Jianliang Xiao

Associate Professor
Department of Mechanical Engineering
427 UCB
University of Colorado
Boulder, CO 80309-0427
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Email: Jianliang.Xiao@colorado.edu

EDUCATION

- Ph.D., Mechanical Engineering, Northwestern University, 12/2009
  Advisor: Yonggang Huang
- Ph.D. candidate, Mechanical Engineering, University of Illinois at Urbana-Champaign, 08/2006 – 07/2007
  Advisor: Yonggang Huang
- M.S., Solid Mechanics, Tsinghua University, China, Jul 2006
  Advisor: Keh-Chih Hwang
- B.S., Engineering Mechanics, Tsinghua University, China, Jul 2003

PROFESSIONAL EXPERIENCE

- 2019 – present, *Associate Professor*, Mechanical Engineering, University of Colorado Boulder
- 08/2011 – 2019, *Assistant Professor*, Mechanical Engineering, University of Colorado Boulder
- 01/2010 – 07/2011, *Postdoctoral Research Associate*, Materials Science and Engineering, University of Illinois at Urbana-Champaign
  Advisor: John A. Rogers
- 08/2007 – 12/2009, *Graduate Research Assistant*, Mechanical Engineering, Northwestern University
- 01/2009 – 03/2009, *Teaching Assistant*, Mechanical Engineering, Northwestern University
- 08/2006 – 08/2007, *Graduate Research Assistant*, Mechanical Science and Engineering, University of Illinois at Urbana-Champaign
- 09/2003 – 07/2006, *Graduate Research Assistant*, Engineering Mechanics, Tsinghua University

AWARDS & HONORS

- Best Paper Award, ACM MobiCom '19: The 25th Annual International Conference on Mobile Computing and Networking, 2019
- Best Paper Award, Theoretical & Applied Mechanics Letters, 2018

- College Outstanding Dissertation Award (only 1 awarded in the College of Engineering and Applied Science each year) and ME Steven M. Woodward Outstanding Dissertation Award, 2017
- ACS PRF Doctoral New Investigator award, 2013
- Best Poster award in Colorado Photonics Industry Association Annual Meeting, 2013
- NSF Fellowship for Summer Institute on Additive Manufacturing, 2013
- ASME Haythornthwaite Research Initiation Award, 2012
- NSF Fellowship for Summer Institute on Mechanics of Soft Materials, 2010
- Haythornthwaite travel grant for ASME IMECE, 2009
- NSF travel grant for the Humboldt Kolleg, Nano-Bio: The Next Transformative Convergence, 2009
- Cabell Fellowship, Northwestern University, 2009
- NSF travel grant for NSF CMMI Research and Innovation Conference, 2009
- Chinese Government Award for Outstanding Self-financed Students Abroad, 2008
- The Graduate School Conference Travel Grant, Northwestern University, 2008, 2009
- NSF Fellowship for Summer Institute on Energy Challenge and Nanotechnology, 2008
- Walter P. Murphy Fellowship, Northwestern University, 2007
- NSF Fellowship for Summer Institute on Nano Mechanics and Materials, 2007
- Tsinghua University Distinguished Leadership Award, 2001, 2002
- Academic Excellence Scholarship, Tsinghua University, 2000-2004

ACADEMIC SERVICE & ACTIVITIES

ACADEMIC SOCIETY SERVICE

Guest Editor, Special Issue "New Advances in Wearable and Flexible Sensor Devices and Their Future Prospects", Micromachines, (Feb 2024 – Present)

Track co-chair, Track 12: Mechanics of Solids, Structures, and Fluids, ASME IMECE (10/2023 – Present)

ASME Applied Mechanics Division (AMD) Executive Committee Secretary (July 2022 – Present)

Associate Editor, Frontiers in Sensors (3/2021 – Present)

Editorial Board, NPJ Flexible Electronics (10/2016 – Present), Science China Technological Sciences (10/2017 – Present), Micromachines (11/2018 – Present), Frontiers in Electronics (07/2020 – Present), Frontiers in Bioengineering and Biotechnology (07/2020 – Present), FlexTech (2023 – Present)

ASME Applied Mechanics Division (AMD) Newsletter editor (11/2019 – Present)

Chair (11/2017 – 11/2019), Elasticity Technical Committee, Applied Mechanics Division, ASME

Chair (11/2015 – 11/2017), Electronic Materials Technical Committee, Materials Division, ASME

Associate Chair (2014 – 2017), Elasticity Technical Committee, Applied Mechanics Division, ASME

Associate Chair (2014 – 11/2015), Electronic Materials Technical Committee, Materials Division, ASME

CONFERENCE ORGANIZATION

[1] Symposium organizer, "Mechanics of Thin Films and Multilayered Structures", 2024 SES Annual Technical Meeting, August 20-23, 2024, Hangzhou, China

[2] Topic organizer, "Mechanics and Materials of Soft/Flexible/Stretchable Electronics", *ASME International Mechanical Engineering Congress & Exposition 2023, October 29-November 2, 2023, New Orleans, LA*

[3] Topic organizer, "Material Processing of Flexible/Emerging Electronics, Sensors, and Devices", *ASME International Mechanical Engineering Congress & Exposition 2023, October 29-November 2, 2023, New Orleans, LA*

[4] Topic co-Organizer, "Material Processing of Flexible/Emerging Electronics, Sensors, and Devices", *ASME International Mechanical Engineering Congress & Exposition 2022*, October 30-November 3, 2022, Columbus, OH

[5] Topic Organizer, "Material Processing of Flexible/Emerging Electronics, Sensors, and Devices", *ASME International Mechanical Engineering Congress & Exposition 2021*, November 1-5, 2021, Virtual conference

[6] Topic Organizer, "Material Processing of Flexible/Emerging Electronics, Sensors, and Devices", *ASME International Mechanical Engineering Congress & Exposition 2020*, November 16-19, 2020, Virtual conference

[7] Topic Organizer, "Mechanics and Materials of Soft Electronics", *ASME International Mechanical Engineering Congress & Exposition 2020*, November 16-19, 2020, Virtual conference

[8] Topic Organizer, "Mechanics of Thin-Film and Multi-Layer Structures", *ASME International Mechanical Engineering Congress & Exposition 2020*, November 16-19, 2020, Virtual conference

[9] Topic Organizer, "Mechanics of adhesion and friction", *ASME International Mechanical Engineering Congress & Exposition 2020*, November 16-19, 2020, Virtual conference

[10] Topic Organizer, "Mechanics and Materials of Soft Electronics", *ASME International Mechanical Engineering Congress & Exposition 2019*, November 11-14, 2019, Salt Lake City, Utah

[11] Topic Organizer, "Material Processing of Flexible Electronics, Sensors, and Devices", *ASME International Mechanical Engineering Congress & Exposition 2019*, Salt Lake City, Utah

[12] Topic Organizer, "Mechanics of adhesion and friction", *ASME International Mechanical Engineering Congress & Exposition 2019*, November 11-14, 2019, Salt Lake City, Utah

[13] Topic Organizer, "Mechanics of Thin-Film and Multi-Layer Structures", *ASME International Mechanical Engineering Congress & Exposition 2019*, Salt Lake City, Utah

[14] Topic Organizer, "Mechanics of adhesion and friction", *ASME International Mechanical Engineering Congress & Exposition 2018*, November 11-14, 2018, Pittsburgh, PA

[15] Topic Organizer, "Material Processing of Flexible Electronics, Sensors, and Devices", *ASME International Mechanical Engineering Congress & Exposition 2018*, November 11-14, 2018, Pittsburgh, PA

[16] Topic Organizer, "Mechanics and Materials of Flexible, Stretchable, and Bio-Electronics", *ASME International Mechanical Engineering Congress & Exposition 2018*, November 11-14, 2018, Pittsburgh, PA

[17] Topic Organizer, "Mechanics of Thin-Film and Multi-Layer Structures", *ASME International Mechanical Engineering Congress & Exposition 2018*, November 11-14, 2018, Pittsburgh, PA

[18] Topic Organizer, "Flexible and Stretchable Electronics: Mechanics, Materials, and Manufacture", *55th Annual Technical Meeting of Society of Engineering Science*, October 10-12, 2018, Madrid, Spain

[19] Topic Organizer, "Mechanics of adhesion and friction", *ASME International Mechanical Engineering Congress & Exposition 2017*, November 3-9, 2017, Tampa, FL

[20] Topic Organizer, "Material Processing of Flexible Electronics, Sensors, and Devices", *ASME International Mechanical Engineering Congress & Exposition 2017*, November 3-9, 2017, Tampa, FL

[21] Topic Organizer, "Mechanics and Materials of Flexible, Stretchable, and Bio-Electronics", *ASME International Mechanical Engineering Congress & Exposition 2017*, November 3-9, 2017, Tampa, FL

[22] Topic Organizer, "Material Processing of Flexible Electronics, Sensors, and Devices", *ASME International Mechanical Engineering Congress & Exposition 2016*, November 11-17, 2016, Phoenix, AZ

[23] Topic Organizer, "Mechanics of adhesion and friction", *ASME International Mechanical Engineering Congress & Exposition 2016*, November 11-17, 2016, Phoenix, AZ

[24] Topic Organizer, "Mechanics and engineering processes in heterogeneous structures", *ASME International Mechanical Engineering Congress & Exposition 2016*, November 11-17, 2016, Phoenix, AZ

[25] Topic Organizer, "Mechanics and Materials of Soft Electronics and Structures", *ASME International Mechanical Engineering Congress & Exposition 2016*, November 11-17, 2016, Phoenix, AZ

[26] Topic Organizer and Session Chair, "Material Processing of Flexible Electronics, Sensors, and Devices", *ASME International Mechanical Engineering Congress & Exposition 2015*, November 13-19, 2015, Houston, TX

[27] Topic Organizer and Session Chair, "Mechanics of Adhesion and Friction", *ASME International Mechanical Engineering Congress & Exposition 2015*, November 13-19, 2015, Houston, TX

[28] Topic Organizer and Session Chair, "Mechanics and Materials of Soft Electronics and Structures", *ASME International Mechanical Engineering Congress & Exposition 2015*, November 13-19, 2015, Houston, TX

[29] Topic Organizer and Session Chair, "Instabilities", *ASME International Mechanical Engineering Congress & Exposition 2015*, November 13-19, 2015, Houston, TX

[30] Topic Organizer, "Mechanics of Instability and Interfacial Adhesion in Bio-Compatible Electronics", *52nd Annual Technical Conference of Society of Engineering Science*, October 26-28, 2015, Texas A&M University, College Station, Texas

[31] Topic Organizer, "Mechanics and Materials for Flexible, Stretchable, and Bio-Integrated Soft Electronics", *ASME 2015 Applied Mechanics and Materials Conference (McMAT2015),* June 29-July 1, 2015, Seattle, WA

[32] Topic Organizer and session chair, "Mechanics of Adhesion and Friction", *ASME International Mechanical Engineering Congress & Exposition 2014*, November 14-20, 2014, Montreal, Canada

[33] Topic Organizer and session chair, "Hybridization of Materials for Functional Structures, Devices and Systems: Mechanics, Materials, and Manufacturing", *ASME International Mechanical Engineering Congress & Exposition 2014*, November 14-20, 2014, Montreal, Canada

[34] Topic Organizer and session chair, "Mechanics of Adhesion and Friction", *ASME International Mechanical Engineering Congress & Exposition 2013*, November 15-21, 2013, San Diego, CA

[35] Session Chair, "Synthesis, Characterization, and Modeling of Low-Dimensional Nanomaterials", *50th Annual Technical Conference of Society of Engineering Science*, July 28-31, 2013, Brown University, Providence, RI

[36] Topic Organizer and session chair, "Mechanics of Adhesion", *ASME International Mechanical Engineering Congress & Exposition 2012*, November 9-15, 2012, Houston, TX

[37] Topic Organizer and session chair, "Mechanics of Thin Film and Multilayer Structures", *49th Annual Technical Conference of Society of Engineering Science*, October 10-12, 2012, Georgia Tech, Atlanta, GA

[38] Topic Organizer and session chair, "Mechanics of Adhesion", *48th Annual Technical Conference of Society of Engineering Science*, October 12-14, 2011, Northwestern University, Evanston, IL

[39] Session Chair, "Stress and Deformation of Thin Film and Multi-layer Materials III", *ASME International Mechanical Engineering Congress & Exposition 2009*, November 13-19, 2009, Lake Buena Vista, FL

MEMBERSHIP

American Society of Mechanical Engineers

Society of Engineering Science

Materials Research Society

American Physical Society

SPIE

JOURNAL REVIEW (32)

Nature Nanotechnology, Nature Electronics, Science Advances, Nature Communications, Proceedings of the National Academy of Sciences, PNAS Nexus, Advanced Materials, Research, Materials Today, Scientific Reports, Advanced Functional Materials, Physical Review Letters, Journal of the Mechanics and Physics of Solids, Carbon, Nanotechnology, Physical Review B, Applied Physics Letters, International Journal of Fracture, Journal of Physics D: Applied Physics, Journal of Physics: Condensed Matter, Journal of Applied Mechanics, Computational Mechanics, Journal of Engineering Materials and Technology, Computational Materials Science, Mechanics Research Communications, Thin Solid Films, Reports on Progress in Physics, Proceedings of the Royal Society A, Acta Mechanica, Journal of Nanomechanics and Micromechanics, Nanoscale, Mechanics of Materials, Extreme Mechanics Letters, International Journal of Solids and Structures, Advanced Theory and Simulations, Sensors & Actuators: A. Physical, Smart Materials and Structures, ACS Applied Materials & Interfaces, NPJ Flexible Electronics

GRANT PROPOSAL REVIEW

NSF (2012, 2013, 2014, 2015, 2016, 2018, 2020, 2022, 2024), ACS PRF (2014, 2017, 2021), Research Grants Council (RGC) of Hong Kong (2017, 2019, 2020, 2021, 2022), Natural Sciences and Engineering Research Council of Canada (NSERC) (2019, 2022), KAUST OSR (2020)

UNIVERSITY OF COLORADO BOULDER SERVICE

Department of Mechanical Engineering

Personnel Committee (2020-present)

Infrastructure Committee (2016-2018)

Instructor Search Committee (2015, 2016)

Department Undergraduate Committee (2014-2016)

Tenure Track Faculty Search Committee (2013-2014)

Department Seminar Coordinator (2012)

Solid Mechanics Prelim Exam Coordinator (2011-2014)

Department Graduate Committee (2011-2013, 2018-2019, 2019)

College of Engineering & Applied Science

Tenure Track Faculty Special Hire Committee in Civil Engineering (2014)

TEACHING & STUDENT GUIDANCE ACTIVITIES

STUDENT SUPERVISION

Postdoc Scholars

Andres Villada, Mechanical Engineering (9/2020 – 4/2021), (Now at Exponent Inc)

Yu Wang, Mechanical Engineering (5/2016 – 4/2017), now at Seagate Technology

PhD Students

Ruili Zhang, Mechanical Engineering (2023 – present)

Aishwarya Kakade, Mechanical Engineering (2023 – present)

Dhileep Kumar Jayashankar, Mechanical Engineering (2022 – present)

Xudong Yang, Mechanical Engineering (2020 – 2021)

Ali Nematollahisarvestani, Mechanical Engineering (co-advising with YC Lee) (2017 – 2020)

Andres Villada, Mechanical Engineering (2015 – 2020)

Zhanan Zou, Mechanical Engineering (2014 – 2019)

Jose Antonio Rodriguez Lopez, Mechanical Engineering (2014 – 2015) (quitted PhD program in September 2015 due to family reasons)

Zhengwei Li, Mechanical Engineering (Fall 2012 – 2/2017), College Outstanding Dissertation Award (only 1 awarded in the College of Engineering and Applied Science each year) and ME Steven M. Woodward Outstanding Dissertation Award, now faculty at Univ. Houston

Yu Wang, Mechanical Engineering (Spring 2012 – 5/2016)

Narasimha Boddeti, Mechanical Engineering (co-supervised with Martin Dunn, 2011 – 2014)

MS Students

Tavis Peterson, Mechanical Engineering (9/2021 – 5/2023, Independent study Fall 22)

Abhrajit Mal, Mechanical Engineering (9/2021 – present)

Jinyue Dai, Mechanical Engineering (9/2019 – 8/2020)

Yimeng Liu, Mechanical Engineering (8/2018 – 12/2019)

Qingyang Sun, Mechanical Engineering (9/2016 – 5/2018)

Sichong Li, Mechanical Engineering (8/2016 – 12/2017)

Yinding Chi, Mechanical Engineering (8/2016 – 12/2017), now PhD student at Temple University

Yan Li, Mechanical Engineering (1/2016 – 12/2017)

Zenan Wu, Mechanical Engineering (2014 – 2016)

Wangyang Wang, Mechanical Engineering (2014 – 2015)

Hailong Ji, Mechanical Engineering (2012 – 2013)

Vibin Mahadev Sankaranarayanan, Mechanical Engineering (2012 – 2013)

BS Students

Chrisanna Bertuccio, Mechanical Engineering (12/2022 – 5/2023)

Paulina Apanel, Biomedical Engineering (8/2022 – 8/2023)

Dana Francesca Stamo, Chemical and Biological Engineering (8/2017 – 8/2019)

Roy Powell, Mechanical Engineering (8/2016 – 5/2017)

Samatha Preston, Mechanical Engineering (8/2015 – 5/2016), "People's Choice Award" in Discovery Learning Research Symposium (Multifunctional Artificial Compound Eyes) (one out of over 90 projects/DLA students)

Jacob Carson, Mechanical Engineering (8/2015 – 5/2016)

Griffith Michael Wendland, Mechanical Engineering (5/2015 – 8/2015)

Blake Wiehe, Mechanical Engineering (2014 – 2015)

Krishan Patel, Mechanical Engineering (2012 – 2013)

Da Zhou, Mechanical Engineering (2012 – 2013)

Visiting Scholars & Students

Dr. Si Chen, Assistant Professor, Jiangsu University (8/2019 – 1/2021)

Mr. Shun Zhang, Phd Student, Institute of Applied Mechanics, Zhejiang University (10/2019 – 10/2020)

Mr. Pengcheng Zhu, PhD student, College of Material Science and Engineering, Beihang University (10/2019 – 9/2020)

Dr. Seoung Yoon Ryu, Associate Professor, Korea University (Sejong Campus) (1/2019 – 8/2019)

Mr. Wei Ren, PhD student, School of Materials Science and Engineering, Harbin Institute of Technology (11/2018 – 10/2019)

Ms. Yan Sun, PhD student, School of Materials Science and Engineering, Harbin Institute of Technology (11/2018 – 10/2019)

Ms. Ye Qiu, PhD student, School of Mechanical Engineering, Zhejiang University of Technology (11/2018 – 5/2019)

Mr. Yucheng Huo, UG student, Solid Mechanics, Beihang University (8/2018 – 10/2018)

Mr. Zhengwei Liu, UG student, Mechanical Engineering, Donghua University (7/2018 – 9/2018)

Dr. Haiqing Lu, Senior Lecturer, School of Mechanical-electronic and Vehicle Engineering, Weifang University (4/2018 – 6/2019)

Ms. Xingli Wu, PhD student, Department of Mechanical Engineering, Shenyang University of Technology (4/2018 – 6/2019)

Ms. Chuanqian Shi, PhD student, School of Aerospace Engineering and Applied Mechanics, Tongji University, China (10/2017 – 11/2019)

Mr. Diego Monserrat Lopez, UG student, Universitat Politecnica de Catalunya, Spain (Balsells International Mobility Program, 2/2016 – 7/2016)

High School Students

Surie Jia, Fairview High School (9/2024 – present)

David Liu, (7/2024 – 8/2024)

Thadeus Hauw, Boulder High (1/2024 – 6/2024),

Kelly Yang, Fairview High School (11/2021 – 5/2023), project "Under Pressure: Piezoresistive Pressure Sensors for Electronic Skin" was awarded the Second Place in Corden Pharma Colorado Regional Science Fair (2022), Physics Classroom Demonstration Award (2022), Second Place in Colorado Science and Engineering Fair (2022), Regeneron Biomedical Science Award (2022), 2nd Place in Engineering BVSD Science Fair (2023).

Matthew Chen, Monarch High School (9/2019 – 2020)

Zach Chen, Monarch High School (7/2017 – 2019)

Laura Macdonald & Perrin Ruth, Monarch High School (9/2016 – 5/2017)

PhD THESIS COMMITTEES

Qingcong Hu (Electrical, Computer, and Energy Engineering, 2011), Yushan Li (Electrical, Computer, and Energy Engineering, 2012), Feng Miao (Mechanical Engineering, 2012), Qi Ge (Mechanical Engineering, 2012), Binglian Wang (Mechanical Engineering, 2012) Nathan Sutton (Electrical, Computer, and Energy Engineering, 2013), Steven Koenig (Mechanical Engineering, 2013), Xinghui Liu (Mechanical Engineering, 2014), Narasimha Boddeti (Mechanical Engineering, 2014), Jacob Dove (Mechanical Engineering, 2014), Alexander Watson (Mechanical Engineering, 2015), Lewis Cox (Mechanical Engineering, 2015), Jamie Williamson (Electrical, Computer, and Energy Engineering, 2016), David Stobbe (Mechanical Engineering, 2018), Raza Qazi (ECEE, 2019), Yuan Qi (ME, 2020), Luxia Yu (ME, 2020), Jacob Hutfles (ME, 2020), Yinan Lu (ME, 2021),

Anh Nguyen (CS, 2022), Brodie K. Hoyer (ME, 2022), Nam Bui (CS, 2022), Zepeng Lei (Chemistry, 2023), Chia-Nien Tsai (AE, 2023), Kenichiro Yokota (ME, 2023), Rabade Salil Rajendra (ME, 2023)

PhD COMPS COMMITTEES

David Stobbe (Mechanical Engineering, 2017), Masoud Aghajani (Mechanical Engineering, 2018) Raza Qazi (ECEE, 2018), Jacob Hutflex (Mechanical Engineering, 2019), Yuan Qi (Mechanical Engineering, 2019), Luxia Yu (Mechanical Engineering, 2019), Ali Nematollahisarvestani (Mechanical Engineering, 2019), Brodie Hoyer (ME, 2021), Salil Rabade (ME, 2022), Saleh Alzughaibi (ME, 2023), Kenichiro Yokota (ME, 2023), Saurabh Das (ME, 2023), Xingwei Yang (ME, 2023), Guillaume Lostec (ME, 2023)

PhD RESEARCH PRELIM COMMITTEES

Masoud Aghajani (2017), Andres Villada (2017), Jacob Hutfles (2017), Emanuele Sortino (Materials Science, 2018), Marco A. Inzunza (Mechanical Engineering, 2018), Yinan Lu (Mechanical Engineering, 2018), Ali Nematollahisarvestani (Mechanical Engineering, 2018), Jordan Winetrout (MSE, 2021), Xingwei Yang (ME, 2021), Rajan Jain (ME, 2024)

MS THESIS COMMITTEES

John D Sweetser (Mechanical Engineering, 2012), Chengpu Zhu (Chemistry and Biochemistry, 2017), Jian Kan (Mechanical Engineering, 2018), Simon Hafner (Mechanical Engineering, 2019),

COURSES TAUGHT

MCEN 2063, Mechanics of Solids, Spring 2014, Spring 2016, Fall 2020, Fall 2022, Summer 2023, Fall 2023, Summer 2024, Fall 2024

MCEN 4173/5173, Finite Element Analysis, Fall 2011, Fall 2012, Fall 2015, Fall 2016, Spring 2018, Spring 2019, Spring 2021, Spring 2023, Spring 2024

MCEN 4228/5228, Thin Film Materials, Spring 2012, 2013, 2015, 2016, 2017, 2019, 2024

MCEN 5023/ASEN 5012, Solid Mechanics 1, Fall 2014, Fall 2016, Fall 2019

MCEN 5228, Flexible Electronics, Spring 2018, Spring 2021

MCEN 4085, Senior Design, 2018-2019, Fall 2021, 2022-2023

Patents

[P1] J. Xiao, "RHEOLOGICALLY MODIFIED LIQUID METAL DEVICES AND RELATED SYSTEMSAND METHODS", U.S. Provisional Patent Application No. 63/522,934, filed 6/23/2023, U.S. Patent Application No. 18/750,876, filed 6/21/2024.

[P2] J. Xiao, Y. Sun, W. Ren, "Soft Motherboard-Rigid Plugin Module Architecture", U.S. Provisional Patent Application No. 63/147,958, filed February 10, 2022, published August 11, 2022, issued 4/30/2024, Patent No. US 11,974,502.

[P3] J. Xiao, W. Zhang, C. Shi, "STRETCHABLE. REHEALABLE, RECYCLABLE AND RECONFIGURABLE INTEGRATED STRAIN SENSOR", U.S. Provisional Patent Application

No. 63/136,714, filed January 13, 2021; US Patent Application No. 17/574,880, filed 1/13/2022, published 7/14/2022

[P4] J. Xiao, W. Zhang, C. Shi, Z. Zou, "SELF-HEALABLE, RECYCLABLE, AND RECONFIGURABLE WEARABLE ELECTRONICS DEVICE", PCT International Patent Application No. PCT/US2021/058087, filed November 4, 2021, published 5/12/2022

[P5] J. Xiao, W. Zhang, C. Shi, Z. Zou, "SELF-HEALABLE, RECYCLABLE, AND RECONFIGURABLE WEARABLE ELECTRONICS DEVICE", U.S. Provisional Patent Application No. 63/110,053, filed November 5, 2020; US Patent Application Filed 5/4/2023, No 18/035,420, published 12/21/2023

[P6] J. Xiao, Z. Zou, "SYSTEMS AND METHOD OF SOFT ROBOTIC ACTUATION WITH A LIQUID METAL ACTUATOR", US 2021/0205103 A1, published 7/8/2021, issued 2/28/2023, Patent No. 11,590,006.

[P7] A. Villada, D. Stamo, Z. Zou, J. Xiao, "Shape-Memory In-Ear Biosensor For Monitoring Physiological Signals", US 2021/0100509, published 4/8/2021, Issued 12/12/2023, Patent No. US 11,839,491.

[P8] J. Xiao, W. Zhang, Z. Zou, and C. Zhu, "Dynamic Covalent Thermoset Nanocomposites and Uses Thereof", US 2020/0291164, published 9/17/2020, Issued 12/6/2022, Patent No. US 11,518,840.

[P9] J. Xiao, W. Zhang, Z. Zou, and C. Zhu, "Dynamic Covalent Thermoset Nanocomposites and Uses Thereof", PCT International Patent Application No. PCT/US2018/062083, published 5/23/2019, International Publication No. WO 2019/100069 A1, Issued 12/6/2022, Patent No. US 11,518,840.

[P10]J. Xiao, and Y. Wang, "Programmable, reversible and repeatable wrinkling of shape memory polymer thin films on elastomeric substrates for smart adhesion", U.S. Provisional Patent Application No. 62/692,258, filed June 29, 2018

BOOK CHAPTERS

[B4] S. Wang, J. Xiao, J. Song, Y. Huang, and J. A. Rogers, "Mechanics of Curvilinear Electronics", in Nano and Cell Mechanics: Fundamentals and Frontiers (eds. Horacio D. Espinosa, and Gang Bao), Wiley, Hoboken, NJ, Chapter 13 (2013).

[B3] J. Xiao, W. Zhou, Y. Huang, J.M. Zuo, and K.C. Hwang, "Potentials For van der Waals Interaction in Nano-scale Computation", in Trends in Computational Nanomechanics: Transcending Length and Time Scales (ed. Traian Dumitrica), Springer, New York, Chapter 12 (2010).

[B2] J. Xiao, H. Jiang, Y. Huang, and J. A. Rogers, "Mechanics of stiff thin films of controlled wavy geometry on compliant substrates for stretchable electronics", in Semiconductor Nanomaterials for Flexible Technologies: From Photovoltaics and Electronics to Sensors and Energy Storage (eds. Yugang Sun, and John A. Rogers), William Andrew, Chapter 10 (2010).

[B1] J. Xiao, D.-Y. Khang, Y. Huang, and J. A. Rogers, "Buckling Mechanics of Carbon Nanotubes on Elastomeric Substrates", in Recent developments in modeling and applications of Carbon Nanotubes (eds. Q. Wang, B.I. Yakobson, and K.M. Liew), Research Signpost/Transworld Research Network, Kerala, India, pp 49-70 (2009).

OTHER PUBLICATIONS

[O1] C. Shi, W. Zhang, J. Xiao, E-skin: the future of sustainable & recyclable wearable electronics, *The Science Breaker,* https://doi.org/10.25250/thescbr.brk627 (2022)

REFEREED JOURNAL PUBLICATIONS (* as corresponding author)

[J97] H. Pan, X. Li, D. K. Jayashankar, Q. Xu, F. Fan, M. Duan, C. Guo, J. Zhang, B. Lin, K. Chen, R. Yang, J. Xiao*, W. Ren*, D. Zhao*, Hierarchically structured wearable thermoelectric generator with "triple-high" performance, submitted

[J96] I. Kang, J. Bilbily, C. Y. Kim, C. Shi, M. K. Madasu, E. Y. Jeong, K. E. Parker, D. A. Kwon, B.-J. Jung, J.-S. Yang, N. D.L. Kabbaj, W. Lee, J.-B. Yoon, R. Al-Hasani, J. Xiao, J. G. McCall, J.-W. Jeong, Wireless modular implantable neural device with one-touch magnetic assembly for versatile neuromodulation, *Advanced Science*, 2406576 (2024)

[J95] H. Kim, J. Lee, U. Heo, D. K. Jayashankar, K.-C. Agno, Y. Kim, C. Y. Kim, Y. Oh, S.-H. Byun, B. Choi, H. Jeong, W.-H. Yeo, Z. Li, S. Park, J. Xiao*, J. Kim*, and J.-W. Jeong*, Skin-preparation-free, stretchable microneedle adhesive patches for reliable electrophysiological sensing and exoskeleton robot control, *Science Advances* 10, eadk5260 (2024)

------ *highlighted in Science Advances (January 17, 2024)*

------ *reported by CU Boulder Today, Interesting Engineering, The Chronicle News, Ground News, Electronic Specifier, Mindplex…*

[J94] Y. Li, A. Villada, S.-H. Lu, H. Sun, J. Xiao*****, and X. S. Wang*****, Soft, Flexible Pressure Sensors for Pressure Monitoring Under Large Hydrostatic Pressure and Harsh Ocean Environments, *Soft Matter* 19, 5772-5780 (2023)

[J93] Y. Qiu, Z. Zou, Z. Zou, N. K. Setiawan, K. V. Dikshit, G. Whiting, F. Yang, W. Zhang, J. Lu, B. Zhong., H. Wu*, J. Xiao*, Deep Learning Assisted Printed Liquid Metal Sensory System for Wearable Applications and Boxing Training, *NPJ Flexible Electronics* 7, 37 (2023)

[J92] S. Cho, H. J. Nam, C. Shi, C. Y. Kim, S.-H. Byun, K.-C. Agno, B. C. Lee, J. Xiao, J. Y. Sim, J.-W. Jeong, Wireless, AI-enabled wearable thermal comfort sensor for energy-efficient, human-in-the-loop control of indoor temperature, *Biosensors and Bioelectronics* 223, 115018 (2023)

[J91] J. Sun, K. Xiu, Z. Wang, N. Hu, L. Zhao, H. Zhu, F. Kong, J. Xiao, L. Cheng, X. Bi, Multifunctional wearable humidity and pressure sensors based on biocompatible graphene/bacterial cellulose bioaerogel for wireless monitoring and early warning of sleep apnea syndrome, *Nano Energy* 108, 108215 (2023)

[J90] S.-H. Byun, J. H. Yun, S.-Y. Heo, C. Shi, G. J. Lee, K.-C. Agno, J. Xiao, Y. M. Song, and J.-W. Jeong, Self-Cooling Gallium-Based Transformative Electronics with a Radiative Cooler for Reliable Stiffness Tuning in Outdoor Use, *Advanced Science* 9, 2202549 (2022)

[J89] N. Jen, G. M. Bessa, K. Nicolson, J. Xiao, D. S. Nobes, H.-J. Chung, Elastomeric Tubes with Self-Regulated Distension, *iScience* 25, 104369 (2022)

[J88] C. Shi, Y. Zhao, P. Zhu, J. Xiao, and G. Nie, Highly Stretchable and Rehealable Wearable Strain Sensor Based on Dynamic Covalent Thermoset and Liquid Metal, *Smart Materials and Structures* 30, 105001 (2021)

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[J11] J. Qin, S. Qu, X. Feng, Y. Huang, **J. Xiao**, and K.C. Hwang, A Numerical Study of Indentation with Small Spherical Indenters. *Acta Mechanica Solida Sinica* 22, 18-26 (2009).

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[J9] J. Yoon, A. J. Baca, S.-I. Park, P. Elvikis, J. B. Geddes, L. Li, R. H. Kim, **J. Xiao**, S. Wang, T. H. Kim, M. J. Motala, B. Y. Ahn, E. B. Duoss, J. A. Lewis, R. G. Nuzzo, P. M. Ferreira, Y. Y. Huang, A. Rockett, and J. A. Rogers, Ultrathin silicon solar microcells for semitransparent, mechanically flexible and microconcentrator module designs. *Nat. Mater.* 7, 907-915 (2008).

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------ Reported by ABC, Reuters (UK), The New York Times, Scientific American, MSNBC, China Daily (China), Xinhua (China), Daily Mail (UK), IT News, MIT Technology Review, Physics World, RedOrbit, The Independent Online, Indiatimes (India), The Straits Times (Singapore),…

[J8] **J. Xiao**, A. Carlson, Z.J. Liu, Y. Huang, H. Jiang, and J.A. Rogers, Stretchable and Compressible Thin Films of Stiff Materials on Compliant Wavy Substrates. *Appl. Phys. Lett.* 93, 013109 (2008)

[J7] **J. Xiao**, H. Jiang, D.-Y. Khang, J. Wu, Y. Huang, and J.A. Rogers, Mechanics of buckled carbon nanotubes on elastomeric substrates. *J. Appl. Phys.* 104, 033543 (2008).

[J6] H. Jiang, D.-Y. Khang, H. Fei, H. Kim, Y. Huang, **J. Xiao,** and J. A. Rogers, Finite Width Effect of Thin-Films Buckling on Compliant Substrate: Experimental and Theoretical Studies. *J. Mech. Phys. Solids* 56, 2585-2598 (2008).

[J5] J.-H. Ahn, Z. Zhu, S.-I. Park, **J. Xiao**, Y. Huang, and J. A. Rogers, Defect tolerance and nanomechanics in transistors that use semiconductor nanomaterials and ultrathin dielectrics. *Adv. Funct. Mater.* 18, 2535-2540 (2008).

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[J4] H. C. Ko, M. P. Stoykovich, J. Song, V. Malyarchuk, W. M. Choi, C.-J. Yu, J. B. Geddes, **J. Xiao**, S. Wang, Y. Huang, and J. A. Rogers, A Hemispherical Electronic Eye Camera Based on Compressible Silicon Optoelectronics. *Nature* 454, 748-753 (2008).

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[J3] D.-Y. Khang, **J. Xiao**, C. Kocabas, S. Maclaren, T. Banks, H. Jiang, Y. Y. Huang, and J. A. Rogers, Molecular Scale Buckling Mechanics in Individual Aligned Single-Wall Carbon Nanotubes on Elastomeric Substrates. *Nano Letters* 8, 124-130 (2008).

[J2] **J. Xiao**, B. Liu, Y. Huang, J. Zuo, K.-C. Hwang, and M.-F. Yu, Collapse and Stability of Single- and Multi-wall Carbon Nanotubes. *Nanotechnology* 18, 395703 (2007).

[J1] **Xiao JL**, Liu B, Huang YG, Hwang KC, and Yu MF, Stability and charality effect on twist formation of collapsed double wall carbon nanotubes. *Trans. Nonferrous Met. Soc. China* 16, S776-S779 (2006). DOI: 10.1016/S1003-6326(06)60299-9

REFEREED CONFERENCE PROCEEDINGS

[P4] J. Xiao, Y. M. Song, Y. Xie, V. Malyarchuk, I. Jung, K.-J. Choi, Z. Liu, H. Park, C. Lu, R.-H. Kim, R. Li, K. B. Crozier, Y. Huang, and J. A. Rogers, Arthropod eye-inspired digital camera with unique imaging characteristics, Proc. of SPIE Vol. 9083 90831L, 2014

[P3] J. Xiao, Y. M. Song, Y. Xie, V. Malyarchuk, I. Jung, K.-J. Choi, Z. Liu, H. Park, C. Lu, R.-H. Kim, R. Li, K. B. Crozier, Y. Huang, and J. A. Rogers, Bio-inspired hemispherical compound eye camera, Proc. of SPIE Vol. 8958 89580A, 2014

[P2] Y. M. Song, Y. Xie, V. Malyarchuk, J. Xiao, I. Jung, K.-J. Choi, Z. Liu, H. Park, C. Lu, R.-H. Kim, R. Li, K. B. Crozier, Y. Huang, and J. A. Rogers, Recent Advances on apposition compound eye cameras, CLEO: Applications and Technology 2013, pp. ATh5A-5. Optical Society of America, 2013

[P1] I. Jung, J. Xiao, V. Malyarchuk, C. Lu, M. Li, Z. Liu, J. Yoon, Y. Huang, and J. A. Rogers, Some Recent Progress on Curvilinear Imagers and Eyeball Cameras. Imaging Systems and Applications 2011, p. IMB2, Optical Society of America, 2011.

INVITED TALKS AND SEMINARS

[I64] Keynote lecture, Printed Liquid Metal Electronics for Wearable Applications, 8th International Symposium of Flexible & Stretchable Electronics 2024 (ISFSE 2024), Wuhan, China, September 26-28, 2024 (online talk)

[I63] Invited talk, Printed Liquid Metal Electronics for Wearable Applications, Society of Engineering Science (SES) 2024 Annual Technical Meeting, Hangzhou, China, August 20-23, 2024

[I62] Distinguished talk, Printed liquid metal electronics for wearable applications, Future of Biosensors and Bioelectronics 2024, Barcelona, Spain, June 20-21, 2024

[I61] Keynote lecture, Stretchable, self-healable, recyclable and reconfigurable electronics for wearable applications, The 5th International Conference on Flexible Electronics, Hangzhou, China, December 9-10, 2023

[I60] Invited talk, Multifunctional wearable electronics with stretching, selfhealing, recycling and reconfiguring capabilities, 2023 IUTAM Symposium on Soft Matter Mechanics (IUTAM-SMM2023), Ningbo, China, December 5-8, 2023

[I59] Invited seminar, Stretchable, self-healable, recyclable and reconfigurable electronics, Jiangsu University, July 2023

[I58] Invited seminar, Multifunctional wearable electronics with stretching, self-healing, recycling and reconfiguring capabilities, Zhejiang University, July 2023

[I57] Invited seminar, Stretchable, self-healable, recyclable and reconfigurable electronics, Tsinghua University, July 2023

[I56] Invited seminar, Multifunctional wearable electronics with superior stretching, self-healing, recycling and reconfiguring capabilities, Department of Biomedical Engineering, University of Houston, February 2023

[I55] Invited talk, Stretchable, Self-healable, Recyclable, and Reconfigurable Electronics, 2022 Society of Engineering Science Annual Technical Meeting (SES), College Station, TX, Oct 16-19, 2022

[I54] Invited talk, Self-healable, Recyclable and Reconfigurable Thermoelectric Generator for Wearable Energy Harvesting, 2022 International Conference on Robotics and Automation (ICRA), Philadelphia, PA, May 23-27, 2022

[I53] Invited Seminar (virtual), Multifunctional wearable electronics with superior stretching, self-healing, recycling and reconfiguring capabilities, Tsinghua University, Beijing, April 1, 2022

[I52] Invited talk, Stretchable, Self-healable, Recyclable, and Reconfigurable Wearable Electronics, ACS Spring 2022 (Hybrid), San Diego, CA, March 20-24, 2022

[I51] Keynote talk, Self-healable, Recyclable, and Reconfigurable Wearable Electronics, Fashion Tech Week NY "Internet of Fashion" Digital Conference, New York, October 7-9, 2021

[I50] Invited talk, Highly Stretchable, Self-Healable, Recyclable, and Reconfigurable Wearable Electronics, International Union of Materials Research Societies – International Conference in Asia 2021, Jeju Island, Korea, October 3-8, 2021

[I49] Invited Seminar, Multifunctional wearable electronics with stretching, self-healing, recycling and reconfiguring capabilities, The Dixie Forum, Dixie State University, August 31, 2021

[I48] Keynote, Rehealable, Recyclable and Reconfigurable Electronics Based on Dynamic Covalent Thermoset, *2020 Virtual MRS Spring Meeting & Exhibit*, November 27-December 4, 2020

[I48] Invited virtual seminar, Self-healable, Recyclable and Reconfigurable Electronics and Thermoelectrics for Wearable Applications, Department of Mechanical Engineering, Binghamton University, October 16, 2020

[I47] Invited talk, Rehealable, Recyclable and Reconfigurable (3R) Electronics, *TMS 2020 Annual Meeting & Exhibition,* San Diego, CA, February 23-27, 2020

[I46] Invited seminar, Self-healable, recyclable and reconfigurable electronics, *ATLAS Seminar,* University of Colorado Boulder, October 8, 2019

[I45] Invited talk, Rehealable, Fully Recyclable and Malleable Electronic Skin, *Chinese Congress of Theoretical and Applied Mechanics*, August 25-28, 2019, Hangzhou, China

[I44] Invited talk, Mechanics of Conformal Additive Stamp Printing, *Chinese Congress of Theoretical and Applied Mechanics*, August 25-28, 2019, Hangzhou, China

[I43] Invited talk, Mechanics and applications of thin film wrinkling on shape memory polymers, *2019 Asian Workshop on Theoretical and Applied Mechanics*, August 24-27, 2019, Hangzhou, China

[I42] School of Materials Science and Engineering, Xiangtan University, August 23, 2019

[I41] School of Aeronautic Science and Engineering, Beihang University, June 27, 2019

[I40] School of Mechanical Engineering, Shanghai Jiao Tong University, July 27, 2018

[I39] Invited talk, International Conference on Flexible Electronics, July 16-17, 2018, Hangzhou, China

[I38] Center for Data Science in Health and Medicine, Peking University, June 7, 2018, China

[I37] School of Aerospace Engineering, Tsinghua University, June 6, 2018, China

[I36] Aeronautics, Astronautics and Mechanics Forum, May 25, 2018, Jiaxing, Zhejiang, China

[I35] College of School of Aeronautics and Astronautics, Zhejiang University, May 24, 2018, China

[I34] College of Electronic Science and Engineering, Shenzhen University, March 30, 2018, China

[I33] Invited talk, Nadai Medal Symposium in Honor of Prof. John Rogers, *The ASME International Mechanical Engineering Congress & Exposition 2017*, Nov 3-9, 2017, Tampa, FL

[I32] Invited talk, W. Prager Medal Symposium in Honor of Prof. Yonggang Huang, The Society of Engineering Science (SES) Technical Meeting, July 25-28, 2017, Northeastern University, Boston, MA

[I31] Invited talk, IUTAM Symposium on Mechanics of Stretchable Electronics, March 17-18, 2016, Hangzhou, China

[I30] ASME Students in Industry Day 2016, Denver, February 25, 2016

[I29] Department of Mechanical Engineering Mechanics, Stony Brook University, September 2015

[I28] Department of Engineering Mechanics, Dalian University of Technology, June 2015

[I27] Invited talk, Eringen Medal Symposium in honor of Prof. John A. Rogers, 51st Annual Technical Conference of Society of Engineering Science, October 1-3, 2014, Purdue University, West Lafayette, IN

[I26] Keynote talk, Symposium on Mechanics of Thin Films and Multi-layer Materials, 51st Annual Technical Conference of Society of Engineering Science, October 1-3, 2014, Purdue University, West Lafayette, IN

[I25] Invited talk, Symposium on Future Smartphones and Killer Apps, University of Colorado Boulder, June 2014

[I24] School of Aeronautic Science and Engineering, Beihang University, China, May 2014

[I23] Invited talk, Flexible Electronics: Multifaceted Evolutions and Applications, Micro- and Nanotechnology Sensors, Systems, and Applications VI, SPIE Defense + Security, Baltimore, May 5-9, 2014

[I22] Department of Mechanical Engineering, University of Colorado Boulder, February 2014

[I21] Invited talk, Bioinspired, Biointegrated, Bioengineered Photonic Devices II, BiOS, SPIE Photonics West, San Francisco, February 1-6, 2014

[I20] Invited talk, Advanced Study Institute: Printed Electronics, Chinese University of Hong Kong, December 2013

[I19] Department of Applied Physics, Hong Kong Polytechnic University, September 2013

[I18] School of Aeronautics and Astronautics, Zhejiang University, China, June 2013

[I17] School of Electronic Science and Engineering, Nanjing University, China, June 2013

[I16] School of Aerospace, Tsinghua University, China, June 2013

[I15] Institute of Mechanics, Chinese Academy of Sciences, China, June 2013

[I14] Institute of Microelectronics, Tsinghua University, China, June 2013

[I13] School of Aeronautics and Astronautics, Zhejiang University, China, August 2012

[I12] Department of Engineering Mechanics, Tsinghua University, China, November 2011

[I11] School of Aeronautic Science and Engineering, Beihang University, China, November 2011

[I10] OEQS Seminar, Department of Electrical, Computer, and Energy Engineering, University of Colorado Boulder, October 2011.

[I9] Mechanical Engineering Seminar, Department of Mechanical Engineering, University of Colorado Boulder, September 2011.

[I8] Department of Mechanical Engineering, Temple University, March 2011

[I7] Department of Industrial Engineering, University of Pittsburgh, February 2011.

[I6] Department of Mechanical Engineering, University of Texas at Dallas, February 2011.

[I5] Department of Mechanical Engineering, University of Colorado Boulder, February 2011.

[I4] Department of Mechanical Engineering, Carnegie Mellon University, January 2011.

[I3] Department of Civil and Environmental Engineering, University of Southern California, January 2011.

[I2] iOptics Seminar, University of Illinois at Urbana-Champaign, October 18, 2010.

[I1] Nanoelectronics and Photonics Seminar, University of Illinois at Urbana-Champaign, March 29, 2010.

CONFERENCE PRESENTATIONS

[C52] J. Xiao, Self-healable, Recyclable and Lego-like Reconfigurable Thermoelectric Generator for Wearable Energy Harvesting, 2022 Society of Engineering Science Annual Technical Meeting (SES), College Station, TX, Oct 16-19, 2022

[C51] J. Xiao, Multifunctional Wearable Electronics and Thermoelectric Generators with Superior Stretching, Self-healing, Recycling and Reconfiguring Capabilities, 3M/University of Colorado-Boulder MRA Review and Research Showcase, Boulder, CO, September 19-20, 2022

[C50] J. Xiao, High-performance Wearable Thermoelectric Generator with Self-healing, Recycling and Lego-like Reconfiguring Capabilities, ACS Spring 2022 (Hybrid), San Diego, CA, March 20-24, 2022

[C49] J. Xiao, High-Performance Wearable Thermoelectric Generator with Self-Healing, Recycling and Lego-Like Reconfiguring Capabilities, International Union of Materials Research Societies – International Conference in Asia 2021, Jeju Island, Korea, October 3-8, 2021

[C48] J. Xiao, Wearable Rehealable and Highly Stretchable Strain Sensing System Enabled by Dynamic Covalent Thermoset, 2021 Virtual MRS Spring Meeting, April 17-23, 2021

[C47] J. Xiao, Wearable Thermoelectric Generator with Self-healing, Recycling and Lego-Like Reconfiguring Capabilities, 2021 Virtual MRS Spring Meeting, April 17-23, 2021

[C46] J. Xiao, Stretchable, Self-healable, Recyclable, and Lego-like Reconfigurable Thermoelectric Generator for Wearable Energy Harvesting, Society of Engineering Science Annual Meeting 2020 (virtual), Sep 29-Oct 1, 2020

[C45] J. Xiao, Multifunctional wearable electronics with superior stretching, self-healing, recycling and reconfiguring capabilities, Society of Engineering Science Annual Meeting 2020 (virtual), Sep 29-Oct 1, 2020

[C44] J. Xiao, C. Shi, Rehealable, Recyclable and Reconfigurable (3R) Electronics, *The ASME International Mechanical Engineering Congress & Exposition 2019*, Nov 11-14, 2019, Salt Lake City, UT

[C43] J. Xiao, Z. Zou, Programmable Self-sensing Camouflaging Soft Robot, *The ASME International Mechanical Engineering Congress & Exposition 2019*, Nov 11-14, 2019, Salt Lake City, UT

[C42] J. Xiao, Mechanics of thin film wrinkling on shape memory polymers, *The ASME International Mechanical Engineering Congress & Exposition 2019*, Nov 11-14, 2019, Salt Lake City, UT

[C41] J. Xiao, Rehealable, fully recyclable and malleable electronic skin, *The ASME International Mechanical Engineering Congress & Exposition 2018*, Nov 9-15, 2018, Pittsburgh, PA

[C40] J. Xiao, Wrinkling and cracking/folding for multiscale hierarchical surface morphologies, *The ASME International Mechanical Engineering Congress & Exposition 2018*, Nov 9-15, 2018, Pittsburgh, PA

[C39] J. Xiao, Programmable wrinkling of shape memory polymers with applications in tunable adhesion and nonuniform optical gratings, *The ASME International Mechanical Engineering Congress & Exposition 2018*, Nov 9-15, 2018, Pittsburgh, PA

[C38] J. Xiao, Rehealable, fully recyclable and malleable electronic skin enabled by dynamic covalent thermoset nanocomposite, 256th ACS National Meeting, Aug 19-23, 2018, Boston, MA

[C37] J. Xiao, Rehealable, fully recyclable and malleable electronic skin enabled by dynamic covalent thermoset nanocomposite, *GRC Multifunctional Materials and Structures*, Jan 14-19, 2018, Ventura, CA

[C36] J. Xiao, Rehealable, fully recyclable and malleable electronic skin enabled by dynamic covalent thermoset nanocomposite, *Symposium of Materials and Mechanics in the Midwest*, Dec 1-2, 2017, Northwestern University, Evanston, IL

[C35] J. Xiao, Multiscale Wrinkling of Shape Memory Polymers, *The ASME International Mechanical Engineering Congress & Exposition 2017*, Nov 3-9, 2017, Tampa, FL

[C34] J. Xiao, Third-Order Polynomials Model for Analyzing Multilayer Hard/Soft Materials in Flexible Electronics, *The ASME International Mechanical Engineering Congress & Exposition 2016*, Nov 11-17, 2016, Phoenix, AZ

[C33] J. Xiao, Programmable Localized Wrinkling of Thin Films on Shape Memory Polymer Substrates, *AmeriMech Symposium: Mechanical Behavior of 2D Materials Graphene and Beyond*, April 4-6, 2016, University of Texas at Austin

[C32]Z. Li, J. Xiao, Mechanics and Optics of Stretchable Elastomeric Microlens Array for Artificial Compound Eye Camera, *The ASME International Mechanical Engineering Congress & Exposition 2015*, Nov 13-19, 2015, Houston, TX

[C31] Z. Li, J. Rodriguez, G. Wendland, Y. Wang, J. Xiao, Tunable Adhesion Enabled by Hierarchical Surface Morphologies, ASME 2015 Applied Mechanics and Materials Conference (McMAT2015), June 29-July 1, 2015, Seattle, WA

[C30] J. Xiao, Unique wrinkling behavior of stiff thin films on shape memory polymers, International Workshop on Pattern Formation in Soft Materials, June 1-4, 2015, Tianjin, China

[C29] Y. Wang, K. Yu, H. Qi, X. Yin, J. Xiao, Surface wrinkling of shape memory polymers, 2014 *Energy Materials Nanotechnology (EMN) Fall Meeting*, Nov 22-25, 2014, Orlando, Florida

[C28] Y. Wang, K. Yu, J. Xiao , H. Qi, Unique wrinkling behavior of stiff thin films on shape memory polymers, *The ASME International Mechanical Engineering Congress & Exposition 2014*, Nov 14-20, 2014, Montreal, Canada

[C27] J. Xiao , Y. Huang , J.A. Rogers, Artificial Compound Eye Camera Inspired by The Arthropod Eye, *The ASME International Mechanical Engineering Congress & Exposition 2014*, Nov 14-20, 2014, Montreal, Canada

[C26] J. Xiao , Y.M. Song , Y. Xie , V. Malyarchuk , Y. Huang , J.A. Rogers, Bio-inspired Artificial Apposition Compound Eye, *APS March Meeting 2014*, March 3-7, 2014, Denver, Colorado

[C25] J. Xiao, H. Qi, Y. Wang, K. Yu, Time and temperature dependent wrinkling of stiff thin films on shape memory polymers, *The ASME International Mechanical Engineering Congress & Exposition 2013*, Nov 15-21, 2013, San Diego, California

[C24] J. Xiao, M. Li, X. Meng, Mechanics of Self-Folding of Graphene, *The ASME International Mechanical Engineering Congress & Exposition 2013*, Nov 15-21, 2013, San Diego, California

[C23] J. Xiao, Y. Wang, J. Song, Surface effects on in-plane buckling of nanowires on elastomeric substrates, *The ASME International Mechanical Engineering Congress & Exposition 2013*, Nov 15-21, 2013, San Diego, California

[C22] J. Xiao, C. Lu, M. Li, Y. Huang, J. Rogers, Mechanics of tunable hemispherical electronic eye camera systems that combine rigid device elements with soft elastomers, *The ASME International Mechanical Engineering Congress & Exposition 2013*, Nov 15-21, 2013, San Diego, California

[C21] J. Xiao, Y. M. Song, Y. Xie, V. Malyarchuk, K. B. Crozier, Y. Huang, and J. A. Rogers, Bio-inspired Artificial Apposition Compound Eye, *The ASME International Mechanical Engineering Congress & Exposition 2013*, Nov 15-21, 2013, San Diego, California

[C20] J. Xiao, H. Qi, Y. Wang, K. Yu, Time and temperature dependent wrinkling of stiff thin films on shape memory polymers, 50*th Annual Technical Conference of Society of Engineering Science*, July 28-31, 2013, Brown University, Providence, RI

[C19] J. Xiao, M. Li, X. Meng, Mechanics of Self-Folding of Single-layer Graphene, 50*th Annual Technical Conference of Society of Engineering Science*, July 28-31, 2013, Brown University, Providence, RI

[C18] J. Xiao, I. Jung, Y. Huang, J. Rogers, Mechanics of dynamically tunable electronic eye camera, *The ASME International Mechanical Engineering Congress & Exposition 2012*, Nov 9-15, 2012, Houston, Texas

[C17] J. Xiao, Y. Zhang, Y. Huang, J. Rogers, Alignment Controlled Growth of Single-Walled Carbon Nanotubes on Quartz Substrates, *The ASME International Mechanical Engineering Congress & Exposition 2012*, Nov 9-15, 2012, Houston, Texas

[C16] J. Xiao, Y. Huang, J. Rogers, U. Paik, and H. Jiang, Buckling mechanics of one-dimensional nanomaterials on elastomeric substrates, *The ASME International Mechanical Engineering Congress & Exposition 2012*, Nov 9-15, 2012, Houston, Texas

[C15] J. Xiao, C. Lu, Z. Liu, I. Jung, Y. Huang, and J. A. Rogers, Mechanics of dynamically tunable electronic eye camera, *49th Annual Technical Conference of Society of Engineering Science*, October 10-12, 2012, Georgia Tech, Atlanta, GA

[C14] J. Xiao, S. Y. Ryu, Y. Huang, K.-C. Hwang, U. Paik, J. A. Rogers, Mechanics of nanowire/nanotube in-surface buckling on elastomeric substrates, *The 23rd International Congress of Theoretical and Applied Mechanics*, August 19 -24, 2012, Beijing, China

[C13] J. Xiao, S. Dunham, P. Liu, Y. Zhang, Y. Huang, and J. A. Rogers, Alignment Controlled Growth of Single Walled Carbon Nanotubes on Quartz, 2012 MRS Spring Meeting & Exhibit, April 9-13, 2012, San Francisco, CA

[C12] J. Xiao, Y. Huang, J. A. Rogers, Buckling mechanics of one-dimensional nanomaterials on elastomeric substrates, *48th Annual Technical Conference of Society of Engineering Science*, October 12-14, 2011, Northwestern University, Evanston, IL

[C11] Y. Huang, J. Xiao, J. A. Rogers, Alignment Controlled Growth of Single-Walled Carbon Nanotubes on Quartz Substrates, *48th Annual Technical Conference of Society of Engineering Science*, October 12-14, 2011, Northwestern University, Evanston, IL

[C10] J. Xiao, S. Dunham, P. Liu, Y. Zhang, C. Kocabas, L. Moh, Y. Huang, K.-C. Hwang, C. Lu, W. Huang and J. A. Rogers, Alignment of single-wall carbon nanotubes grown on quartz. *The ASME International Mechanical Engineering Congress & Exposition 2009*, Nov 13-19, 2009, Lake Buena Vista, Florida.

[C9] J. Xiao, S.Y. Ryu, Y. Huang, K.-C. Hwang, U. Paik and J.A. Rogers, Mechanics of In-surface Buckling of Silicon Nanowires on Elastomeric Substrates. *The ASME International Mechanical Engineering Congress & Exposition 2009*, Nov 13-19, 2009, Lake Buena Vista, Florida.

[C8] J. Xiao, A. Carlson, Z.J. Liu, Y. Huang, H. Jiang, and J.A. Rogers, Stretchable and Compressible Thin Films of Stiff Materials on Compliant Wavy Substrates. *The ASME International*

Mechanical Engineering Congress & Exposition 2009, Nov 13-19, 2009, Lake Buena Vista, Florida.

[C7] J. Xiao, B. Liu, Y. Huang, J. Zuo, K.-C. Hwang, and M.-F. Yu, Collapse and Stability of Single- and Multi-wall Carbon Nanotubes. *The ASME International Mechanical Engineering Congress & Exposition 2009, Nov 13-19, 2009*, Lake Buena Vista, Florida.

[C6] J. Xiao, Y. Huang, J. A. Rogers, and H. Jiang, Stretchable nanoelectronics with applications in biomedical devices (poster). *The Humboldt Kolleg, Nano-Bio: The Next Transformative Convergence*, Oct 14-15, 2009, Roanoke, Virginia.

[C5] J. Xiao, H. Jiang, D.–Y. Khang, J. Wu, Y. Huang, and J.A. Rogers, Mechanics of buckled carbon nanotubes on elastomeric substrates. *The ASME International Mechanical Engineering Congress & Exposition 2008*, Oct 31-Nov 6, 2008, Boston, Massachusetts.

[C4] J. Xiao, J. Qin, Y. Huang, and K. C. Hwang, The Equivalence of Axisymmetric Indentation Model for Three-Dimensional Indentation Hardness. *The ASME International Mechanical Engineering Congress & Exposition 2008*, Oct 31-Nov 6, 2008, Boston, Massachusetts.

[C3] J. Xiao, H. Jiang, D.-Y. Khang, Y. Y. Huang, and J. A. Rogers, Molecular Scale Buckling Mechanics in Aligned Single-Wall Carbon Nanotubes on Elastomeric Substrates. *The 8th International Conference on Fundamentals of Fracture*, Jan 3-7, 2008, Hong Kong.

[C2] J. Xiao, Y. Huang, and G. Paulino, Mechanism-Based Cohesive Failure Model for Functionally Graded Aircraft Components and Structures. *Air Force Research Laboratory-University of Illinois Technical Interchange Meeting*, Aug 27-29, 2007, Urbana, Illinois.

[C1] Xiao JL, Liu B, Huang Y, Hwang KC, and Yu MF, Stability and charality effect on twist formation of collapsed double wall carbon nanotubes. *The 5th International Forum on Advanced Material Science and Technology*, Jun 11-14, 2006, Xiangtan, Hunan, China.

WORK PRESENTED BY STUDENTS AND COLLABORATORS

[A26] Z. Zou, J. Xiao, Rehealable, fully recyclable and malleable electronic skin enabled by dynamic covalent thermoset nanocomposite, *The ASME International Mechanical Engineering Congress & Exposition 2018*, Nov 9-15, 2018, Pittsburgh, PA

[A25] Z. Zou, J. Xiao, Programmable Multi-functional Soft Robot blends into the background, *The ASME International Mechanical Engineering Congress & Exposition 2018*, Nov 9-15, 2018, Pittsburgh, PA

[A24] L. Cos, W. Li, J. Leng, J. Xiao, and Y. Ding, Controlled storage and release of elastic energy in crosslinked polymer microparticles, *255th National Meeting and Exposition of the American-Chemical-Society*, Mar 18-22, 2018, New Orleans, LA

[A23] Z. Zou, C. Zhu, Y. Li, X. Lei, W. Zhang, and J. Xiao, Rehealable, fully recyclable and malleable electronic skin enabled by dynamic covalent thermoset, *ASME International Mechanical Engineering Congress & Exposition 2017*, Nov 3-9, 2017, Tampa, FL

[A22] Z. Zou, Y. Liu, J.-W. Jeong, J.A. Rogers, J. Xiao, Epidermal mechano-acoustic sensing electronics for cardiovascular diagnostics and human-machine interfaces, *ASME International Mechanical Engineering Congress & Exposition 2017*, Nov 3-9, 2017, Tampa, FL

[A21] Z. Li, J. Xiao, Harnessing Surface Wrinkling-Cracking Patterns for Optical Applications, *ASME International Mechanical Engineering Congress & Exposition 2016*, Nov 11-17, 2016, Phoenix, AZ

[A20] Lewis Cox, Jason Killgore, Zhengwei Li, Rong, Long, Jianliang Xiao, Yifu Ding, Influences of Substrate Adhesion and Particle Size on the Shape Memory Effect of Polystyrene Particles, *ASME International Mechanical Engineering Congress & Exposition 2016*, Nov 11-17, 2016, Phoenix, AZ

[A19] Lewis Cox, Chen Wang, Zhengwei Li, Xiaohao Sun, Nancy Sowan, Jianliang Xiao, Jason Killgore, Rong Long, Christopher Bowman, Yifu Ding, Reconfigurable Polymer Surfaces, *The ASME International Mechanical Engineering Congress & Exposition 2016*, Nov 11-17, 2016, Phoenix, AZ

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