Electrical and Computer Engineering, Davis, California, USA, April 14, 2003.
125. *Development of Integrated Parylene Microfluidics for Biological Applications*, University of California, Berkeley, Mechanical Engineering, Berkeley, California, USA, April 2, 2003.

PATENTS: INVENTION DISCLOSURES

1. Brianna Thielen and Ellis Meng. *Thin Film Endovascular Electrode Array and Method of Fabrication*. USC 2022-194, June 29, 2022.
2. Constantine Sideris, Andreas Molisch, and Ellis Meng. *Ultra-high throughput deep-brain neural recording using flexible, polymer-based shanks as Terahertz dielectric waveguides*. USC 2022-016, July 28, 2021.
3. Ellis Meng and Lawrence Yu. *Wireless device for noncontact measurement of ionic conductivity*. USC 2016-176, April 13, 2016.
4. Ellis Meng, Lawrence Yu, and Alex Baldwin. *Electrochemical impedance-based temperature and thermal flow sensor*. USC 2016-073, December 23, 2015.
5. Ellis Meng and Victor Pikov. *Cuff Electrode with Lysing Agent*. USC 2015-282, June 15, 2015.
6. Ellis Meng, Brian J. Kim, and Lawrence Yu. *Multi-Sensor Platform for Diagnosing Catheter Status*, USC 2015-0114, January 13, 2015.
7. Ellis Meng and Brian J. Kim. *An Electrochemical Impedance-Based Sensor For Use In Detecting Progressive Obstruction Or Complete Blockage Of Implanted Drainage Catheters*, USC 2014-210, February 28, 2014.
8. Curtis Lee, Brian Kim, and Ellis Meng. *Real-time Position Detection Method for Implantation of Sheath-based Neural Probes*, USC 12-587, April 19, 2012.
9. Ellis Meng, *Three dimensional hollow electrodes and method to manufacture three dimensional structures*, USC 12-277, November 21, 2011.
10. Ellis Meng and Christian Gutierrez. *Method for Tracking Fluid Delivery in Reservoir-based Pumps*, USC 11-511, March, 2011.
11. Christian A. Gutierrez and Ellis Meng. *Polymer MEMS Microbubble Pressure Transducer*, USC 10-410, March 25, 2010.
12. Ellis Meng. *Electrochemical Bellows Fluid Dosing Device*, USC 10-176, December 4, 2009.

13. Christian Gutierrez and Ellis Meng. *MEMS Force/Tactile Sensor Based on Transduction of Encapsulated Liquid within Parylene Microstructures*, USC 10-061, September 1, 2009.
14. Christian Gutierrez and Ellis Meng. *Automatic Liquid Encapsulation in Parylene Microchambers by Integrated Stiction Valves*, USC 10-060, September 1, 2009.
15. Uttam K. Sinha, Ellis Meng, and Rizwan Masood. *Radiation-dose Reduction using siRNA Nanoparticle Delivery via MEMS-based Pumps*, USC 10-059, September 1, 2009.
16. Christian A. Gutierrez and Ellis Meng. *Polymer MEMS Microbubble Pressure Transducer*, USC 10-410, March 11, 2010.
17. Ellis Meng and Ronalee Lo Mann. *In-Plane Bandpass Regulation Check Valve in Heat-Shrink Packaging for Drug Delivery*, USC 09-050, September 9, 2008.
18. Christian A. Gutierrez and Ellis Meng. *A Flexible Parylene-Based Electro-mechanical Interface Technology for Neural Prostheses*, USC 09-052, September 8, 2008.
19. Ellis Meng and Po-Ying Li. *MEMS Electrochemical Bellows Actuator*, USC 09-051, September 8, 2008.
20. Ellis Meng, Po-Ying Li, Daniel P. Holschneider, Jean-Michel I. Maarek. *Electrothermal MEMS Valve*, USC 4112, December 21, 2007.

PATENTS: PROVISIONAL

1. Brianna Thielen and Ellis Meng. *Thin Film Endovascular Electrode Array and Method of Fabrication*. Serial No. 63/436,301, December 30, 2022.
2. Constantine Sideris, Andreas Molisch, and Ellis Meng. *Wireless Implantable Electrode Array*. Serial No. 17/931,064, September 9, 2022.
3. Ellis Meng and Lawrence Yu. *Method for Contactless Electrochemical Impedance Measurement*. Serial No. 62/345,757, June 4, 2016.
4. Ellis Meng and Victor Pikov. *Cuff Electrode with Lysing Agent*. Serial No. 62/204,862, August 13, 2015.
5. Ellis Meng, Brian J. Kim, and Lawrence Yu. *Multi-Sensor Platform for Diagnosing Catheter Status*, Serial No. 62/103,369, January 14, 2015.
6. Ellis Meng and Brian J. Kim. *Method and Sensor for Detecting Catheter Obstruction*, Serial No. 62/046,424, September 5, 2014.
7. Kasthuri J. Venkateswaran, Myron T. La Duc, James A. Spry, Andreas Frick, David Smith, Ellis Meng. *Description of a Novel Microfluidic Device for Sterilizing Spacecraft Hardware with In-Situ Flight Technologies (SHIFT)*, March 10, 2014.
8. Ellis Meng. *Three dimensional hollow electrodes and method to manufacture three dimensional structures*, Serial No. 61/566,906, December 5, 2011.
9. Ellis Meng and Christian Gutierrez. *Method For Tracking Fluid Delivery in Reservoir-based Pumps*, Serial No. 61/492,678, June 2, 2011.
10. Ellis Meng, Po-Ying Li, Daniel P. Holschneider, Jean-Michel I. Maarek. *Electrothermal MEMS Valve*, Serial No. 61/318,505, March 29, 2010.
11. Christian A. Gutierrez and Ellis Meng. *Polymer MEMS Microbubble Pressure Transducer*, Serial No. 61/317,609, March 25, 2010.
12. Uttam K. Sinha, Ellis Meng, Rizwan Masood. *Radiation-dose Reduction using siRNA Nanoparticle Delivery via MEMS-based Pumps*, Serial No. 61/266,977, December 4, 2009.
13. Ellis Meng. *Electrochemical Bellows Fluid Dosing Device*, Serial No. 61/266,978, December 4, 2009.
14. Christian A. Gutierrez and Ellis Meng. *MEMS Force/Tactile Sensor Based on Transduction of Encapsulated Liquid within Parylene Microstructures*, Serial No. 61/246,892, September 29, 2009.
15. Christian A. Gutierrez and Ellis Meng. *Automatic Liquid Encapsulation in Parylene Microchambers by Integrated Stiction Valves*, Serial No. 61/246,891, September 29, 2009.

16. Christian A. Gutierrez and Ellis Meng. *Flexible Parylene-based Electro-mechanical Interface Technology*, Serial No. 61/154,959, February 24, 2009.
17. Ellis Meng and Po-Ying Li. *MEMS Electrochemical Bellows Actuator*, Serial No. 61/154,327, February 20, 2009.
18. Ellis Meng and Ronalee Lo Mann. *In-Plane Bandpass Regulation Check Valve in Heat-Shrink Packaging for Drug Delivery*, Serial No. 61/154,314, February 20, 2009.

PATENTS: APPLICATIONS

1. Brianna Thielen and Ellis Meng. *Thin Film Endovascular Electrode Array and Method of Fabrication*. Serial No. 18/401,817, January 2, 2024.
2. Ellis Meng and Lawrence Yu. *Method for Contactless Electrochemical Impedance Measurement*. US Patent Application No. 16/306,663, December 3, 2018.
3. Ellis Meng, Brian J. Kim, Alex Baldwin, and Lawrence Yu. *Multi-Sensor Platform for Diagnosing Catheter Status*, US Patent Application No. 15/543,506, July 13, 2017.
4. Ellis Meng and Lawrence Yu. *Method for Contactless Electrochemical Impedance Measurement*. PCT Patent Application No. PCT/US2017/35877, June 5, 2017.
5. Ellis Meng and Victor Pikov. *Cuff Electrode with Lysing Agent*, PCT Patent Application No. PCT/US2016/046802, August 12, 2016.
6. Ellis Meng, Brian J. Kim, Alex Baldwin, and Lawrence Yu. *Multi-Sensor Platform for Diagnosing Catheter Status*, PCT Patent Application No. PCT/US2016/013169, January 13, 2016.
7. Ellis Meng and Brian J. Kim. *Method and Sensor for Detecting Catheter Obstruction*, US Patent Application No. 14/822,662, August 10, 2015. – **Allowed** Nov. 13, 2017
8. Ellis Meng, Po-Jui Chen, Damien C. Rodger, Yu-Chong Tai, Mark S. Humayun. *Implantable Intraocular Pressure Drain*, US Patent Application No. 13/921,765, June 19, 2013.
9. Ellis Meng. *Implantable Neural Reporting Probe and Methods of Manufacturing and Implanting Same*, US Patent Application No. 13/693,838, December 4, 2012.
10. Ellis Meng, Po-Jui Chen, Damien C. Rodger, Yu-Chong Tai, Mark S. Humayun. *Implantable Intraocular Pressure Drain*, US Patent Application No. 13/555,329, July 22, 2012.
11. Ellis Meng and Christian Gutierrez. *Tracking and Controlling Fluid Delivery from Chamber*, US Patent Application No. 13/487,000, June 1, 2012. – **Licensed to Fluid Synchrony LLC**
12. Ellis Meng and Christian Gutierrez. *Tracking and Controlling Fluid Delivery from Chamber*, PCT Patent Application No. PCT/US2012/040526, June 1, 2012. – **Licensed to Fluid Synchrony LLC**
13. Ellis Meng and Ronalee Lo. *Interconnect for MEMS Device Including a Viscoelastic Septum*, US Patent Application 13/251,959, October 3, 2011.
14. Ellis Meng and Christian Gutierrez. *Microelectromechanical (MEMS) Pressure Sensor*, PCT Patent Application No. PCT/US2011/029866, March 24, 2011. – **Under licensing negotiation to Fluid Synchrony LLC**
15. Ellis Meng and Christian Gutierrez. *Microelectromechanical (MEMS) Pressure Sensor*, US Patent Application No. 13/052,958, March 21, 2011. – **Under licensing negotiation to Fluid Synchrony LLC**
16. Ellis Meng, Yu-Chong Tai, Mark S. Humayun, Rajat Agrawal, Ronalee Lo, Jason Shih, Kenrick Kuwahara, Po-Ying Li, Damien C. Rodger, and Po-Jui Chen. *MEMS Device and Method for Delivery of Therapeutic Agents*, US Patent Application No. 13/026,136, February 11, 2011. - **Licensed to Replenish LLC**
17. Ellis Meng, Yu-Chong Tai, Mark S. Humayun, Rajat Agrawal, Ronalee Lo, Jason Shih, Kenrick Kuwahara, Po-Ying Li, Damien C. Rodger, and Po-Jui Chen. *MEMS Device and Method for Delivery of Therapeutic Agents*, US Patent Application No. 13/026,121, February 11, 2011. - **Licensed to Replenish LLC**
18. Ellis Meng, Yu-Chong Tai, Mark S. Humayun, Rajat Agrawal, Ronalee Lo, Jason Shih, Kenrick Kuwahara, Po-Ying Li, Damien C. Rodger, and Po-Jui Chen. *MEMS Device and Method for Delivery of Therapeutic Agents*, US Patent Application No. 12/790,240, May 28, 2010. - **Licensed to Replenish LLC**

19. Ellis Meng and Christian Gutierrez. *Flexible Polymer-Based Encapsulated-fluid Devices*, US Patent Application No. 13/202,882, February 24, 2010. – **Under licensing negotiation to Fluid Synchrony LLC**
20. Ellis Meng and Christian Gutierrez. *Flexible Polymer-Based Encapsulated-fluid Devices*, PCT Application No. PCT/US2010/025248, February 24, 2010. – **Under licensing negotiation to Fluid Synchrony LLC**
21. Ellis Meng and Ronalee Lo. *Drug Delivery Device with In-Plane Bandpass Regulation Check Valve in Heat-Shrink Packaging*, US Patent Application No. 12/709,188, February 19, 2010. – **Under licensing negotiation to Fluid Synchrony LLC**
22. Ellis Meng and Ronalee Lo. *Drug Delivery Device with In-Plane Bandpass Regulation Check Valve in Heat-Shrink Packaging*, PCT Application No. PCT/US2010/024730, February 19, 2010. – **Under licensing negotiation to Fluid Synchrony LLC**
23. Ellis Meng, Po-Ying Li, and Tuan Hoang. *MEMS Electrochemical Bellows Actuator*, US Patent Application No. 12/709,335, February 19, 2010. – **Licensed to Fluid Synchrony LLC, allowed**
24. Ellis Meng, Po-Ying Li, and Tuan Hoang. *MEMS Electrochemical Bellows Actuator*, PCT Patent Application No. PCT/US2010/024808, February 19, 2010. – **Licensed to Fluid Synchrony LLC, allowed**
25. Ellis Meng and Ronalee Lo. *Interconnect for MEMS Device Including a Viscoelastic Septum*, US Patent Application 12,357,330, January 21, 2009.
26. Ellis Meng, Mark S. Humayun, Ronalee Lo, Po-Ying Li, Saloomeh Saati. *Implantable Drug-Delivery Devices, and Apparatus and Methods for Refilling the Devices*, US Patent Application No. 12/348,178, January 2, 2009. - **Licensed to Replenish LLC**
27. Ellis Meng, Mark S. Humayun, Ronalee Lo, Po-Ying Li, Saloomeh Saati. *Implantable Drug-Delivery Devices, and Apparatus and Methods for Refilling the Devices*, (WO2009089094A2, EP2240220 A2, EP2266643 A2), January 2, 2009. - **Licensed to Replenish LLC**
28. Ellis Meng, Yu-Chong Tai, Mark S. Humayun, Rajat Agrawal, Ronalee Lo, Jason Shih, Kenrick Kuwahara, Po-Ying Li, Damien C. Rodger, and Po-Jui Chen. *MEMS Device and Method for Delivery of Therapeutic Agents*, PCT Patent Application No. PCT/US2007/006530 (WO2007106557A2, EP1998829 A2, EP2316505 A2, EP2319558 A2), March 14, 2007. - **Licensed to Replenish LLC**
29. Ellis Meng, Yu-Chong Tai, Damien C. Rodger, Po-Jui Chen, and Mark S. Humayun. *Micromachined tissue anchors for securing implants without sutures*, US20060247664, March 7, 2006.

PATENTS: AWARDED

1. Ellis Meng, Brian J. Kim, Alex Baldwin, and Lawrence Yu. *Multi-Sensor Platform for Diagnosing Catheter Status*, US Patent Application No. 15/543,506, July 23, 2022. (allowed)
2. Ellis Meng and Victor Pikov. *Cuff Electrode with Lysing Agent*, US Patent 11,045,644, June 29, 2021.
3. Ellis Meng and Brian J. Kim. *Method and Sensor for Detecting Catheter Obstruction*, US Patent 9,974,932 B2, May 22, 2018.
4. Ellis Meng, Mark S. Humayun, Ronalee Lo Mann, Po-Ying Li, Saloomeh Saati. *Implantable drug-delivery devices, and apparatus and methods for refilling the devices*, US Patent 9,901,687 B2, February, 27, 2018. – **Licensed to Replenish LLC**
5. Ellis Meng and Christian Gutierrez. *Tracking and Controlling Fluid Delivery from Chamber*, US Patent 9,222,819 B2, December 29, 2015. – **Licensed to Fluid Synchrony LLC**
6. Ellis Meng, Po-Jui Chen, Damien C. Rodger, Yu-Chong Tai, Mark S. Humayun. *Implantable Intraocular Pressure Drain*, US Patent 9,180,050 B2, November 10, 2015.
7. Ellis Meng, Po-Jui Chen, Damien C. Rodger, Yu-Chong Tai, Mark Humayun. *Implantable Intraocular Pressure Drain*, US Patent 8,585,630 B2, November 19, 2013.
8. Ellis Meng. *MEMS Electrochemical Bellows Actuator*, US Patent 8,579,885 B2, November 12, 2013. – **Licensed to Fluid Synchrony LLC**
9. Ellis Meng and Ronalee Lo. *Interconnect for MEMS Device Including a Viscoelastic Septum*, US Patent 8,518,481 B2, August 27, 2013.

10. Ellis Meng and Christian Gutierrez. *Microelectromechanical (MEMS) Pressure Sensor*, US Patent 8,490,497 B2, July 23, 2013. – **Under licensing negotiation to Fluid Synchrony LLC**
11. Ellis Meng and Ronalee Lo Mann. *Drug Delivery Device with In-Plane Bandpass Regulation Check Valve in Heat-Shrink Packaging*, US Patent 8,372,046 B2, February 12, 2013. – **Under licensing negotiation to Fluid Synchrony LLC**
12. Ellis Meng, Yu-Chong Tai, Mark S. Humayun, Rajat Agrawal, Ronalee Lo, Jason Shih, Kenrick Kuwahara, Po-Ying Li, Damien C. Rodger, and Po-Jui Chen. *MEMS Device and Method for Delivery of Therapeutic Agents*, US Patent 8,308,686 B2, November 13, 2012. – **Licensed to Replenish LLC**
13. Ellis Meng, Po-Jui Chen, Damien Rodger, Yu-Chong Tai, Mark Humayun. *Implantable Intraocular Pressure Drain*, US Patent 8,246,569 B1, August 21, 2012.
14. Ellis Meng and Ronalee Lo. *Interconnect for MEMS Device Including a Viscoelastic Septum*, US Patent 8,087,310 B2, January 3, 2012.
15. Ellis Meng, Yu-Chong Tai, Mark S. Humayun, Rajat Agrawal, Ronalee Lo, Jason Shih, Kenrick Kuwahara, Po-Ying Li, Damien C. Rodger, and Po-Jui Chen. *MEMS Device and Method for Delivery of Therapeutic Agents*, US Patent 7,887,508 B2, February 15, 2011. - **Licensed to Replenish LLC**
16. Yu-Chong Tai, Ellis Meng, Po-Jui Chen, Damien C. Rodger, and Mark S. Humayun. *Implantable Mechanical Pressure Sensor and Method of Manufacturing the Same*, US Patent 7,252,006 B2, August 7, 2007.
17. Wolfgang Fink, Eui-Hyeok Yang, Yoshi Hishinuma, Choonsup Lee, Thomas George, Yu-Chong Tai, Ellis Meng, Mark Humayun. *Optically powered and optically data-transmitting wireless intraocular pressure sensor device*, US Patent 7,131,945 B2, November 7, 2006.
18. Yu-Chong Tai, Shuyun Wu, and Ellis Meng. *Micromachined fluidic coupler and method of making the same*, US Patent 6,672,629 B2, January 6, 2004.
19. Yu-Chong Tai, Ellis Meng, and Xuan-Qi Wang. *Check-valved silicon diaphragm pump and method of fabricating the same*, US Patent 6,334,761 B1, January 1, 2002.

PUBLICATIONS

Peer Reviewed Abstracts and Abstracts

1. Alberto Esteban-Linares, Brianna Thielen, Quentin Rezard, Artin Petrossians, Jared Wells, Jayme Coates, Sahar Elyahoodayan, Dong Song, Victor Pikov, and Ellis Meng. *A microfabricated Parylene cuff electrode for branched nerve stimulation*. Society for Neuroscience, Chicago, Illinois, USA, October 5-9, 2024 (poster).
2. Yingyi Gao, Xuechun Wang, Huijing Xu, Alberto Esteban-Linares, Jeffrey Guo, Dong Song, and Ellis Meng. *Development of surgical insertion methods for flexible neural probe arrays to reach deep brain targets*. Society for Neuroscience, Chicago, Illinois, USA, October 5-9, 2024 (poster).
3. Alberto Esteban-Linares, Brianna Thielen, Quentin Rezard, Artin Petrossians, Jared Wells, Jayme Coates, Raja Hitti, and Ellis Meng. *A microfabricated Parylene cuff electrode for branched nerve stimulation*. 13th Congress of the International Society of Autonomic Neuroscience, Birmingham, UK, July 25-27, 2024.
4. Yan Gong, Yingyi Gao, Alberto Esteban-Linares, James Yoo, Huijing Xu, Dong Song, and Ellis Meng. *A Reliable Polymer Neural Interface for Long-term, Large-scale Monitoring of Neural Activity in Different Brain Regions Across Various Species*. 10th Annual BRAIN Initiative Conference, Rockville, MD, June 17-18, 2024.
5. Kee Scholten, Huijing Xu, Dong Song, and Ellis Meng. *The Polymer Implantable Electrode Foundry: A shared-resource model for polymer electrode manufacturing and dissemination*. 10th Annual BRAIN Initiative Conference, Rockville, MD, June 17-18, 2024.
6. Zihan Jin, Huijing Xu, Kee Scholten, Ellis Meng, and Dong Song. *Recording Hippocampal Spiking Activities from Rats Performing a Dynamical Environment Navigation Task with Polymer Microelectrode Arrays*. 10th Annual BRAIN Initiative Conference, Rockville, MD, June 17-18, 2024.
7. Ellis Meng. *Scaling Polymer Implantable Electrode Interfaces*, 9th International Winterschool on Bioelectronics, Tirol, Austria, March 16-23, 2024.

8. Victor Pikov, Raja Hitti, and [Ellis Meng](#). *CARSS: an open-source closed-loop implantable neuromodulation device platform for bioelectronic medicine*. Gordon Research Conference on Neuroelectronic Interfaces, Galveston, Texas, USA, March 10-15, 2024.
9. Kee Scholten, Huijing Xu, Dong Song, and [Ellis Meng](#). *The Polymer Implantable Electrode Foundry: Recent progress in the development of polymer microelectrode arrays for chronic neural interface applications*. Gordon Research Conference on Neuroelectronic Interfaces, Galveston, Texas, USA, March 10-15, 2024.
10. Victor Pikov, Raja Hitti, [Ellis Meng](#). *CARSS: an open-source closed-loop implantable neuromodulation device platform for bioelectronic medicine*. 2024 North America Neuromodulation Society (NANS) Annual Meeting, Las Vegas, Nevada, USA, January 18-21, 2024 (poster and oral).
11. [Ellis Meng](#), Dong Song, Kee Scholten, Huijing Xu, Brianna Thielen, Sahar Elyahoodayan, Alex Baldwin, Quentin Rezard, Alberto Esteban Linares. *Enabling scalable polymer implantable electrode interfaces for the nervous system*. NanoBioTech-Montreaux Conference, Montreaux, Switzerland, November 12-15, 2023 (keynote).
12. Huijing Xu, Xuechun Wang, Yingyi Gao, Tuo Zhou, [Ellis Meng](#), and Dong Song. *Development of a Design Library of Polymer-based Microelectrode Arrays for Rodent Multi-region Hippocampal Recordings*. Society for Neuroscience, Washington, DC, USA, October 5-9, 2023 (poster).
13. Tuan Hoang, Sascha Lee, and [Ellis Meng](#). *Development of implantable 3mL micropump for preclinical and clinical applications, including controlled metronomic chemotherapy for brain cancers*. Society for Neuroscience, Washington, DC, USA, October 5-9, 2023 (poster).
14. [Ellis Meng](#). *Polymer Implantable Electrode Interfaces to the Nervous System*. 2023 MRS Spring Meeting and Exhibit, San Francisco, California, USA, April 10-14, 2023 (invited).
15. Huijing Xu, Kee Scholten, Zhouxiao Lu, Wenxuan Jiang, [Ellis Meng](#), and Dong Song. *Development of a Generic Multi-Shank Parylene Microelectrode Array for in vivo Recording from Rodent Brain*. BMES Annual Meeting, October 12-15, 2022.
16. Brianna Thielen and [Ellis Meng](#). *Thermoforming of Parylene C for 3D Structures*. Hilton Head 2022: A Solid State Sensors, Actuators and Microsystems Workshop, Hilton Head Island, South Carolina, USA, June 5-9, 2022, WOP-14.
17. Jacob Pawlik, Nikolas Barrera, Eugene Yoon, Angela Stelson, and [Ellis Meng](#). *Measuring dielectric changes at the solid-liquid interface of Parylene films with microwave microfluidic spectroscopy*. American Physical Society Meeting, Chicago, Illinois, USA, March 14-18, 2022, G00.00154.
18. Kee Scholten, Xin Liu, Huijing Xu, Dong Song, and [Ellis Meng](#). *The Polymer Implantable Electrode Foundry: A shared-resource for fabricating polymer-based microelectrode arrays*. Neuroelectronic Interfaces Gordon Research Conference, March 13-18, 2022, Ventura, California.
19. Kee Scholten, Xin Liu, Huijing Xu, Dong Song, and [Ellis Meng](#). *A Shared Resource for Disseminating Polymer Microelectrode Arrays for Chronically Implanted Neuroelectric Interfaces*, Neuromodulation: The Science, February 28-March 2, 2022, Kauai, Hawaii (cancelled due to COVID-19 pandemic)
20. Kee Scholten, Xin Liu, Huijing Xu, Dong Song, and [Ellis Meng](#). *The Polymer Implantable Electrode Foundry: Shared-resource fabrication of soft polymer-based electrode arrays for minimally invasive compliant neural interfaces*, Brain Mind Body: Cognitive Neuroengineering for Health and Wellness Virtual Symposium and Workshop, December 15-16, 2021. (online)
21. James Yoo, Aria Samiei, Wenxuan Jiang, Hossein Hashemi, Dong Song, and [Ellis Meng](#). *Polymer Ultrasonic Bump (PUB) Bonding Integrated Circuits to High-Density Polymer Neural Interfaces*, Neural Interfaces 2021: The NANS-NIC Joint Meeting, June 25-26, 2021. (online)
22. Kee Scholten, Jessica Ortigoza-Diaz, Huijing Xu Dong Song, and [Ellis Meng](#). *A 64-channel Parylene C Neural Probe Array for (Sub)/Cortical Recording in Free-Moving Rodents*. Neural Interfaces 2021: The NANS-NIC Joint Meeting, June 25-26, 2021. (online)
23. [Ellis Meng](#), Kee Scholten, and Dong Song. *Parylene Implantable Microelectrode Neural Interfaces*, Mini Symposia, IEEE EMBS Conference on Neural Engineering, May 4-6, 2021. (online)

24. Kee Scholten, Jessica Ortigoza-Diaz, Dong Song, and [Ellis Meng](#). *Advances in Polymer Microelectrode Array Technology*. Society for Neuroscience Global Connectome Conference, January 11-13, 2021. (online)
25. Wenxuan Jiang, X. Wang, Huijing Xu, [Ellis Meng](#), and Dong Song. *A 3D Parylene-based multi-electrode array for large scale recordings from the rat hippocampus*. Neuromatch 3.0 Conference, October 26-30, 2020. (online)
26. Huijing Xu, Ahuva Hirschberg, Wenxuan Jiang, Kee Scholten, Xuechun Wang, [Ellis Meng](#), and Dong Song. *Chronic Recording from Multiple Hippocampal Sub-Regions in Free Moving Rats with a Flexible Parylene-Based Multi-Electrodes Array*. Neuromatch 3.0 Conference, October 26-30, 2020. (online)
27. James Yoo and [Ellis Meng](#). *Integrating Active ICs to Polymers for Compact Packaging*. 5th Advanced Technology Workshop on Advanced Packaging for Medical Microelectronics, San Diego, California, January 28-29, 2020 (oral presentation)
28. Janeline Wong, Eugene Yoon, and [Ellis Meng](#). *Post-Fabrication Processing of a Polymeric Microelectrode Array*. BMES Annual Fall Meeting, Philadelphia, Pennsylvania, USA, October 16-19, 2019. (poster presentation)
29. Eugene Yoon, Janeline Wong, Beomsoo Koo, James Weiland, and [Ellis Meng](#). *Benchmark Characterization of Rat Epiretinal Stimulation Array for Artificial Vision Prostheses*. IEEE Engineering in Medicine and Biology Conference, Berlin, Germany, July 23-27, 2019. (poster presentation)
30. Gregory M. Shackleford, Min Y. Mahdi, Rex A. Moats, Debra Hawes, Hung C. Tran, Jonathan L. Finlay, Tuan Q. Hoang, [Ellis F. Meng](#), Anat Erdreich-Epstein. *Continuous and bolus intraventricular topotecan prolong survival in a mouse model of leptomeningeal medulloblastoma*. SNO Pediatric Neuro-Oncology Basic and Translational Research Conference, San Francisco, California, USA, May 3-4, 2019. (poster presentation)
31. Christopher Larson, Sahar Elyahoodayan, Angelica Cobo, Kee Scholten, Dong Song, and [Ellis Meng](#). *Reliability and acute in vivo testing of the lyse-and-attract cuff electrode*. Society for Neuroscience Annual Meeting, San Diego, California, USA, November 3-7, 2018. (poster presentation)
32. Huijing Xu, Wenxuan Jiang, Ahuva Hirschberg, Kee Scholten, [Ellis Meng](#), and Dong Song. *Long-term evaluation of a parylene-based multi-electrode array for recordings from the hippocampus of behaving rats*. Society for Neuroscience Annual Meeting, San Diego, California, USA, November 3-7, 2018. (poster presentation)
33. Xuechun Wang, Ahuva Weltman, Kee Scholten, and [Ellis Meng](#). *Fabrication of Parylene Microfluidic Channels for Drug Delivery Neural Probes*. BMES Annual Fall Meeting, Atlanta, Georgia, USA, October 17-20, 2018. (poster presentation)
34. Kee Scholten, Ahuva Hirschberg, Huijing Xu, Dong Song, and [Ellis Meng](#). *Fabrication and testing of a polymer-based microelectrode array for hippocampal recordings*. Neural Interfaces Conference, Minneapolis, Minnesota, USA, June 25-27, 2018. (poster presentation)
35. James J. Yoo and [Ellis Meng](#). *Interconnect strategies for joining integrated circuits to high-density polymer neural interfaces*. Neural Interfaces Conference, Minneapolis, Minnesota, USA, June 25-27, 2018. (poster presentation)
36. Sahar Elyahoodayan, Chris Larson, [Ellis Meng](#), and Dong Song. *Acute Electrophysiological and Drug Delivery Tests of Parylene Cuff Electrode with Embedded Microfluid Channels*. Neural Interfaces Conference, Minneapolis, Minnesota, USA, June 25-27, 2018. (poster presentation)
37. Christopher Larson, Sahar Elyahoodayan, Angelica Cobo, Kee Scholten, Dong Song, and [Ellis Meng](#). *Reliability and acute in vivo testing of the lyse-and-attract cuff electrode*. Neural Interfaces Conference, Minneapolis, Minnesota, USA, June 25-27, 2018. (poster presentation)
38. Alex Baldwin, Curtis Lee, Artin Petrossians, James Weiland, and [Ellis Meng](#). *Platinum-Iridium Coatings Increased Sensitivity of Impedance-Based Polymer Flow Sensors*, IEEE Engineering in Medicine and Biology Conference, Honolulu, Hawaii, USA, July 17-21, 2018. (poster presentation)

39. Jessica Ortigoza-Diaz, Kee Scholten, and Ellis Meng. *Improvement of Dry and Wet Adhesion in Parylene C to Platinum for Robust Thin Film Medical Microdevices*, IEEE Engineering in Medicine and Biology Conference Honolulu, Hawaii, USA, July 17-21, 2018.
40. Min Mahdi, Hung C. Tran, Tuan Hoang, Ellis Meng, Debra Hawes, Rex Moats, Anat Erdreich-Epstein, Gregory Shackelford. *Continuous and bolus intraventricular topotecan prolong survival in a mouse model of leptomeningeal medulloblastoma*. Children's Hospital of Los Angeles/The Saban Research Institute Annual Poster Session, June 12, 2018. (poster presentation)
41. Ellis Meng. *Towards High Density Neural Probe Arrays*. Daegu Gyeongbuk Institute of Science and Technology (DGIST) Global Innovation Festival (DGIF), Daegu, Korea, November 29-December 1, 2017. (invited)
42. Huijing Xu, Ahuva Hirschberg, Kee Scholten, Ellis Meng, Ted W. Berger, and Dong Song. *Multi-region recordings from the hippocampus of free-moving rats with a Parylene-based multi-electrode array*. Society for Neuroscience, Washington, DC, USA, November 11-15, 2017. (poster presentation)
43. Madeleine Combs, Ahuva Weltman, Huijing Xu, Kee Scholten, Dong Song, and Ellis Meng. *Immunohistological Image Analysis of Microprobe Array Targeting Hippocampus*. BMES Annual Fall Meeting, Phoenix, Arizona, USA, October 11-14, 2017. (undergraduate poster presentation)
44. Jessica Ortigoza-Diaz, Kee Scholten, and Ellis Meng. *Improvement of Dry and Wet Adhesion in Parylene C Microdevices*. BMES Annual Fall Meeting, Phoenix, Arizona, USA, October 11-14, 2017. (poster presentation)
45. James Yoo, Kee Scholten, and Ellis Meng. *Polymer Packaging for Integrated Circuitry in Neural Interfaces*. IEEE Engineering in Medicine and Biology Conference, Jeju Island, South Korea, July 11-15, 2017. (poster presentation)
46. Ellis Meng. *Parylene Neural Probe Arrays for Large-scale, High-density Recording*. SPIE Defense + Commercial Sensing, Anaheim, California, April 9-13, 2017. (invited oral presentation)
47. Huijing Xu, Ahuva Weltman, Min-Chi Hsiao, Ellis Meng, Ted W. Berger, and Dong Song. *The application of a Parylene neural probe for in vivo recordings from multiple sub-regions of the rat hippocampus*. Society for Neuroscience, San Diego, California, USA, November 12-16, 2016. (poster presentation)
48. Alex Baldwin and Ellis Meng. *An Impedance-Based Thermal Flow Sensor for Physiological Fluids*. BMES Annual Fall Meeting, Minneapolis, Minnesota, USA, October 5-8, 2016. (poster presentation)
49. Angelica Cobo, Kee Scholten, Victor Pikov, and Ellis Meng. *A Parylene-based Peripheral Nerve Cuff Electrode*. BMES Annual Fall Meeting, Minneapolis, Minnesota, USA, October 5-8, 2016. (poster presentation)
50. Ahuva Weltman, Huijing Xu, Kee Scholten, Ted W. Berger, Dong Song, and Ellis Meng. *Deep Brain Targeting Strategy for Bare Parylene Neural Probe Array*. 2016 Joint North American Neuromodulation Society – Neural Interfaces Conference Meeting, Baltimore, Maryland, USA, June 25-29, 2016. (poster presentation)
51. Angelica Cobo, Kee Scholten, James Yoo, Christopher Larson, Trevor Hudson, Victor Pikov, and Ellis Meng. *A Parylene Cuff Electrode for Peripheral Nerve Recording and Stimulation*. 2016 Joint North American Neuromodulation Society – Neural Interfaces Conference Meeting, Baltimore, Maryland, USA, June 25-29, 2016. (poster presentation)
52. Christoffer Abrahamsson, Hanzhu Zhang, Michael Persson, Ellis Meng, and Magnus Nydén. *A liquid flow valve made from a functional composite gel*. International Conference on Advances in Functional Materials, Long Island, New York, USA, June 29 - July 3, 2015. (oral presentation)
53. Brian J. Kim, Lawrence Yu, Eisha Christian, Mark Krieger, J. Gordon McComb, and Ellis Meng. *Development of an Integrated Multi-Sensor Platform for Quantitative Monitoring of Intracranial Pressure, Cerebrospinal Fluid Flow, and Ventricular Catheter Patency*. Annual Meeting of the AANS/CNS Section on Pediatric Neurological Surgery, Amelia Island, Florida, USA, December 2-5, 2014. (poster presentation) – **Top Poster Finalist**

54. Brian J. Kim, Lawrence Yu, Curtis Lee, and Ellis Meng. *Parylene-based EC-MEMS Patency Sensor for Detection of Hydrocephalus Shunt Obstruction*. BMES Annual Fall Meeting, San Antonio, Texas, USA, October 22-25, 2014. (poster presentation)
55. Lawrence Yu, Brian J. Kim, Curtis D. Lee, and Ellis Meng. *Development of a Dual Sensor Platform for Monitoring Hydrocephalus Shunts*. Hydrocephalus 2014, Bristol, United Kingdom, September 6-8, 2014. (poster presentation)
56. Ellis Meng. *Encapsulation of Smart Polymers in Chronic Neural Interfaces*, Neural Interfaces Conference, June 23-25, 2014.
57. Ellis Meng. *Scalable Drug Infusion Technologies*, AAAS Pacific Division 95th Annual Meeting, Riverside, California, June 17-20, 2014.
58. Tuan Hoang, Christian Gutierrez, Chris Jones, Greg Shackleford, and Ellis Meng. *Implantable Pump System for On-demand Drug Administration in Rodents*. Society for Neuroscience, San Diego, California, USA, November 9-13, 2013. (poster presentation)
59. Seth A. Hara, Jonathan T.W. Kuo, Brian J. Kim, Curtis D. Lee, Christian A. Gutierrez, Tuan Hoang, Victor Pikov, and Ellis Meng. *A 2x2 microfabricated three dimensional Parylene sheath multisite electrode probe array with bioactive coatings*. Society for Neuroscience, San Diego, California, USA, November 9-13, 2013. (poster presentation)
60. Brian J. Kim, Christian A. Gutierrez, and Ellis Meng. *Parylene-based EC-MEMS sensor array for chronic cortical implant mechanics studies*. Society for Neuroscience, San Diego, California, USA, November 9-13, 2013. (poster presentation)
61. Curtis Lee, Lawrence Yu, Jonathan T.W. Kuo, Brian J. Kim, Tuan Hoang, and Ellis Meng. *Matrigel as a drug eluting coating for neural probes*. Society for Neuroscience, San Diego, California, USA, November 9-13, 2013. (poster presentation)
62. Ellis Meng. *Implantable Micro Infusion Pumps*, 2013 CMOS Research Symposium, Whistler, Canada, July 18, 2013. (invited oral presentation)
63. Nestor E. Cabrera-Munoz, Roya Sheybani, and Ellis Meng. *Real-time Dose Tracking and Device Status Notification for a Drug Micro Infusion Micropump*. BMES Annual Fall Meeting, Atlanta, Georgia, USA, October 24-27, 2012. (poster presentation)
64. Roya Sheybani, Heidi Gensler, and Ellis Meng. *Electrochemical Drug Infusion Micropump with Wide Dynamic Range and Viscosity Independent Pumping*. BMES Annual Fall Meeting, Atlanta, Georgia, USA, October 24-27, 2012. (poster presentation)
65. Brian Kim, Christian Gutierrez, and Ellis Meng. *Parylene-based Force Sensor Array Technologies for Mechanical Characterization of Neural Interfaces*. BMES Annual Fall Meeting, Atlanta, Georgia, USA, October 24-27, 2012. (poster presentation)
66. Ellis Meng, Tuan Hoang, and Christian Gutierrez. *Remote-controlled Implantable Infusion Pumps for On-demand Drug Administration*. Society for Neuroscience, New Orleans, Louisiana, USA, October 13-17, 2012. (poster presentation)
67. Seth A. Hara, Curtis Lee, Brian J. Kim, Jonathan T.W. Kuo, Christian A. Gutierrez, Tuan Hoang, and Ellis Meng. *Electrochemical Characterization of Microelectrodes with Biofunctional Coatings on a Parylene C Sheath Cortical Probe*. Society for Neuroscience, New Orleans, Louisiana, USA, October 13-17, 2012. (poster presentation)
68. Jonathan T.W. Kuo, Brian J. Kim, Seth A. Hara, Curtis Lee, Christian A. Gutierrez, Tuan Hoang, and Ellis Meng. *3D Parylene Sheath Probe for Neuronal Recording*. Society for Neuroscience, New Orleans, Louisiana, USA, October 13-17, 2012. (poster presentation)
69. Roya Sheybani, Heidi Gensler, Tuan Hoang, and Ellis Meng. *Novel Wirelessly-Operated Implantable Drug Infusion Micropump for On-Demand, Site-Specific Delivery of Pain Medications*. World Congress on Pain, Milan, Italy, August 27-31, 2012. (poster presentation)

70. Seth A. Hara, Brian J. Kim, Curtis D. Lee, Jonathan T.W. Kuo, Christian A. Gutierrez, Tuan Hoang, and Ellis Meng. *Investigation of Post-fabrication Thermoforming Processes on Electrode Properties Using Electrochemical Impedance Spectroscopy on a 3D Parylene Sheath Probe*. Neural Interfaces Conference, Salt Lake City, Utah, USA, June 18-20, 2012. (poster presentation)
71. Brian J. Kim, Jonathan T.W. Kuo, Seth A. Hara, Curtis Lee, Christian A. Gutierrez, Tuan Hoang, and Ellis Meng. *3D Parylene Sheath-based Neural Probe for Chronic Recordings*. Neural Interfaces Conference, Salt Lake City, Utah, USA, June 18-20, 2012. (poster presentation)
72. Ellis Meng. *Gene Delivery Using Implantable MEMS Drug Infusion Pumps for Radiosensitization of Head and Neck Cancer*. European Materials Research Society Spring Meeting, Strasbourg, France, May 15-17, 2012. (invited oral presentation)
73. Ellis Meng, Roya Sheybani, Heidi Gensler, and Christian Gutierrez. *Wireless Feedback-Controlled Drug Delivery Pumps for Small Animal Research*. Materials Research Society Fall Meeting, Boston, Massachusetts, USA, November 28-December 2, 2011. (invited oral presentation)
74. Saloomeh Saati, Jared Russell, Rohit Varma, Ellis Meng, Stan Louie, Mark S. Humayun. *Pharmacokinetics and Intraocular Pressure Lowering Effect of Timolol 0.5% (Ocudose) and Travoprost 0.004%(Travatan-z) in Rabbit Eyes*. ARVO 2010, Ft. Lauderdale, Florida, USA, May 2-10, 2010. (poster presentation)
75. Uttam K. Sinha, Rizwan Masood, Ken-Tye Yong, Indrajit Roy, Ellis Meng, Paras N. Prasad. *Gold nanorod-siRNA nanocomplexes: A novel therapeutic tool for radiosensitization of head and neck cancer*. American Head and Neck Society Meeting, Las Vegas, Nevada, USA, April 28-30, 2010. (poster presentation) – **Outstanding Poster in Basic Science**
76. Ellis Meng. *Implantable Microfluidic Delivery Platforms for Chronic Administration of Agents for Scientific Discovery and Therapy*. AALAS National Meeting, Denver, Colorado, USA, November 8-12, 2009. (poster presentation)
77. Ellis Meng. *Microfluidic Integration into Neural Implants*. BMES Annual Fall Meeting, Pittsburg, Pennsylvania, USA, October 7-10, 2009. (invited oral presentation)
78. Saloomeh Saati, Ronalee Lo, Po-Ying Li, Ellis Meng, Mark S. Humayun. *Mini Drug Pump for Ophthalmic Use*. American Ophthalmological Society Annual Meeting, Half Moon Bay, California, USA, May 14-17, 2009. (oral presentation)
79. Ellis Meng. *Implantable Microfluidic Delivery Platforms for Chronic Administration of Agents for Scientific Discovery and Therapy*. Illuminating the Genetic Architecture of Common Eye Disease, Avalon, California, USA, February 3-7, 2009. (poster presentation)
80. Po-Ying Li, Daniel P. Holschneider, Jean-Michel Maarek, and Ellis Meng. *Parylene Electrothermal Valves for Rapid In Vivo Drug Delivery*. American Vacuum Society Topical Workshop on BioMEMS, Boston, Massachusetts, USA, October 19-24, 2008. (poster presentation) - **Young Investigator Award**
81. Ronalee Lo and Ellis Meng. *High-density Reusable In-plane Microfluidic Interconnects*. BMES Annual Fall Meeting, St. Louis, Missouri, USA, October 2-4, 2008. (poster presentation)
82. Ronalee Lo, Po-Ying Li, Saloomeh Saati, Rajat Agrawal, Mark S. Humayun, and Ellis Meng. *In Vivo Studies Demonstrating Feasibility and Biocompatibility of a MEMS Ocular Drug Delivery System*. BMES Annual Fall Meeting, St. Louis, Missouri, USA, October 2-4, 2008. (oral presentation)
83. Christian Gutierrez, Alice Cho, and Ellis Meng. *Flexible Carbon Based Technologies for Measurement of Mechanical Strains in Neural Prostheses*. Neural Interface Conference, Cleveland, Ohio, USA, June 16-18, 2008. (poster presentation)
84. Gabriela Mallén-Ornelas, Li-Yuan Chang, Po-Ying Li, Tuan Hoang, Lynn Jane Ho, Kim Swertfager, and Ellis Meng. *Focal Chemical Stimulation of Cells with a MEMS Microfluidic Platform*. Neural Interface Conference, Cleveland, Ohio, USA, June 16-18, 2008. (poster presentation)
85. Saloomeh Saati, Ronalee Lo, Po-Ying Li, Jason Shih, Yu-Chong Tai, Ellis Meng, Rajat N. Agrawal, Mark S. Humayun. *Surgical Methods to Place a Novel Refillable Ocular Microelectromechanical System (MEMS)*

Drug Delivery Device. ARVO 2008, Ft. Lauderdale, Florida, USA, April 27 - May 1, 2008. (poster presentation)

86. Ellis Meng and Mark S. Humayun. *Implantable MEMS Drug Delivery Systems for Administration of Unaltered Therapeutic Agents*. USC Translational Nanoscience Conference: Re-Engineering Basic and Clinical Research to Catalyze Translational Nanoscience, Los Angeles, California, USA, March 20-21, 2008. (poster presentation)
87. Po-Ying Li, Ronalee Lo, Jason Shih, Saloomeh Saati, Rajat Agrawal, Yu-Chong Tai, Mark S. Humayun, and Ellis Meng. *Surgical Testing of a Microelectromechanical Systems (MEMS) Ocular Drug Delivery System*. BMES Annual Fall Meeting, Los Angeles, California, USA, September 26-29, 2007. (oral presentation)
88. Ronalee Lo, Po-Ying Li, Jason Shih, Saloomeh Saati, Rajat Agrawal, Yu-Chong Tai, Mark S. Humayun, and Ellis Meng. *Refillable MEMS Drug Delivery Pump for Chronic Ocular Disease*. ARVO 2007, Ft. Lauderdale, Florida, USA, May 6-10, 2007. (poster presentation)
89. Saloomeh Saati, Ronalee Lo, Po-Ying Li, Jason Shih, Yu-Chong Tai, Ellis Meng, Rajat N. Agrawal, and Mark S. Humayun. *Surgical Methods to Place a Novel Refillable Ocular Microelectromechanical System (MEMS) Drug Delivery Device*. ARVO 2007, Ft. Lauderdale, Florida, USA, May 6-10, 2007. (poster presentation)
90. Damien C. Rodger, Wen Li, Hossein Ameri, Saloomeh Saati, Parvarthy Menon, Ellis Meng, James D. Weiland, Mark S. Humayun, and Yu-Chong Tai. *Dual-Metal-Layer Parylene-Based Flexible Electrode Arrays for Intraocular Retinal Prosthesis*. ARVO 2007, Ft. Lauderdale, Florida, USA, May 6-10, 2007. (poster presentation)

Books

Ellis Meng. *Biomedical Microsystems*. Boca Raton, FL: CRC Press, 2010. ISBN: 978-1-4200-5122-3.

Book Chapters and Contributed Articles

1. Quentin Rezard and Ellis Meng. *Parylenes for MEMS*. Comprehensive Microsystems, Springer, Ed. Yogesh Gianchandani, 2nd edition (in production).
2. Ellis Meng. *Technologies to Interface with the Brain for Recording and Modulation*. Frontiers of Engineering: Reports on Leading-Edge Engineering from the 2017 Symposium, The National Academies Press, 2018, pp. 51-56. ISBN: 9780309466011. doi: 10.17226/24906.
3. Roya Sheybani and Ellis Meng. *MEMS Based Systems for Drug Delivery*. Drug Delivery – An Integrated Clinical and Engineering Approach, CRC Press, Ed. Yitzhak Rosen, 2017. ISBN: 9781466565944.
4. Roya Sheybani, Susan Schober, and Ellis Meng. *Drug Delivery Using Wireless MEMS*. Handbook of MEMS for Wireless and Mobile Applications, Woodhead Publishing, Ed. Deepak Uttamchandani, 2013. ISBN: 9780857092717.
5. Ellis Meng, Tuan Hoang, and Uttam Sinha. *Implantable Pumps Incorporating Nanotechnology*. The Textbook of Nanoneurosurgery, Taylor and Francis Group, Eds. Babak Kateb and John Heiss, Ch. 20, 2013. ISBN: 9781439849415.
6. Ellis Meng and Tuan Hoang. *Electrochemistry of Drug Release*. Encyclopedia of Applied Electrochemistry: SpringerReference (www.springerreference.com), Springer-Verlag Berlin Heidelberg, Eds., Robert F Savinelli, Ken-ichiro Ota, and Gerhard Kreysa, DOI: 10.1007/SpringerReference_303715 2011-11-27 07:46:18 UTC.
7. Ellis Meng, Xin Zhang, and William Benard. *Additive Processes for Polymeric Materials*. MEMS Materials and Processes Handbook, Springer, Eds. Reza Ghodssi and Pinyen Li, Ch. 4, 2011, pp. 193-271. ISBN: 9780387473161.
8. Ronalee Lo and Ellis Meng. *Macro-to-Micro Fluidic Interfaces*. Lab on a Chip Technology (Vol. 1): Fabrication and Microfluidics, Norfolk, UK: Caister Academic Press, Eds. Avraham Rasooly and Keith Herold, Ch. 22, 2009, pp. 353-369. ISBN: 9781904455462

Peer Reviewed Conference Proceedings

1. Nikolas D. Barrera, Jacob T. Pawlik, Christian J. Long, Nathan D. Orloff, James C. Booth, Ellis Meng, and Angela C. Stelson. Polyimide Coplanar Waveguides for Broadband Dielectric Spectroscopy to Monitor Effects of Long-term Fluid Exposure. Transducers 2025, Orlando, Florida, USA, June 30-July 3, 2025. (submitted)
2. Emmanuel Ramirez, Chris Larson, James Yoo, Kevin Plaxco, and Ellis Meng. *A Wearable System For Wireless and Multiplexed Molecular Sensing Via Solid Microneedles*. IEEE MEMS 2025, Kaoshiung, Taiwan, January 19-23, 2025. (accepted)
3. Ruitong Chen, Alex Baldwin, and Ellis Meng. *A Thin Film Coil With Integrated Electrochemical Sensor for Wireless and Passive Biomarker Sensing*. IEEE MEMS 2025, Kaoshiung, Taiwan, January 19-23, 2025. (accepted)
4. Brianna Thielen, Huijing Xu, Pradeep Selvan, Charles Liu, William J. Mack, Dong Song, and Ellis Meng. *Novel thin film endovascular electrode array for minimally invasive neural recording*. Hilton Head 2024: A Solid State Sensors, Actuators and Microsystems Workshop, Hilton Head Island, South Carolina, USA, June 2-6, 2024, pp. 110-111.
5. James Yoo, Kee Scholten, and Ellis Meng. *ASIC Integration via Polymer Ultrasonic Bump Bonding to a 64-channel Penetrating Parylene Multielectrode Array*. IEEE MEMS 2024, Austin, Texas, USA, January 21-25, 2024.
6. Christopher Larson, Ellis Meng. *Materials Characterization for Microneedle-Based Molecular Sensing Platform*. IEEE MEMS 2024, Austin, Texas, USA, January 21-25, 2024.
7. Huijing Xu, Kee Scholten, Zijia Li, Ellis Meng, and Dong Song. *A Library of Polymer-based Microelectrode Array Designs for Recording from the Brain of Different Animal Models*. IEEE Engineering in Medicine and Biology Conference, Sydney, Australia, July 24-28, 2023.
8. Nikolas D. Barrera, Jacob T. Pawlik, Eugene J. Yoon, James C. Booth, Christian J. Long, Nathan D. Orloff, Ellis Meng, and Angela C. Stelson. *Microwave Characterization of Parylene C Dielectric and Barrier Properties*, Transducers 2023, Kyoto, Japan, June 25-29, 2023, pp. 1180-1183.
9. Kee Scholten, Huijing Xu, Dong Song, and Ellis Meng. *A Shared Resource for Building Polymer-Based Microelectrode Arrays as Neural Interfaces*. IEEE NER 2023, Baltimore, Maryland, USA, April 25-27, 2023, #69691.
10. Brianna Thielen and Ellis Meng. *Thermoforming of Parylene C to Form Helical Structures*. IEEE MEMS 2023, Munich, Germany, January 15-19, 2023, pp. 388-391.
11. Huijing Xu, Kee Scholten, Wenxuan Jiang, Jessica-Lizbeth Ortigoza-Diaz, Zhouxiao Lu, Xin Liu, Ellis Meng, Dong Song. *Acute in vivo Recording with a Generic Parylene Microelectrode Array Implanted with Dip-coating Method into the Rat Brain*. IEEE Engineering in Medicine and Biology Conference, Glasgow, Scotland, July 11-15, 2022, pp. 214-217.
12. Xuechun Wang, Trevor Hudson, Kee Scholten, Elliot Myong, Gordon McComb, and Ellis Meng. *Monitoring of Physiological Flow with a Microfabricated Electrochemical Parylene Flow Sensor*. Hilton Head 2022: A Solid State Sensors, Actuators and Microsystems Workshop, Hilton Head Island, South Carolina, USA, June 5-9, 2022, pp. 89-92.
13. Xuechun Wang, Eugene Yoon, and Ellis Meng. *High Resolution Nanobubble-based Pressure Sensor for In Vivo Monitoring*. IEEE MEMS 2022, Tokyo, Japan, January 9-13, 2022, pp. 47-50. **Outstanding Student Paper Award Finalist**
14. Eugene Yoon, Angela Stelson, Nathan Orloff, Christian Long, James Booth, and Ellis Meng. *The Effect of Annealing Thin Film Parylene C-Platinum Interfaces Characterized by Broadband Dielectric Spectroscopy*. Transducers 2021, June 20-25, 2021, pp. 884-887.
15. Kee Scholten, Christopher Larson, Huijing Xu, Dong Song, and Ellis Meng. *A 512-channel Multi-layer Polymer-based Neural Probe Array*. Hilton Head 2020: A Solid State Sensors, Actuators and Microsystems Workshop, Hilton Head Island, South Carolina, USA, May 31-June 4, 2020. (accepted – conference cancelled due to COVID-19)

16. Eugene Yoon and Ellis Meng. *Electrolytic Generation of Trapped Microbubbles via Nucleation Core with Picoliter Precision*. IEEE MEMS 2020, Vancouver, Canada, January 18-22, 2020, pp. 1064-1067.
17. James Yoo and Ellis Meng. *Fine-Pitch Bonding Methods for Integrating ASICs with Flexible Polymer MEMS*. Transducers 2019, Berlin, Germany, June 23-27, 2019, pp. 1623-1626.
18. Trevor Hudson, Alex Baldwin, and Ellis Meng. *Testing a Multi-Sensor System for Hydrocephalus Monitoring in External Ventricular Drains*. Transducers 2019, Berlin, Germany, June 23-27, 2019, pp. 310-313.
19. Trevor Hudson, Alex Baldwin, and Ellis Meng. *A Continuous, Drift-Compensated Impedimetric Thermal Flow Sensor for In Vivo Applications*. IEEE MEMS 2019, Seoul, South Korea, January 27-31, 2019, pp. 731-734.
20. Ellis Meng, Ahuva Weltman Hirschberg, Huijing Xu, Kee Scholten, Theodore W. Berger, and Dong Song. *Towards High Density Parylene Neural Recording Arrays for Large Scale Recording*. IEEE Engineering in Medicine and Biology Conference, Honolulu, Hawaii, July 17-21, 2018.
21. Huijing Xu, Ahuva Weltman Hirschberg, Kee Scholten, Theodore W. Berger, Ellis Meng, and Dong Song. *Application of Parylene-Based Flexible Multi-Electrode Array for Recording from Subcortical Brain Regions from Behaving Rats*. IEEE Engineering in Medicine and Biology Conference, Honolulu, Hawaii, July 17-21, 2018, pp. 4599-4602.
22. Alex Baldwin, Trevor Hudson, and Ellis Meng. *A Flexible, Microfabricated Impedimetric Fluid Temperature Sensor*. Hilton Head 2018: A Solid State Sensors, Actuators and Microsystems Workshop, Hilton Head Island, South Carolina, USA, June 3-7, 2018, pp. 179-182.
23. Alex Baldwin, Curtis D. Lee, Artin Petrossians, James Weiland, and Ellis Meng. *Platinum-Iridium Coatings for Increasing Sensitivity of Impedance-based Polymer Microfluidic Sensors*. Microtechnologies in Medicine and Biology Conference, Monterey, California, March 26-28, 2018.
24. Alex Baldwin, Trevor Hudson, and Ellis Meng. *A Calorimetric Flow Sensor for Ultra-Low Flow Applications Using Electrochemical Impedance*. IEEE MEMS 2018, Belfast, Northern Ireland, United Kingdom, January 21-25, 2018, pp. 361-4.
25. Huijing Xu, Ahuva Weltman, Kee Scholten, Ellis Meng, Theodore W. Berger, and Dong Song. *Multi-region Recordings from the Rat Hippocampus in vivo with a Flexible Parylene-based Multi-electrode Array*. IEEE Engineering in Medicine and Biology Conference, Jeju Island, South Korea, July 11-15, 2017, pp. 1716-1719.
26. Ellis Meng, Eugene Yoon, and Christian Gutierrez. *MEMS Enabled Technologies for Ocular Monitoring and Therapy*. Transducers 2017, Kaohsiung, Taiwan, June 18-22, 2017, pp. 379-382.
27. Kee Scholten and Ellis Meng. *Fabrication of flexible polymer bioMEMS with submicron features*. IEEE MEMS 2017, Las Vegas, Nevada, January 22-26, 2017, pp. 436-439.
28. Alex Baldwin and Ellis Meng. *A kirigami-based Parylene C stretch sensor*. IEEE MEMS 2017, Las Vegas, Nevada, January 22-26, 2017, pp. 227-230.
29. Angelica M. Cobo, Barbara Boyajian, Christopher Larson, Kee Scholten, Victor Pikov, and Ellis Meng. *A Parylene cuff electrode for peripheral nerve recording and drug delivery*. IEEE MEMS 2017, Las Vegas, Nevada, January 22-26, 2017, pp. 506-509.
30. Ahuva W. Hirschberg, Huijing Xu, Kee Scholten, Theodore W. Berger, Dong Song, and Ellis Meng. *Development of an anatomically conformal Parylene neural probe array for multi-region hippocampal recordings*. IEEE MEMS 2017, Las Vegas, Nevada, January 22-26, 2017, pp. 129-132.
31. Huijing Xu, Ahuva Weltman, Min-Chi Hsiao, Kee Scholten, Ellis Meng, Theodore W. Berger, and Dong Song. *A flexible Parylene probe for in vivo recordings from multiple subregions of the rat hippocampus*. IEEE Engineering in Medicine and Biology Conference, Orlando, Florida, USA, August 16-20, 2016, pp. 2806-2809.

32. Lawrence Yu, Ewina Pun, and Ellis Meng. *A contactless electrochemical impedance measurement method*. Hilton Head 2016: A Solid State Sensors, Actuators and Microsystems Workshop, Hilton Head Island, South Carolina, USA, June 5-9, 2016, pp. 121-124.
33. Ahuva Weltman, Huijing Xu, Kee Scholten, Ted W. Berger, Dong Song, and Ellis Meng. *Deep brain targeting strategy for bare Parylene neural probe arrays*. Hilton Head 2016: A Solid State Sensors, Actuators and Microsystems Workshop, Hilton Head Island, South Carolina, USA, June 5-9, 2016, pp. 302-305.
34. Kee Scholten and Ellis Meng. *Parylene encapsulated sub-micron structures for implantable bioMEMS*. Hilton Head 2016: A Solid State Sensors, Actuators and Microsystems Workshop, Hilton Head Island, South Carolina, USA, June 5-9, 2016, pp. 310-313.
35. Angelica Cobo, Kee Scholten, James Yoo, Christopher Larson, Trevor Hudson, Victor Pikov, and Ellis Meng. *A Parylene peripheral nerve cuff electrode with integrated microfluidics*. Hilton Head 2016: A Solid State Sensors, Actuators and Microsystems Workshop, Hilton Head Island, South Carolina, USA, June 5-9, 2016, pp. 324-327.
36. Kee Scholten, Connie Li, Hsiu Yang, and Ellis Meng. *Fabrication of hybrid polymer microdevices with thermocompressive bonding*. MMB 2016, Seoul, Korea, April 20-22, 2016, pp. 230-231.
37. Lawrence Yu and Ellis Meng. *A dual mode microbubble pressure and flow sensor*. IEEE MEMS 2016, Shanghai, China, January 24-28, 2016, pp. 325-28.
38. Alex Baldwin, Lawrence Yu, and Ellis Meng. *An electrochemical-based thermal flow sensor*. IEEE MEMS 2016, Shanghai, China, January 24-28, 2016, pp. 341-44.
39. Huijing Xu, Ahuva Weltman, Min-Chi Hsiao, Kee Scholten, Ellis Meng, Theodore W. Berger, and Dong Song. *Design of a Flexible Parylene-based Multi-electrode Array for Multi-region Recording from the Rat Hippocampus*. IEEE Engineering in Medicine and Biology Conference, Milan, Italy, Aug 25-29, 2015, pp. 7139-7142.
40. Roya Sheybani and Ellis Meng. *A Wireless Implantable Drug Infusion System with Integrated Dosing Sensors*. Transducers 2015, Anchorage, Alaska, USA, June, 21-25, 2015, pp. 1045-8.
41. Lawrence Yu, Brian J. Kim, and Ellis Meng. *An Implantable Time of Flight Flow Sensor*. IEEE MEMS 2015, Estoril, Portugal, January 18-22, 2015, pp. 620-3.
42. Brian J. Kim, Willa Jin, Lawrence Yu, and Ellis Meng. *MEMS Electrochemical Patency Sensor for Detection of Hydrocephalus Shunt Obstruction*. IEEE MEMS 2015, Estoril, Portugal, January 18-22, 2015, pp. 662-5.
43. Angelica Cobo, Heidi M. Tu, Roya Sheybani, and Ellis Meng. *Live Demonstration: Characterization of a Wireless Implantable Infusion Micropump for Small Animal Research Under Simulated in Vivo Conditions*. IEEE Biomedical Circuits and Systems, October 22-24, 2014, pp. 182.
44. Angelica Cobo, Heidi M. Tu, Roya Sheybani, and Ellis Meng. *Characterization of a Wireless Implantable Infusion Micropump for Small Animal Research Under Simulated in Vivo Conditions*. IEEE Biomedical Circuits and Systems, October 22-24, 2014, pp. 348-351.
45. Ellis Meng. *Three Dimensional Parylene Sheath Neural Probes*. IEEE Engineering in Medicine and Biology Conference, Chicago, Illinois, USA, August 26-30, 2014.
46. Connie Li, Jonathan T. W. Kuo, and Ellis Meng. *Fabrication and characterization of a microfluidic module for chemical gradient generation utilizing passive pumping*. IEEE Engineering in Medicine and Biology Conference, Chicago, Illinois, USA, August 26-30, 2014, pp. 4415-8.
47. Roya Sheybani and Ellis Meng. *On-demand wireless infusion rate control in an implantable micropump for patient-tailored treatment of chronic conditions*. IEEE Engineering in Medicine and Biology Conference, Chicago, Illinois, USA, August 26-30, 2014, pp. 882-5.
48. Lawrence Yu and Ellis Meng. *A microbubble pressure transducer with bubble nucleation core*. IEEE MEMS 2014, San Francisco, California, USA, January 26-30, 2014, pp. 104-107.

49. Brian J. Kim, Peter Washabaugh, IV, and Ellis Meng. *Annealing effects on flexible multi-layered Parylene-based sensors*. IEEE MEMS 2014, San Francisco, California, USA, January 26-30, 2014, pp. 825-828.
50. Brian J. Kim, Seth A. Hara, Benny Chen, Jonathan T.W. Kuo, Curtis D. Lee, Christian A. Gutierrez, Tuan Hoang, Malancha Gupta, Victor Pikov, and Ellis Meng. *Evaluation of post-fabrication thermoforming process for intracortical Parylene sheath electrode*. IEEE EMBS Neural Engineering Conference, San Diego, California, USA, November 6-8, 2013. **2nd Place Student Paper and Best Paper Award Finalist**
51. Curtis Lee, Lawrence Yu, Jonathan T.W. Kuo, Brian Kim, Tuan Hoang, and Ellis Meng. *Drug eluting coating for 3D Parylene sheath electrode*. IEEE EMBS Neural Engineering Conference, San Diego, California, USA, November 6-8, 2013.
52. Seth A. Hara, Brian J. Kim, Jonathan T.W. Kuo, Curtis D. Lee, Christian A. Gutierrez, Tuan Hoang, Victor Pikov, and Ellis Meng. *Perforated 2x2 Parylene sheath electrode array for chronic intracortical recording*. IEEE EMBS Neural Engineering Conference, San Diego, California, USA, November 6-8, 2013.
53. Roya Sheybani, Sahar Elyahoodayan, and Ellis Meng. *Closed-loop on-demand drug delivery micropump for chronic pain management applications*. MMB 2013, Marina del Rey, California, USA, April 10-12, 2013, pp. 106-107.
54. Jonathan T. W. Kuo, Brian J. Kim, Seth A. Hara, Curtis D. Lee, Lawrence Yu, Christian A. Gutierrez, Tuan Hoang, and Ellis Meng. *Arrayed 3D Parylene sheath probes for neural recordings*. MMB 2013, Marina del Rey, California, USA, April 10-12, 2013, pp. 52-53.
55. Brian J. Kim, Christian A. Gutierrez, and Ellis Meng. *In vitro characterization of a probe-mounted Parylene-based pressure sensor array for intracortical applications*. MMB 2013, Marina del Rey, California, USA, April 10-12, 2013, pp. 122-123.
56. Seth A. Hara, Jonathan T.W. Kuo, Brian J. Kim, Curtis D. Lee, Christian A. Gutierrez, Tuan Q. Hoang, and Ellis Meng. *Electrochemical characterization of a 3D Parylene sheath cortical probe*. MMB 2013, Marina del Rey, California, USA, April 10-12, 2013, pp. 114-115.
57. Heidi M. Gensler, Roya Sheybani, and Ellis Meng. *A MEMS micropump system with one-way valve for chronic drug delivery*. MMB 2013, Marina del Rey, California, USA, April 10-12, 2013, pp. 96-97. **Best Poster Award**
58. Jonathan T. W. Kuo, Brian Kim, Seth Hara, Curtis Lee, Christian Gutierrez, Tuan Hoang, Victor Pikov, and Ellis Meng. *3D Parylene Sheath Probes for Reliable, Long-term Neuroprosthetic Recordings*. MEMS 2013, Taipei, Taiwan, January 20-24, 2013, pp. 1073-1076.
59. Brian J. Kim, Benny Chen, Malancha Gupta, and Ellis Meng. *Three dimensional transformation of Parylene Thin Film Structures Via Thermoforming*. MEMS 2013, Taipei, Taiwan, January 20-24, 2013, pp. 339-342.
60. Seth A. Hara, Brian J. Kim, Jonathan T.W. Kuo, Curtis Lee, Christian A. Gutierrez, Tuan Hoang, and Ellis Meng. *Pre-Implantation Electrochemical Characterization of a Parylene C Sheath Microelectrode Array Probe*. IEEE Engineering in Medicine and Biology Conference, San Diego, California, USA, August 28-September 1, 2012, pp. 5126-5129.
61. Roya Sheybani, Nestor E. Cabrera-Munoz, Tania Sanchez, and Ellis Meng. *Design, Fabrication, and Characterization of an Electrochemically-based Dose Tracking System for Closed-Loop Drug Delivery*. IEEE Engineering in Medicine and Biology Conference, San Diego, California, USA, August 28-September 1, 2012, pp. 519-522.
62. Jonathan T. W. Kuo, Brian Kim, Seth Hara, Curtis Lee, Christian Gutierrez, Tuan Hoang, and Ellis Meng. *Fabrication of 3D Parylene Sheath Probes for Reliable Neuroprosthetic Recordings*. Hilton Head 2012: A Solid State Sensors, Actuators and Microsystems Workshop, Hilton Head Island, South Carolina, USA, June 3-7, 2012, pp. 30-33.
63. Curtis Lee and Ellis Meng. *High Strain and Biocompatible Screen Printed Nanocomposite Based Conductive PDMS Strain Sensors*. Hilton Head 2012: A Solid State Sensors, Actuators and Microsystems Workshop, Hilton Head Island, South Carolina, USA, June 3-7, 2012, pp. 161-164.

64. Jonathan T. W. Kuo and Ellis Meng. *Improved Process for High Yield 3D Inclined SU-8 Structures on Soda Lime Substrate Towards Application in Optogenetic Studies*. MEMS 2012, Paris, France, January 29-February 2, 2012, pp. 263-266.
65. Brian J. Kim, Christian A. Gutierrez, Greg A. Gerhardt, and Ellis Meng. *Parylene-based Electrochemical-MEMS Force Sensor Array for Assessing Neural Probe Insertion Mechanics*. MEMS 2012, Paris, France, January 29-February 2, 2012, pp. 124-127.
66. Christian A. Gutierrez, Curtis Lee, Brian Kim, and Ellis Meng. *Epoxy-less Packaging Methods for Electrical Contact to Parylene-based Flat Flexible Cables*. Transducers 2011, Beijing, China, June 5-9, 2011, pp. 2299-2302.
67. Christian A. Gutierrez, Roya Sheybani, and Ellis Meng. *Electrochemically-based Dose Measurement for Closed-loop Drug Delivery Applications*. Transducers 2011, Beijing, China, June 5-9, 2011, pp. 2839-42.
68. Heidi Gensler, Roya Sheybani, and Ellis Meng. *Rapid Non-Lithography Based Fabrication Process and Characterization of Parylene C Bellows for Applications in MEMS Electrochemical Actuators*. Transducers 2011, Beijing, China, June 5-9, 2011, pp. 2347-2350.
69. Roya Sheybani, Heidi Gensler, and Ellis Meng. *Rapid and Repeated Bolus Drug Delivery Enabled by High Efficiency Electrochemical Bellows Actuators*. Transducers 2011, Beijing, China, June 5-9, 2011, pp. 490-493.
70. Christian A. Gutierrez and Ellis Meng. *A Subnanowatt Microbubble Pressure Sensor Based on Electrochemical Impedance Transduction in a Flexible All-Parylene Package*. MEMS 2011, Cancun, Mexico, January 23-27, 2011, pp. 549-552.
71. Roya Sheybani and Ellis Meng. *High Efficiency Wireless Electrochemical Actuators: Design, Fabrication and Characterization by Electrochemical Impedance Spectroscopy*. MEMS 2011, Cancun, Mexico, January 23-27, 2011, pp. 1233-1236.
72. Christian Gutierrez and Ellis Meng. *Subnanowatt Microbubble Pressure Transducer*. Hilton Head 2010: A Solid State Sensors, Actuators and Microsystems Workshop, Hilton Head Island, South Carolina, USA, June 6-10, 2010, pp. 57-60.
73. Heidi Gensler, Roya Sheybani, Po-Ying Li, Ronalee Lo, Sutao Zhu, Ken-Tye Yong, Indrajit Roy, Paras N. Prasad, Rizwan Masood, Uttam K. Sinha, and Ellis Meng. *Implantable MEMS Drug Delivery Devices for Cancer Radiation Reduction*. MEMS 2010, Hong Kong, China, January 24-28, 2010, pp. 23-26.
74. Christian Gutierrez and Ellis Meng. *Improved Self-Sealing Liquid Encapsulation in Parylene Structures by Integrated Stackable Annular-Plate Stiction Valves*. MEMS 2010, Hong Kong, China, January 24-28, 2010, pp. 524-527.
75. Christian Gutierrez, Connor McCarty, Brian Kim, Mrinal Pahwa, and Ellis Meng. *An Implantable All-Parylene Liquid-Impedance Based MEMS Force Sensor*. MEMS 2010, Hong Kong, China, January 24-28, 2010, pp. 600-603.
76. Ellis Meng, Po-Ying Li, Ronalee Lo, Roya Sheybani, and Christian Gutierrez. *Implantable MEMS Drug Delivery Pumps for Small Animal Research*. IEEE Engineering in Medicine and Biology Conference, Minneapolis, Minnesota, September 2-6, 2009, pp. 6696-6698. (PMID: 19964178)
77. Ellis Meng and Christian Gutierrez. *Parylene-Based Encapsulated Fluid MEMS Sensors*. IEEE Engineering in Medicine and Biology Conference, Minneapolis, Minnesota, September 2-6, 2009, pp. 1039-1041.
78. Po-Ying Li, Roya Sheybani, Jonathan T.W. Kuo, and Ellis Meng. *A Parylene Bellows Electrochemical Actuator for Intraocular Drug Delivery*. Transducers 2009, Denver, Colorado, USA, June 21-25, 2009, pp. 1461-4. (oral presentation) - **Best Paper Award**
79. Christian Gutierrez and Ellis Meng. *A Dual Function Parylene-Based Biomimetic Tactile Sensor and Actuator for Next Generation Mechanically Responsive Microelectrode Arrays*. Transducers 2009, Denver, Colorado, USA, June 21-25, 2009, pp. 2194-7. (oral presentation)

80. Tuan Q. Hoang, Lynn Jane Ho, Kim Swertfager, Amreeta Gill, Kara Malhotra, Christopher Jones, Jason Chen, and Ellis Meng. *Surface Treatment Strategies for Microfluidic Devices Towards Longitudinal PC12 Neuronal Cell Studies*. MMB 2009, Quebec City, Canada, April 1-3, 2009, pp. 212-213. (poster presentation)
81. Christian Gutierrez, Alice Cho, Jason Geathers, Lawrence Yu, Tim Abram, and Ellis Meng. *An Implantable Low-Cost Multilayer Screen-Printed Carbon Thick-Film Strain Sensor*. MMB 2009, Quebec City, Canada, April 1-3, 2009, pp. 128-129. (poster presentation)
82. Ronalee Lo and Ellis Meng. *In-Plane Bandpass Regulation Check Valve in Heat-Shrink Packaging for Drug Delivery*. MEMS 2009, Sorrento, Italy, January 25-29, 2009, pp. 236-239. (poster presentation)
83. Po-Ying Li, Daniel P. Holschneider, Jean-Michel I. Maarek, and Ellis Meng. *Mechanical and Thermal Modeling of a Parylene Electrothermal Valve for Mapping Brain Function in Freely Moving Subjects*. μ TAS 2008, San Diego, California, USA, October 12-15, 2008, pp. 1105-1107. (poster presentation)
84. Ronalee Lo and Ellis Meng. *Characterization and Fabrication of High-Density, On-Demand, Reusable, In-Plane Polymer Interconnects Towards Standardized Microfluidic Packaging*. μ TAS 2008, San Diego, California, USA, October 12-15, 2008, pp. 709-711. (poster presentation)
85. Gabriela Mallén-Ornelas, Li-Yuan Chang, Po-Ying Li, Tuan Hoang, Lynn Jane Ho, Kim Swertfager, and Ellis Meng. *A Microfluidic Platform for Focal Chemical Stimulation of Cells*. μ TAS 2008, San Diego, California, USA, October 12-15, 2008, pp. 613-615. (poster presentation)
86. Gisele Ragusa, Michael Khoo, Ellis Meng, and Joseph Cocozza. *Engineering Outreach: Connecting Biomimetic Research to Urban K-12 Classrooms*. American Society for Engineering Education Annual Conference, Pittsburgh, Pennsylvania, USA, June 22-25, 2008, AC 2008-2625. (oral presentation)
87. Gisele Ragusa, Michael Khoo, and Ellis Meng. *Engineering Education in Biomimetic Microelectronic Systems: An Urban Engineering Research Center's Response*. American Society for Engineering Education Annual Conference, Pittsburgh, Pennsylvania, USA, June 22-25, 2008, AC 2008-2616. (oral presentation)
88. Lisong Ai, Hongyu Yu, Mahsa Rouhanizadeh, Wakako Takabe, Ellis Meng, Eun Sok Kim, and Tzung Hsiai. *Polymer-Based Sensors for Dynamic Intravascular Shear Stress Analysis*. Frontiers in Biomedical Devices, Irvine, California, USA, June 18-20, 2008, pp.55-57. (oral presentation)
89. Tina K. Givrad, Jean-Michel Maarek, Po-Ying Li, Ellis Meng, Neil Sardesai, and Daniel P. Holschneider, *Implantable Minipump with MEMS Electrothermal Valve for Bolus Injection in Mice*. Frontiers in Biomedical Devices, Irvine, California, USA, June 18-20, 2008, pp. 35-36. (oral presentation)
90. Po-Ying Li, Tina K. Givrad, Daniel P. Holschneider, Jean-Michel Maarek, and Ellis Meng. *A Wirelessly-Activated Parylene Electrothermal Valve for Mapping Brain Function in Freely Moving Subjects*. Hilton Head 2008: A Solid State Sensors, Actuators and Microsystems Workshop, Hilton Head Island, South Carolina, USA, June 1-5, 2008, pp. 32-35. (oral presentation)
91. Po-Ying Li, Daniel P. Holschneider, Jean-Michel Maarek, and Ellis Meng. *Parylene Electrothermal MEMS Drug Delivery Valve*. Spring Annual Meeting of the American Chemical Society: Progress in Vapor-Born Poly (p-xylylene)s, Preparation, Properties, Application, New Orleans, Louisiana, USA, April 6-10, 2008, pp. 941-942. (oral presentation)
92. Li-Yuan Chang, Po-Ying Li, Lingyun Zhao, Tuan Hoang, and Ellis Meng. *Integrated Flow Sensing for Focal Biochemical Stimulation*. NEMS 2008, Sanya, China, January 6-9, 2008, pp. 921-926. (oral presentation)
93. Ronalee Lo and Ellis Meng. *A Reusable In-Plane Polymer Integrated Microfluidic Interconnect*. Transducers 2007, Lyon, France, June 10-14, 2007, pp. 2067-2070. (poster presentation)
94. Damien C. Rodger, Andy J. Fong, Wen Li, Hossein Ameri, Igor Lavrov, Hui Zhong, Salomeh Saati, Parvathy Menon, Ellis Meng, Joel W. Burdick, Roland R. Roy, V. Reggie Edgerton, James D. Weiland, Mark S. Humayun, and Yu-Chong Tai. *High-Density Flexible Parylene-Based Multielectrode Arrays for Retinal and Spinal Cord Stimulation*. Transducers 2007, Lyon, France, June 10-14, 2007, pp. 1385-1388. (oral presentation)

95. Hongyu Yu, Lisong Ai, Mahsa Rouhanizadeh, Ryan Hamilton, Juliana Hwang, Ellis Meng, Eun Sok Kim, and Tzung Hsiai. *Polymer-Based Cardiovascular Shear Stress Sensors*. Frontiers in Biomedical Devices, Irvine, California, USA, June 7-8, 2007, pp. 29-30.
96. Po-Ying Li, Jason Shih, Ronalee Lo, Rajat Agrawal, Saloomeh Saati, Mark S. Humayun, Yu-Chong Tai, and Ellis Meng. *An Electrochemical Intraocular Drug Delivery Device*. MEMS 2007, Kobe, Japan, Jan 21-25, 2007 pp. 15-18. (oral presentation)
97. Ellis Meng, Jason Shih, Po-Ying Li, Ronalee Lo, Mark Humayun, and Yu-Chong Tai. *Electrolysis-driven Drug Delivery for Treatment of Ocular Disease*. μ TAS 2006, Tokyo, Japan, Nov 5-9, 2006, pp. 633-635. (poster presentation)
98. Po-Jui Chen, Damien C. Rodger, Rajat Agrawal, Ellis Meng, Mark Humayun, and Yu-Chong Tai. *In Vivo Characterizations of Implantable Unpowered Parylene MEMS Intraocular Pressure Sensors*. μ TAS 2006, Tokyo, Japan, Nov 5-9, 2006, pp. 834-836. (poster presentation) – **Best Student Poster Award**
99. Po-Jui Chen, Damien Rodger, Ellis Meng, Mark S. Humayun, and Yu-Chong Tai. *Surface-Micromachined In-Channel Parylene Dual Valves For Unpowered Microflow Regulation*. Hilton Head 2006: A Solid State Sensors, Actuators and Microsystems Workshop, Hilton Head Island, South Carolina, USA, June 4-8, 2006, pp. 205-208.
100. Po-Jui Chen, Damien Rodger, Ellis Meng, Mark S. Humayun, and Yu-Chong Tai. *Implantable Unpowered Parylene MEMS Intraocular Pressure Sensor*. IEEE Engineering in Medicine and Biology Society Special Topic Conference on Microtechnologies in Medicine and Biology, Okinawa, Japan, May 9-12, 2006, pp. 256-259. (poster presentation)
101. Wen Li, Damien C. Rodger, Ellis Meng, James D. Weiland, Mark S. Humayun, and Yu-Chong Tai. *Flexible Parylene Packaged Intraocular Coil for Retinal Prostheses*. IEEE Engineering in Medicine and Biology Society Special Topic Conference on Microtechnologies in Medicine and Biology, Okinawa, Japan, May 9-12, 2006, pp. 105-108. (poster presentation)
102. Ronalee Lo, Kenrick Kuwahara, Po-Ying Li, Rajat Agrawal, Mark S. Humayun, and Ellis Meng. *A Passive Refillable Intraocular MEMS Drug Delivery Device*. IEEE Engineering in Medicine and Biology Society Special Topic Conference on Microtechnologies in Medicine and Biology, Okinawa, Japan, May 9-12, 2006, pp. 74-77. (poster presentation)
103. Damien C. Rodger, Wen Li, Andy J. Fong, Hossein Ameri, Ellis Meng, Joel W. Burdick, Roland R. Roy, V. Reggie Edgerton, James D. Weiland, Mark S. Humayun, and Yu-Chong Tai. *Flexible Microfabricated Parylene Multielectrode Arrays for Retinal Stimulation and Spinal Cord Field Modulation*. IEEE Engineering in Medicine and Biology Society Special Topic Conference on Microtechnologies in Medicine and Biology, Okinawa, Japan, May 9-12, 2006, pp. 31-34. (poster presentation)
104. Ellis Meng, Po-Jui Chen, Damien Rodger, Yu-Chong Tai, and Mark S. Humayun. *Implantable Parylene MEMS for Glaucoma Therapy*. IEEE Engineering in Medicine and Biology Society Special Topic Conference on Microtechnologies in Medicine and Biology, Oahu, Hawaii, USA, May 12-15, 2005, pp. 116-119. (poster presentation)
105. Ellis Meng and Yu-Chong Tai. *Parylene Etching Techniques for Microfluidics and BioMEMS*. MEMS 2005, Miami, Florida, USA, January 30-February 3, 2005, pp. 568-571. (poster presentation)
106. Ellis Meng, Seiji Aoyagi, and Yu-Chong Tai. *High Aspect Ratio Parylene Etching for Microfluidics and BioMEMS*. μ TAS 2004, Malmo, Sweden, September 26-30, 2004, pp. 401-403. (poster presentation)
107. Angela Tooker, Ellis Meng, Jon Erickson, Yu-Chong Tai, and Jerome Pine. *Development of Biocompatible Parylene Neurocages*. IEEE Engineering in Medicine and Biology Society 2004, San Francisco, California, USA, September 1-4, 2004, pp. 2542-2545. (oral presentation)
108. Chi-Yuan Shih, Siyang Zheng, Ellis Meng, Yu-Chong Tai, Yi Liu, and J. Frazer Stoddart. *Molecular Assembly Using Shear Flow Devices*, MEMS 2004, Maastricht, The Netherlands, January 25-29, 2004, pp. 422-425.

109. Ellis Meng, Yu-Chong Tai, Jon Erickson, and Jerome Pine. *Parylene Technology for Mechanically Robust Neuro-Cages*, μ TAS 2003, Squaw Valley, California, USA, October 5-9, 2003, pp. 1109-1112. (poster presentation)
110. Ellis Meng and Yu-Chong Tai. *Polymer MEMS for Micro Fluid Delivery Systems*, ACS Polymer MEMS Symposia, New York, New York, USA, September 7-11, 2003, pp. 552-553. (oral presentation)
111. Chi-Yuan Shih, Siyang Zheng, Ellis Meng, and Yu-Chong Tai, *Linear Motor-Molecule Biomimetic Muscle*, Biomolecular Motors (BMM) Annual Principal Investigators Conference, San Francisco, CA, USA, Aug. 19-20, 2003.
112. Qing He, Ellis Meng, Yu-Chong Tai, Christopher M. Rutherglen, Jon Erickson, and Jerome Pine. *Parylene Neuro-Cages for Live Neural Networks Study*, Transducers 2003, Boston, Massachusetts, USA, June 9-12, 2003, pp. 995-998. (oral presentation)
113. Ellis Meng and Yu-Chong Tai. *A Parylene MEMS Flow Sensing Array*, Transducers 2003, Boston, Massachusetts, USA, June 9-12, 2003, pp. 686-689. (poster presentation)
114. Ellis Meng, Sascha Gassmann, and Yu-Chong Tai. *A MEMS Body Fluid Flow Sensor*, μ TAS 2001, Monterey, California, USA, October 21-25, 2001, pp. 167-168. (poster presentation)
115. Ellis Meng, Shuyun Wu, and Yu-Chong Tai. *Micromachined Fluidic Couplers*, μ TAS 2000, Enschede, The Netherlands, May 14-18, 2000, pp. 41-44. (oral presentation)
116. Ellis Meng, Xuan-Qi Wang, Howen Mak, and Yu-Chong Tai. *A Check-Valved Silicone Diaphragm Pump*, MEMS 2000, Miyazaki, Japan, January 23-27, 2000, pp. 62-67. (poster presentation)
117. Xing Yang, Joon Mo Yang, Xuan-Qi Wang, Ellis Meng, Yu-Chong Tai, and Chih-Ming Ho. *Micromachined Membrane Particle Filters*, MEMS 1998, Heidelberg, Germany, January 25-29, 1998, pp. 137-142.
118. Chih M. Yang, Harry A. Atwater, and Ellis Meng. *Low Temperature Selective Nucleation for Control of Microstructure of Ge Thin Films on SiO₂*, MRS 1995, Boston, Massachusetts, USA, November 1995.

Peer Reviewed Articles

1. Xuechun Wang, Wenxuan Jiang, Ahuva Weltman Hirschberg, Zachary Slingsby-Smith, Huijing Xu, Aziliz Lecomte, Kee Scholten, Dong Song, and Ellis Meng. *Mechanical Study of Insertion of Three Dimensional Penetrating Brain Probes*. (in preparation, Journal of Neural Engineering)
2. Brianna Thielen, Quentin Rezard, Alberto Esteban-Linares, Ellis Meng. *A Microfabricated Parylene Cuff Electrode for Branched Nerve Stimulation*. (in preparation, Journal of Neural Engineering)
3. Brianna Thielen, Ellis Meng. *A Helical, Parylene-based Endovascular Electrode Array for Minimally Invasive Transvenous Neural Recording*. (in preparation, IEEE Journal of Microelectromechanical Systems)
4. Alex Baldwin, Pallavi Gunalan, Sahar Elyahoodayan, Victor Pikov, and Ellis Meng. *Building and Sustaining Open-Source Medical Projects*. (in revision, IEEE Reviews in Biomedical Engineering)
5. Kee Scholten, Huijing Xu, Zhouxiao Lu, Wenxuan Jiang, Jessica Ortigoza-Diaz, Artin Petrossians, Steven Orler, Rachael Gallonio, Xin Liu, Dong Song, and Ellis Meng. *Polymer Implantable Electrode Foundry: A shared-resource for manufacturing polymer-based microelectrodes for brain-machine interfaces*. (in preparation)
6. Ruitong Chen, Jeannie Liang, Max Li, and Ellis Meng. *Recent Progress in Blood Flow Sensing*. (invited, submitted, Sensors and Actuators – A Physical)
7. Jae Young Park, Nikolas Barrera, Tianyu Bai, Hui Fang, Ellis Meng, Hyowon Lee. *Lessons Learned and Challenges Ahead in the Translation of Implantable Microscale Sensors and Actuators*. (invited, accepted, Annual Reviews of Biomedical Engineering)
8. Alex Baldwin, Gregory States, Victor Pikov, Pallavi Gunalan, Sahar Elyahoodayan, Kevin Kilgore, and Ellis Meng. *Recent advances in facilitating the translation of bioelectronic medicine therapies* (invited, accepted, Bioelectronic Medicine special issue in Current Opinion in Biomedical Engineering)

9. Ian Sands, Ryan Demarco, Laura Thurber, Alberto Esteban Linares, Dong Song, Ellis Meng, and Yupeng Chen. *Interface-Mediated Neurogenic Signaling: The Impact of Surface Geometry and Chemistry on Neural Cell Behavior for Regenerative and Brain-Machine Interfacing Applications*. *Advanced Materials*, 2024, Volume 36, Issue 33, Article Number 2401750, doi: 10.1002/adma.202401750.
10. Kee Scholten, Huijing Xu, Zhouxiao Lu, Wenxuan Jiang, Jessica Ortigoza-Diaz, Artin Petrossians, Steven Orler, Rachael Gallonio, Xin Liu, Dong Song, and Ellis Meng. *Polymer Implantable Electrode Foundry: A shared resource for manufacturing polymer-based microelectrodes for neural interfaces*. *BioRxiv* [preprint], 2023, <https://doi.org/10.1101/2023.11.05.565048>.
11. Xuechun Wang, Eugene Yoon, and Ellis Meng. *A Microfabricated Nanobubble-based Sensor for Physiological Pressure Monitoring*. *IEEE Journal of Microelectromechanical Systems*, 2023, Volume 32, Number 6, pp. 542-551, doi: 10.1109/JMEMS.2023.3309873.
12. Brianna Thielen and Ellis Meng. *Characterization of thin film Parylene C device curvature and the formation of helices via thermoforming*. *Journal of Micromechanics and Microengineering*, 2023, Volume 33, Number 9, Article Number 095007, doi: 10.1088/1361-6439/acdc33.
13. Jacob T. Pawlik, Nikolas D. Barrera, Ellis Meng, James Booth, Christian Long, Nathan Orloff, Eugene Yoon, Angela Stelson. *The influence of intrinsic water and ion permeation of the dielectric properties of Parylene C films*. *IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology*, 2023, Volume 7, Number 4, pp. 328-335, doi: 10.1109/JERM.2023.3285049.
14. Brianna Thielen, Huijing Xu, Tatsuhiro Fujii, Shivani Rangwala, Wenxuan Jiang, Alexandra Kammen, Charles Liu, Pradeep Selvan, Dong Song, William Mack, and Ellis Meng. *Making a case for endovascular approaches for neural recording and stimulation*. *Journal of Neural Engineering*, 2023, Volume 20, Number 1, Article Number 011011, doi: 10.1088/1741-2552/acb086.
15. Eugene Yoon and Ellis Meng. *Asymmetric Microelectrodes for Nanoliter Bubble Generation via Electrolysis*. *IEEE Journal of Microelectromechanical Systems*, 2022, Volume 31, Number 1, pp. 106-115, doi: 10.1109/JMEMS.2021.3126789.
16. Trevor Hudson, Alex Baldwin, Aria Samiei, Priya Lee, J. Gordon McComb, and Ellis Meng. *A Portable Multi-Sensor Module for the Monitoring of External Ventricular Drains*. *Biomedical Microdevices*, 2021, Volume 23, Article Number 45 (2021), doi: 10.1007/s10544-021-00579-8.
17. Brianna Thielen and Ellis Meng. *A Comparison of Insertion Methods for Surgical Placement of Penetrating Neural Interfaces*. *Journal of Neural Engineering*, 2021, Volume 18, Number 4, Article Number 041003, doi: 10.1088/1741-2552/abf6f2.
18. Trevor Hudson and Ellis Meng. *A Continuous, Impedimetric Parylene Flow Sensor*. *IEEE/ASME Journal of Microelectromechanical Systems*, 2021, Volume 30, Number 3, pp. 456-470, doi: 10.1109/JMEMS.2021.3067573.
19. James Yoo and Ellis Meng. *Bonding Methods for Chip Integration with Parylene Devices*. *Journal of Micromechanics and Microengineering*, 2021, Volume 31, Number 4, Article Number 045011, doi: 10.1088/1361-6439/abe246.
20. Eugene Yoon, Beomseo Koo, Janeline Wong, Sahar Elyahoodayan, James Weiland, Curtis D Lee, Artin Petrossians, and Ellis Meng. *An Implantable Microelectrode Array for Chronic In Vivo Epiretinal Stimulation of the Rat Retina*. *Journal of Micromechanics and Microengineering*, Special Issue on Soft Neural Interfaces, 2020, Vol. 30, Number 12, Article Number 124001, doi: 10.1088/1361-6439/abbb7d.
21. Christopher J. Bettinger, Melanie Ecker, Takashi Daniel Yoshida Kozai, George G. Malliaras, Ellis Meng, and Walter Voit. *Recent Advances in Neural Interfaces – Materials Chemistry to Clinical Translation*. *MRS Bulletin*, 2020, Vol. 45, Issue 8 (Organic Semiconductors for Brain-Inspired Computing), pp. 655-668, doi: 10.1557/mrs.2020.195.
22. Kee Scholten, Christopher Larson, Huijing Xu, Dong Song, and Ellis Meng. *A 512-channel Multi-layer Polymer-based Neural Probe Array*. *IEEE/ASME Journal of Microelectromechanical Systems*, 2020, Vol. 29, Issue 5, pp. 1054-1059, doi: 10.1109/JMEMS.2020.2999550.

23. Xuechun Wang, Ahuva Weltman Hirschberg, Huijing Xu, Zachary Slingsby-Smith, Aziliz Lecomte, Kee Scholten, Dong Song, and [Ellis Meng](#). *A Parylene Neural Probe Array for Multi-Region Deep Brain Recordings*. IEEE/ASME Journal of Microelectromechanical Systems, 2020, Vol. 29, Issue 4, pp. 499-513, doi: 10.1109/JMEMS.2020.3000235. **Featured as highlighted paper in JMEMS RightNow Papers**
24. Kee Scholten, [Ellis Meng](#), Gretchen Knaack, and Dong Song. *Interfacing with the Peripheral Nervous System*. Journal of Neuroscience Methods, 2020, Vol. 340, Article Number 108745, doi: 10.1016/j.jneumeth.2020.108745.
25. Sahar Elyahoodayan, Christopher Larson, Angelica Cobo, [Ellis Meng](#), and Dong Song. *Acute In Vivo Testing of a Polymer Cuff Electrode with Integrated Microfluidic Channels for Stimulation, Recording, and Drug Delivery Experiments on Rat Sciatic Nerve*. Journal of Neuroscience Methods, 2020, Vol. 338, Article Number 108696, doi: 10.1016/j.jneumeth.2020.108634.
26. Christopher Larson and Ellis Meng. *A Review for the Peripheral Nerve Interface Designer*. Journal of Neuroscience Methods, 2019, Vol. 332, Article Number 108523, doi: 10.1016/j.jneumeth.2019.108523.
27. Alexander Baldwin, Eugene Yoon, Trevor Hudson, and [Ellis Meng](#). *Fluid Temperature Measurement in Aqueous Solution via Electrochemical Impedance*. IEEE/ASME Journal of Microelectromechanical Systems, 2019, Vol. 28, Issue 6, pp. 1060-1067, doi: 10.1109/JMEMS.2019.2939811.
28. Gregory M Shackleford, Min Mahdi, Rex A Moats, Debra Hawes, Hung C Tran, Jonathan L Finlay, Tuan Q Hoang, [Ellis Meng](#), and Anat Erdreich-Epstein. *Continuous and bolus intraventricular topotecan prolong survival in a mouse model of leptomeningeal medulloblastoma*. PLoS ONE, 2019, Vol. 14, Issue 1, Article Number e0206394.
29. Angelica Cobo, Christopher Larson, Kee Scholten, Jason Miranda, Sahar Elyahoodayan, Dong Song, Victor Pikov, and [Ellis Meng](#). *Parylene-Based Cuff Electrode with Integrated Microfluidics for Peripheral Nerve Recording, Stimulation, and Drug Delivery*. IEEE/ASME Journal of Microelectromechanical Systems, 2019, Vol. 28, Issue 1, pp. 36-49, doi: 10.1109/JMEMS.2018.2881908. **Featured as highlighted paper in JMEMS RightNow Papers**
30. Alexander Baldwin and [Ellis Meng](#). *Kirigami Strain Sensors Microfabricated from Thin-Film Parylene C*. IEEE/ASME Journal of Microelectromechanical Systems, 2018, Vol. 27, Issue 6, pp. 1082-1088, doi: 10.1109/JMEMS.2018.2869090.
31. Jessica Ortigoza-Diaz, Kee Scholten, Christopher Larson, Angelica Cobo, Trevor Hudson, James Yoo, Alex Baldwin, Ahuva Weltman Hirschberg, and [Ellis Meng](#). *Techniques and Considerations in the Microfabrication of Parylene C MEMS*. Micromachines, 2018, Vol. 9, Article Number 442, doi: 10.3390/mi9090422.
32. Jessica Ortigoza-Diaz, Kee Scholten, and [Ellis Meng](#). *Characterization and Modification of Adhesion in Dry and Wet Environments in Thin Film Parylene Systems*. IEEE/ASME Journal of Microelectromechanical Systems, 2018, Vol. 27, Issue 5, pp. 874-885, 2018, doi: 10.1109/JMEMS.2018.2854636.
33. Kee Scholten and [Ellis Meng](#). *A Review of Implantable Biosensors for Closed-Loop Drug Delivery Applications*. International Journal of Pharmaceutics, 2018, Vol. 544, Issue 2, pp. 319-334, doi: 10.1016/j.ijpharm.2018.02.022.
34. Huijing Xu, Ahuva Hirschberg, Kee Scholten, Dong Song, Ted Berger, and [Ellis Meng](#). *Acute in vivo testing of a conformal polymer microelectrode array for multi-region hippocampal recordings*. Journal of Neural Engineering, 2017, Vol. 15, Number 1, Article number 016017, doi: 10.1088/1741-2552/aa9451.
35. Alexander Baldwin, Lawrence Yu, Madelina Pratt, Kee Scholten, and [Ellis Meng](#). *Passive, Wireless Transduction of Electrochemical Impedance across Thin-Film Microfabricated Coils using Reflected Impedance*. Biomedical Microdevices, 2017, Vol. 19, Issue 4, Article Number 87, doi: 10.1007/s10544-017-0226-8.
36. Alexander Baldwin, Lawrence Yu, and [Ellis Meng](#). *An Electrochemical Impedance-Based Thermal Flow Sensor for Physiological Fluids*. IEEE/ASME Journal of Microelectromechanical Systems, 2016, Vol. 25, Issue 6, pp. 1015-1024, doi: 10.1109/JMEMS.2016.2614664. **Featured as highlighted paper in JMEMS RightNow Papers**

37. Kee Scholten and Ellis Meng. *Electron-beam lithography for polymer bioMEMS with submicron features*. *Microsystems and Nanoengineering*, 2016, Vol. 2, Article number 16053, doi: 10.1038/micronano.2016.53.
38. Seth A. Hara, Brian J. Kim, Curtis Lee, Jonathan T. W. Kuo, Ellis Meng, and Victor Pikov. *Long-term stability of intracortical recordings using perforated and arrayed Parylene sheath electrodes*. *Journal of Neural Engineering*, 2016, Vol. 13, Number 6, Article number 066020, doi: 10.1088/1741-2560/13/6/066020. (Selected as featured article)
39. Ahuva Weltman, James Yoo, and Ellis Meng. *Flexible, Penetrating Brain Probes Enabled by Advances in Polymer Microfabrication*. *Micromachines*, 2016, Vol. 7, Issue 10, Article number 180, doi:10.3390/mi7100180.
40. Brian J. Kim, Willa Jin, Alexander Baldwin, Lawrence Yu, Eisha Christian, Mark Krieger, J. Gordon McComb, and Ellis Meng. *Parylene MEMS Patency Sensor for Assessment of Hydrocephalus Shunt Obstruction*. *Biomedical Microdevices*, 2016, Vol. 18, Issue 5, Article number 87, doi:10.1007/s10544-016-0112-9.
41. Angelica Cobo, Roya Sheybani, Heidi Tu, and Ellis Meng. *A Wireless Implantable Micropump for Localized Drug Infusion*. *Sensors and Actuators A-Physical*, 2016, Vol. 239, pp. 18-25, doi: 10.1016/j.sna.2016.01.001.
42. Lawrence Yu, Christian A. Gutierrez and Ellis Meng. *An Electrochemical Microbubble-based MEMS Pressure Sensor*. *IEEE/ASME Journal of Microelectromechanical Systems*, 2016, Vol. 25, Issue 1, pp. 144-152, doi: 0.1109/JMEMS.2015.2499167. **Featured as highlighted paper in JMEMS RightNow Papers**
43. Brian J. Kim and Ellis Meng. *Review of Polymer MEMS Micromachining*. *Journal of Micromechanics and Microengineering*, 2016, Vol. 26, No. 1, Article Number 013001, doi: 10.1088/0960-1317/26/1/013001. **Downloaded > 2800 times. Top 3% of articles in all IOP journals in 2016.**
44. Brian J. Kim and Ellis Meng. *Micromachining of Parylene C for BioMEMS*. *Polymers for Advanced Technologies*, 2016, Vol. 27, pp. 564-576, doi: 10.1002/pat.3729.
45. Kee Scholten and Ellis Meng. *Materials for Microfabricated Implantable Devices: A Review*. *Lab on a Chip*, 2015, Vol. 15, pp. 4256-72, doi: 10.1039/C5LC00809C.
46. Curtis D. Lee and Ellis Meng. *Mechanical Properties of Thin-Film Parylene-Metal-Parylene Devices*. *Frontiers in Mechanical Engineering*, 2015, doi: 10.3389/fmech.2015.00010.
47. Roya Sheybani and Ellis Meng. *Acceleration Techniques for Recombination of Gases in Electrolysis Microactuators with Nafion®-coated Electrocatalyst*. *Sensors and Actuators B-Chemical*, 2015, Vol. 221, pp. 914-922, doi: 10.1016/j.snb.2015.07.026.
48. Roya Sheybani, Angelica Cobo, and Ellis Meng. *Wireless Programmable Electrochemical Drug Delivery Micropump with Fully Integrated Electrochemical Dosing Sensors*. *Biomedical Microdevices*, 2015, Vol. 17, Number 4, Article Number 74, doi: 10.1007/s10544-015-9980-7.
49. Brian J. Kim, Christian A. Gutierrez, and Ellis Meng. *Parylene-based electrochemical-MEMS force sensor array for studies of intracortical probe insertion mechanics*. *IEEE/ASME Journal of Microelectromechanical Systems*, 2015, Vol. 24, Issue 5, pp. 1534-44, doi: 10.1109/JMEMS.2015.2420043.
50. Seth A. Hara, Jonathan T.W. Kuo, Brian J. Kim, Curtis Lee, Christian A. Gutierrez, Tuan Hoang, and Ellis Meng. *An Electrochemical Investigation of the Impact of Microfabrication Techniques on Polymer-based Microelectrode Neural Interfaces*. *IEEE/ASME Journal of Microelectromechanical Systems*, 2015, Vol. 24, Issue 4, pp. 801-9, doi: 10.1109/JMEMS.2015.2434827.
51. Curtis Lee, Seth A. Hara, Lawrence Yu, Jonathan T.W. Kuo, Brian J. Kim, Tuan Hoang, and Ellis Meng. *Matrigel coatings for Parylene sheath neural probes*. *Journal of Biomaterials Research: Part B*, 2015, Vol. 104, Number 2, pp. 357-68, doi: 10.1002/jbm.b.33390.
52. Angelica Cobo, Roya Sheybani, and Ellis Meng. *MEMS-Enabled Drug Delivery Systems*. *Advanced Healthcare Materials*, 2015, Vol. 4, Number 7, pp. 969-82, doi: 10.1002/adhm.201400772.

53. Ellis Meng and Roya Sheybani. *Micro- and nano-fabricated implantable drug-delivery systems: current state and future perspectives*. Therapeutic Delivery, 2014, Vol. 5, Number 11, pp. 1167-1170.
54. Lawrence Yu, Brian Kim, and Ellis Meng. *Chronically Implanted Pressure Sensors: Challenges and State of the Field*. Sensors, 2014, Vol. 14, Number 11, pp. 20620-20644, doi:10.3390/s141120620.
55. Roya Sheybani and Ellis Meng. *Insight: Implantable Medical Devices*. Lab on a Chip, 2014, Vol. 14, Issue 17, pp. 3233-3240, doi:10.1039/C4LC00127C (invited paper).
56. Brian J. Kim, Benny Chen, Malancha Gupta, and Ellis Meng. *Formation of Three-Dimensional Parylene C Structures via Thermoforming*. Journal of Micromechanics and Microengineering, 2014, Vol. 24, Article Number 065003, doi:10.1088/0960-1317/24/6/065003.
57. Ellis Meng and Shuichi Takayama. *Selected papers from the 7th International Conference on Microtechnologies in Medicine and Biology (MMB 2013)*. Journal of Micromechanics and Microengineering, 2014, Vol. 24, Number 3, Article Number 030301, doi:10.1088/0960-1317/24/3/030301.
58. Ellis Meng, Christian A. Gutierrez, Roya Sheybani, and Tuan Hoang. *Wireless Implantable MEMS Drug Infusion Pumps*. Transactions of Japanese Society for Medical and Biological Engineering, 2013, Vol. 51, No. Supplement, pp. M-37.
59. Curtis Lee, Louis Jug, and Ellis Meng. *High Strain Biocompatible PDMS-based Conductive Graphene and Multiwalled Carbon Nanotube Nanocomposite Strain Sensors*. Applied Physics Letters, 2013, Vol. 102, Article Number 183511, doi: 10.1063/1.4804580.
60. Brian J. Kim, Jonathan T.W. Kuo, Seth A. Hara, Curtis D. Lee, Lawrence Yu, Christian A. Gutierrez, Tuan Hoang, Victor Pikov, and Ellis Meng. *3D Parylene sheath neural probe for chronic recordings*. Journal of Neural Engineering, 2013, Vol. 10, Issue 4, Article Number 045002, doi:10.1088/1741-2560/10/4/045002.
61. Peiyi Song, Danny Jian Hang Tng, Rui Hu, Guimiao Lin, Ellis Meng, and Ken-Tye Yong. *An Electrochemically Actuated MEMS Device for Individualized Drug Delivery: an In Vitro Study*. Advanced Healthcare Materials, 2013, Vol. 2, Issue 8, pp. 1170-1178, doi: 10.1002/adhm.201200356.
62. Roya Sheybani, Heidi Gensler, and Ellis Meng. *A MEMS Electrochemical Bellows Actuator for Fluid Metering Applications*. Biomedical Microdevices, 2013, Vol. 15, Issue 1, pp. 37-48, doi: 10.1007/s10544-012-9685-0.
63. Jonathan T.W. Kuo, Brian J. Kim, Seth A. Hara, Curtis D. Lee, Christian A. Gutierrez, Tuan Hoang, and Ellis Meng. *Novel flexible Parylene neural probe with a 3D sheath structure for enhancing tissue integration*. Lab on a Chip, 2013, Vol. 13, Issue 4, pp. 554-561, doi: 10.1039/C2LC40935F.
64. Ellis Meng and Tuan Hoang. *Micro- and nanotechnology enabled implantable drug delivery systems*. Therapeutic Delivery, 2012, Vol. 3, No. 12, pp. 1457-1467, doi:10.4155/tde.12.132.
65. Heidi M. Gensler and Ellis Meng. *Rapid Non-Lithography Based Fabrication Process and Characterization of Parylene C Bellows for Applications in MEMS Actuators*. Journal of Micromechanics and Microengineering, 2012, Vol. 22, Issue 11, Article Number 115031, doi:10.1088/0960-1317/22/11/115031.
66. Yogesh Gianchandani and Ellis Meng. *Emerging Micro- and Nanotechnologies at the Interface of Engineering, Science, and Medicine for the Development of Novel Drug Delivery Devices and Systems*. Advanced Drug Delivery Reviews, 2012, Vol. 64, pp. 1545-1546, doi: 10.1016/j.addr.2012.09.001.
67. Ellis Meng and Tuan Hoang. *MEMS-enabled Implantable Drug Infusion Pumps for Laboratory Animal Research, Preclinical, and Clinical Applications*. Advanced Drug Delivery Reviews, 2012, Vol. 64, pp. 1628-1638, doi: 10.1016/j.addr.2012.08.006.
68. Roya Sheybani and Ellis Meng. *High Efficiency MEMS Electrochemical Actuators and Electrochemical Impedance Spectroscopy Characterization*. IEEE/ASME Journal of Microelectromechanical Systems, 2012, Vol. 21, Issue 5, pp. 1197-1208, doi: 10.1109/JMEMS.2012.2203103.
69. Jonathan T.W. Kuo, Lawrence Yu, and Ellis Meng. *Micromachined Thermal Flow Sensors – A Review*. Micromachines, 2012, Vol. 3, Issue 3, pp. 550-573.

70. Heidi Gensler, Roya Sheybani, Po-Ying Li, Ronalee Lo, and Ellis Meng. *An Implantable MEMS Micropump System for Drug Delivery in Small Animals*. Biomedical Microdevices, 2012, Vol. 14, Issue 3, pp. 483-496, <http://dx.doi.org/10.1007/s10544-011-9625-4>.
71. Wen Li, Damien C. Rodger, Anderson Pinto, Ellis Meng, James D. Weiland, Mark S. Humayun, Yu-Chong Tai. *Parylene-based Integrated Wireless Single-channel Neurostimulator*. Sensors and Actuators A: Physical, 2011, Vol. 166, Issue 2, pp. 193-200.
72. Christian A. Gutierrez and Ellis Meng. *Liquid Encapsulation in Parylene Microstructures using Integrated Annular-plate Stiction Valves*. Micromachines, 2011, Vol. 2, pp. 356-368.
73. Ronalee Lo and Ellis Meng. *A Modular Heat-Shrink-Packaged Check Valve with High Pressure Shutoff*. IEEE/ASME Journal of Microelectromechanical Systems, 2011, Vol. 20, Issue 5, pp.1163-1173, doi: 10.1109/JMEMS.2011.2163301.
74. Christian A. Gutierrez and Ellis Meng. *Impedance-based Force Transduction within Fluid-Filled Parylene Microstructures*. IEEE/ASME Journal of Microelectromechanical Systems. 2011, Vol. 20, Issue 5, pp. 1098-1108, doi: 10.1109/JMEMS.2011.2160935.
75. Ronalee Lo and Ellis Meng. *Reusable, Adhesiveless and Arrayed In-Plane Microfluidic Interconnects*. Journal of Micromechanics and Microengineering, 2011, Vol. 21, Issue 5, Article Number 054021, doi: 10.1088/0960-1317/21/5/054021.
76. Jonathan Kuo, Li-Yuan Chang, Po-Ying Li, Tuan Hoang, and Ellis Meng. *A Microfluidic Platform with Integrated Flow Sensing for Focal Chemical Stimulation of Cells and Tissue*. Sensors and Actuators B: Chemical, 2011, Vol. 152, Issue 2, pp. 267-276, doi: 10.1016/j.snb.2010.12.019.
77. Christian A. Gutierrez and Ellis Meng. *Parylene-based Electrochemical-MEMS Transducers*. IEEE/ASME Journal of Microelectromechanical Systems, 2010, Vol. 19, Issue 6, pp. 1352-1361, doi:10.1109/JMEMS.2010.2076791.
78. Christian A. Gutierrez and Ellis Meng. *Low-Cost Carbon Thick-Film Strain Sensors for Implantable Applications*. Journal of Micromechanics and Microengineering, 2010, Vol. 20, Issue 9, Article Number 095028, doi:10.1088/0960-1317/20/9/095028.
79. Wen Li, Damien C. Rodger, Ellis Meng, James D. Weiland, Mark S. Humayun, Yu-Chong Tai. *Wafer-level Parylene Packaging with Integrated RF Electronics for Wireless Retinal Prosthesis*. IEEE/ASME Journal of Microelectromechanical Systems, 2010, Vol. 19, Issue 4, pp. 735-742.
80. Saloomeh Saati, Ronalee Lo, Po-Ying Li, Ellis Meng, Rohit Varma, Mark S. Humayun. *Mini Drug Pump for Ophthalmic Use*. Current Eye Research, 2010, Vol. 35, No. 3, pp. 192-201. (PMID: 20373877)
81. Po-Ying Li, Roya Sheybani, Christian Gutierrez, Jonathan T.W. Kuo, Ellis Meng. *A Parylene Bellows Electrochemical Actuator*. IEEE/ASME Journal of Microelectromechanical Systems, 2010, Vol. 19, Issue 1, 2010, pp. 215-228. (PMID: 21318081)
82. Po-Ying Li, Tina K. Givrad, Roya Sheybani, Daniel P. Holschneider, Jean-Michel I. Maarek, and Ellis Meng. *A Low Power, On Demand Electrothermal Valve for Wireless Drug Delivery Applications*. Lab on a Chip, 2010, Vol. 10, Issue 1, pp. 101-110. (PMID: 20024057) **Featured in Highlights in Chemical Technology**
83. Saloomeh Saati, Ronalee Lo, Po-Ying Li, Ellis Meng, Rohit Varma, Mark S. Humayun. *Mini Drug Pump for Ophthalmic Use*. Transactions of the American Ophthalmological Society, 2009, Vol. 107, pp. 60-71. (PMID: 20126483)
84. Po-Ying Li, Tina K. Givrad, Daniel P. Holschneider, Jean-Michel I. Maarek, and Ellis Meng. *A Parylene MEMS Electrothermal Valve*. IEEE/ASME Journal of Microelectromechanical Systems, 2009, Vol. 18, No. 6, pp. 1184-1197. (PMID: 21350679)
85. Ronalee Lo, Po-Ying Li, Saloomeh Saati, Rajat Agrawal, Mark S. Humayun, and Ellis Meng. *A Passive MEMS Drug Delivery Pump for Treatment of Ocular Diseases*. Biomedical Microdevices, 2009, Vol. 11, No. 5, pp. 959-970. (PMID: 19396548)

86. Ronalee Lo, Po-Ying Li, Saloomeh Saati, Rajat Agrawal, Mark S. Humayun, and Ellis Meng. *A Refillable Microfabricated Drug Delivery Device for Treatment of Ocular Diseases*. *Lab on a Chip*, 2008, Vol. 8, Issue 7, pp. 1027-1030. (PMID: 18584074) **Featured in *Highlights in Chemical Technology***
87. Ellis Meng, Po-Ying Li, and Yu-Chong Tai. *Plasma Removal of Parylene C*. *Journal of Micromechanics and Microengineering*, 2008, Vol. 18, Issue 4, Article Number 045004, doi: 10.1088/0960-1317/18/4/045004. **Downloaded > 3900 times. Top 3% of articles in all IOP journals in 2008.**
88. Ellis Meng, Po-Ying Li, and Yu-Chong Tai. *A Biocompatible Parylene MEMS Thermal Flow Sensing Array*. *Sensors and Actuators A: Physical*, 2008, Vol. 144, Issue 1, pp. 18-28.
89. Ronalee Lo and Ellis Meng. *Integrated and Reusable In-Plane Microfluidic Interconnects*. *Sensors and Actuators B: Chemical*, 2008, Vol. 132, Issue 2, pp. 531-539.
90. Damien C. Rodger, Andy J. Fong, Wen Li, Hossein Ameri, Ashish K. Ahuja, Christian Gutierrez, Igor Lavrov, Hui Zhong, Parvathy R. Menon, Ellis Meng, Joel W. Burdick, Roland R. Roy, Reggie Edgerton, James D. Weiland, Mark S. Humayun, and Yu-Chong Tai. *Flexible Parylene-based Multielectrode Array Technology for High-density Neural Stimulation and Recording*. *Sensors and Actuators B: Chemical*, 2008, Vol. 132, Issue 2, pp. 449-460.
91. Po-Ying Li, Jason Shih, Ronalee Lo, Rajat Agrawal, Saloomeh Saati, Mark S. Humayun, Yu-Chong Tai, and Ellis Meng. *An Electrochemical Intraocular Drug Delivery Device*. *Sensors and Actuators A: Physical*, 2008, Vol. 143, Issue 1, pp. 41-48.
92. Po-Jui Chen, Damien Rodger, Rajat Agrawal, Saloomeh Saati, Ellis Meng, Rohit Varma, Mark S. Humayun, and Yu-Chong Tai. *Implantable micromechanical parylene-based pressure sensors for unpowered intraocular pressure sensing*. *Journal of Micromechanics and Microengineering*, 2007, Vol. 17, No. 10, pp. 1931-1938.
93. Murat Tunc, Xuanhong Cheng, Buddy D. Ratner, Ellis Meng, and Mark Humayun. *Reversible Thermosensitive Glue for Retinal Implants*. *Retina*, 2007, Vol. 27, Number 7, pp. 938-942.
94. Po-Jui Chen, Damien Rodger, Ellis Meng, Mark Humayun, and Yu-Chong Tai. *Surface-Micromachined Parylene Dual Valves for On-Chip Unpowered Microflow Regulation*. *IEEE/ASME Journal of Microelectromechanical Systems*, 2007, Vol. 16, Issue 2, pp. 223-231.
95. Angela Tooker, Ellis Meng, Jon Erickson, Yu-Chong Tai, and Jerome Pine. *Biocompatible Parylene Neurocages*. *IEEE Engineering in Medicine and Biology Magazine*, 2005, Vol. 24, Issue 6, pp. 30-33.
96. Ellis Meng, Shuyun Wu, and Yu-Chong Tai. *Silicon Couplers for Microfluidic Applications*, *Fresenius Journal of Analytical Chemistry*, 2001, Vol. 371, Issue 2, pp. 270-275.