



SIDDS 2023

Seoul International Digestive Disease Symposium 2023

In Conjunction with the Annual Meeting of the Korean Society of Gastroenterology



April 8-9, 2023 Hybrid congress

Name	Yoon-Kyoung Cho
Affiliation	UNIST/IBS
Country	Republic of Korea
Major Field	Microfluidics, Lab-on-a-Chip

Educational Background

1994-1999 Ph.D. in Materials Science and Engineering, Univ. of Illinois at Urbana-Champaign (UIUC), USA

1992-1994 M.S. in Chemical Engineering, POSTECH, Korea

1988-1992 B.S. in Chemical Engineering., POSTECH, Korea

Professional Experience

2008-present Group leader, Center for soft and Living Matter, IBS, Korea

2008-present Professor, Chair, Biomedical Engineering, UNIST, Korea

1999-2008 Senior Researcher, Samsung Advanced Institute of Technology (SAIT), Korea

Other Experience and Professional Memberships

2021-present Member of the National Academy of Engineering of Korea (NAEK), Korea

2019-present Board of directors, Chemical and Biological Microsystems Society (CBMS)

2016-present Fellow of Royal Society of Chemistry (FRSC)

2017-2019 Presidential Advisory Council on Science & Technology, member

2013-2016 MicroTAS 2013-2016, Executive Technical Program Committee (ETPC)

2019-present Lab on a Chip, Associate Editor, Editorial board member (2013-2019)

2012-2022 Analyst, Advisory board member

2012-present Korea Biochip Society, Committee chair/vice president

2013-present Korean Institute of Chemical Engineers, Board of Trustees

2020 - 2022 IEEE EMBS Micro and Nanotechnology in Medicine Conference, Virtual meeting

(2020) & December 5-9, 2022, Disney Aulani, Hawaii, Program Chair

2018 The 10th International Symposium on Microchemistry and Microsystems (ISMM) 2018, Busan, Korea, Chair

2015 MicroTAS 2015, Gyeongju, Korea, Organization Committee

Main Scientific Publications

1. "SEEDING to Enable Sensitive Electrochemical Detection of Biomarkers in Undiluted Biological Samples", *Advance Materials*, 34, 24, 2270180, (2022) Journal Cover

2. "Programmed exosome fusion for energy generation in living cells", *Nature Catalysis*, 4, 763-774 (2021) Journal Cover

3. "Lab-on-a-disc for Point-of-care Infection Diagnostics", *Accounts of Chemical Research*, 54, 19, 3643-3655 (2021)

4. "Lab-on-a-disc for ultrafast plasmonic assay of cysteamine", *Biosensors and Bioelectronics*, 194, 15, 113584 (2021)



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5. “Glycolipid-Anchored Proteins on Bioengineered Extracellular Vesicles for Lipopolysaccharide Neutralization”, ACS Applied Materials & Interfaces, 13(25) 29313–29324 (2021)
6. “Spontaneous wrinkle formation on hydrogel surfaces using photoinitiator diffusion from oil-water interface”, ACS Applied Materials & Interfaces, 13, 13, 15837–15846 (2021)
7. “Surface-Textured Mixed-Metal-Oxide Nanocrystals as Efficient Catalysts for ROS Production and Biofilm Eradication”, Nano Lett., 21, 1, 279–287 (2021)
8. “Photoactive Antiviral Face Mask with Self-Sterilization and Reusability”, Nano Lett., 21, 337–343 (2021)
9. “Adaptive architecture and mechanoresponse of epithelial cells on a torus”, Biomaterials, 265, 120420, (2021)
10. “Three-dimensional Human Liver-chip Emulating Pre-metastatic Niche Formation by Breast Cancer-derived Extracellular Vesicles”, ACS Nano, 14, 11, 14971–14988, (2020) Journal cover, BRIC Top 5 research award
11. “A fidget spinner for the point-of-care diagnosis of urinary tract infection”, Nature Biomedical Engineering, 4, 591–600, (2020)
12. “A Lab-on-a-Disc platform enables serial monitoring of individual CTCs associated with tumor progression during EGFR-targeted therapy for patients with NSCLC”, Theranostics, 10, 5181-5194, (2020) Journal cover
13. “Near-field electrospinning for 3D stacked nanoarchitectures with high aspect ratio”, Nano Letters, 20(1), 441-448, (2020)
14. “Highly Sensitive Detection of Hydrazine on Poly(Tannic Acid)-Coated Disposable Carbon Electrode”, Biosensors and Bioelectronics, 150, 11927, (2020)
15. “Human platelet membrane functionalized microchips with plasmonic codes for cancer detection, Advanced Functional Materials, 1902669, (2019) Journal cover
16. “Fully automated, label-free isolation of extracellular vesicles from whole blood for cancer diagnosis and monitoring”, Theranostics, 9, 1851-1863, (2019)
17. “Universal method for direct bioconjugation of electrode surfaces by fast enzymatic polymerization”, Biosensors and Bioelectronics, 127, 50-56, (2019)
18. “Plasmonically coupled nanoreactors for NIR-Light-mediated remote stimulation of catalysis in living cells”, ACS Catalysis, 9, 977-990, (2019) Journal cover
19. “Urine-based liquid biopsy: non-invasive and sensitive AR-V7 detection in urinary EVs from patients with prostate cancer”, Lab on a Chip, 19, 1, 87-97, (2019) selected as a HOT papers
20. “Surface-engineered paper hanging drop chip for 3D spheroid culture and analysis”, ACS Applied Materials & Interfaces, 10, 40, 33839-33846, (2018) Journal cover
21. “Cloaked exosomes: biocompatible, durable, and degradable encapsulation”, Small 14 34 1870154, (2018) Journal cover
22. “Exodisc for rapid, size-selective, and efficient isolation and analysis of nanoscale extracellular vesicles from biological samples, ACS Nano, 11 (2), 1360–1370, (2017) BRIC Top 5 research award



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23. "FAST: size-selective, clog-free isolation of rare cancer cells from whole blood at a liquid-liquid Interface", *Analytical Chemistry*, 89 (2), 1155–1162, (2017) Journal cover
24. "All-in-one centrifugal microfluidic device for size-selective circulating tumor cell isolation with high purity", *Analytical Chemistry*, 86, 11349–11356, (2014)
25. "Flexible fabrication and applications of polymer nanochannels and nanoslits", *Chemical Society Reviews*, 40(7), 3677-3702, (2011)
26. Fully integrated lab-on-a-disc for simultaneous analysis of biochemistry and immunoassay from whole blood", *Lab on a Chip*, 11(1), 70-78, (2011) Journal cover
27. "One-step pathogen-specific DNA extraction from whole blood on a centrifugal microfluidic device", *Lab on a Chip*, 7(5), 565-573, (2007) Journal Cover