Jie Xu, Ph.D.

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(a) Professional Preparation

Tsinghua University (Beijing, China)	Thermal Engineering	B.S.	2005
Columbia University (New York, NY)	Mechanical Engineering	M.S.	2006
Columbia University (New York, NY)	Mechanical Engineering	Ph.D.	2010

(b) Appointments

08/2015-present	Adjunct Professor	Bioengineering, University of Illinois at Chicago
03/2015-present	Faculty Fellow	Honors College, University of Illinois at Chicago
08/2014-present	Assistant Professor	Mechanical and Industrial Engineering University of Illinois at Chicago
05/2012-08/2014	Adjunct Professor	Chemical Engineering and Bioengineering Washington State University Pullman
08/2010-08/2014	Assistant Professor	Mechanical Engineering Washington State University Vancouver

(c) Products

(i) Five Products Related to the Project

- Y. Chen, Z. Fang, B. Merritt, D. Strack, J. Xu and S. Lee, *Onset of Particle Trapping and Release via Acoustic Bubbles*, **Lab on a Chip**, 2016, 16, 3024-3032
- S. A. Solovitz, J. Zhao, W. Xue, and J. Xu, *Uniform Flow Control for a Multipassage Microfluidic Sensor*, **Journal of Fluids Engineering**, 2013, 135(2): 021101
- P. Li, N. Lei, D. Sheadel, J. Xu and W. Xue, *Integration of nanosensors into a sealed microc hannel in a hybrid lab-on-a-chip device*, **Sensors and Actuators B: Chemical**, 2012, 166-167: p. 870-877
- P. Li, N. Lei, J. Xu and W. Xue, *High-Yield Fabrication of Graphene Chemiresistors with Dielectrophoresis*, **IEEE Transactions on Nanotechnology**, 2012, 11(4): 751-759
- A. Hashmi, G. Yu, M. Reilly-Collette, G. Heiman and J. Xu, *Oscillating Bubbles: a Versatile Tool for Lab on a Chip Applications*, **Lab on a Chip**, 2012, 12: 4216-4227

(ii) Five Other Significant Products

- A. Yazdi, A. Popma, W. Wong, T. Nguyen, Y. Pan, and J. Xu, *3D printing: an emerging tool for novel microfluidics and lab on a chip applications*, **Microfluidics and Nanofluidics**, 2016, 20(3), 50
- C. Rivera, H-J Kwon, A. Hashmi, G. Yu, J. Zhao, J. Gao, J. Xu, W. Xue, and A. Dimitrov, *Towards a dynamic clamp for neurochemical modalities*, **Sensors**, 2015, 15(5), 10465-10480
- X. Lu, D. R. Samuelson, Y. Xu, H. Zhang, S. Wang, B. A. Rasco, J. Xu and M. E. Konkel, *Detecting and tracking nosocomial methicillin-resistant Staphylococcus aureus using a microfluidic SERS biosensor*, **Analytical Chemistry**, 2013, 85(4): 2320-2327
- A. Hashmi, G. Heiman, G. Yu, M. Lewis, H.-J. Kwon and J. Xu, *Oscillating bubbles in teardrop cavities for microflow control*, **Microfluidics and Nanofluidics**, 2013, 14: 591-596
- Y. Xu, A. Hashmi, G. Yu, X. Lu, H.-J. Kwon, X.L. Chen and J. Xu, *Microbubble array for on-chip worm processing*, **Applied Physics Letters**, 2013, 102(2): 023702

(d) Synergistic Activities

- Outreach programs: at the local level, the PI participates in the annual UIC Engineering Summer Camp by arranging laboratory tours and demons to the Summer Camp students. These activities middle/high school students, especially underrepresented groups, with fun, hands-on learning in fluid mechanics and micro/nanotechnologies. At the global level, the PI has been elected to the Global Young Academy (GYA), an international organization aiming to empower and mobilize young scientists to address issues of particular importance to early career scientists.
- Teaching innovations: Funded by a UIC Curriculum and Instruction Grant, the PI developed a hands-on microfluidics laboratory to teach microfluidics concepts to undergraduate students. Previously at WSU, the PI developed an Interactive Chemistry Module (iCheM) in collaboration with a computer scientist, a mathematician and a digital media expert using a WSU Faculty Mini-Grant. The module aimed to produce media, tools, and technologies for an interactive immersive environment for teaching chemistry concepts to students.
- Advised high school/undergraduate underrepresented students in research, for example, Annie Baldwin (female) from the Brearley High School (now a Harvard undergraduate) published a journal paper with the PI; Marina Collette (female, now a graduate student at University of Rhode Island) published a journal paper with the PI and won a WSUV Distinguished Woman of the Year. The PI's lab at UIC is now hosting Evan Sun from Illinois Mathematics and Science Academy (IMSA) as part of IMSA Student Inquiry and Research (SIR) program.
- Development of research tools: contributed four times to the Chips & Tips forum, a place hosted by RSC Lab on a Chip where ideas and solutions are exchanged on common practical problems encountered in the lab, which are seldom reported in the literature.
- Service: The PI is an Editorial Board Member for 2 journals (Scientific Reports and Frontiers in Mechanical Engineering) and a reviewer for 61 journals (i.e., Nature/ASME/IEEE journals).