

Curriculum Vitae

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EDUCATION

2000 Ph.D., Physics/Optics, Physics Department, Oregon Center for Optics, Univ. of Oregon
1994 M.S., Peking University, Beijing, P. R. China
1991 B.S., Peking University, Beijing, P. R. China

EMPLOYMENT

5/2017 – present	Director of NIH Microfluidics in Biomedical Sciences Training Program, University of Michigan
5/2017 – present	Associate Director of Michigan Center for Integrative Research in Critical Care (MICIRCC) at the University of Michigan
10/2015 – present	Thrust leader of “Environmental Sensors and Subsystems”, Wireless Integrated Microsensing and Systems (WIMS ²) at the University of Michigan
9/2014 – present	Professor (early promotion), Department of Biomedical Engineering College of Engineering & School of Medicine University of Michigan, Ann Arbor, MI
1/2015 – 5/2017	& Associate Chair for Undergraduate Education, Department of Biomedical Engineering, University of Michigan, Ann Arbor, MI
1/2013 – 5/2017	Member of Michigan Center for Integrative Research in Critical Care (MICIRCC) at the University of Michigan
1/2010 – 10/2015	Member of Wireless Integrated Microsensing and Systems (WIMS ²) at the University of Michigan
1/2010 – 9/2014	Associate Professor, Department of Biomedical Engineering University of Michigan, Ann Arbor, MI
9/2009 – 12/2009	Associate Professor (early tenure and promotion), Department of Biological Engineering

	University of Missouri, Columbia, MO
2005 – 12/2009	Member of the International Center for Nano/Micro Systems and Nanotechnology, University of Missouri, Columbia, MO
2005 – 12/2009	Adjunct Professor, Department of Physics University of Missouri, Columbia, MO
9/2004 – 12/2009	Member of Christopher S. Bond Life Sciences Center University of Missouri, Columbia, MO
9/2004 – 8/2009	Assistant Professor, Department of Biological Engineering University of Missouri, Columbia, MO
10/2000 – 8/2004	Senior Research Scientist, Project Leader Corporate Research Laboratory, 3M Corporation, Austin, TX
1995 – 2000	Graduate Research Assistant and Teaching Assistant, Physics Department and Oregon Center for Optics University of Oregon, Eugene, OR
1994 – 1995	Research Staff Physics Department, Peking University Beijing, P. R. China

HONORS AND AWARDS

College of Engineering Monroe-Brown Foundation Research Excellence Award (2017)
 Fellow of SPIE (2017)
 Fellow of Royal Society of Chemistry (2016)
 ChangJiang Endowed Chair Professorship (China) (2015)
 Early promotion to Professor (2014)
 Departmental Award for Outstanding Accomplishment (2014 and 2015)
 Fellow of Optical Society of America (2014)
 #1 "Most Cited Analytica Chimica Acta Article since 2008" (2013)
 Third Place" in "The Most Popular Stories of 2012" by Biophotonics (2013)
 1st Prize of "Sensors Best Paper Award 2012" (2012)
 Natural Science Foundation of China: Outstanding Overseas Chinese Young Scholar (2011)
 Early tenure and promotion (2009)
 MU Sigma Xi Excellence in Graduate Research Mentoring Award (2009)
 IEEE Sensors Journal Best Paper Award (2008)
 Wallace H. Coulter Early Career Award Phase II (2008)
 NSF – CAREER Award (2008)
 Wallace H. Coulter Early Career Award Phase I (2006)
 3M Non-Tenured Faculty Award, 3M Foundation (2006)

America Chemical Society Petroleum Research Award for Junior Faculty (2006)
Non-Tenured Faculty Award, 3M Foundation (2005)
Non-Tenured Faculty Award, 3M Foundation (2004)
Circle of Technical Excellence, 3M Corporation (2004)
3M DISCOVERY Research Grant Award, 3M Corporation (2003)
Circle of Technical Excellence, 3M Corporation (2002)
3M GENESIS Research Grant Award, 3M Corporation (2001)
Travel Grants Award, Division of Laser Science of the American Physical Society (2000)
New Focus Student Travel Grants Award (1999)
Travel Grants Award, Division of Laser Science of the American Physical Society (1999)
Graduate Research Award, Graduate School, University of Oregon (1999)
Travel Grants Award, Division of Laser Science of the American Physical Society (1998)
New Focus Student Travel Grants Award (1997)
Travel Grants Award, Division of Laser Science of the American Physical Society (1997)
Graduate Research Award, Graduate School, University of Oregon (1997)
Highest Honor with the full scholarship award from Peking University (1992 – 1993)
Excellence Award for the academic achievement from Peking University (1992)
Excellence Award for the academic achievement from Peking University (1988)

TEACHING EXPERIENCE

BME 450:	Biomedical Design (Winter/2013)
BME 599:	Advanced Optical and Nano Bio/Chemical Sensors (Winter/2012, Winter/2014, Winter 2016)
BME 458:	Bioinstrumentation (Fall/2010, Winter/2011, Fall/2011, Fall/2012, Fall/2013, Fall/2014, Fall/2015)
BE 4001/7001:	Photonics and nanotechnologies in optical biosensors (Winter/2005)
BE 4670/7670:	Photonics and nanotechnologies in optical biosensors (Winter/2005, Fall/2006, Fall/2007, and Fall/2008)
BE 8087:	Seminar in Biological Engineering (Fall/2005)
BE 8270:	Principles and Applications of Fluorescence (Winter/2006, Winter/2007, and Winter/2008)
BE 4280:	Survey of Bioengineering Techniques (team taught, organizer, Fall/2008)

ENTREPRENEURIAL EXPERIENCE

Founder of Optofluidic Bioassay and Arborsense. 2 additional patents were licensed to a third party company.

PAST AND CURRENT SUPPORT

1. PRESENT FUNDING

NIH Center for Accelerated Innovations 08/01/2017 – 07/31/2018
Micro gas chromatography and breathomics for acute point-of-care diagnostics in acute lung injury
Role: PI
Total costs: \$116,250

NIH SBIR Phase II 08/10/2017 – 07/31/2019
Wearable alcohol sensors
Role: PI for sub-award (Sponsor: Arborsense. PI: Girish Kulkarni)
Total costs: \$1,500,000 (Sub-award total costs: \$402,177)

NIOSH (R01) 08/01/2017 – 01/01/2021
Novel gas chromatography for rapid, in situ workplace hazardous VOC/VIC analysis
Role: PI
Total costs: \$1,644,759 (expected)

NSF IIP-1660015 04/15/2017 – 04/14/2019
SBIR Phase II: Wearable Nanoelectronic Vapor Sensors for Transdermal Alcohol Monitoring
Role: PI for sub-award (Sponsor: Arborsense. PI: Girish Kulkarni)
Total costs: \$580,822 (declined)

IARPA 01/31/2017 – 07/30/2018
Low power high capacity 3-dimensional micro-gas chromatography
Role: PI
Total costs: \$578,786

NSF ECCS-1607250 05/01/2016 – 04/30/2019
Development of scanning optofluidic cell lasers for highly sensitive cellular and tissue analysis
Role: PI
Total costs: \$454,313

NSF DBI-1451127 02/15/2015 – 02/14/2018
Optofluidic laser array based ultrasensitive ELISA instrument with a large dynamic range
Role: PI.
Total costs: \$380,724

Additional 2 internal grant from the University of Michigan as the PI

2. PAST FUNDING

EPA R835644 08/01/2014 – 07/31/2017
Field device to monitor indoor chemicals
Role: PI
Total costs: \$900,000

NSF ECCS-1405870 07/01/2014 – 06/30/2017
High-Frequency Graphene Nanoelectronic Vapor Sensors for Micro-Gas Chromatography
Role: Shared-PI (\$180,000) (PI: Zhaohui Zhong)
Total costs: \$360,000

NSF ECCS-1303499 06/01/2013 – 05/31/2017
Plasmonically enhanced optical ring resonators for label-free single molecule detection
Role: PI
Total costs: \$200,000 (award cut from \$400,000 by NSF due to the budget cut)

NSF CMMI-1265164 06/01/2013 – 05/31/2017
Sensitive dual mode microfluidic optomechanical analysis of biomolecules
Role: PI
Total costs: \$370,000

NSF IIP-1548317 01/01/2016 – 12/31/2016
SBIR Phase I: Wearable Nanoelectronic Vapor Sensors for Transdermal Alcohol Monitoring
Role: PI for sub-award (Sponsor: Arborsense. PI: Girish Kulkarni)
Total costs: \$150,000 (sub-award: \$29,599)

NIH NIBIB-1R21EB016783 01/01/2014 – 12/31/2016
Protein interaction study In-vitro and in live cells with optofluidic lasers
Role: PI
Total costs: \$403,195

NSF CBET-1158638 07/01/2012 – 06/30/2016
Integrated opto-nanofluidic biosensors
Role: PI
Total costs: \$365,400

NSF IIP-1342917 10/01/2013 – 12/31/2015
Technology Translation: Prototyping a smart multi-dimensional micro-gas chromatography instrument with unprecedented peak capacity
Role: PI
Total costs: \$150,000

NSF IIP-1443335 07/01/2014 – 12/31/2015
I-Corps: Wearable Transdermal Vapor Sensors for Non-invasive Continuous Disease Monitoring
Role: PI
Total costs: \$50,000

Global Challenges for a Third Century 06/01/2013 – 10/31/2014
Real-time monitoring of environmental impact on plants through a plant-machine interface

network

Role: PI

Total costs: \$293,650

NSF ECCS-1128157

09/01/2011 – 08/31/2014

Tunable Micro-Optofluidic Ring Resonator Arrays as Micro Gas Chromatograph Detectors

Role: Co-PI (PI: Edwards Zellers)

Total costs: \$360,000

NSF CBET-0747398

07/01/2008 – 06/30/2014

CAREER: Fluorescence Resonant Energy Transfer in Opto-fluidic Ring Resonators for
Ultrasensitive Biomolecule Detection

Role: PI

Total costs: \$402,000

NSF IIP 1340278

04/01/2013 – 09/30/2013

I-Corps: Development of Integrated Optofluidic ELISA Biosensor Plates

Role: PI

Total costs: \$50,000

NSFC 61128011

01/01/2012 – 12/31/2013

中国自然科学基金“海外杰出青年学者”奖 (Outstanding Overseas Chinese Young Scholar
from Natural Science Foundation of China)

Role: PI

Total costs: 200,000 (RMB)

Coulter Foundation

07/01/2012 – 06/30/2013

Optofluidic fluorescent immunoassay

Role: PI

Total costs: \$200,000

UM-SJTU

07/01/2010 – 06/30/2012

Composite microfluidic nanophotonic sensors for rapid and sensitive detection of cancer
biomarkers in blood

Role: PI

Total costs: \$200,000 (direct cost)

NSF IOS-0946735

09/01/2009 – 08/31/2012

Interrogating Plant Volatile Reports about the Environment

Role: Co-PI (shared the same credit as the PI (Prof. Jack Schultz)

Total costs: \$300,000

NSF ECCS-0853399

07/01/2009 – 06/30/2012

GOALI: Integrated versatile opto-fluidic ring resonator laser systems with ultralow threshold

Role: PI

Total costs: \$311,000

Wallace H. Coulter Foundation (Phase II)

08/01/2008 – 07/31/2010

Early career award: Prototyping Lab-on-a-Chip Based on Liquid Core Optical Ring Resonators
for Detection of Breast Cancer Biomarkers

Role: PI

Total costs: \$260,000

NSF ECCS-0729903 11/01/2007 – 10/31/2010
Development of highly sensitive ultrafast micro gas chromatography for explosive detection
Role: PI
Total costs: \$406,000

DoD W15QKN-06-R-0742 02/01/2007 - 01/31/2012
*Investigation of Advanced Materials and Novel Processing Technology for Potential Use with
Department of Defense Weapon Systems*
Role: Co-PI (2% shared credits)
Total costs: \$1,210,000

Wallace H. Coulter Foundation 08/01/2006 – 10/31/2008
*Early career award: Prototyping Lab-on-a-Chip Based on Liquid Core Optical Ring Resonators
for Detection of Breast Cancer Biomarkers*
Role: PI
Total costs: \$238,000

NIH 5K25EB006011 09/18/2006 – 08/31/2008
*Mentored Quantitative Research Career Development Award: Highly Sensitive Biosensor
Platform Using Optical Microring Resonators*
Role: Primary mentor of the mentee, Dr. Ian M. White
Total costs: \$447,953

American Chemical Society Petroleum Research Fund 43879-G 10 02/01/2006 – 07/31/2008
*Single Molecule Raman Detection with a Composite Microresonator and Metal Nanoparticle
System*
Role: PI
Total costs: \$35,000 (direct cost, no overhead)

Missouri Beef Industry Council 11/01/2007 – 10/31/2008
*Rapid Simultaneous Detection of Escherichia coli O157:H7 and Salmonella in Ground Beef by
Quantum Dot Labeled Antibodies and Immunomagnetic Separation*
Role: Co-PI (shared the same credit as the PI, 50%)
Total costs: \$51,792

NIH 5R21EB5840-3 09/22/2006 – 08/31/2009
Atomic Force-FRET Microscope Using Quantum Dot for Cell Mechanobiology
Role: Co-PI (8% shared credit)
Total costs: \$561,197

NSF ECCS-0608745 07/01/2006 – 03/31/2008
Functionalized Nanoscale Materials for Sensor Architectures
Role: Co-PI (shared the same credit as the PI, 45%)
Total costs: \$102,392

DARPA 07/01/2007 – 09/30/2007
Micro-gas-chromatography based on liquid core optical ring resonator
Role: PI
Total costs: \$12,000

3M Non-tenured Faculty Award 01/01/2005 – 12/31/2007
Microsphere-based sensor development
Role: PI
Total costs: \$67,500 (direct cost, no overhead)

MU Research Council 02/01/2006 – 07/31/2006
Multiplexed liquid core optical ring resonator sensors with sub-nanoliter detection volume
Role: PI
Total cost: \$7,500 (direct cost, no overhead)
NSF 06/01/2006
Major Research Instruments – VPSEM
Role: Co-PI (2% shared credits)
Total costs: \$548,000

MU College of Engineering 04/01/2006 – 03/31/2007
Equipment Proposal for an Interdisciplinary Modular Undergraduate Laboratory
Role: PI
Total costs: \$18,000 (direct cost, no overhead)

MU Bioprocessing and Biosensing Center 04/01/2006 – 09/30/2006
Development of fluorescent particle embedded elastic substrates for cell mechanics studies
Role: PI
Total costs: \$11,000 (direct cost, no overhead)

MU Bioprocessing and Biosensing Center 05/01/2006 – 10/31/2006
Transcytosis of Functionalized Quantum Dots Across the Blood Brain Barrier
Role: Co-PI (10% shared credits)
Total costs: \$10,000 (direct cost, no overhead)

UM Research Board 01/01/2005 – 12/31/2005
Novel Raman Bio/Chemical Sensor
Role: PI
Total costs: \$27,742 (direct cost, no overhead)

MU College of Engineering 04/01/2005 – 09/30/2005
Development of Stable Microsphere Resonator Sensors
Role: PI
Total cost: \$23,000 (direct cost, no overhead)

MU Bioprocessing and Biosensing Center 03/01/2005 – 06/30/2005
Fluorescent Semiconductor Quantum Dot Fabrication
Role: PI
Total costs: \$10,000 (direct cost, no overhead)

MU Bioprocessing and Biosensing Center 03/01/2005 – 12/31/2005
Threshold detection of circulating melanoma cells in human blood
Role: Co-PI (15% shared credits)
Total costs: \$11,300 (direct cost, no overhead)

PROFESSIONAL SERVICES

NIH Microfluidics Training Program Director	5/2017 - present
Associate Director of Michigan Center for Integrative Research in Critical Care (MICIRCC)	5/2017 – present
BME Department ABET Coordinator	10/2016 – present
International Editorial Advisory Board for Advanced Materials Technologies (Wiley)	11/2015-present
Guest Editor for IEEE Journal of Selected Topics in Quantum Electronics	2016
Guest Editor for IEEE Journal of Selected Topics in Quantum Electronics	2015
Associate Chair for Undergraduate Education at BME Department	01/2015 – 05/2017
Editorial Board for Lab on a Chip (Royal Society of Chemistry)	01/2015 – present
Associate Editor of Optics Express	2008 – 2014
Responsible for biophotonics, optical biological and chemical sensing, and optofluidics	
Committee Member:	
Dutch Technology Foundation STW	2013, 2014
Skolkovo Foundation, Russia	2012
NIH IMST	2013 (twice), 2014, 2015, 2016
NIH 2015-10 ZRG1 EBIT	2015
NIH ZRG1 BST-B(90)	2012, 2013, 2014
NIH CSR review panel	2012, 2013
NIH NCI review panel	2012
NIH NIAID review panel	2011
MacArthur Foundation	2010
Research Grants Council (RGC) of Hong Kong	2010
DoD SBIR/STTR	2009
NSF review panel	2007, 2008, 2009, 2011, 2012, 2013, 2015, 2016 (total=15 times)
Singapore A*Star	2009, 2010, 2011, 2012
UM Research Board Review Panel	2007
Army Research Office Proposal Review Panel	2006
U.S. Civilian Research and Development Foundation Proposal Review Panel	2006
USDA Multistate Research Coordinating Committee/Information Exchange Group, NCDC201, “Nanotechnology and Biosensors”	2004 – 2007
MU Nanoscience Taskforce	2005
Biological Engineering Department Faculty Search Committee	2006 – 2007
Electrical and Computer Engineering Faculty Search Committee	2005 – 2006

Organizer and Session Chair:

European Optical Society Meeting	2017
Pittcon	2016, 2017
Optofluidics Conference Steering Committee	2013, 2014, 2015
OSA (Optical Society of America) CLEO (Biophotonics and Optofluidics)	2011, 2012, 2013, 2014, 2015
MRS (Materials Research Society) MRS Annual Meeting, Materials for Optical Sensors in Biomedical Applications	2007-2014
SPIE Defense, Security, and Sensing Symposium, "Photonic Microstructured Sensors" (organizer and chair, 2008-2010)	2008-2011
SPIE (The International Society for Optical Engineering) Optics East, Sensors for Harsh Environments	2006 - 2007
SPIE (The International Society for Optical Engineering) Defense and Security Symposium, Micro (MEMS) and Nanotechnologies for Space Applications	2006 - 2008
SPIE (The International Society for Optical Engineering) Photonics West, Integrated Optics: Devices, Materials, and Technologies	2007-2013
SPIE (The International Society for Optical Engineering) Photonics West, Frontiers in Biological Detection: From Nanosensors to Systems	2013
SPIE (The International Society for Optical Engineering) International Conference on Optical Instruments and Technology,	2011, 2012, 2013, 2014
The 3rd Annual Missouri Nanotechnology Alliance Conference	2006
IEEE Photonics Conference	2014

Ad-hoc reviewer for journals:

Science
 Nature Communications
 Nature Photonics
 Nature Nanotechnology
 Nature Methods
 PNAS
 Chinese Optics Letters
 Journal of Nanophotonics
 Review of Scientific Instruments
 Journal of Optical Society of America
 Sensing and Instrumentation for Food Quality and Safety

Microfluidics and Nanofluidics
Chemical Reviews
Journal of Nanophotonics
Optics Express
Biophysical Journal
Optics Letters
Sensors and Actuators B
IEEE Sensors Journal
Physical Review A
Physical Review B
Applied Physics Letters
Biosensors and Bioelectronics
Analytica Chimica Acta
IEEE Photonics Technology Letters
BMC Biotechnology
Analytical and Biochemistry
ACS Nano
Journal of Exposure Science and Environmental Epidemiology
Cytometry
Chemical Science
Nano Letters

PROFESSIONAL AFFILIATIONS

Fellow of the International Society of Optical Engineering (SPIE)
Fellow of Royal Society of Chemistry (RSC)
Fellow of Optical Society of America (OSA)
Member of Institute of Electrical and Electronics Engineers (IEEE)
Member of American Chemical Society (ACS)
Member of Materials Research Society (MRS)

LIST OF PUBLICATIONS

Total citation: 9578; H-index: 49 (based on Google Scholar 08/15/2017)

A. Peer-Reviewed Journal Publications (** denotes the corresponding author*)

148. Chao-Yang Gong, Yuan Gong, Wei-Li Zhang, Yu Wu, Yun-Jiang Rao, Gang-Ding Peng, and **Xudong Fan**, "Fiber optofluidic microlaser with lateral single mode emission," IEEE Journal of Selected Topics in Quantum Electronics **24**, 0900206 (2018)
147. Chaoyang Gong, Yuan Gong,* Qiushu Chen, Yun-Jiang Rao, Gang-Ding Peng, and **Xudong Fan*** (under revision)
146. Chen-Lin Zhang, Yuan Gong*, Yun-Jiang Rao, Gang-Ding Peng and **Xudong Fan** (under revision)
145. Jiwon Lee, Stephanie Sayler, Menglian Zhou, Hongbo Zhu, Rudy Richardson, Richard

- Neitzel, Katsuo Kurabayashi, and **Xudong Fan***, "On-site monitoring of occupational exposure to volatile organic compounds by a portable comprehensive 2-dimensional gas chromatography device," (under review)
144. Lei Wan+, Hengky Chandralim+, Cong Chen+, Qiushu Chen, Ting Mei, Yuji Oki, Naoya Nishimura, L. Jay Guo*, and **Xudong Fan***, "On-chip, high-sensitivity temperature sensors based on dye-doped solid-state polymer microring lasers," (+: equal contribution) *Applied Physics Letters* **111**, 061109 (2017)
 143. Baicheng Yao*, C. Yu, Y. Wu, S.-W. Huang, H. Wu, Yuang Gong, Y. Chen, Y. Li, C. W. Wong, **Xudong Fan**, and Yunjiang Rao*, "Graphene enhanced Brillouin optomechanical microresonator for ultra-sensitive gas detection," *Nano Letters* **17**, 4996-5002 (2017)
 142. Yu-Cheng Chen, Xiaotian Tan, Qihan Sun, Qiushu Chen, Wenjie Wang, and **Xudong Fan***, "Laser-emission imaging of nuclear biomarkers for high-contrast cancer screening and immunodiagnosis," *Nature Biomedical Engineering* (accepted)
 141. Xiaoqin Wu, Qiushu Chen, Peizhen Xu, Limin Tong, and **Xudong Fan***, "Refractive index sensing based on semiconductor nanowire lasers," *Applied Physics Letters* **111**, 031112 (2017)
 140. Qiushu Chen, Yu-Cheng Chen, Zhizheng Zhang, Biming Wu, Rhima Coleman and **Xudong Fan***, "An integrated microwell array platform for cell lasing analysis," *Lab on a Chip* **17**, 2814 – 2820 (2017)
 139. Xiaotian Tan, Maung Kyaw Khaing Oo, Yuan Gong, Yaoxin Li, Hongbo Zhu and **Xudong Fan***, "Glass Capillary Based Microfluidic ELISA for Rapid Diagnostics," *Analyst* **142**, 2378 – 2385 (2017)
 138. Hengky Chandralim, Stephen C. Rand, and **Xudong Fan***, "Evanescent coupling between refillable ring resonators and laser-inscribed optical waveguides," *Applied Optics* **56**, 4750-4756 (2017)
 137. Chaoyang Gong, Yuan Gong*, Maung Kyaw Khaing Oo, Yu Wu, Yunjiang Rao*, Xiaotian Tan, and **Xudong Fan***, "Sensitive sulfide ion detection by optofluidic catalytic laser using horseradish peroxidase (HRP) enzyme," *Biosensors and Bioelectronics* **96**, 351–357 (2017)
 136. Chenlin Zhang, Yuan Gong*, Wenliang Zou, Yu Wu, Yunjiang Rao, Gangding Peng, and **Xudong Fan**, "Microbubble-based fiber optofluidic interferometer for sensing," *Journal of Lightwave Technology* **35**, 2514-2519 (2017)
 135. Jingdong Chen*, Wenjie Wang, Weibang Ji, Shaoding Liu, Qiushu Chen, Bimin Wu, Rhima Coleman, and **Xudong Fan***, "Silicon based solvent immersion imprint lithography for rapid polystyrene microfluidic chip prototyping," *Sensors and Actuators B* **248**, 311-317 (2017)
 134. Tess Reynolds, Nicolas Risen, Al Meldrum, **Xudong Fan**, Jonathan M. M. Hall, Tanya M. Monro, and Alexandre François*, "Fluorescent and lasing whispering gallery mode microresonators for sensing applications," *Laser & Photonics Reviews* **11**, 1600265 (2017)
 133. Kyu Hyun Kim, Wei Luo, Cheng Zhang, Chao Tian, L. Jay Guo, Xueding Wang and **Xudong Fan***, "Air-coupled ultrasound detection using capillary-based optical ring resonators," *Scientific Reports* **7**, 109 (2017) (DOI: 10.1038/s41598-017-00134-7)
 132. Wonsuk Lee, Wenjie Wang, Guksik Lee, Seong Ho Ryu, Xudong Fan*, and Dong Ki Yoon*, "Electro-tunable liquid crystal laser based on high-Q Fabry-Pérot microcavity,"

- Optics Express **25**, 874-880 (2017)
131. Yu-Cheng Chen, Qiushu Chen, Tingting Zhang, Wenjie Wang, and **Xudong Fan***, "Versatile Tissue Lasers Based on High-Q Fabry-Pérot Microcavities," Lab on a Chip **17**, 538 – 548 (2017)
 130. Wonsuk Lee, Qiushu Chen, **Xudong Fan***, and Dong Ki Yoon*, "Digital DNA detection based on compact optofluidic laser with ultra-low sample consumption," Lab on a Chip **16**, 4770-4776 (2016)
 129. Jiwon Lee, Menglian Zhou, Hongbo Zhu, Robert Nidetz, Katsuo Kurabayashi, and **Xudong Fan***, "Fully automated portable comprehensive 2-dimensional gas chromatography device," Analytical Chemistry **88**, 10266-10274 (2016)
 128. Hongbo Zhu, Menglian Zhou, Jiwon Lee, Robert Nidetz, Katsuo Kurabayashi, and **Xudong Fan***, "Low-Power Miniaturized Helium Dielectric Barrier Discharge Photoionization Detectors for Highly Sensitive Vapor Detection," Analytical Chemistry **88**, 8780-8786 (2016)
 127. Hengky Chandralim, Stephen C Rand, and **Xudong Fan***, "Fusion of Renewable Ring Resonator Lasers and Ultrafast Laser Inscribed Photonic Waveguides," Scientific Reports **6**, 32668 (2016)
 126. Ning Wang, Furui Tan, Yu Zhao, Chi Chung Tsoi, **Xudong Fan** and Xuming Zhang*, "Integrated optofluidic device with on-chip UV-Vis spectrophotometer for online monitoring of photocatalytic reactions," Scientific Reports **6**, 28928 (2016)
 125. Yu-Cheng Chen, Qiushu Chen, and **Xudong Fan***, "Lasing in Blood," Optica **3**, 809-815 (2016). Cover featured article.
 124. Yu-Cheng Chen, Qiushu Chen, and **Xudong Fan***, "Optofluidic chlorophyll lasers," Lab on a Chip **16**, 2228–2235 (2016). Selected as HOT ARTICLE.
 123. Menglian Zhou,⁺ Jiwon Lee,⁺ Hongbo Zhu, Robert Nidetz, Katsuo Kurabayashi and **Xudong Fan*** (+: equal contribution), "A fully automated portable gas chromatography for sensitive and rapid quantification of volatile organic compounds in water", RSC Advances **6**, 49416–49424 (2016)
 122. Jiwon Lee,⁺ Menglian Zhou,⁺ Hongbo Zhu, Robert Nidetz, Katsuo Kurabayashi and **Xudong Fan*** (+: equal contribution), "In situ calibration of micro-photoionization detector in multi-dimensional micro-gas chromatography system," Analyst **141**, 4100 – 4107 (2016)
 121. Girish Shrinivas Kulkarni, Karthik Reddy, Wenzhe Zang, Kyunghoon Lee, **Xudong Fan***, and Zhaohui Zhong*, "Electrical Probing and Tuning of Molecular Physisorption on Graphene," Nano Letters **16**, 695-700 (2016)
 120. Kee Scholten⁺, William R. Collin⁺, **Xudong Fan**, Dibyadeep Paul, Katsuo Kurabayashi, and Edward T. Zellers* (+: equal contribution), "Polymer-Coated Micro-Optofluidic Ring Resonator Detector for a Comprehensive Two-Dimensional Gas Chromatographic Microsystem: $\mu\text{GC} \times \mu\text{GC} - \mu\text{OFRR}$," Analyst **141**, 261–269 (2016)
 119. Mehdi Aas, Qiushu Chen, Alexandr Jonáš, Alper Kiraz*, and **Xudong Fan***, "Optofluidic FRET lasers and their applications in novel photonic devices and biochemical sensing," IEEE Journal of Selected Topics in Quantum Electronics **22**, 7000215 (2016)
 118. Qiushu Chen, Alper Kiraz*, and **Xudong Fan***, "Optofluidic FRET Lasers Using Aqueous Quantum Dots as Donors," Lab on a Chip **16**, 353–359 (2016)

117. Hengky Chandralalim and **Xudong Fan***, "Reconfigurable Solid-state Dye-doped Polymer Ring Resonator Lasers," *Scientific Reports* **5**, 18310 (2015)
116. Wenjie Wang*, Chunhua Zhou, Tingting Zhang, Jingdong Chen, Shaoding Liu, and **Xudong Fan***, "Optofluidic laser array based on stable high-Q Fabry-Pérot microcavities," *Lab on a Chip* **15**, 3862-3869 (2015). Cover featured article. Selected as HOT ARTICLE
115. Yuan Gong*, Chaoyang Gong, Minglei Zhang, Yu Wu, Yunjiang Rao, and **Xudong Fan**, *Microfluidics and Nanofluidics* **19**, 1497–1505 (2015)
114. Kee W. Scholten, Williams R. Collin, **Xudong Fan**, and Edward T. Zellers, "Nanoparticle-Coated Micro-Optofluidic Ring Resonator as a Detector for Microscale Gas Chromatographic Vapor Analysis," *Nanoscale* **7**, 9282-9289 (2015)
113. Hongbo Zhu, Robert Nidetz, Menglian Zhou, Jiwon Lee, Katsuo Kurabayashi, and **Xudong Fan***, "Flow-through Microfluidic Photoionization Detectors for Rapid and Highly Sensitive Vapor Detection," *Lab on a Chip* **15**, 3021-3029 (2015)
112. Hengky Chandralalim, Qiushu Chen, Ali A. Said, Mark Dugan, and **Xudong Fan***, "Monolithic Optofluidic Ring Resonator Lasers Created by Femtosecond Laser Nanofabrication," *Lab on a Chip* **15**, 2335-2340 (2015)
111. Yuan Bao, Zhaohui Li*, Qingming Chen, Chao Jin, Jianping Li, Xingwen Yi, Xuming Zhang*, and **Xudong Fan**, "Digitally-generated ultrafine optical frequency comb for spectral measurement with 0.01-pm resolution and 0.7-μs response time," *Light: Science & Applications* **4**, e300 (2015)
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B. Editor-Reviewed Proceedings Publications

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 63. Yunbo Guo, Maung Kyaw Khaing Oo, and **Xudong Fan***, “Optofluidic Surface-Enhanced Raman Spectroscopy with Nanoparticle-functionalized Flow-through Nanohole Capillary,” Photonics West, San Jose, CA (2012)
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 61. Jing Liu, Naveen K. Gupta, **Xudong Fan**, Kensall D. Wise, and Yogesh B. Gianchandani*, “A pressure programmable gas chromatography microsystem utilizing motionless Knudsen pump, fiber-integrated optical detector, and silicon micromachined separation column,” Transducer, Beijing, China (2011).
 60. Wonsuk Lee, Hao Li, Jonathan D. Suter, Karthik Reddy, Yuze Sun, and **Xudong Fan***, “Tunable Single Mode Lasing from an On-chip Optofluidic Ring Resonator Laser,” CLEO, Baltimore, MD (2011)
 59. Yuze Sun and **Xudong Fan***, “Highly Selective Single-Nucleotide Polymorphism Detection with Optofluidic Ring Resonator Lasers,” CLEO, Baltimore, MD (2011)
 58. Maung Kyaw Khaing Oo, Chia-Fang Chang, and **Xudong Fan***, “Ultra-fast and Ultra-sensitive 2, 4-Dinitrotoluene Vapor Sensing Using Gold Nanoparticles Assembled SERS Probe,” SPIE DSS, Orlando, FL (2011)
 57. Yunbo Guo, Hao Li, Jing Liu, Karthik Reddy, and **Xudong Fan***, “All-fiber Optofluidic Biosensor,” SPIE Photonics West, San Francisco, CA (2011)
 56. Paul S. Dale, John T. Gohring, and **Xudong Fan***, “Detection of HERs/neu Breast Cancer Biomarker in Serological Samples Using the Optofluidic Ring Resonator

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55. Jing Liu, Daniel J. Howard, Paul Whiteside, Yuze Sun, Mahmoud Almasri, Greg Frye-Mason, Aaron Thompson, Shiou-jyh Ja, **Xudong Fan***, “Detection of explosive analytes using a fiber-based optical Fabry-Pérot gas sensor,” SPIE DSS, Orlando, FL (2010)
 54. John T. Gohring, Paul S. Dale, and **Xudong Fan***, “Detection of HER2 Breast Cancer Biomarker Using the Opto-Fluidic Ring Resonator Biosensor,” SPIE DSS, Orlando, FL (2010)
 53. Jonathan D. Suter, Daniel J. Howard, Eric Hoppmann, Ian M. White, and **Xudong Fan***, “PDMS-based microfluidic lasers using whispering gallery modes for lab-on-a-chip applications,” SPIE Photonics West, San Francisco, CA (2010)
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 49. L. Wang, C.-S. Wu, **Xudong Fan**, and A. Mustapha, “Rapid simultaneous detection of *Escherichia coli* O157:H7 and *Salmonella* in ground beef by quantum dot labeled antibodies and immunomagnetic separation,” Institute of Food Technologists Annual Meeting, Anaheim, CA, June 6-9. pp. 152-24 (2009)
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 44. John T. Gohring and Xudong Fan*, “Detection of CD4+ and CD8 + T-Lymphocytes with the Optofluidic Ring Resonator (OFRR) Biosensor,” SPIE DSS 2009, Orlando, FL (2009)
 43. Yuze Sun, Jing Liu, Greg Frye-Mason, Aaron Thompson, Shiou-jyh Ja, and **Xudong Fan***, “Development of optofluidic ring resonator based chemical vapor sensing platform,” SPIE DSS 2009, Orlando, FL (2009)
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40. Yuze Sun, Siyka I. Shopova, Ian M. White, Hongying Zhu, Greg Frye-Mason, Shiou-jyh Ja, Aaron Thompson, and **Xudong Fan***, "Rapid chemical vapor sensing and micro gas chromatography detection using optofluidic ring resonators," MRS Annual Meeting, Boston, MA (2008)
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 38. Hongying Zhu, Ian M. White, Chungshieh Wu, Paul S. Dale and **Xudong Fan***, "Label-free breast cancer biomarker detection using opto-fluidic ring resonator biosensor," BMES annual meeting 2008 at St. Louis, MO (2008)
 37. Ian M. White, John Gohring, Paul Dale, and **Xudong Fan***, "Cancer cell detection and analysis with the optofluidic ring resonator (OFRR) biosensor," BMES annual meeting 2008 at St. Louis, MO (2008)
 36. Jonathan D. Suter, Yuze Sun, John A. Viator, and **Xudong Fan***, "Integration of opto-fluidic microring resonator lasers for lab-on-a-chip development," SPIE Optics and Photonics, San Diego, CA (2008).
 35. Hongying Zhu, Ian M. White, Jonathan D. Suter, and **Xudong Fan***, "Phage-based opto-fluidic ring resonator for label-free biomolecule detection," Proc. Laser Applications to Chemical, Security and Environmental Analysis (LACSEA), Florida (2008).
 34. Kenith E. Meissner*, Zhe Sun, Bhavik Nathwani, William N. Everett, **Xudong Fan**, Gerard L. Cote., and Gerald A. Meininger, "Combining AFM and FRET for studies at the cellular level," SPIE Photonics West, Proc. SPIE 6863, San Jose (2008).
 33. Siyka I. Shopova, Scott Lacey, Ian M. White, Yuze Sun, Hongying Zhu, Po Zhang, and **Xudong Fan***, "Opto-fluidic Ring Resonator Dye Micro-lasers," SPIE Photonics West, Proc. SPIE 6872, San Jose (2008, invited paper).
 32. Ian M. White, Scott Lacey, John Gohring, Yuze Sun, and **Xudong Fan***, "Development of versatile waveguide-coupled optofluidic microring resonator devices," SPIE Photonics West, Proc. SPIE 6896, San Jose (2008).
 31. Hongying Zhu, Ian M. White, Jonathan D. Suter, Mohammed Zourob, and **Xudong Fan***, "Miniaturized opto-fluidic ring resonator for sensitive label-free viral detection," SPIE Photonics West, Proc. SPIE 6896, San Jose (2008).
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 29. Jonathan D. Suter, Ian M. White, Hongying Zhu, Huidong Shi, Charles W. Caldwell, and **Xudong Fan***, "Label-Free DNA Detection Using Liquid Core Optical Ring Resonators," SPIE Optics East, Proc. SPIE 6757, Boston (2007).
 28. Ian M. White, John Gohring, and **Xudong Fan***, "Demonstration of composite signal enhancement from surface enhanced Raman spectroscopy in a liquid core optical ring resonator," Optics East, Proc. SPIE 6759, Boston (2007).
 27. Jay M. Cupps, Darcy Lichlyter, Sheila Grant, and **Xudong Fan***, "Fabrication and

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 25. Ian M. White, Jonathan D. Suter, Hongying Zhu, Hesam Oveys, Lee Brewington, John Gohring, and **Xudong Fan***, "Lab-on-a-chip bio/chemical sensing system based on the liquid core optical ring resonator," SPIE Defense and Security Conference, Proc. SPIE 6556, Orlando (2007, invited paper).
 24. Hongying Zhu, Ian M. White, Jonathan D. Suter, Mohammed Zourob, and **Xudong Fan***, "Capillary electrophoresis with liquid core optical ring resonators," Pittcon' 2007, Chicago, IL, 2007
 23. **Xudong Fan***, Ian M. White, Hongying Zhu, Jonathan D. Suter, and Hesam Oveys, "Overview of novel integrated optical ring resonator bio/chemical sensors," SPIE Photonics West, Proc. SPIE 6452 (2007, invited paper).
 22. Ian M. White, Hesam Oveys, **Xudong Fan***, Terry L. Smith, and Junying Zhang, "Demonstration of a liquid core optical ring resonator sensor coupled with an ARROW waveguide array," SPIE Photonics West, Proc. SPIE 6475 (2007).
 21. Jonathan D. Suter, Ian M. White, Hongying Zhu, and **Xudong Fan***, "Thermal Characterization of Liquid Core Optical Ring Resonators," IEEE/LEOS Optical MEMS, Montana (2006).
 20. Hongying Zhu, Ian M. White, Jonathan Suter, Hesam Oveys, and **Xudong Fan***, "Novel label-free method for real-time flow rate monitoring in a capillary based on liquid core optical ring resonators," 33rd FACSS, Orlando (2006).
 19. Ian M. White, Hongying Zhu, Jonathan Suter, Hesam Oveys, **Xudong Fan***, "Liquid core optical ring resonator label-free biosensor array for lab-on-a-chip development," Optics East, Proc. SPIE 6380 (2006).
 18. Ian M. White, Hongying Zhu, Hesam Oveys, and **Xudong Fan***, "Bio/chemical sensors based on liquid core optical ring resonators," SPIE Defense and Security Conference, Proc. SPIE 6223, Orlando (2006).
 17. Ian M. White, Hesam Oveys, and **Xudong Fan***, "Demonstration of Sub-Femtomole Sensitivity for Small Molecules with Microsphere Ring Resonator Sensors," SPIE Photonics West, Proc. SPIE 6092, San Jose (2006).
 16. Niranjana M. Hanumegowda, Ian M. White, and **Xudong Fan***, "Aqueous Mercuric Ion Detection with Microsphere Optical Ring Resonator Sensors," Proc. of American Institute of Chemical Engineers Annual Meeting 2005, 563b (2005).
 15. Niranjana M. Hanumegowda, Caleb J. Stica, Bijal C. Patel, Ian M. White, and **Xudong Fan***, "Refractometric Characterization of Microsphere Resonator Based Optical Sensors," Proc. of IEEE Sensors2005, B3L-A.4, 739-741, Irvine (2005).
 14. Ian M. White and **Xudong Fan***, "Demonstration of Composite Microsphere Cavity and Surface Enhanced Raman Spectroscopy for Improved Sensitivity," SPIE Optics East Proc. SPIE 5994, Boson (2005).
 13. Niranjana M. Hanumegowda, Ian M. White, Caleb J. Stica, Bijal C. Patel, Hesam Oveys, and **Xudong Fan***, "Development of Label-Free Microsphere Optical Resonator

- Bio/Chemical Sensors,” SPIE Optics East, Proc. SPIE 6004 Boston (2005).
12. Eric D. Moore, Mark Frogaatt, **Xudong Fan**, Ding Wang, and Matthews R. Michael, “Impulse response compression for vector characterization of highly dispersive devices,” OSA Optical Fiber Communications (OSA, Los Angeles, California, March 2004).
 11. **Xudong Fan**, Dwayne L. LaBrake, and James F. Brennan, “Chirped fiber grating characterization with phase ripples,” OSA Optical Fiber Communications (OSA, Atlanta, Georgia, March 2003), FC2.
 10. **Xudong Fan**, Hailin Wang, and Mark Lonergan, “Probing radiative recombination in semiconductor nanocrystals with cavity QED,” APS March Meeting (Minneapolis, Minnesota, March 2000).
 9. **Xudong Fan**, and Hailin Wang, “Attaching Nanocrystals to a Dielectric Microsphere: A Quantum Dot Microcavity with Extremely High Q-Factors,” CLEO/QELS'99 (Baltimore, Maryland, May 1999) – post-deadline paper.
 8. **Xudong Fan**, Scott Lacey, and Hailin Wang, “A quantum-dot microcavity system combining inorganically-capped nanocrystals with high Q dielectric microsphere,” OSA Annual Meeting (San Jose, California, September 1999).
 7. **Xudong Fan**, Scott Lacey, and Hailin Wang, “High-Q Whispering Gallery Modes from a Combined System of GaAs Quantum Well and Fused Silica Microsphere,” CLEO/QELS'99 (Baltimore, Maryland, May 1999).
 6. **Xudong Fan**, Hailin Wang, H. Q. Hou, and B. E. Hammons, “Biexcitonic effects in semiconductor Microcavities,” CLEO/IQEC'98 (San Francisco, California, May 1998).
 5. Hailin Wang, **Xudong Fan**, H. Q. Hou, and B. E. Hammons, “Stimulated emission from GaAs quantum well microcavities: toward laser emission from a few excitons,” Proceedings of SPIE, 3283, 221 (1998).
 4. Hailin Wang, **Xudong Fan**, H. Q. Hou, and B. E. Hammons, “Laser emission from semiconductor microcavities: transition from nonperturbative to perturbative regimes,” CLEO/IQEC'98 (San Francisco, California, May 1998).
 3. Hailin Wang, **Xudong Fan**, H. Q. Hou, and B. E. Hammons, “Pure dephasing induced by exciton-phonon interactions in GaAs quantum dots,” CLEO/IQEC'98 (San Francisco, California, May 1998).
 2. **Xudong Fan**, Hailin Wang, H. Q. Hou, and B. E. Hammons, “Laser emission from semiconductor microcavities: transition from nonperturbative to perturbative regimes,” OSA Annual Meeting (Long Beach, California, October 1997).
 1. **Xudong Fan**, Hailin Wang, H. Q. Hou, and B. E. Hammons, “Stimulated emission from semiconductor microcavities,” CLEO/QELS'97 (Baltimore, Maryland, May 1997).

C. Book Chapters

13. Stephen Arnold*, Stephen Holler, and **Xudong Fan**, “Taking Microcavity Label-free Single Molecule Detection Deep into the Protein Realm: Cancer Marker Detection at the Ultimate Sensitivity,” in Nanostructures for Optics and Photonics, NATO Science for Peace and Security Series B: Physics and Biophysics, Editors Baldassare DiBartolo and John Collins, (Springer, The Netherlands, in press)

12. Yuze Sun* and **Xudong Fan***, "Optofluidics" in Applications of Nanoscience in Photomedicine, Editors: Michael R Hamblin, Pinar Avci, and Shanmugamurthy Fnu, Woodhead Publishing Limited (to appear in 2014)
11. Yuze Sun and **Xudong Fan***, "Optical micro-ring resonators for chemical vapor sensing," in *OptoChemical NanoSensors*, Editor: Andrea Cusano, Taylor & Francis Group (2012)
10. Hongying Zhu and **Xudong Fan***, "Label-free optofluidic ring resonator biosensors for sensitive detection of cancer biomarkers" in *Biosensors and biodetection technologies for cancer detection, diagnostics and research*, Editors, Avraham Rasooly and Keith Herold, CRC Press (2012)
9. Jonathan D. Suter and **Xudong Fan***, "Optofluidic ring resonators" in *Handbook on Optofluidics*, Editors, Aaron Hawkins and Holger Schmidt, CRC Press (2010)
8. Hongying Zhu, Jonathan D. Suter, and **Xudong Fan***, "Ring Resonator bio/chemical sensors," in *Optical Guided-wave Chemical and Biosensors II*, Editors, M. Zourob, Springer (2010).
7. *Advanced Photonic Structures for Biological and Chemical Sensing*, Editor, **Xudong Fan**, Springer (2009).
6. Yuze Sun and **Xudong Fan***, "Opto-fluidic ring resonators for chemical sensing", in *Advanced Photonic Structures for Biological and Chemical Sensing*, Editor, **Xudong Fan**, Springer (2009).
5. Siyka I. Shopova and **Xudong Fan***, "Microfluidic lasers based on opto-fluidic ring resonators", in *Advanced Photonic Structures for Biological and Chemical Sensing*, Editor, **Xudong Fan**, Springer (2009).
4. Ian M. White and **Xudong Fan***, "Opto-fluidic ring resonator for label-free biosensors", in *Advanced Photonic Structures for Biological and Chemical Sensing*, Editor, **Xudong Fan**, Springer (2009).
3. **Xudong Fan***, Ian M. White, Siyka Shopova, Hongying Zhu, Jonathan D. Suter, Yuze Sun, and Gilmo Yang, "Optofluidic Ring Resonator Biological and Chemical Sensors" in *Practical applications of microresonators in optics and photonics*, Editor, Andrey Matsko, Taylors and Francis.
2. Mohammed Zourob*, Souna Elwary, **Xudong Fan**, "Resonant Mirror Biosensor" in *Methods in Biotechnology*, Biosensors and Biodetection: Methods and Protocols Volume 1: Optical-Based Detectors (Methods in Molecular Biology), Editors, Avraham Rasooly and Keith E. Herold, Humana Press.
1. Ian M. White, Hongying Zhu, Jonathan D. Suter, **Xudong Fan***, Mohammed Zourob, "Label-free detection with the liquid core optical ring resonator sensing platform" Biosensors and Biodetection: Methods and Protocols Volume 1: Optical-Based Detectors (Methods in Molecular Biology), Editors, Avraham Rasooly and Keith E. Herold, Humana Press.

D. Invited Presentations

64. SPIE Photonics West (San Francisco, CA, 2018)
63. OSA Advanced Photonics Congress (New Orleans, 2017)
62. Optofluidics 2017 (Singapore, July 2017)
61. International Conference on Solid-State Sensors, Actuators, and Microsystems

- (Transducers) (Taiwan, Kaohsiung, June 2017)
60. CLEO (San Jose, May 2017)
 59. Pittcon (Chicago, IL, March 2017)
 58. Pittcon (Atlanta, GA, March, 2016)
 57. MRS (Phoenix, AZ, March, 2016)
 56. SPIE Photonics West, "Frontiers in Biological Detection: From Nanosensors to Systems Symposium" (San Francisco, CA, February, 2016)
 55. SPIE Photonics West, "Laser Resonators, Microresonators, and Beam Control Symposium" (San Francisco, CA, February, 2016)
 54. Optofluidics (Taipei, July, 2015)
 53. International Symposium on Biophotonics (Optical Society of Korea, Gyeongju, Korea, July, 2015)
 52. Pittcon (New Orleans, LA, March, 2015)
 51. EPFL (Lausanne, Switzerland, November, 2014)
 50. IEEE Photonics Conference (San Diego, October, 2014)
 49. Oakland University (Rochester, October, 2014)
 48. CLEO (San Jose, CA, June, 2014)
 47. 3M Company (St. Paul, MN, May 2014)
 46. WE-Hereaus Seminar, Bad Honnef, Germany (April, 2014)
 45. SPIE Photonics West (San Francisco, CA, Jan. 2014)
 44. New York University (New York, January 2014)
 43. IEEE Sensors Conference (Baltimore, November 2013)
 42. Optofluidics 2013 (Hong Kong, August 2013)
 41. Workshop "Optical Nanofiber Applications: From Quantum to Bio Technologies" (ONNA, Japan, June, 2013)
 40. SPIE Photonics West (San Francisco, CA, Jan. 2013)
 39. EITA-Bio 2012: Recent Advances in Biomedical Research (Princeton, NJ, Oct. 2012)
 38. Frontiers in Optics 2012 (Rochester, Oct. 2012) (two invited talks)
 37. Optofluidics 2012, plenary talk (Suzhou, Sept. 2012)
 36. Pittcon 2012 (Orlando, FL, March 2012)
 35. SPIE Photonics West 2012 (San Francisco, CA, January 2012)
 34. University of Nebraska - Lincoln (January 2012)
 33. Frontiers in Optics 2011 (San Jose, Oct. 2011)
 32. IEEE Photonics Society Winter Topical Meetings Winter Topical Meetings (Denver, CO, January 2011)
 31. Tutorial at MRS Fall Meeting (Boston, MA, November 2010)

30. University of Rochester - Electrical Engineering Department (Oct. 2010)
29. Frontiers in Optics 2010/Laser Science XXVI (Rochester, NY, Oct. 2010)
 - Session: Optical Design for Biomedical Systems
 - Session: Optofluidics in the Near-Field
28. University of Wisconsin – Madison, Electrical Engineering Department (Oct. 2010)
27. EUROPT(R)ODE X (Prague, Czech, March 2010)
26. Optical Fiber Communication Conference Workshop (San Diego, March 2010)
25. University of Oregon (Feb. 2010)
24. SPIE Photonics West (San Francisco, CA, January 2010)
23. Washington University at St. Louis (November 2009)
22. IEEE Engineering in Medicine and Biology 2009 (October 2009)
21. NSF Fiber sensing workshop (Wuhan, China, July 2009)
20. Optofluidic ring resonators for sensitive label-free bioanalytical detection, Pittcon'2009, Chicago, IL (March 2009)
19. BME Department, Drexel University (March 2009)
18. BME Department, University of Michigan (February 2009)
17. AIMBE Annual Meeting (February 2009)
16. A universal label-free biosensing platform based on opto-fluidic ring resonators, SPIE Photonics West, San Jose, CA (January 2009).
15. ECE Department, UIUC (Jan. 2009)
14. Vanderbilt University (Jan. 2009)
13. Northeastern University (October, 2008)
12. University of Minnesota (October, 2008)
11. Advances in optical ring resonator based bio/chemical sensing, The 21st Annual Meeting of The IEEE Lasers & Electro-Optics Society, Newport Beach, CA (2008).
10. New York Polytech. (May, 2008)
9. Opto-fluidic Ring Resonator Dye Micro-lasers, SPIE Photonics West (2008)
8. Applications of the liquid core optical ring resonator platform, SPIE Optics East (2007)
7. Optofluidic ring resonators: properties, characterization, and applications, CRI Workshop on the "Physics of Microresonators" University of North Carolina at Charlotte (2007)
6. Novel Optical Ring Resonators for Label-free Biodetection, Mid-South Annual Engineering & Sciences Conference (2007)
5. Lab-on-a-chip bio/chemical sensing system based on the liquid core optical ring resonator, SPIE Defense and Security Conference at Orlando FL (2007)
4. Overview of novel integrated optical ring resonator bio/chemical sensors, SPIE, Photonics West, San Jose (2007)
3. Bio-chemical sensor development based on liquid core optical ring resonators, University of Georgia (2006)
2. Nonlinear optical interactions in semiconductor microcavities in the nonperturbative regime, OSA Annual Meeting (Baltimore, Maryland, October 1998)

1. Stimulated emission from semiconductor microcavities: Toward laser emission from a few excitons, Physics and Simulation of Optoelectronic Devices VI (1998)

E. Patents (unpublished ones are not disclosed)

26. PCT/US2017/046523
25. 62/468,762
24. 62/439,367
23. 62/403,830
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20. 61/911,671
19. 14/579,003
18. 20170097345, Assay plate and uses thereof
17. PCT/US2016/030798, Microfluidic photoionization detector
16. PCT/US2014/068578, Graphene nanoelectronic heterodyne sensor for rapid and sensitive vapor detection
15. 9,581,592, SERS, fluorescence, absorption, and luminescence detection with flow-through multi-hole capillaries
14. 9,341,604 Devices and methods for adaptive micro-gas chromatography
13. 9,151,713 Sensitive intracavity biosensing platform and methods for detection therewith
12. 9,103,727 Composite Fabry-Perot sensor
11. 7,693,369 Hollow core optical ring resonator sensor, sensing methods, and methods of fabrication
10. 7,622,705 Dielectric microcavity fluorosensors excited with a broadband light source
9. 7,595,890 Porous microsphere resonators
8. 7,532,790 Method of coupling light into microresonators
7. 7,444,045 Hybrid sphere-waveguide resonators
6. 7,389,025 Coupling light into microresonators
5. 7,352,933 Dielectric microcavity sensors
4. 7,271,379 Dielectric microcavity fluorosensors excited with a broadband light source
3. 7,259,855 Porous microsphere resonators
2. 7,257,279 Systems and methods for biosensing and microresonator sensors for same
1. 6,781,698 Quality review method for optical components using a fast system performance characterization

F. Publications in popular press/magazines

10. "Laser made from human blood could help hunt down tumours," New Scientist (2016)
9. "Blood laser exposes body fluid's molecular make-up," Chemistry World (2016)
8. National Public Radio (2014)
7. "Microfluidic Optomechanics," Gaurav Bahl, Kyu Hyun Kim, Wonsuk Lee, Jing Liu, Matthew Tomes, Xudong Fan, and Tal Carmon, Optics and Photonics News (2013)
6. "Liquid lasers detect cancer genes," Ashley N. Paddock, Biophotonics (2012)
5. "A Brighter Beacon," Edyta Zielinska, The Scientist (2012)
4. Cancer Genes Detected with Liquid Lasers (<http://photonics.com/Article.aspx?AID=49915>)

3. Xudong Fan and Yuze Sun, "Optofluidic ring resonators for new gas chromatography applications," SPIE Newsroom, May 2009 (DOI: 10.1117/2.1200904.1621)
2. SERS in a Capillary Could Aid Biochemical Sensing on the Lab-on-a-Chip Scale (<http://www.photonics.com/Article.aspx?AID=32236>)
1. Xudong Fan, Ian M. White, Hongying Zhu, Jonathan D. Suter, and Hesam Oveys*, "Towards lab-on-a-chip sensors with liquid-core optical ring resonators," SPIE Newsroom, Jan, 2007. (<http://spie.org/x8477.xml>). [Selected as the most read articles on the Newsroom].