Xiaoyun Ding, Ph.D.

Bruce S. Anderson Assistant Professor
Paul M. Rady Department of Mechanical Engineering, Biomedical Engineering program
University of Colorado, Boulder, CO 80309-0427
Tel: 001-(303) 735 9223
Email: Xiaoyun.Ding@colorado.edu

EMPLOYMENT

01/2017 – Present **Assistant Professor**, **University of Colorado Boulder**, CO
Department of Mechanical Engineering

EDUCATION and TRAINING

09/2013 – 12/2016 **Postdoctoral Associate**, **Massachusetts Institute of Technology**, MA
Department of Chemical Engineering
David Koch Institute for Integrative Cancer Research
Advisors: Prof. Klavs Jensen and Prof. Robert Langer

08/2009 – 08/2013 **Ph.D.**, **The Pennsylvania State University**, PA
Department of Engineering Science and Mechanics

08/2006 – 07/2009 **M.Eng.**, **Chinese Academy of Sciences**, P.R. China
Microelectronic Engineering

09/2002 – 07/2006 **B.S.**, **Fudan University**, P.R. China
Department of Material Physics,

RESEARCH SUMMARY and INTERESTS

My lab explores physical approaches to biomedical challenges with the goal of advancing our understanding of mechanisms underlying biological systems. Our work leverages these advances in the development of cutting-edge systems and novel technologies to improve diagnosis/therapeutics. Specifically, we aim to develop biomedical devices for precise 1) manipulation of model organisms, cells and biomolecules, 2) measurement of mechanical biomarkers as a new platform for cell characterization, and 3) intracellular drug delivery for cell-based immunotherapy. Due to the highly interdisciplinary nature of our research, we are exploring the frontiers of micro/nano engineering, acoustics, electronics, cellular engineering, intracellular drug delivery, cell mechanics and microfluidics. Potential impact includes point-of-care disease diagnostics and medical therapeutics.
Research key words: Micro/nano manipulation, Acoustic tweezers, Microfluidics, Intracellular drug delivery, Cell based immunotherapy, Cell membrane disruption, Cell mechanics.

SELECTED AWARDS and HONORS

2022 Lab Venture Challenge 2022 winner, Colorado
2022 The Penn State Graduate School Alumni Society Early Career Award (1 awardee worldwide yearly)
2021 NIH MIRA Early Stage Investigator Award
2021 Bruce S. Anderson Engineering Faculty Fellow, University of Colorado
2020 Chancellor's Research Innovation Award, Colorado
2020 Lab Venture Challenge 2020 winner, Colorado
2020 Biomaterials Science Emerging Investigators 2021
2019 W. M. Keck Foundation Medical Research Grant Award
2019 CCTSI Novel Method Development Pilot Awards, Colorado
2013 Rustum and Della Roy Innovation in Materials Research Award, The Pennsylvania State University
2013 Inventor Incentive Award, The Pennsylvania State University
2013 Journal of Laboratory Automation Ten Breakthroughs in Innovation Award (JALA Ten 2013)

2012 Student Paper Competition Award, IEEE International Ultrasonics Symposium, Dresden, Germany (7 out of ~1200, the most prestigious student award in the field)

2012 Student Travel Award, IEEE International Ultrasonics Symposium, Dresden, Germany

2012 The Baxter Young Investigator Award, Chicago, USA (6 awardees nationwide)

2012 First Place Award at Penn State ESM Today Graduate Research Symposium, The Penn State University

2011 Innovation Award at Penn State ESM Today Graduate Research Symposium, The Penn State University

RESEARCH INTERESTS

- Micro/nano manipulation, Biomedical devices, Lab on a Chip;
- Intracellular delivery and mass transfer, intracellular and subcellular drug delivery, immunotherapy, gene delivery, cell membrane disruption and repair, cell physics and engineering;

SEMINAR AND PRESENTATION

10/2022 **Invited Talk,** Byron Short Seminar, University of Texas, Austin.
10/2022 **Invited Talk,** MEAM seminar, University of Pennsylvania.
07/2021 **Invited Talk,** Terasaki institute, Los Angle.
02/2021 **Invited Talk,** Chemical and Life Science Engineering, Virginia Commonwealth University, VA
07/2020 **Invited Talk,** MINE2020 Young Scientists forum (online), Microsystem & Nanoengineering Summit, Nature publishing group.
11/2017 **Invited Talk,** Mechanical Engineering, Colorado State University, CO
10/2017 **Invited Talk,** Skaggs School of Pharmacy and Pharmaceutical Science, University of Colorado Denver, CO
12/2017 **Invited Talk,** 2nd world Congress on Electroporation, Norfolk, VA
12/2017 **Invited Talk,** Acoustic Society of America, New Orleans, LA
04/2017 **Invited Talk,** Chemical Engineering, Shanghai Jiaotong University, Shanghai
04/2017 **Invited Talk,** Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, Shanghai
04/2017 **Invited Talk,** Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing
12/2016 **Seminar Talk,** David Koch Institute for Integrative Cancer Research, MIT, Cambridge
02/2016 **Invited Talk,** Department of Mechanical engineering, CU Boulder, CO
08/2015 **Seminar Talk,** Institute of Microelectronics, Peking University, Beijing, China
04/2015 **Invited Talk,** Department of Mechanical Engineering, University of Alberta, Canada
10/2014 **Guest Lecturer,** PBS NOVA Science Cafe, Cambridge, MA
07/2013 **Invited Talk,** Department of Chemical Engineering, MIT, MA
06/2013 **Invited Talk,** Broad Institute of MIT and Harvard, MA
10/2012 **Invited Talk**, IEEE International Ultrasonics Symposium, Dresden, Germany
10/2012 **Oral Presentation (x2)** IEEE International Ultrasonics Symposium, Dresden, Germany
11/2012 **Oral Presentation,** MicroTAS2012, Okinawa, Japan
09/2012 **Invited Talk,** The Baxter Young Investigator Awards Ceremony, Chicago, USA

PROFESSIONAL and ACADEMIC SERVICE

- Member of Institute of Electrical and Electronics Engineers (IEEE), Ultrasonics, Ferroelectrics and Frequency Control Society (UFFC), Biomedical Engineering Society (BMES), Acoustic society of America (ASA)
- Serve in scientific program committee and organize conference sessions for the 3rd and 4th world congress on electroporation and pulsed electric fields.
- Symposium Chair of Drug Delivery in MRS Spring meeting 2020.
- Referee for scientific journals such as *Science, Nature Nanotechnology*, *PNAS*, *Nature Communications*, *Science Advances, Lab on a Chip*, *Analyst, Journal of Micromechanics and Microengineering, JASA, Micromachines, Sensors, Scientific Reports, RSC Advances, Physics Letter A*, *Journal of Physics D*, *etc.*
- Serve three times in NSF panel review at programs of engineering for biomedical science and microfluidics & nanofluidics.

- Serve in graduate committee, search committee of CU boulder and mentor 6 PhD students.

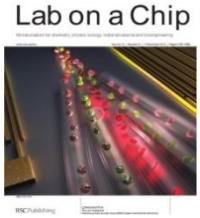
JOURNAL PUBLICATION (Underline: supervised students/postdoc; Google citation >3700**)**

1. Joyita Bhadra*, Nakul Sridhar*, Apresio Fajrial, Nia Hammond, Ding Xue, and **Xiaoyun Ding**. Acoustic Streaming Enabled Swimming Exercise Reduces Neurodegeneration in a C. elegans. *Science Advances*, (In press)
2. Anish Silwal, Awaneesh Upadhyay, Gazendra Shakya, Marco Inzunza-Ibarra, Todd Murray, **Xiaoyun Ding**, and Mark A. Borden. "Photoacoustic Vaporization of Endoskeletal Droplets Loaded with Zinc Naphthalocyanine." *Langmuir* 39, 1, 168–176 (2023).
3. Nakul Sridhar, Apresio Kefin Fajrial, Rachel L. Doser, Frederic J. Hoerndli, and **Xiaoyun Ding**. "Surface acoustic wave microfluidics for repetitive and reversible temporary immobilization of C. elegans." *Lab on a Chip* 22, 24 4882-4893. (2022).
4. Jaylene Martinez, Shouhong Fan, Salil Rabade, Adrienne K. Blevins, Kieran Fung, Jason P. Killgore, Stefano Berti Perez et al. "Capillary infiltration kinetics in highly asymmetric porous membranes and the resulting debonding behaviors." Polymer 263, 125529 (2022).
5. Yu Gao, Kun Liu, Apresio Fajrial, and **Xiaoyun Ding**. Staged assembly via acoustic waves. *Nanoletter*, 22, 17, 6907–6915 (2022)
6. Gazendra Shakya, Apresio K. Fajrial, **Xiaoyun Ding**, and Mark A. Borden, Effect of Thermal History and Hydrocarbon Core Size on Perfluorocarbon Endoskeletal Droplet Vaporization, *Langmuir*, 38, 8, 2634–2641, (2022).
7. Kieran Fung, Yuekang Li, Shouhong Fan, Apresio Kefin Fajrial, Yifu Ding, **Xiaoyun Ding**, Acoustically excited microstructure for on-demand fouling mitigation in a microfluidic membrane filtration device, *Journal of Membrane Science Letters* 2 (1), 100012, (2022)
8. Gazendra Shakya, Tao Yang, Yu Gao, Apresio K. Fajrial, Baowen Li, Massimo Ruzzene, Mark A. Borden, and **Xiaoyun Ding**. Manipulating Internal Structure of Endoskeletal Droplets using Acoustic Waves. *Nature Communications*, 13 (1), 1-9, (2022).
9. Apresio K. Fajrial, Adam Vega, Gazendra Shakya, and **Xiaoyun Ding**. A Frugal Microfluidic Pump. *Lab on a Chip* 21, 4772-4778, (2021).
10. Kaitlin P. McCreery, Xin Xu, Adrienne K. Scott, Apresio K. Fajrial, Sarah Calve, **Xiaoyun Ding**, and Corey P. Neu. Nuclear Stiffness Decreases with Disruption of the Extracellular Matrix in Living Tissues. *Small*, 17 (6), 2006699, (2021)
11. Yu Gao, Apresio K Fajrial, Tao Yang, **Xiaoyun Ding**. Emerging On-chip Surface Acoustic Wave Technology for Small Biomaterials Manipulation and Characterization, *Biomaterials Science*, 9.5: 1574-1582. (2021). (**Back cover story**)

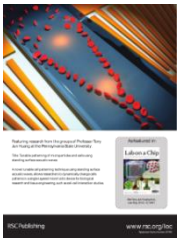
12. Apresio K. Fajrial, Kun Liu, Yu Gao, Junhao Gu, Richard Lakerveld, and **Xiaoyun Ding**. Characterization of single-cell osmotic swelling dynamics for new physical biomarkers, *Analytical Chemistry*, 93 (3), 1317-1325, 2020. (**Front cover story**, doi.org/10.1021/acs.analchem.0c02289)
13. Apresio Kefin Fajrial, Qing Qing He, Nurul I. Wirusanti, Jill Slansky, and **Xiaoyun Ding**. A review of emerging physical transfection methods for CRISPR/Cas9-mediated gene editing. *Theranostics*, *10(12):5532-5549*. (2020) doi:10.7150/thno.43465.

14. Yonghui Ding, Kerri A. Ball, Kristofor J. Webb, Yu Gao, Angelo D'Alessandro, William M. Old, Michael H.B. Stowell, **Xiaoyun Ding**. On-chip Acousto Thermal Shift Assay for Rapid and Sensitive Assessment of Protein Thermodynamic Stability, *Small*, 2003506, 2020. (**Front Cover Story**)
15. Gazendra Shakya, Samuel E. Hoff, Shiyi Wang, Hendrik Heinz, **Xiaoyun Ding** and Mark A. Borden. Vaporizable endoskeletal droplets via tunable interfacial melting transitions. *Science Advances* 6.14 (2020): eaaz7188.

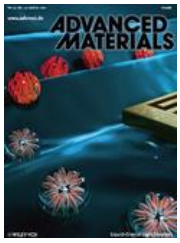
16. Yonghui Ding, Richard Johnson, Sadhana Sharma, **Xiaoyun Ding**, Stephanie J. Bryant, and Wei Tan. "Tethering transforming growth factor β1 to soft hydrogels guides vascular smooth muscle commitment from human mesenchymal stem cells." Acta Biomaterialia, 105, 68-77, (2020).
17. Apresio Fajrial, **Xiaoyun Ding**, Advanced Nanostructures for Cell Membrane Poration. *Nanotechnology*, 30, 264002, (2019)
18. Michael Miles, Biddut Bhattacharjee, Nakul Sridhar, Apresio Kefin Fajrial, Kerri Ball, Yung Cheng Lee, Michael HB Stowell, William M. Old, and **Xiaoyun Ding**. Flattening of Diluted Species Profile via Passive Geometry in a Microfluidic Device. *Micromachines* 10, no. 12 (2019): 839.
19. **Xiaoyun Ding**, Martin Stewart, Armon Sharei, James Weaver, Robert Langer, and Klavs Jensen, High-throughput nuclear delivery and rapid expression of DNA via mechanical and electrical cell-membrane disruption. *Nature Biomedical Engineering*, 1, 0039 (2017)
20. Martin P Stewart, Armon Sharei, **Xiaoyun Ding**, Gaurav Sahay, Robert Langer, Klavs F Jensen, In vitro and ex vivo strategies for intracellular delivery. *Nature* 538 (7624), 183-192 (2016)
21. **Xiaoyun Ding**, Zhangli Peng, Sz-Chin Steven Lin, Michela Geri, Sixing Li, Peng Li, Yuchao Chen, Ming Dao, Subra Suresh, and Tony Jun Huang, Cell separation using tilted-angle standing surface acoustic waves, *Proceedings of the National Academy of Sciences of the United States of America (PNAS),* 111, 12992-12997 (2014).
22. Sixing Li, **Xiaoyun Ding**, Zhangming Mao, Yuchao Chen, Nitesh Nama, Feng Guo, Peng Li, Lin Wang, Craig E. Cameron and Tony Jun Huang, Standing surface acoustic wave (SSAW)-based cell washing, *Lab on a Chip*, 15, 331-338 (2015).
23. Sixing Li, Feng Guo, Yuchao Chen, **Xiaoyun Ding**, Peng Li, Lin Wang, Craig E Cameron, Tony Jun Huang, Standing Surface Acoustic Wave Based Cell Coculture, *Analytical Chemistry*, 86, 9853-9859 (2014).
24. Yuchao Chen, Sixing Li, Yeyi Gu, Peng Li, **Xiaoyun Ding**, Lin Wang, J Philip McCoy, Stewart J Levine, Tony Jun Huang, Continuous enrichment of low-abundance cell samples using standing surface acoustic waves (SSAW), *Lab on a Chip*, 14, 924-930 (2014).
25. **Xiaoyun Ding**, Peng Li, Sz-Chin Steven Lin, Zackary S. Stratton, Nitesh Nama, Feng Guo, Daniel Slotcavage, Xiaole Mao, Francesco Costanzo, and Tony Jun Huang, Surface acoustic wave (SAW) microfluidics, *Lab on a Chip*, 13, 3626-3649 (2013).
26. Chung Yu Chan, Po-Hsun Huang, Feng Guo, **Xiaoyun Ding**, Vivek Kapur, John D. Mai, Po Ki Yuen, and Tony Jun Huang, Accelerating drug discovery via organs-on-chips, *Lab on a Chip*, 13, 4697-4710 (2013).
27. Sixing Li, **Xiaoyun Ding**, Feng Guo, Yuchao Chen, Michael Ian Lapsley, Sz-Chin Steven Lin, and Tony Jun Huang, "Microfluidic Droplet Sorting via Standing Surface Acoustic Wave", *Analytical Chemistry*, 85, 5468-5474 (2013).
28. Yuchao Chen, **Xiaoyun Ding**, Sz-Chin Steven Lin, and Tony Jun Huang, Tunable Nanowire Patterning Using Standing Surface Acoustic Waves (SSAW), *ACS Nano*, 7, 3306-3314 (2013).
29. **Xiaoyun Ding**, Sz-Chin Steven Lin, Brian Kiraly, Hongjun Yue, Sixing Li, Jinjie Shi, Stephen J. Benkovic, and Tony Jun Huang, On-Chip Manipulation of Single Microparticles, Cells, and Organisms Using Surface Acoustic Waves, *Proceedings of the National Academy of Sciences of the United States of America (PNAS),* 109, 11105-11109 (2012).
30. **Xiaoyun Ding**, Sz-Chin Steven Lin, Michael Ian Lapsley, Sixing Li, Xiang Guo, Chung Yu Chan, I-Kao Chiang, J. Philip McCoy, and Tony Jun Huang, Standing surface acoustic wave (SSAW) based multichannel cell sorting, *Lab on a Chip*, 12, 4228–4231 (2012). (**Cover image**)



31. Yan Jun Liu, Mengqian Lu, **Xiaoyun Ding**, Eunice S. P. Leong, Sz-Chin Steven Lin, Jinjie Shi, Jing Hua Teng, Lin Wang, Timothy J. Bunning, and Tony Jun Huang, Holographically Formed, Acoustically Switchable Gratings based on Polymer-Dispersed Liquid Crystals, *Journal of Laboratory Automation*, 18, 291-295 (2012).
32. **Xiaoyun Ding**, Jinjie Shi, Sz-Chin Steven Lin, Shahrzad Yazdi, Brian Kiraly, and Tony Jun Huang, Tunable Patterning of Microparticles and Cells using Standing Surface Acoustic Waves, *Lab on a Chip*, 12, 2491-2497 (2012). (**Cover image**)



33. Jiajie Tang, **Xiaoyun Ding**, Fei Geng, Xiaowei Sun, Le Luo, Wafer-level multilayer integration of RF passives with thick BCB/metal interlayer connection in silicon-based SiP, *Microsystem Technologies*, 18, 119-126 (2012).



34. Yan Jun Liu, **Xiaoyun Ding**, Sz-Chin Steven Lin, Jinjie Shi, I-Kao Chiang, and Tony Jun Huang, Surface Acoustic Wave Driven Light Shutters Using Polymer-Dispersed Liquid Crystals, *Advanced Materials*, 23, 1656-1659 (2011). (**Cover image**)
35. Michael Ian Lapsley, I-Kao Chiang, Yue Bing Zheng, **Xiaoyun Ding**, Xiaole Mao, and Tony Jun Huang, A Single-Layer, Planar, Optofluidic Mach-Zehnder Interferometer for Label-Free Detection, *Lab on a Chip*, 11, 1795–1800 (2011).
36. Jinjie Shi, Shahrzad Yazdi, Sz-Chin Steven Lin, **Xiaoyun Ding**, I-Kao Chiang, Kendra Sharp, and Tony Jun Huang, Three-Dimensional Continuous Particle Focusing in a Microfluidic Channel via Standing Surface Acoustic Waves (SSAW), *Lab on a Chip*, 11, 2319-2324 (2011). (**Cover image**)

37. **Xiaoyun Ding**, Fei Geng, and Le Luo, Process development in metal/BCB multilayer interconnections of MMCM with embedded chip in Si substrate, *Microelectronic Engineering*, 86 (3), 335-339 (2009).
38. **Xiaoyun Ding**, Fei Geng, and Le Luo, Wideband vertical transitions for multilayer BCB-based MCM, *Microwave and Optical Technology Letters*, 51 (6), 1584-1587 (2009).
39. Fei Geng, **Xiaoyun Ding**, Gaowei Xu, and Le Luo, A wafer-scale packaging structure with monolithic microwave integrated circuits and passives embedded in a silicon substrate for multichip modules for radio frequency applications, *Journal of Micromechanics and Microengineering*, 19, 105011 (2009).
40. Fei Geng, **Xiaoyun Ding**, Gaowei Xu ,and Luo Le, A wafer-level 3D packaging structure with Benzocyclobutene as a dielectric for multichip module fabrication, *Journal of Semiconductors*, 30, 106003 (2009).

BOOK CHAPTER

1. **Xiaoyun Ding**, Peng Li, Sz-Chin Steven Lin, Zackary S. Stratton, Nitesh Nama, Feng Guo, Daniel Slotcavage, Xiaole Mao, Jinjie Shi, Francesco Costanzo, Thomas Franke, Achim Wixforth, and Tony Jun Huang, "Lab-on-a-chip Technologies Enabled by Surface Acoustic Waves", in *Microscale Acoustofluidics*, A. Lenshof, and T. Laurell, Royal Society of Chemistry Publisher, 2014, pp. 354-398.

PATENTS

1. Xiaoyun Ding, Nakul Sridhar, Ding Xue, Joyita Bhadra, "Gym on a chip for small animal exercise" (US20220400658A1)
2. **Xiaoyun Ding**, Yonghui Ding, "Acousto-Thermal Shift Assay for Fast Label-Free Protein Analysis", (US17/635632)
3. Mark Borden, Gazendra Shakya, **Xiaoyun Ding**, "Micron sized droplets with solid endoskeleton or exoskeleton which tunes thermal stability of the liquid droplets", (PCT/US2020)
4. **Xiaoyun Ding**, Apresio Kefin Fajrial, "Precise Mechanical Disruption for Intracellular Delivery to Cells and Small Organisms", (Provisional Application No.: 62/849,420)
5. Martin Stewart, Robert Langer, Klavs Jensen, **Xiaoyun Ding**, "flow-through microfluidic device featuring membrane-perturbing surface interactions for intracellular delivery", (WO2017173373A1, 2017)
6. **Xiaoyun Ding**, Armon Sharei, Klavs Jensen, Robert Langer, "Microfluidics Drug Delivery platform

for cell reprograming", (U.S. US20180016539A1, 2018, EP, JP, CN, CA, WO)

7. Subra Suresh, Peng Li, Ming Dao, Yuchao Chen, **Xiaoyun Ding**, Tony Jun Huang, Zhangli Peng, "Separation of Low-abundance Cancer Cells From Fluid Using Surface Acoustic Waves", (U.S. US20170232439A1, 2017, WO)
8. **Xiaoyun Ding**, and Tony Jun Huang, "High efficiency Separation of Particles and Cells in Microfluidic Device using Surface Acoustic Wave", (US9606086B2, 2017, EP, JP, CN, WO)
9. **Xiaoyun Ding**, and Tony Jun Huang, "Microfluidic manipulation and Sorting of Particles Using Tunable Standing Surface Acoustic Wave", (U.S. US9608547B2, 2017, EP, JP, CN, WO)

SELECTED INTERNATIONAL CONFERENCE PRESENTATIONS

1. Kieran Fung, Yuekang Li, Apresio Kefin Fajrial, Shouhong Fan, Yifu Ding, **Xiaoyun Ding**, "Acoustically excited microstructure for on-demand fouling mitigation in a microfluidic membrane filtration device". The 31st North American Membrane Society Annual Meeting, Tempe, Arizona, May 14-18, 2022. (Oral Presentation)
2. Yu Gao, Kun Liu, Richard Lakerveld, **Xiaoyun Ding**, "Staged assembly of DNA-coated colloids programmed by acoustic waves". 96TH ACS COLLOID AND SURFACE SCIENCE SYMPOSIUM, Golden, Colorado, USA, 07/2022. (Oral Presentation)
3. Apresio K. Fajrial, Ian Elliott, and **Xiaoyun Ding**, "Nanostructured microfluidics for high-throughput gene delivery and rapid plasmid DNA expression". BMES 2022 Annual Meeting, San Antonio, TX, 10/2022 (Poster)
4. Gazendra Shakya, Tao Yang, Apresio K. Fajrial, Yu Gao, Mark Borden, and **Xiaoyun Ding**, "Effects of primary and secondary radiation forces on endoskeletal droplets under standing surface acoustic waves". The 26th European Symposium on Ultrasound contrast Imaging, Rotterdam, The Netherlands, 01/2021. (Oral Presentation)
5. Apresio K. Fajrial, Kun Liu, Yu Gao, and **Xiaoyun Ding**, "Microfluidic Hanging Pillars Arrays for Single-Cell Analysis of Osmotic Swelling Dynamics as Physical Biomarkers" 24th International Conference on Miniaturized Systems for Chemistry and Life Sciences, MicroTAS 2020, 10/2020. (Oral Presentation)
6. Gazendra Shakya, Samuel Hoff, Shiyi Wang, Hendrik Heinz, **Xiaoyun Ding**, and Mark Borden, "Tunable Vaporization Threshold in Endoskeletal Droplets via Interfacial Melting Transitions". 2020 BMES Virtual Annual Meeting, USA, 10/2020. (Oral Presentation)
7. Gazendra Shakya, Samuel Hoff, Shiyi Wang, Hendrik Heinz, **Xiaoyun Ding**, and Mark Borden, "Tuning vaporization threshold by interfacial melting in endoskeletal and exoskeletal perfluoropentane droplets". 2020 ACS Colloids and Surface Science Virtual Symposium, USA, 06/2020. (Oral Presentation)
8. Gazendra Shakya, Samuel Hoff, Shiyi Wang, Hendrik Heinz, **Xiaoyun Ding**, and Mark Borden, "Tuning vaporization thresholds of perfluorocarbon by interfacial melting in endoskeletal droplets". University of Colorado APS Symposium, Boulder, CO, USA 03/2020. (Oral Presentation)
9. Gazendra Shakya, Samuel Hoff, Shiyi Wang, Hendrik Heinz, **Xiaoyun Ding**, and Mark Borden, "Tuning vaporization by interfacial melting in endoskeletal and exoskeletal droplets". The 26th European Symposium on Ultrasound Contrast Imaging, Rotterdam, The Netherlands, 01/2020. (Poster Presentation)
10. Gazendra Shakya, Samuel Hoff, Shiyi Wang, Hendrik Heinz, **Xiaoyun Ding**, and Mark Borden, "Tuning vaporization thresholds of endoskeletal perfluorocarbon droplets" IEEE International Ultrasonics Symposium, Glasgow, Scotland, United Kingdom, 10/2019. (Oral Presentation)
11. Xin Xu, Apresio Fajrial, Benjamin Seelbinder, **Xiaoyun Ding**, Sarah Calve, and Corey Neu, "Probing the interplay of nuclear, cellular, and matrix mechanics within living tissues" 8th World Congress of Biomechanics, Dublin, Ireland, United Kingdom, 10/2018. (Oral Presentation)
12. **Xiaoyun Ding**, "Standing Surface Acoustic Wave Enabled Acoustofluidics for Bioparticle Manipulation" 174th meeting of the Acoustical Society of America, New Orleans, LA, USA, 12/2017. (**Invited Talk**)

13. **Xiaoyun Ding,** Martin Stewart, Robert Langer, and Klavs Jensen, "Reversible Disruption of Nuclear Envelope via Mechanical and Electrical Pulse" 2nd World Congress on Electroporation, Norfolk, VA, USA, 09/2017. (**Invited Talk**)
14. **Xiaoyun Ding,** Martin Stewart, Armon Sharei, Robert Langer, and Klavs Jensen, "A Unique Microfluidic Technology Can Deliver DNA into Nucleus in High Throughput" BMES Conference, Tampa, USA, 2015. (**Oral Presentation**)
15. **Xiaoyun Ding,** and Tony Huang, "Acoustic tweezers: manipulating microparticles, cells, and organisms using standing surface acoustic waves (SSAW)" IEEE IUS Conference, Dresden, Germany, 2012. (**Invited Talk**)
16. **Xiaoyun Ding,** Sz-Chin Steven Lin, Sixing Li, Lin Wang, Tony Jun Huang, "Manipulating Single Particles, Cells, and Organisms Using Standing Surface Acoustic waves," MicroTAS Conference, Okinawa, Japan, 2012. (**Oral Presentation**)
17. **Xiaoyun Ding**, Tony Jun Huang., "Size-dependent high-efficiency separation of particle/cell in microfluidics using tilted interdigital transducer," IEEE IUS Conference, Dresden, Germany, 2012. (**Student Paper Competition Award**)
18. **Xiaoyun Ding,** Sz-Chin Steven Lin, Sixing Li, Lin Wang, Tony Jun Huang, "Single cell manipulation via standing surface acoustic wave based tunnable acoustophoresis," BMES Conference, Atlanta, GA, 2012. (**Oral Presentation**)
19. **Xiaoyun Ding,** Sz-Chin Steven Lin, Lin Wang, Tony Jun Huang, "Multichannel cell sorting in microfluidics using chirped interdigital transducer", IEEE IUS Conference, Dresden, Germany, 2012. (**Oral Presentation**)
20. **Xiaoyun Ding,** Sz-Chin Steven Lin, Lin Wang, Tony Jun Huang, "Manipulation of single particles, cells, and organisms in microfluidics using chirped interdigital transducer" IEEE IUS Conference, Dresden, Germany, 2012.
21. **Xiaoyun Ding**, Chung Yu Keith Chan, Michael Ian Lapsley, Lin Wang, Tony Jun Huang, "Tunable Standing Surface Acoustic Waves Activated Cells Sorting", MicroTAS Conference, Okinawa, Japan, 2012.
22. **Xiaoyun Ding**, Sixing Li, Chung Yu Keith Chan, Lin Wang, Tony Jun Huang, "High-Efficiency Continuous Particle Separation Using Tilted Interdigital Transducers", MicroTAS Conference, Okinawa, Japan, 2012.
23. **Xiaoyun Ding**, Chung Yu Keith Chan, Michael Lapsley, Lin Wang, Tony Jun Huang, "Microfluidic cells sorting via surface acoustic wave based acoustophoresis", BMES Conference, Atlanta, GA, 2012.
24. **Xiaoyun Ding**, Sixing Li, Chung Yu Keith Chan, Lin Wang, Tony Jun Huang, "Continuous particles separation via surface acoustic wave based acoustophoresis", BMES Conference, Atlanta, GA, 2012.