Jeong-Yeol Yoon
Professor, The University of Arizona

Contact Information

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Academic Education

Ph.D., 2004, University of California, Los Angeles, Biomedical Engineering (Advisor: Robin L. Garrell)
Ph.D./M.S./B.S., 1999, 1994, 1992, Yonsei University, Seoul, Korea, Chemical Engineering (Advisor: Woo-Sik Kim; Co-Advisor: Jung-Hyun Kim)

Academic Positions

Associate Department Head for Graduate Affairs Jul 2018-present	Department of Biomedical Engineering
Assistant, Associate, to Full Professor (Tenure-Track to Tenured) Aug 2004-present	Department of Biomedical Engineering Department of Biosystems Engineering Department of Chemistry & Biochemistry The University of Arizona

Scholarly Activities

President Elect, President, and Immediate Past President, *Institute of Biological Engineering* (IBE) 2014-2016
Councilor-at-Large, *Institute of Biological Engineering* (IBE) 2010-2011

Program Committee Member, *IBE 2011 Conference*, Atlanta, GA
Program Chair/Co-Chair, *IBE 2010 Conference*, Cambridge, MA; *IBE 2009 Conference*, Santa Clara, CA
Program Committee Member, DS202, *2009 SPIE Defense, Security + Sensing*, Orlando, FL
Biological Engineering Executive and Steering Committee Member, BE-01 and BE-02, *2009, 2011 and 2012 ASABE Annual International Meetings*
Program Committee Member, BE-23, *2007, 2009, 2011 and 2012 ASABE Annual International Meetings*

Editorial Board Member, *Micromachines* (MDPI) 2020-present
Associate Editor, *Biosensors and Bioelectronics* (Elsevier) 2019-present
Editorial Board Member, *Scientific Reports* (Nature Publishing Group) 2015-present
Editor-in-Chief, *Journal of Biological Engineering* (IBE/BioMed Central) 2014-present
Editorial Board Member, *Journal of Biological Engineering* (IBE/BioMed Central) 2007-2013
Associate Editor, *ASABE (Biological Engineering Division)* 2008-2015
Editorial Board Member, *Resource* (ASABE) 2008-2014

Member, Institute of Biological Engineering (IBE)
Member, American Society of Agricultural and Biological Engineers (ASABE)
Member, SPIE – The International Society for Optics and Photonics
Member, Biomedical Engineering Society (BMES)
Member, American Chemical Society (ACS)

Reviewer for *ACS Nano* (ACS), *ACS Sensors* (ACS), *Advanced Healthcare Materials* (Wiley), *Advanced Materials* (Wiley), *Analytica Chimica Acta* (Elsevier), *Analytical and Bioanalytical Chemistry* (Springer), *Analytical Chemistry* (ACS), *Analytical Methods* (RSC), *Biological Engineering Transactions (formerly Biological Engineering)* (ASABE), *Biomaterials* (Elsevier), *Biomicrofluidics* (AIP), *Biosensors and Bioelectronics* (Elsevier), *Biosystems Engineering* (IAgrE/Elsevier), *Biotechnology Progress* (AIChE/Wiley), *Colloids and Surfaces* (Elsevier), *Environmental Science and Technology* (ACS), *IEEE Sensors Journal* (IEEE), *IEEE Transactions on*

Nanotechnology (IEEE), *Industrial & Engineering Chemistry Research* (ACS), *Integrative Biology* (RSC), *Journal of Agricultural and Food Chemistry* (ACS), *Journal of Biological Engineering* (IBE/BioMed Central), *Journal of Biomedical Materials Research* (Wiley), *Journal of Colloid and Interface Science* (Elsevier), *Journal of Microelectromechanical Systems* (IEEE/ASME), *Journal of Physical Chemistry* (ACS), *Journal of Virological Methods* (Elsevier), *Korean Journal of Chemical Engineering* (KIChE/Springer), *Lab on a Chip* (RSC), *Langmuir* (ACS), *Micro and Nano Letters* (IET), *Microfluidics and Nanofluidics* (Springer), *Nano Research* (Springer), *The Open Biotechnology Journal* (Bentham), *Optical Materials Express* (OSA), *RSC Advances* (RSC), *Sensing and Instrumentation for Food Quality and Safety* (Springer), *Sensors* (MDPI), *Sensors and Actuators* (Elsevier), *SLAS Technology (formerly JALA – Journal of Laboratory Automation)* (SLAS/SAGE), *Small* (Wiley), *Talanta* (Elsevier), *Theranostics* (Ivyspring), *Tissue Engineering* (Mary Ann Liebert), *Transactions of the ASABE* (ASABE)

Awards

Presidential Citation, *Institute of Biological Engineering* (IBE) 2016
ASABE Superior Paper Award 2014
Presidential Citation, *Institute of Biological Engineering* (IBE) 2012
Presidential Citation, *Institute of Biological Engineering* (IBE) 2010
Presidential Citation, *Institute of Biological Engineering* (IBE) 2009

Current Grants and Gifts

University of Arizona Health Sciences: Handheld, rapid, extremely sensitive assay of SARS-CoV-2 infections (PI, 100%, 2020-2021)
USDA/NIFA: Field usable THC Biosensor for Hemp Growers (PI, 100%, 2020)
Korea Institute of Ocean Science & Technology (KIOST): Adapting Oil Fingerprinting Analysis with Smartphone (PI, 100%, 2018-2020)
NSF: LSAMP BD – University of Arizona and Western Alliance to Expand Student Opportunities (Senior Personnel, 2018-2020)
Cardiovascular Biomedical Engineering Training Grant – NIH (Co-Director, 2016-present; Participating PI, 2006-2016)
Water and Environmental Technology (WET) Center – NSF and Tucson Water: Smartphone for Water Quality (Subaward Co-PI, 2014-2020)

Past Grants and Gifts

Tech Launch Arizona: Rapid and Non-Destructive Detection of Infection (PI, 100%, 2018)
BIO5 Institute: A New Way of Assaying Zika Virus through Monitoring Interfacial Effects on Paper (PI, 67%, 2016-2017)
Western Alliance to Expand Student Opportunities (WAESO) – NSF: A New Way of Assaying Zika Virus through Monitoring Interfacial Effects on Paper (PI, 2016-2017)
Southwest Environmental Health Sciences Center (SWEHSC) – NIH: Liver/Kidney-on-a-Chip for Environmental Toxicology Studies (PI, 50%, 2014-2016)
NSF: DOTS qPCR: A handheld, Rapid Molecular Diagnostic Tool for Ebola (Co-PI, 50%, 2014-2016)
Seoul VioSys: Paper Microfluidics for Urinalysis (PI, 100%, 2014-2015)
Seoul VioSys: Direct Identification/Quantification of Particulate Matter from Air Purifier (PI, 100%, 2014-2015)
Animal & Plant Quarantine Agency, South Korea: Development of Disposable and Handheld PCR Device for Veterinary Diagnostics (PI, 2012-2013)
Water Sustainability Program (WSP): Rapid, Real-Time Detection of EDC's (PI, 2013)
Arizona Commerce Authority: AZ Furnace: Fast PCR Diagnostics (PI, 2013-2014)
Tech Launch Arizona: Fast PCR Diagnostics for Blood Infection (PI, 2013)
BIO5 Institute: Nanotextured Particle-Ligand Ensembles for Enhanced Stent Endothelialization (Co-PI, 2012-2013)
Desert Tech: Real-Time, Portable Biosensor for *E. coli* (PI, 2009-2012)
Western Alliance to Expand Student Opportunities (WAESO) – NSF: Handheld Lab-on-a-Chip Biosensor for Medical/Veterinary Diagnostics (PI, 2012)
Pamela Turbeville: Low-Cost Cell-Phone-Based Medical Diagnostics (PI, 2011-2012) – *Directed Gift*
Korean Intellectual Property Office (KIPO): Training of a Visiting Scholar on Biosimilar Industry (PI, 2011)
NIH: Nanoarray-Type Detection of Oct3/4 and Cdx2 Using AuNPs and E-Beam Patterns (PI, 2007-2010)

National Veterinary Research and Quarantine Service (NVRQS), South Korea: Development of Lab-on-a-Chip to Detect Infectious Agents within Livestock Barns (PI, 2007-2011)
NSF: Development of Simulation Models and Biosensors to Detect Biological Agents in Water Distribution Systems (Co-PI, 2006-2008)
UA Office of Vice President for Research: Protein Nanoarray Using Gold Nanoparticles and E-Beam Lithography (PI, 2005-2006)
Arizona Department of Commerce: Lab-on-a-Chip for Real-Time Monitoring of Water Safety (Subcontractor, 2005)
BMD, S.A.: Improving Beads Saturation and Eliminating Non-Specific Adsorption in FIDIS™ (PI, 2005)

Courses Taught at the University of Arizona

Current: BME/BE/CHEE 481B/581B Cell and Tissue Engineering; **BE/BME 447/547** Sensors and Controls
Past: BME/BE 486/586 Biomaterial-Tissue Interactions; **ABE/AME 489B/589B** Bio Micro/Nanotechnology Applications

Books

1. Jeong-Yeol Yoon, Editor & Author of First 3 Chapters, "Smartphone Based Medical Diagnostics," Elsevier: London/San Diego/Cambridge, **2020**, ISBN 978-0-12-817044-1.
2. Jeong-Yeol Yoon, "Introduction to Biosensors: From Electric Circuits to Immunosensors," Second Edition, Springer: New York, **2016**, ISBN: 978-3-319-27411-9. *Top 25% most downloaded (12,914 downloads) Springer books in 2018. Top 25% most downloaded (14,347 downloads) Springer books in 2017. Top 25% most downloaded (9,645 downloads) Springer books in 2016.*
3. Jeong-Yeol Yoon, "Introduction to Biosensors: From Electric Circuits to Immunosensors," Springer: New York, **2013**. ISBN: 978-1-4419-6021-4.

Journal Articles

* = corresponding author(s).

1. Katelyn Sosnowski[+], Patarajarin Akarapipad[+] and Jeong-Yeol Yoon*, "The Future of Microbiome Analysis: Biosensor Methods for Big Data Collection and Clinical Diagnostics," *Medical Devices & Sensors*, **2020**, doi: 10.1002/mds3.10085. ([+]equal contribution)
2. Kattika Kaarj, Marianne Madias, Patarajarin Akarapipad, Soohee Cho and Jeong-Yeol Yoon*, "Paper-based In Vitro Tissue Chip for Delivering Programmed Mechanical Stimuli of Local Compression and Shear Flow," *Journal of Biological Engineering*, **2020**, 14: 20.
3. Kambiz Sadeghi, Jeong-Yeol Yoon and Jongchul Seo*, "Chromogenic Polymers and Their Packaging Applications: A Review," *Polymer Reviews*, **2020**, 60(3): 442-492.
4. Matthew V. Bills and Jeong-Yeol Yoon*, "Label-free Mie Scattering Identification of Tumor Tissue Using an Angular Photodiode Array," *IEEE Sensors Letters*, **2020**, 4(7): 4500704.
5. Kattika Kaarj, Jennifer Ngo, Christina Loera, Patarajarin Akarapipad, Soohee Cho and Jeong-Yeol Yoon*, "Simple Paper-based Liver Cell Model for Drug Screening," *BioChip Journal*, **2020**, 14(2): 218-229.
6. Matthew V. Bills, Andrew Loh, Katelyn Sosnowski, Brandon T. Nguyen, Sung Yong Ha, Un Hyuk Yim* and Jeong-Yeol Yoon*, "Handheld UV Fluorescence Spectrophotometer Device for the Classification and Analysis of Petroleum Oil Samples," *Biosensors and Bioelectronics*, **2020**, 159: 112193.
7. Tiffany-Heather Ulep, Ryan Zenhausern, Alana Gonzales, David S. Knoff, Paula A. Lengerke Diaz, Januario E. Castro and Jeong-Yeol Yoon*, "Smartphone Based On-chip Fluorescence Imaging and Capillary Flow Velocity Measurement for Detecting ROR1+ Cancer Cells from Buffy Coat Blood Samples on Dual-layer Paper Microfluidic Chip," *Biosensors and Bioelectronics*, **2020**, 153: 112042.
8. Kaeun Lee, Hyunwoo Park, Sangho Baek, Seungjong Han, Dowan Kim, Soo Chung, Jeong-Yeol Yoon and Jongchul Seo*, "Colorimetric Array Freshness Indicator and Digital Color Processing for Monitoring the Freshness of Packaged Chicken Breast," *Food Packaging and Shelf Life*, **2019**, 22: 100408.
9. Kattika Kaarj and Jeong-Yeol Yoon*, "Methods of Delivering Mechanical Stimuli to Organ-on-a-chip," *Micromachines*, **2019**, 10(10): 700. *Highlighted in CellScale.*

10. Soo Chung, Christian M. Jennings and Jeong-Yeol Yoon*, "Distance vs. Capillary Flow Dynamics-Based Detection Methods on Microfluidic Paper-Based Analytic Device," *Chemistry - A European Journal*, **2019**, 25(57): 13070-13077.
11. Matthew V. Bills, Brandon T. Nguyen and Jeong-Yeol Yoon*, "Simplified White Blood Cell Differential: An Inexpensive, Smartphone- and Paper-Based Blood Cell Count," *IEEE Sensors Journal*, **2019**, 19(18): 7822-7828.
12. Tiffany-Heather Ulep, Alexander S. Day, Katelyn Sosnowski, Alexa Shumaker and Jeong-Yeol Yoon*, "Interfacial Effect-based Quantification of Droplet Isothermal Nucleic Acid Amplification for Bacterial Infection," *Scientific Reports*, **2019**, 9: 9629.
13. Soo Chung, Lane E. Breshears, Sean Perea, Christina M. Morrison, Walter Q. Betancourt, Kelly A. Reynolds and Jeong-Yeol Yoon*, "Smartphone-based Paper Microfluidic Particulometry of Norovirus from Environmental Water Samples at Single Copy Level," *ACS Omega*, **2019**, 4(6): 11180-11188. *Highlighted in ACS News Release, ACS Press Conference, NPR News, UANews, KVOA (NBC) TV, Arizona Daily Star, Forbes, EurekaAlert!, BioSpace, Interlochen Public Radio, Texas Public Radio, New Hampshire Public Radio, Progressive Charlestown, News Atlas, Contagion Live, SciTechDaily, Medicine News Line, Chemistry World, DailyMail, New Scientist, PhysOrg, MedGadget, Medical Device Network, News-Medical.net, Herald Publicist, Medical News Today, Physics World, Futurity, Food Safety News, International Business Times, eHealthNews, Healthcare-in-Europe.com, Innovators Magazine, News Live, Daily Herald, Sciences et Avenir, Pourquoi Docteur, El Medico Interactivo, Arzte Zeitung, Technology.org, MEAWW, The Cleanzine, Cruise Passenger, Cruise Safely, Barfblog, MedIndia, Future Analyzing Technology, Satoshina Kamato Blog, Dong-A Ilbo, Dong-A Science, The Korea Times, News Zum, and more. Included in the virtual issue "Celebrating 5 Years of Open Access with ACS Omega" as High Online Attention article.*
14. Robin E. Sweeney, Vina Nguyen, Benjamin Alouidor, Elizabeth Budiman, Raymond K. Wong and Jeong-Yeol Yoon*, "Flow Rate and Raspberry Pi-based Paper Microfluidic Blood Coagulation Assay Device," *IEEE Sensors Journal*, **2019**, 19(13): 4743-4751. *Top 25 Most Downloaded IEEE Sensors Journal Papers in June 2019.*
15. Katherine E. Klug[+], Christian M. Jennings[+], Nicholas Lytal, Lingling An and Jeong-Yeol Yoon*, "Mie Scattering and Microparticle Based Characterization of Heavy Metal Ions and Classification by Statistical Inference Methods," *Royal Society Open Science*, **2019**, 6: 190001. ([+]equal contribution)
16. Benjamin Alouidor, Robin E. Sweeney, Trinny Tat, Raymond K. Wong* and Jeong-Yeol Yoon*, "Microfluidic Point-of-care Ecarin Based Clotting and Chromogenic Assays for Monitoring Direct Thrombin Inhibitors," *Journal of ExtraCorporeal Technology*, **2019**, 51: 29-37.
17. Soo Chung, Lane E. Breshears and Jeong-Yeol Yoon*, "Smartphone Near Infrared Monitoring of Plant Stress," *Computers and Electronics in Agriculture*, **2018**, 154: 93-98.
18. Kattika Kaarj, Patarajarin Akarapipad and Jeong-Yeol Yoon*, "Simpler, Faster, and Sensitive Zika Virus Assay Using Smartphone Detection of Loop-mediated Isothermal Amplification on Paper Microfluidic Chips," *Scientific Reports*, **2018**, 8: 12438.
19. Tiffany-Heather Ulep and Jeong-Yeol Yoon*, "Challenges in Paper-Based Fluorogenic Optical Sensing with Smartphones," *Nano Convergence*, **2018**, 5: 14.
20. Katherine E. Klug, Kelly A. Reynolds and Jeong-Yeol Yoon*, "A Capillary Flow Dynamics-Based Sensing Modality for Direct Environmental Pathogen Monitoring," *Chemistry - A European Journal*, **2018**, 24(23): 6025-6029. *Hot Paper. Inside Cover. Highlighted in ChemistryViews Magazine.*
21. Cayla Baynes and Jeong-Yeol Yoon*, "µPAD Fluorescence Scattering Immunoagglutination Assay for Cancer Biomarkers from Blood and Serum," *SLAS Technology (formerly JALA - Journal of Laboratory Automation)*, **2018**, 23(1): 30-43.
22. Soohee Cho, Tu San Park, Kelly A. Reynolds and Jeong-Yeol Yoon*, "Multi-Normalization and Interpolation Protocol to Improve Norovirus Immunoagglutination Assay from Paper Microfluidics with Smartphone Detection," *SLAS Technology (formerly JALA – Journal of Laboratory Automation)*, **2017**, 22(6): 609-615.
23. Robin E. Sweeney and Jeong-Yeol Yoon*, "Angular Photodiode Array-Based Device to Detect Bacterial Pathogens in a Wound Model," *IEEE Sensors Journal*, **2017**, 17(21) 6911-6917.
24. Ariana M. Nicolini, Tyler D. Toth, Samuel Y. Kim, M. Alejandra Mandel, David W. Galbraith and Jeong-Yeol Yoon*, "Mie Scatter and Interfacial Tension Based Real-Time Quantification of Colloidal Emulsion Nucleic Acid Amplification," *Advanced Biosystems*, **2017**, 1(10): 1700098. *Front Cover.*

25. Robin E. Sweeney, Elizabeth Budiman and Jeong-Yeol Yoon*, "Mie Scatter Spectra-Based Device for Instant, Contact-Free, and Specific Diagnosis of Bacterial Skin Infection," *Scientific Reports*, **2017**, 7: 4801.
26. Soohee Cho and Jeong-Yeol Yoon*, "Organ-on-a-Chip for Assessing Environmental Toxicants," *Current Opinion in Biotechnology*, **2017**, 45: 34-42.
27. Katherine E. McCracken, Trinny Tat, Veronica Paz and Jeong-Yeol Yoon*, "Smartphone-Based Fluorescence Detection of Bisphenol A from Water Samples," *RSC Advances*, **2017**, 7: 9237-9243.
28. Tu San Park[+], Soohee Cho[+], Tigran G. Nahapetian[+] and Jeong-Yeol Yoon*, "Smartphone Detection of UV LED Enhanced Particle Immunoassay on Paper Microfluidics," *SLAS Technology (formerly JALA – Journal of Laboratory Automation)*, **2017**, 22(1): 7-12. ([+]equal contribution)
29. Ariana M. Nicolini[+], Katherine E. McCracken[+] and Jeong-Yeol Yoon*, "Future Developments in Biosensors for Field-Ready Zika Virus Diagnostics," *Journal of Biological Engineering*, **2017**, 11: 7. ([+]equal contribution)
30. Jeong-Yeol Yoon*, "Towards the 10-Year Milestone of Journal of Biological Engineering," *Journal of Biological Engineering*, **2017**, 11: 3.
31. Katherine E. McCracken and Jeong-Yeol Yoon*, "Recent Approaches for Optical Smartphone Sensing in Resource-Limited Settings: A Brief Review," *Analytical Methods*, **2016**, 8: 6591-6601. *Top 5% of Highly Cited in Analytical Portfolio RSC Journals in 2018.*
32. Soohee Cho, Argel Islas-Robles, Ariana M. Nicolini, Terrence J. Monks and Jeong-Yeol Yoon*, "In Situ, Dual-Mode Monitoring of Organ-on-a-Chip with Smartphone-Based Fluorescence Microscope," *Biosensors and Bioelectronics*, **2016**, 86: 697-705.
33. Ariana M. Nicolini, Tyler D. Toth and Jeong-Yeol Yoon*, "Tuneable Nanoparticle-Nanofiber Composite Substrate for Improved Cellular Adhesion," *Colloids and Surfaces B: Biointerfaces*, **2016**, 145: 830-838.
34. Katherine E. McCracken, Scott V. Angus, Kelly A. Reynolds* and Jeong-Yeol Yoon*, "Multimodal Imaging and Lighting Bias Correction for Improved μPAD-based Water Quality Monitoring via Smartphones," *Scientific Reports*, **2016**, 6: 27529.
35. Dustin K. Harshman, Brianna M. Rao, Jean E. McLain, George S. Watts and Jeong-Yeol Yoon*, "Innovative qPCR Using Interfacial Effects to Enable Low Threshold Cycle Detection and Inhibition Relief," *Science Advances*, **2015**, 1(8): e1400061. *Highlighted in 3D Perspectives, KUAZ/KUAT (PBS/NPR) Radio, Genomeweb, BioCentury, UANews, ScienceDaily, FARS News, AZBio, Science World Report, PhysOrg, Infection Control Today, Surgical Products, Machines Like Us, Biocompare, Business Standard, 2015 Tech, Science Newsline Medicine, Medical Design Technology, Technology Networks, BioSpace, The News On Time, Deccan Chronicle, EurekaAlert!, medGadget, Pharmacy Choice, Genomeweb, The Korea Times, and more.*
36. Soohee Cho[+], Tu San Park[+], Tigran G. Nahapetian and Jeong-Yeol Yoon*, "Smartphone-Based, Sensitive μPAD Detection of Urinary Tract Infection and Gonorrhea," *Biosensors and Bioelectronics*, **2015**, 74: 601-611. ([+] equal contribution)
37. Scott V. Angus[+], Soohee Cho[+], Dustin K. Harshman, Jae-Young Song and Jeong-Yeol Yoon*, "A Portable, Shock-Proof, Surface-Heated Droplet PCR System for *Escherichia coli* Detection," *Biosensors and Bioelectronics*, **2015**, 74: 360-368. ([+] equal contribution)
38. Christopher F. Fronczek and Jeong-Yeol Yoon*, "Biosensors for Monitoring Airborne Pathogens," *JALA – Journal of Laboratory Automation (presently SLAS Technology)*, **2015**, 20(4): 390-410.
39. Pei-Shih Liang, Ariana M. Nicolini, Kimberly L. Ogden and Jeong-Yeol Yoon*, "Use of Biosensors in Secondary Education Classrooms," *Transactions of the ASABE*, **2015**, 58(2): 181-190.
40. Ariana M. Nicolini, Christopher F. Fronczek and Jeong-Yeol Yoon*, "Droplet-Based Immunoassay on a 'Sticky' Nanofibrous Surface for Multiplexed and Double Detection of Bacteria Using Smartphones," *Biosensors and Bioelectronics*, **2015**, 67: 560-569. *Highlighted in Genetic Engineering & Biotechnology News.*
41. Tu San Park and Jeong-Yeol Yoon*, "Smartphone Detection of *Escherichia coli* from Field Water Samples on Paper Microfluidics," *IEEE Sensors Journal*, **2015**, 15(3): 1902-1907.
42. Pei-Shih Liang, Tu San Park and Jeong-Yeol Yoon*, "Rapid and Reagentless Detection of Microbial Contamination within Meat Utilizing a Smartphone-Based Biosensor," *Scientific Reports*, **2014**, 4: 5953.
43. Tu San Park, Cayla Baynes, Seong-In Cho and Jeong-Yeol Yoon*, "Paper Microfluidics for Red Wine Tasting," *RSC Advances*, **2014**, 4(46): 24356-24362. *Highlighted in RSC Advances Blog.*
44. Hyuck-Jin Kwon[+], Christopher F. Fronczek[+], Scott V. Angus, Ariana M. Nicolini and Jeong-Yeol Yoon*, "Rapid and Sensitive Detection of H1N1/2009 Virus from the Aerosol Samples with a Microfluidic

Immunosensor," *JALA – Journal of Laboratory Automation (presently SLAS Technology)*, **2014**, 19(3): 322-331. ([+] equal contribution)

45. Christopher F. Fronczek, Tu San Park, Dustin K. Harshman, Ariana M. Nicolini and Jeong-Yeol Yoon*, "Paper Microfluidic Extraction and Direct Smartphone-Based Identification of Pathogenic Nucleic Acid from Field and Clinical Samples," *RSC Advances*, **2014**, 4(22): 11103-11110.
46. C. Christopher Stemple[+], Scott V. Angus[+], Tu San Park and Jeong-Yeol Yoon*, "Smartphone-Based Optofluidic Lab-on-a-Chip for Detecting Pathogens from Blood," *JALA – Journal of Laboratory Automation (presently SLAS Technology)*, **2014**, 19(1): 35-41. ([+] equal contribution)
47. Dustin K. Harshman, Roberto Reyes, Tu San Park, David J. You, Jae-Young Song and Jeong-Yeol Yoon*, "Enhanced Nucleic Acid Amplification with Blood in Situ by Wire-Guided Droplet Manipulation (WDM)," *Biosensors and Bioelectronics*, **2014**, 53: 167-174.
48. Jeong-Yeol Yoon*, "Smartphone-Based Lab-on-a-Chip Sensor for Flu Detection," *Resource*, **2014**, 21(1), 20-22.
49. Tu San Park, Wenyue Li, Katherine E. McCracken and Jeong-Yeol Yoon*, "Smartphone Quantifies Salmonella from Paper Microfluidics," *Lab on a Chip*, **2013**, 13(24): 4832-4840.
50. Phat L. Tran, Jessica R. Gamboa, Katherine E. McCracken, Mark R. Riley, Marvin J. Slepian* and Jeong-Yeol Yoon*, "Nanowell-Trapped Charged Ligand-Bearing Nanoparticle Surfaces - A Novel Method of Enhancing Flow-Resistant Cell Adhesion," *Advanced Healthcare Materials*, **2013**, 2(7): 1019-1027. *Back cover. Highlighted in UANews.*
51. Katherine E. McCracken, Phat L. Tran, David J. You, Marvin J. Slepian and Jeong-Yeol Yoon*, 2013. "Shear- vs. Nanotopography-Guided Control of Growth of Endothelial Cells on RGD-Nanoparticle-Nanowell Arrays," *Journal of Biological Engineering*, **2013**, 7: 11.
52. Pei-Shih Liang and Jeong-Yeol Yoon*, "Optofluidic Lab-on-a-chip Monitoring of Subsurface Bacterial Transport," *Biological Engineering Transactions*, **2013**, 6(1): 17-28. *Featured in ASABE Publications and Arizona Engineer. Received 2014 ASABE Superior Paper Award.*
53. Jessica R. Gamboa, Samir Mohandes, Phat L. Tran, Marvin J. Slepian* and Jeong-Yeol Yoon*, "Linear Fibroblast Alignment on Sinusoidal Wave Micropatterns," *Colloids and Surfaces B: Biointerfaces*, **2013**, 104: 318-325.
54. Christopher F. Fronczek, David J. You and Jeong-Yeol Yoon*, "Single-Pipetting Microfluidic Assay Device for Rapid Detection of Salmonella from Poultry Package," *Biosensors and Bioelectronics*, **2013**, 40(1): 342-349.
55. David J. You, Tu San Park and Jeong-Yeol Yoon*, "Cell-Phone-Based Measurement of TSH Using Mie Scatter Optimized Lateral Flow Assays," *Biosensors and Bioelectronics*, **2013**, 40(1): 180-185.
56. Scott V. Angus, Hyuck-Jin Kwon and Jeong-Yeol Yoon*, "Field-Deployable and Near-Real-Time Optical Microfluidic Biosensors for Single-Oocyst-Level Detection of *Cryptosporidium parvum* from Field Water Samples," *Journal of Environmental Monitoring (presently Environmental Science: Processes & Impact)*, **2012**, 14(12): 3295-3304.
57. David J. You and Jeong-Yeol Yoon*, "Droplet Centrifugation, Droplet DNA Extraction, and Rapid Droplet Thermocycling for Simpler and Faster PCR Assay Using Wire-Guided Manipulations," *Journal of Biological Engineering*, **2012**, 6: 15.
58. Jeong-Yeol Yoon* and Bumsang Kim, "Lab-on-a-Chip Pathogen Sensor for Food Safety," *Sensors*, **2012**, 12(8): 10713-10741.
59. C. Christopher Stemple, Hyuck-Jin Kwon and Jeong-Yeol Yoon*, "Rapid and Sensitive Detection of Malaria Antigen in Human Blood with Lab-on-a-Chip," *IEEE Sensors Journal*, **2012**, 12(9): 2735-2736.
60. Jeong-Yeol Yoon*, "Who We Are & What We Can Do," *Resource*, **2012**, 19(3): 19-21.
61. Jae-Young Song, Chang-Hee Lee, Eun-Jin Choi, Keesung Kim and Jeong-Yeol Yoon*, "Sensitive Mie Scattering Immunoagglutination Assay of Porcine Reproductive and Respiratory Syndrome Virus (PRRSV) from Lung Tissue Samples in a Microfluidic Chip," *Journal of Virological Methods*, **2011**, 178(1-2): 31-38.
62. David J. You, Kenneth J. Geshell and Jeong-Yeol Yoon*, "Direct and Sensitive Detection of Foodborne Pathogens within Fresh Produce Samples Using a Field-Deployable Handheld Device," *Biosensors and Bioelectronics*, **2011**, 28(1): 399-406. *Highlighted in KUAT (PBS) TV, UANews, PhysOrg, Western Farm Press, Dong-A Ilbo, and more.*

63. Brian C. Heinze and Jeong-Yeol Yoon*, "Nanoparticle Immunoagglutination Rayleigh Scatter Assay to Complement Microparticle Immunoagglutination Mie Scatter Assay in a Microfluidic Device," *Colloids and Surfaces B: Biointerfaces*, **2011**, 85(2): 168-173.
64. David J. You, Phat L. Tran, Hyuck-Jin Kwon, Deepa Patel and Jeong-Yeol Yoon*, "Very Quick Reverse Transcription Polymerase Chain Reaction for Detecting 2009 H1N1 Influenza A Using Wire-Guide Droplet Manipulations," *Faraday Discussions*, **2011**, 149(1): 159-170. *Editor's pick of hot article.*
65. Hyuck-Jin Kwon, Chang-Hee Lee, Eun-Jin Choi, Jae-Young Song, Brian C. Heinze and Jeong-Yeol Yoon*, "Optofluidic Device Monitoring and Fluid Dynamics Simulation for the Spread of Viral Pathogens in a Livestock Environment," *Journal of Environmental Monitoring (presently Environmental Science: Processes & Impact)*, **2010**, 12(11): 2138-2144. *Featured in Resource.*
66. Jeong-Yeol Yoon* and Hyuck-Jin Kwon, "Biosensor Detection of an Airborne Mystery Disease," *Resource*, **2010**, 17(5): 5-7.
67. Brian C. Heinze, Jessica R. Gamboa, Keesung Kim, Jae-Young Song and Jeong-Yeol Yoon*, "Microfluidic Immunosensor with Integrated Liquid Core Waveguides for Sensitive Mie Scattering Detection of Avian Influenza Antigens in a Real Biological Matrix," *Analytical and Bioanalytical Chemistry*, **2010**, 398(6): 2693-2700.
68. Phat L. Tran, Jessica R. Gamboa, David J. You and Jeong-Yeol Yoon*, "FRET Detection of Octamer-4 on a Protein Nanoarray Made by Size-Dependent Self-Assembly," *Analytical and Bioanalytical Chemistry*, **2010**, 398(2): 759-768.
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Matthew Bills, Ph.D., Systems Engineer, Roche Tissue Diagnostics

Past Visiting Scholars

Jae-Young Song, D.V.M., Ph.D., Division Director at Animal & Plant Quarantine Agency, Republic of Korea
Byung-Sik Kim, Ph.D., Retired, Former President at Chodang University
Hwasop Lim, Staff Writer and Deputy Director at Yonhap News Agency
Hamyong Park, Ph.D., Deputy Director at Korean Intellectual Property Office
Bumsang Kim, Ph.D., Professor at Hongik University
Tae Hoon Oh, M.D., Ph.D., Assistant Professor at Inje University Sanggye-Paik Hospital
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