Liang Guo, Ph.D.

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RESEARCH INTERESTS

I am interested in the science and engineering of integrated cellular circuits (ICCs) at the intersection of circuits & systems engineering, tissue engineering, synthetic biology and neural engineering, with a focus on three goals:
(1) Develop ICCs as implantable medical devices for treatment, restoration, and augmentation to body functions
(2) Develop ICCs as scientific tools to facilitate novel biomedical research
(3) Study biological principles, systems, and functions through the engineering of ICC models.

EDUCATION

Postdoctoral Associate (Mar 2011 – Aug 2013)
Laboratory of Prof. Robert S. Langer
David H. Koch Institute for Integrative Cancer Research
Massachusetts Institute of Technology

Ph.D. in Bioengineering (2011)
Neuroengineering Track, Minor in Neuroscience
Laboratory for Neuroengineering
The Wallace H. Coulter Department of Biomedical Engineering
Georgia Institute of Technology

B.E. in Biomedical Engineering, graduated with Research Distinction (2004)
Department of Biomedical Engineering (formerly a subarea in the Dept of Electrical Engineering)
Tsinghua University, Beijing

ACADEMIC APPOINTMENTS

Assistant Professor (Sep 2013 – Present)
Department of Electrical and Computer Engineering & Department of Neuroscience
The Ohio State University

Graduate Faculty, Category P Status (Nov 2013 – Present)
Department of Biomedical Engineering
The Ohio State University

Postdoctoral Associate (Mar 2011 – Aug 2013)
David H. Koch Institute for Integrative Cancer Research
Massachusetts Institute of Technology

Graduate Research Assistant (Aug 2005 – Feb 2011)
The Wallace H. Coulter Department of Biomedical Engineering
Georgia Institute of Technology

RESEARCH GRANTS

Juvenile Diabetes Foundation
Title: *Wireless Implantable Electroactive Pump for Continuous Intraperitoneal Insulin Infusion*
Role: PI **Amount:** $250,000 **Period:** 06.01.2016–05.31.2018
Goal: To develop a wireless electroactive pump for continuous intraperitoneal insulin infusion via an external controller placed, for example, in the patient's pocket.

OSU Institute for Materials Research
2014 OSU Materials Research Seed Grant: Exploratory Materials Research Grant
Title: *Development of a Tactile-Sensing Bio-Complex Material for Engineering of Electronic Skin*
Role: PI **Amount:** $40,000 **Period:** 09.01.2014–08.31.2015
Goal: To develop and characterize a complex material, which incorporates the mechanoreceptor cells from Mimosa pudica as a tactile-sensing component, for fabrication of electronic skin.

INDUSTRY EXPERIENCE

Intern, Axion Biosystems, Atlanta GA (Summer 2009)
Engineer/Project Manager, Beijing Huachuangkangda Technology Co., LTD., China (2004 – 2005)

TEACHING AND MENTORING EXPERIENCE

Courses Taught
ECE 3050, Signals and Systems (Spring, 2014, 2015; Autumn 2015)
ECE 5070, Neuroengineering and Neuroprosthetics (Autumn 2014, 2016)

Ph.D. Students Mentored
Yongchen Wang, BME, recipient of the 2015 Summer Graduate Research Award in Cognitive and Brain Sciences and the 2015–2016 OSU HHMI MED Into GRAD Scholars Award (Sep 2013 – Present)
Bingxi Yan, ECE (Dec 2013 – Present)
Yu Wu, ECE (Aug 2014 – Present), recipient of the 2014 University Fellowship Award
Jordan D. Prox, BMS, recipient of the 2016 Summer Graduate Research Award in Cognitive and Brain Sciences (Jun 2015 – Present)

Current Master Students Mentored
Boyi Li, ECE (Aug 2016 – Present)
Phani Tejaswi Kemisetty, ECE (Sep 2016 – Present)

Current Undergraduate Students Mentored
Xinyi Jiang, ECE (Aug 2016 – Present)
Tory Smith, ECE (Jan 2016 – Present)
Farhan S. Quadri, BE (Jun 2015 – Present)

Undergraduate Research Opportunities Program Mentor
Massachusetts Institute of Technology (2011 – 2013)

Senior Design Project Mentor
Georgia Institute of Technology
Development of a Miniaturized Wireless Data Transmission System for Neural Recording and Stimulation, ECE-4007 Senior Design Project (Fall 2009)
Designing a Four-Channel Wireless EEG BCI, Team 54, BMED-4601 Senior Design Projects II (Spring 2009)

Parker H. Petit Undergraduate Research Scholars Program Mentor
Georgia Institute of Technology (2009)
Research proposal was selected as one of the 10 winning proposals out of 44.

Graduate Teaching Assistant
Georgia Institute of Technology
BMED-4600/4601 Senior Design Projects I/II (Fall 2008)

Past Undergraduate Students Mentored
Kaifeng Liu, Phy & Ast (May 2015 – Dec 2016)
Nick Chehade, NS & CIS (Aug 2015 – May 2016)
Forest A. Kunecke, ECE (Sep 2013 – Dec 2015)
David M. Youssef, BME & EE (Jan 2015 – Dec 2015)
Qinwan Rabbani, BME (Jun 2015 – Dec 2015)
Seth Ringel, ECE, OSU, recipient of the 2014 Undergraduate Education Summer Research Fellowship and the Undergraduate Honors Research Scholarship, graduated with Honors Research Distinction (Sep 2013 – May 2015)
Now: PhD Student, Department of Biomedical Engineering, University of Michigan
Boyi Li, ECE, OSU (Mar 2014 – May 2015)
Mary C. Lenk, ECE (Feb 2015 – May 2015)
Carlos E. Mendez, BME, OSU, recipient of the Undergraduate Research Scholar Award (Mar 2014 – Dec 2014)
Daniel E. Gomez-Ramos, Neuroscience, OSU (Mar 2014 – Dec 2014)
Michael Kunchal, Open Option Engineering, OSU (Jun 2014 – Dec 2014)
Emily R. Watson, BME, OSU (Aug 2014 – Dec 2014)
Chad Kohler, EE, Clemson University, Summer Visiting Student at MIT (May 2013 – Aug 2013)
Khizar Qureshi, ChE, MIT (Sep 2011 – May 2012)
Emily A Ryan, ME, MIT (Sep 2011 – Dec 2011)
Laura J Kitashima, ECE, Georgia Tech, Parker H. Petit Undergraduate Research Scholar, G. Russell Bell Scholar (Sep 2009 – Aug 2010)
Srinija Konduru, BME, Georgia Tech (Sep 2009 – Dec 2009)
Siddharth Tantia, ChBE, Georgia Tech (Sep 2009 – May 2010)

Past Technician Supervised
Ning Zhang, Koch Institute, MIT (Jan 2013 – Jun 2013)
Now: Research Associate Professor, Department of Chemistry, University of Science and Technology of China

SERVICES AT THE OHIO STATE UNIVERSITY

Department of Electrical and Computer Engineering
Member, The ECE Personnel Committee (2015 – 2016)
Member, The ECE Neural Electronics Hire Search Committee (2015 – 2016)
Member, The ECE Cancer Cluster Hire Search Committee (2013 – 2016)
Chair, The ECE Bioengineering Curriculum Committee (Sep 2013 – Present)
Member, The ECE Analog and RF Electronic Circuits Curriculum Committee (Sep 2013 – Present)
Member, The ECE Graduate Admission Committee (Sep 2013 – Jul 2016)

Qualifying Examination Committee
Md Asiful Islam, ECE, October 27, 2015
Sanyam Bajaj, ECE, March 25, 2014; Second Exam, October 21, 2014
Anas Abumunshar, ECE, October 29, 2013

Master's Thesis Committee

Chenxi Song, User Activity Tracker Using Android Sensor, ECE, November 21, 2014

Graduate Faculty Representative

Joel Higley, "The Brains of the Air Force: Laurence Kuter and the Making of the United States Air Force", Department of History, July 06, 2016.
Adam Hasinski, "Interactions between Prediction, Perception and Episodic Memory", Department of Psychology, July 14, 2015.
Raunak J. Soman, "Structure-Function Studies and Examining the Role of Polarity and Charge as Substrate Determinants for the E. Coli YidC", BIOCHMP, July 2, 2014.

PROFESSIONAL ACTIVITIES AND SERVICES

Ad Hoc Reviewer (29)

IEEE Transactions on Biomedical Engineering, Proceedings of the Materials Research Society, Advanced Materials, Journal of Neuroscience Methods, Advanced Science Letters, Frontiers in Neuroengineering, Journal of Materials Chemistry, Journal of Neural Engineering, RSC Advances, Journal of Micromechanics and Microengineering, Advanced Healthcare Materials, Chemical Communications, Journal of Materials Chemistry B, Measurement Science and Technology, Frontiers in Neural Circuits, Journal of Biomedical Nanotechnology, Physical Chemistry Chemical Physics, ChemPhysChem, Artificial Organs, IEEE Transactions on Biomedical Circuits and Systems, Applied Physics Letters, IEEE Sensors Journal, Biomaterials, Review of Scientific Instruments, Royal Society Open Science, Biomedical Microdevices, IEEE Transactions on Neural Systems & Rehabilitation Engineering, Frontiers in Neuroscience, Journal of Biomedical Materials Research: Part B - Applied Biomaterials, Computers in Biology and Medicine, IEEE Journal of Microelectromechanical Systems.

Award Review

AAAS Newcomb Cleveland Prize, selected by *Science*, 2015.

Conference Organization

Co-organizer, *Mini-symposium on Flexible Neural Interfacing Devices and Systems*, the 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Orlando, Florida, August 16-20, 2016.
Co-organizer, Symposium on *Soft Materials for Compliant and Bioinspired Electronics*, The 2016 MRS Spring Meeting, Phoenix, Arizona, March 28-April 1, 2016.

Grant Proposal Review

Reviewer, Missouri Transect Seed Funding, 2015
NSF Review Panel Member, 2015, 2017

Professional Society

Treasurer, IEEE EMB Society Atlanta Chapter (Jan 2009 – Dec 2010)

Memberships

Member, Biomedical Engineering Society (2015 – 2016)
Member, Materials Research Society (2015 – 2017)
Member, IEEE Engineering in Medicine and Biology Society (EMBS) (2012 – Present)
Full Member, Sigma Xi—The Scientific Research Society (2010 – 2011)
Student Member, Materials Research Society (2007 – 2008, 2009 – 2010)
Student Member, Society for Neuroscience (2006, 2009)
Student Member, IEEE Engineering in Medicine and Biology Society (EMBS) (2007, 2009 – 2011)
Board Member, Tsinghua Alumni Association of Georgia (2008 – 2010)

HONORS AND AWARDS

Semi-finalist of the Beckman Young Investigators, 2015
"Best of 2013", for research on water-vapor powered generator, MIT, 2014
Travel Award (with G. S. Guvanasen), Georgia Tech Research & Innovation Conference, 2012
STAR (Student Travel Achievement Recognition) Honorable Mention (with A. Srinivasan), Society for Biomaterials 2011 Annual Meeting, 2011
2010 MRS Spring Meeting Best Poster Awards Nominee, 2010
Elected to Full Member of Sigma Xi (The Scientific Research Society), 2010
Parker H. Petit Undergraduate Research Scholars Program Mentoring Award, 2008-2009
Outstanding Staff Prize, Beijing Huachuangkangda Technology Co., LTD., 2005
Outstanding Bachelor's Thesis, Tsinghua University, 2004
Outstanding Undergraduate Research Award, Tsinghua University, 2004
Outstanding Group Leader Award, 2nd Qingximuxiao Activity, Tsinghua University, 2004
First Prize, Beijing area, 2003 China Undergraduate Mathematical Contest in Modeling, 2003
Third Prize, 21st Challenge Cup Exhibition of Creation and Invention, Tsinghua University, 2003
Excellent Undergraduate Scholarship, Tsinghua University, 2003
Outstanding Paper, Communications Technologies and Network Applications course, 2003
Student Research Training (SRT) Program Seed Funding Award, Tsinghua University, 2002
Outstanding Practice Performance Award, DBME, Tsinghua University, 2002
Excellent Undergraduate Scholarship, Tsinghua University, 2001
Third Prize, Beijing Physics Contest, 2001
Outstanding Performance Award, Electronic Working Technology Practice, 2001

SEMINAR TALKS

17. **L. Guo**, "Wireless Implantable Electroactive Pump for Continuous Intraperitoneal Insulin Infusion," OSUWMC Diabetes and Metabolism Research Center Seminar, October 19, 2016.
16. **L. Guo**, "The Pursuit of Reliable Neural Interfaces," Institute of Brain and Cognitive Science, New York University-East China Normal University Joint Research Institutes, NYU Shanghai, Shanghai, China, July 1st, 2016.
15. **L. Guo**, "The Pursuit of Reliable Neural Interfaces," The Sixth People's Hospital, School of Medicine, Shanghai Jiao Tong University, Shanghai, China, June 30th, 2016.
14. **L. Guo**, "The Pursuit of Reliable Neural Interfaces," School of Chemistry and Materials Science, University of Science and Technology of China, Hefei, Anhui, China, June 29th, 2016.
13. **L. Guo**, "The Pursuit of Reliable Neural Interfaces," Wondfo Biotech Co., Ltd, Guangzhou, Guangdong, China, June 28th, 2016.
12. **L. Guo**, "The Pursuit of Reliable Neural Interfaces," College of Engineering, Sun Yat-sen University, Guangzhou, Guangdong, China, June 28th, 2016.
11. **L. Guo**, "The Pursuit of Reliable Neural Interfaces," Department of Biomedical Engineering, South China University of Technology, Guangzhou, Guangdong, China, June 27th, 2016.
10. **L. Guo**, "The Pursuit of Reliable Neural Interfaces," College of Optoelectronic Engineering, Shenzhen University, Shenzhen, Guangdong, China, June 23rd, 2016.
9. **L. Guo**, "The Pursuit of Reliable Neural Interfaces," Air Force Research Laboratory, Wright Patterson, Ohio, April 15th, 2016.
8. **L. Guo**, "Stretchable Neural Interfaces and Future Directions," Department of Neuroscience, The Ohio State University, Sep. 30th, 2013.
7. **L. Guo**, "Stretchable Neural Interfaces and Future Directions," Department of Biomedical Engineering, The Ohio State University, Sep. 19th, 2013.
6. **L. Guo**, "High-Density Conformal Neural Interface," The Department of Electrical and Computer Engineering, Polytechnic Institute of New York University, Apr. 2nd, 2013.

5. **L. Guo**, "High-Density Conformal Neural Interface," The School of Engineering, Brown University, Mar. 14th, 2013.
4. **L. Guo**, "High-Density Conformal Neural Interface," Department of Electrical, Computer, & Systems Engineering, Rensselaer Polytechnic Institute, Mar. 8th, 2013.
3. **L. Guo**, "High-Density Conformal Neural Interface," Department of Electrical and Computer Engineering, The Ohio State University, Feb. 21st, 2013.
2. **L. Guo**, "Stretchable Microelectrode Arrays (sMEAs): A Technology Platform and Its Biomedical Applications," *IEEE EMB Society Atlanta Chapter Annual Meetings*, Sep. 14th, 2010.
1. **L. Guo**, "PDMS-Based MEA Technology and Its Application to Muscle Surface Stimulation and Recording," *NeuroTalks Series*, Georgia Tech, Jan. 29th, 2010.

PANELS

4. R. Bellesi, R. Koch, M. White, C. J. Baker, **L. Guo**, and A. Serrani, "The Next Step: Question & Answer Panel for Graduating Seniors," Department of Electrical & Computer Engineering, The Ohio State University, Sept. 10th, 2014.
3. R. Lee, Y. Chi, L. Fiorentini, and **L. Guo**, "What Does It Take to Become a Faculty Member?", IEEE Graduate Student Body, The Ohio State University, Nov. 21st, 2013.
2. R. Koch, L. T. Reed, T. Sampson, C. J. Baker, **L. Guo**, and F. Ozguner, "The Next Step: Question & Answer Panel for Graduating Seniors," Department of Electrical & Computer Engineering, The Ohio State University, Sept. 4th, 2013.
1. C. Alabi, L. Bellan, and **L. Guo**, "Getting a Faculty Job," Langer Lab, Jun. 19th, 2013.

PATENTS

6. B. Yan, Y. Wang, and **L. Guo**, "Intrinsically Passivated, Monolayered Polypyrrole/PEG-borate Composite Electroactuator with High Performances in Physiologically Relevant Electrolytes," OSU Invention Disclosure T2017-074.
5. B. Yan, **L. Guo**, "Polypyrrole-based implantable electroactive pump for controlled microinjection," OSU Invention Disclosure T2016-105.
4. A. Srinivasan, **L. Guo**, Y. Choi, and R. V. Bellamkonda, "Regenerative Microchannel Electrode Array for Peripheral Nerve Interfacing," PCT/US 2012032784.
3. G. S. Guvanasen, S. Rajaraman, R. Aguilar, Jr., **L. Guo**, T. R. Nichols, and S. P. DeWeerth, "3D Microelectrode Device for Live Tissue Applications," US 9248273.
2. M. Ma, **L. Guo**, D. G. Anderson, O. C. Farokhzad, and R. S. Langer, "A Bio-inspired Polymer Composite Actuator Driven by Water Gradient and Methods of Making the Same," US 9236556.
1. **L. Guo** and S. P. DeWeerth, "Integrated Method for High-Density Interconnection of Electronic Components through Stretchable Interconnects," US 8349727.

PUBLICATIONS

Journal

15. Y. Wang, Y. Wu, F. Quadri, J. D. Prox, and **L. Guo***, "Cytotoxicity of ZnO Nanowire Arrays on Excitable Cells", *Nanomaterials*, Special Issue on "Nanoparticle-Mediated Cell and Tissue Stimulation", in preparation. [**Invited**]
14. B. Yan, Y. Wang, X. Jiang, K. Liu, and **L. Guo***, "Flexible Photocatalytic Films of Polypyrrole/ZnO-nanorods", in preparation.

13. G. S. Guvanasen, **L. Guo**, R. J. Aguilar, A. L. Cheek, C. S. Shafor, S. Rajaraman, T. R. Nichols, and S. P. DeWeerth, "A Stretchable Microneedle Electrode Array for Stimulating and Measuring Intramuscular Electromyographic Activity", *IEEE Transactions on Neural Systems & Rehabilitation Engineering*, online publication, November, **2016**.
12. **L. Guo***, "The Pursuit of Chronically Reliable Neural Interfaces: A Materials Perspective," *Frontiers in Neuroscience*, vol. 10, article 599, December **2016**.
11. Y. Wang and **L. Guo***, "Nanomaterial-Enabled Neural Stimulation," *Frontiers in Neuroscience*, vol. 10, article 69, March **2016**.
10. B. Yan, B. Li, F. Kunecke, Z. Gu, and **L. Guo***, "Polypyrrole-Based Implantable Electroactive Pump for Controlled Drug Microinjection," *ACS Applied Materials & Interfaces*, vol. 7, no. 27, pp. 14563–14568, July **2015**.
9. **L. Guo**, M. Ma, N. Zhang, R. Langer, and D. G. Anderson, "Stretchable Polymeric Multielectrode Array for Conformal Neural Interfacing," *Advanced Materials*, vol. 26, no. 9, pp. 1427–1433, March **2014**. **[Inside Front Cover]**
8. M. Ma, **L. Guo**, D. G. Anderson, and R. Langer, "Bio-Inspired Polymer Composite Actuator and Generator Driven by Water Gradients," *Science*, vol. 339, no. 6116, pp. 186–189, January **2013**. **[Selected as Issue Highlights by *Science* Editors. Featured in a perspective paper (*Science*, 2013, 339, 150-151). Reported by NBC News, C&EN News, New Scientist, American Scientist, Boston Globe and MIT News. Selected as "Best of 2013" by MIT]**
7. **L. Guo**, G. S. Guvanasen, X. Liu, C. Tuthill, T. R. Nichols, and S. P. DeWeerth, "A PDMS-Based Integrated Stretchable Microelectrode Array (isMEA) for Neural and Muscular Surface Interfacing," *IEEE Transactions on Biomedical Circuits and Systems*, vol. 7, no. 1, pp. 1–10, February **2013**.
6. K. W. Meacham, **L. Guo**, S. P. DeWeerth, and S. Hochman, "Selective Stimulation of the Spinal Cord Surface Using a Stretchable Microelectrode Array," *Frontiers in Neuroengineering*, vol. 4, article 5, April **2011**.
5. **L. Guo** and S. P. DeWeerth, "An Effective Lift-Off Method for Patterning High-Density Gold Interconnects on an Elastomeric Substrate," *Small*, vol. 6, no. 24, pp. 2847–2852, December **2010**.
4. **L. Guo** and S. P. DeWeerth, "High-Density Stretchable Electronics: Toward an Integrated Multilayer Composite," *Advanced Materials*, vol. 22, no. 36, pp. 4030–4033, September **2010**.
3. **L. Guo**, K. W. Meacham, S. Hochman, and S. P. DeWeerth, "A PDMS-Based Conical-Well Microelectrode Array for Surface Stimulation and Recording of Neural Tissues," *IEEE Transactions on Biomedical Engineering*, vol. 57, no. 10, pp. 2485–2494, October **2010**.
2. S. A. Desai, J. D. Rolston, **L. Guo**, and S. M. Potter, "Improving Impedance of Implantable Microwire Multi-Electrode Arrays by Ultrasonic Electroplating of Durable Platinum Black," *Frontiers in Neuroengineering*, vol. 3, article 5, May **2010**.
1. K. W. Meacham, R. J. Giuly, **L. Guo**, S. Hochman, and S. P. DeWeerth, "A Lithographically-Patterned, Elastic Multi-Electrode Array for Surface Stimulation of the Spinal Cord," *Biomedical Microdevices*, vol. 10, no. 2, pp. 259–269, April **2008**.

Book Chapter

1. **L. Guo***, "Conducting Polymers as Smart Materials for Tissue Engineering," *Smart Materials for Tissue Engineering: Fundamental Principles*, RSC Smart Materials No. 24 (Ed.: Q. Wang), Chapter 9, pp. 239–268, Royal Society of Chemistry, Cambridge, December **2016**. **[Invited]**

Conference

Invited Talks:

7. B. Yan and **L. Guo**, "TBD," *2017 EITA Conference on New Materials, Nanotechnology and New Energy*, Ann Arbor, Michigan, July 1, **2019**.

6. **L. Guo**, "When Technologies Meet with Clinical Needs: The Story behind a New Pump Design," *2016 TypeOneNation Summit*, Juvenile Diabetes Foundation Central Ohio Chapter, November 13, **2016**. [**Keynote**]
5. **L. Guo**, "Integrated Cellular Neural Interface," *The 9th IEEE International Conference on Nano/Molecular Medicine and Engineering*, Honolulu, Hawaii, November 15–18, **2015**.
4. **L. Guo**, "Conducting Polymers: Stretchable Polymeric Neural Electrode Array," *Materials Research Society 2015 Spring Meeting*, San Francisco, California, April 6–10, **2015**.
3. **L. Guo**, "Conducting Polymers: Stretchable Polymeric Neural Electrode Array," *2014 OSU Materials Week*, Columbus, Ohio, May 6–9, **2014**.
2. S. P. DeWeerth and **L. Guo**, "PDMS-Based Neural Interfaces: An Integrated System Solution," *Materials Research Society 2010 Spring Meeting*, San Francisco, California, April 5–9, **2010**.
1. **L. Guo** and S. P. DeWeerth, "Conformable Microelectrode Arrays (MEAs) for Neuromuscular Stimulation and Recording," *Symposium for UGA Cleanroom Opening Ceremony*, Athens, Georgia, March 12, **2010**.

Refereed Papers:

14. Y. Wang, B. Yan, Y. Wu, and **L. Guo***, "Hydrogel-Reinforced Polypyrrole Electroactuator," *The 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, Orlando, Florida, August 16–20, **2016**.
13. Y. Gao, A. Wilford, **L. Guo**, "Self-correcting Multi-atlas Segmentation," *Proc. SPIE*, vol. 9784, Medical Imaging 2016: Image Processing, 97842Q, March 21, **2016**.
12. **L. Guo***, "Stretchable Polymeric Neural Electrode Array: Toward a Reliable Neural Interface," *Materials Research Society 2015 Spring Meeting*, San Francisco, California, April 6–10, **2015**. [**Invited**]
11. G. S. Guvanasen, R. J. Aguilar, **L. Guo**, C. Karnati, S. Rajaraman, T. R. Nichols, and S. P. DeWeerth, "Development of a Stretchable, Penetrating Electrode Array for Measuring Intramuscular Electromyographic Activity," *The 17th International Conference on Miniaturized Systems for Chemistry and Life Sciences*, Freiburg, Germany, October 27–31, **2013**.
10. A. Srinivasan, **L. Guo**, and R. V. Bellamkonda, "Regenerative Microchannel Electrode Array for Peripheral Nerve Interfacing," **talk**, *The 5th International IEEE EMBS Conference on Neural Engineering*, Cancun, Mexico, April 27–May 1, **2011**.
9. **L. Guo**, G. S. Guvanasen, C. Tuthill, T. R. Nichols, and S. P. DeWeerth, "A Low-Cost, Easy-Fabricating Stretchable Microneedle-Electrode Array for Intramuscular Recording and Stimulation," *The 5th International IEEE EMBS Conference on Neural Engineering*, Cancun, Mexico, April 27–May 1, **2011**.
8. **L. Guo**, G. S. Guvanasen, C. Tuthill, T. R. Nichols, and S. P. DeWeerth, "Characterization of a Stretchable Multielectrode Array for Epimysial Recording," **talk**, *The 5th International IEEE EMBS Conference on Neural Engineering*, Cancun, Mexico, April 27–May 1, **2011**.
7. **L. Guo**, I. P. Clements, R. V. Bellamkonda, and S. P. DeWeerth, "A Conformable Microelectrode Array (cMEA) with Integrated Electronics for Interfacing to a Regenerated Peripheral Nerve," **talk**, *IEEE Biomedical Circuits and Systems Conference 2010*, Paphos, Cyprus, November 3–5, **2010**. **[Selected as one of the highlights]**
6. S. P. DeWeerth, A. C. Hughes, K. Sundar, **L. Guo**, and L. H. Ting, "A Hybrid Muscle-in-the-Loop Robot System for Studying the Neuromechanical Properties of Movement," **talk**, *The 3rd IEEE RAS-EMBS International Conference on Biomedical Robotics and Biomechatronics*, Tokyo, Japan, September 26–29, **2010**.

5. A. C. Hughes, **L. Guo**, and S. P. DeWeerth, "Interleaved Multichannel Epimysial Stimulation for Eliciting Smooth Contraction of Muscle with Reduced Fatigue," **talk**, *The 32nd Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, Buenos Aires, Argentina, August 31–September 4, **2010**.
4. **L. Guo**, L. J. Kitashima, C. R. Villari, A. M. Klein, and S. P. DeWeerth, "Muscle Surface Recording and Stimulation Using Integrated PDMS-Based Microelectrode Arrays: Recording-Triggered Stimulation for Prosthetic Purposes," **talk**, *IEEE Biomedical Circuits and Systems Conference 2009*, Beijing, China, November 26–28, **2009**.
3. **L. Guo** and S. P. DeWeerth, "Implementation of Integratable PDMS-Based Conformable Microelectrode Arrays Using a Multilayer Wiring Interconnect Technology," *The 31st Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, Minneapolis, Minnesota, September 2–6, **2009**.
2. **L. Guo** and S. P. DeWeerth, "PDMS-Based Conformable Microelectrode Arrays with Selectable Novel 3-D Microelectrode Geometries for Surface Stimulation and Recording," *The 31st Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, Minneapolis, Minnesota, September 2–6, **2009**.
1. W. Jia, X. Liu, X. Gao, **L. Guo**, Y. Lei, Y. Ku, and S. Gao, "The Detection of Seizure Vulnerable Period from Epidural EEG Recordings of Epilepsy Rat," *The 2nd International IEEE EMBS Conference on Neural Engineering*, Washington D.C., March 16–19, **2005**.

Abstracts:

26. Y. Wang, B. Yan, X. Jiang, and **L. Guo***, "Polypyrrole Electroactuator: How Macromolecular Dopant Size Affect Electroactivity," *Materials Research Society 2017 Spring Meeting*, Phoenix, Arizona, April 17–21, **2017**.
25. J. Prox, Y. Wu, and **L. Guo***, "A Biological Brain Pacemaker for Selective Neuronal Pacing in Hippocampus," *4th Annual CCBS Member Fall Retreat*, The Center for Cognitive and Brain Sciences, The Ohio State University, August 26–27, **2016**.
24. B. Yan and **L. Guo***, "High-performance, Skeleton-reinforced Polypyrrole Electroactuators for Driving a Flexible Insulin Pump," *Materials Research Society 2016 Spring Meeting*, Phoenix, Arizona, March 28–April 1, **2016**.
23. Y. Wang and **L. Guo***, "Acoustic Neural Stimulation through Piezoelectric Zinc Oxide Nanowires," *Materials Research Society 2016 Spring Meeting*, Phoenix, Arizona, March 28–April 1, **2016**.
22. Y. Wang, S. Ringel, and **L. Guo***, "Isolated Mimosa pudica Mechanosensitive Cells as Tactile-Sensors for a Bio-Inspired E-Skin," *2015 Biomedical Engineering Society Annual Meeting*, Tampa, FL, October 7–10, **2015**.
21. **L. Guo***, "Stretchable Multielectrode Arrays for Conformal Neural Interfacing," *2015 Biomedical Engineering Society Annual Meeting*, Tampa, FL, October 7–10, **2015**.
20. Y. Wang, B. Yan, and **L. Guo***, "Highly Efficient Acoustic Neural Stimulation Enabled by Piezoelectric Zinc Oxide Nanowires," *Third Annual CCBS Member Fall Retreat*, The Center for Cognitive and Brain Sciences, The Ohio State University, September 18–19, **2015**.
19. B. Yan, B. Li, and **L. Guo***, "Polypyrrole-based Electroactive Syringe," *57th Electronic Materials Conference*, Columbus, OH, June 24–26, **2015**.
18. Y. Wang, S. Ringel, and **L. Guo***, "Bio-Complex Material: Mimosa pudica Mechanosensitive Cells as Pressure Sensors for Tactile-Sensing Electronic Skin," *2015 OSU Materials Week*, Columbus, Ohio, May 12–15, **2015**.
17. F. Kunecke, B. Yan, and **L. Guo***, "Polypyrrole-Based Compliant Pressure Sensor Array," *2015 OSU Materials Week*, Columbus, Ohio, May 12–15, **2015**.
16. **L. Guo***, "Living Device Biofabrication," *Center for Regenerative Medicine and Cell Based Therapies 3rd Annual Retreat*, Perrysville, OH, August 1–2, **2014**.

15. G. S. Guvanasen, R. Aguilar, **L. Guo**, C. Karnati, S. Rajaraman, T. R. Nichols, and S. P. DeWeerth, "Development of a Stretchable, Penetrating Electrode Array for Measuring Intramuscular Electromyographic Activity," *The 6th International IEEE EMBS Conference on Neural Engineering*, San Diego, California, November 6–8, **2013**.
14. **L. Guo**, M. Ma, G. Hendy, P. S. Hill, O. Farokhzad, D. G. Anderson, and R. S. Langer, "An Organic Stretchable Microelectrode Array," *The 40th Neural Interfaces Conference*, Salt Lake City, Utah, June 18–20, **2012**.
13. G. S. Guvanasen, **L. Guo**, T. R. Nichols, and S. P. DeWeerth, "The Development of a Stretchable Micro-Needle Electrode Array for Intramuscular Recording," *Georgia Tech Research & Innovation Conference*, Atlanta, Georgia, February 7, **2012**. **[Won a conference travel award]**
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