

Microfluidics Highly Cited Articles 2018-2025

Prof. Steven S. Saliterman

- Abbas, Y., Turco, M. Y., Burton, G. J., & Moffett, A. (2020). Investigation of human trophoblast invasion *in vitro*. *Human Reproduction Update*, 26(4), 501-513. doi:10.1093/humupd/dmaa017
- Abdelsalam, S. I., Alsharif, A. M., Abd Elmaboud, Y., & Abdellateef, A. I. (2023). Assorted kerosene-based nanofluid across a dual-zone vertical annulus with electroosmosis. *Heliyon*, 9(5). doi:10.1016/j.heliyon.2023.e15916
- Abuwatfa, W. H., Pitt, W. G., & Hussein, G. A. (2024). Scaffold-based 3D cell culture models in cancer research. *Journal of Biomedical Science*, 31(1). doi:10.1186/s12929-024-00994-y
- Agha, A., Waheed, W., Stiharu, I., Nerguizian, V., Destgeer, G., Abu-Nada, E., & Alazzam, A. (2023). A review on microfluidic-assisted nanoparticle synthesis, and their applications using multiscale simulation methods. *Discover Nano*, 18(1). doi:10.1186/s11671-023-03792-x
- Akyazi, T., Basabe-Desmonts, L., & Benito-Lopez, F. (2018). Review on microfluidic paper-based analytical devices towards commercialisation. *Analytica Chimica Acta*, 1001, 1-17. doi:10.1016/j.aca.2017.11.010
- Altug, H., Oh, S. H., Maier, S. A., & Homola, J. (2022). Advances and applications of nanophotonic biosensors. *Nature Nanotechnology*, 17(1), 5-16. doi:10.1038/s41565-021-01045-5
- Armstrong, J. P. K., & Stevens, M. M. (2018). Strategic design of extracellular vesicle drug delivery systems. *Advanced Drug Delivery Reviews*, 130, 12-16. doi:10.1016/j.addr.2018.06.017
- Aryal, P., Hefner, C., Martinez, B., & Henry, C. S. (2024). Microfluidics in environmental analysis: advancements, challenges, and future prospects for rapid and efficient monitoring. *Lab on a Chip*, 24(5), 1175-1206. doi:10.1039/d3lc00871a
- Bagheri, A., & Jin, J. Y. (2019). Photopolymerization in 3D Printing. *Acs Applied Polymer Materials*, 1(4), 593-611. doi:10.1021/acsapm.8b00165
- Bagi, M., Amjad, F., Ghoreishian, S. M., Shahsavari, S. S., Huh, Y. S., Moraveji, M. K., & Shimpalee, S. (2024). Advances in Technical Assessment of Spiral Inertial Microfluidic Devices Toward Bioparticle Separation and Profiling: A Critical Review. *Biochip Journal*, 18(1), 45-67. doi:10.1007/s13206-023-00131-1
- Bandodkar, A. J., Gutruf, P., Choi, J., Lee, K., Sekine, Y., Reeder, J. T., . . . Rogers, J. A. (2019). Battery-free, skin-interfaced microfluidic/electronic systems for simultaneous electrochemical, colorimetric, and volumetric analysis of sweat. *Science Advances*, 5(1). doi:10.1126/sciadv.aav3294
- Bandodkar, A. J., Jeang, W. J., Ghaffari, R., & Rogers, J. A. (2019). Wearable Sensors for Biochemical Sweat Analysis. In P. W. Bohn & J. E. Pemberton (Eds.), *Annual Review of Analytical Chemistry*, Vol 12 (Vol. 12, pp. 1-22).
- Battat, S., Weitz, D. A., & Whitesides, G. M. (2022). An outlook on microfluidics: the promise and the challenge. *Lab on a Chip*, 22(3), 530-536. doi:10.1039/d1lc00731a
- Bayareh, M., Ashani, M. N., & Usefian, A. (2020). Active and passive micromixers: A comprehensive review. *Chemical Engineering and Processing-Process Intensification*, 147. doi:10.1016/j.cep.2019.107771

- Bhalla, N., Pan, Y. W., Yang, Z. G., & Payam, A. F. (2020). Opportunities and Challenges for Biosensors and Nanoscale Analytical Tools for Pandemics: COVID-19. *Acs Nano*, *14*(7), 7783-7807. doi:10.1021/acsnano.0c04421
- Bhardwaj, A., Kumar, A., Bhandari, D. S., & Tripathi, D. (2024). Alteration in electroosmotic flow of couple stress fluids through membrane based microchannel. *Sensors and Actuators a-Physical*, *366*. doi:10.1016/j.sna.2023.114956
- Brites, C. D. S., Balabhadra, S., & Carlos, L. D. (2019). Lanthanide-Based Thermometers: At the Cutting-Edge of Luminescence Thermometry. *Advanced Optical Materials*, *7*(5). doi:10.1002/adom.201801239
- Bruch, R., Baaske, J., Chatelle, C., Meirich, M., Madlener, S., Weber, W., . . . Urban, G. A. (2019). CRISPR/Cas13a-Powered Electrochemical Microfluidic Biosensor for Nucleic Acid Amplification-Free miRNA Diagnostics. *Advanced Materials*, *31*(51). doi:10.1002/adma.201905311
- Bruch, R., Johnston, M., Kling, A., Mattmüller, T., Baaske, J., Partel, S., . . . Dincer, C. (2021). CRISPR-powered electrochemical microfluidic multiplexed biosensor for target amplification-free miRNA diagnostics. *Biosensors and Bioelectronics*, *177*. doi:10.1016/j.bios.2020.112887
- Cao, U. M. N., Zhang, Y. L., Chen, J. L., Sayson, D., Pillai, S., & Tran, S. D. (2023). Microfluidic Organ-on-A-chip: A Guide to Biomaterial Choice and Fabrication. *International Journal of Molecular Sciences*, *24*(4). doi:10.3390/ijms24043232
- Carrell, C., Kava, A., Nguyen, M., Menger, R., Munshi, Z., Call, Z., . . . Henry, C. (2019). Beyond the lateral flow assay: A review of paper-based microfluidics. *Microelectronic Engineering*, *206*, 45-54. doi:10.1016/j.mee.2018.12.002
- Chai, H. C., Zhu, J. W., Feng, Y. X., Liang, F., Wu, Q. Y., Ju, Z. J., . . . Wang, W. H. (2024). Capillarity Enabled Large-Array Liquid Metal Electrodes for Compact and High-Throughput Dielectrophoretic Microfluidics. *Advanced Materials*, *36*(21). doi:10.1002/adma.202310212
- Chakraborty, S., & Panigrahi, P. K. (2020). Stability of nanofluid: A review. *Applied Thermal Engineering*, *174*. doi:10.1016/j.applthermaleng.2020.115259
- Chen, J. C., Li, P. L., Zhang, T. Y., Xu, Z. P., Huang, X. W., Wang, R. M., & Du, L. T. (2022). Review on Strategies and Technologies for Exosome Isolation and Purification. *Frontiers in Bioengineering and Biotechnology*, *9*. doi:10.3389/fbioe.2021.811971
- Chen, J. M., Tsuchida, A., Malay, A. D., Tsuchiya, K., Masunaga, H., Tsuji, Y., . . . Numata, K. (2024). Replicating shear-mediated self-assembly of spider silk through microfluidics. *Nature Communications*, *15*(1). doi:10.1038/s41467-024-44733-1
- Choi, J., Bhandodkar, A. J., Reeder, J. T., Ray, T. R., Turnquist, A., Kim, S. B., . . . Rogers, J. A. (2019). Soft, Skin-Integrated Multifunctional Microfluidic Systems for Accurate Colorimetric Analysis of Sweat Biomarkers and Temperature. *Acs Sensors*, *4*(2), 379-388. doi:10.1021/acssensors.8b01218
- Choi, J., Ghaffari, R., Baker, L. B., & Rogers, J. A. (2018). Skin-interfaced systems for sweat collection and analytics. *Science Advances*, *4*(2). doi:10.1126/sciadv.aar3921
- Christianson, C., Goldberg, N. N., Deheyn, D. D., Cai, S. Q., & Tolley, M. T. (2018). Translucent soft robots driven by frameless fluid electrode dielectric elastomer actuators. *Science Robotics*, *3*(17). doi:10.1126/scirobotics.aat1893
- Clark, I. C., Fontanez, K. M., Meltzer, R. H., Xue, Y., Hayford, C., May-Zhang, A., . . . Abate, A. R. (2023). Microfluidics-free single-cell genomics with templated emulsification. *Nature Biotechnology*, *41*(11),

1557-+. doi:10.1038/s41587-023-01685-z

- Cui, P., & Wang, S. C. (2019). Application of microfluidic chip technology in pharmaceutical analysis: A review. *Journal of Pharmaceutical Analysis*, 9(4), 238-247. doi:10.1016/j.jpha.2018.12.001
- Daeneke, T., Khoshmanesh, K., Mahmood, N., de Castro, I. A., Esrafilzadeh, D., Barrow, S. J., . . . Kalantar-zadeh, K. (2018). Liquid metals: fundamentals and applications in chemistry. *Chemical Society Reviews*, 47(11), 4073-4111. doi:10.1039/c7cs00043j
- Daly, A. C., Riley, L., Segura, T., & Burdick, J. A. (2020). Hydrogel microparticles for biomedical applications. *Nature Reviews Materials*, 5(1), 20-43. doi:10.1038/s41578-019-0148-6
- Datta, P., Dey, M., Ataie, Z., Unutmaz, D., & Ozbolat, I. T. (2020). 3D bioprinting for reconstituting the cancer microenvironment. *Npj Precision Oncology*, 4(1). doi:10.1038/s41698-020-0121-2
- Delsing, P., Cleland, A. N., Schuetz, M. J. A., Knörzer, J., Giedke, G., Cirac, J. I., . . . Westerhausen, C. (2019). The 2019 surface acoustic waves roadmap. *Journal of Physics D-Applied Physics*, 52(35). doi:10.1088/1361-6463/ab1b04
- Deng, Z. C., Wu, S. M., Wang, Y. L., & Shi, D. L. (2022). Circulating tumor cell isolation for cancer diagnosis and prognosis. *Ebiomedicine*, 83. doi:10.1016/j.ebiom.2022.104237
- Ding, Y., Howes, P. D., & deMello, A. J. (2020). Recent Advances in Droplet Microfluidics. *Analytical Chemistry*, 92(1), 132-149. doi:10.1021/acs.analchem.9b05047
- Dong, G. H., Chen, B., Liu, B., Hounjet, L. J., Cao, Y. Q., Stoyanov, S. R., . . . Zhang, B. Y. (2022). Advanced oxidation processes in microreactors for water and wastewater treatment: Development, challenges, and opportunities. *Water Research*, 211. doi:10.1016/j.watres.2022.118047
- Dramicanin, M. D. (2020). Trends in luminescence thermometry. *Journal of Applied Physics*, 128(4). doi:10.1063/5.0014825
- du Roure, O., Lindner, A., Nazockdast, E. N., & Shelley, M. J. (2019). Dynamics of Flexible Fibers in Viscous Flows and Fluids. In S. H. Davis & P. Moin (Eds.), *Annual Review of Fluid Mechanics, Vol 51* (Vol. 51, pp. 539-572).
- Fendrych, M., Akhmanova, M., Merrin, J., Glanc, M., Hagihara, S., Takahashi, K., . . . Friml, J. (2018). Rapid and reversible root growth inhibition by TIR1 auxin signalling. *Nature Plants*, 4(7), 453-459. doi:10.1038/s41477-018-0190-1
- Filipcak, N., Pan, J. Y., Yalamarty, S. S. K., & Torchilin, V. P. (2020). Recent advancements in liposome technology. *Advanced Drug Delivery Reviews*, 156, 4-22. doi:10.1016/j.addr.2020.06.022
- Fu, F. F., Shang, L. R., Chen, Z. Y., Yu, Y. R., & Zhao, Y. J. (2018). Bioinspired living structural color hydrogels. *Science Robotics*, 3(16). doi:10.1126/scirobotics.aar8580
- Fu, W. F., Sun, L., Cao, H. Y., Chen, L., Zhou, M., Shen, S. Y., . . . Zhuang, S. L. (2023). Qualitative and Quantitative Recognition of Volatile Organic Compounds in Their Liquid Phase Based on Terahertz Microfluidic EIT Meta-Sensors. *Ieee Sensors Journal*, 23(12), 12775-12784. doi:10.1109/jsen.2023.3268167
- Funari, R., Chu, K. Y., & Shen, A. Q. (2020). Detection of antibodies against SARS-CoV-2 spike protein by gold nanospikes in an opto-microfluidic chip. *Biosensors and Bioelectronics*, 169. doi:10.1016/j.bios.2020.112578
- Gao, F. P., Liu, C. X., Zhang, L. C., Liu, T. Z., Wang, Z., Song, Z. X., . . . Xue, N. (2023). Wearable and flexible electrochemical sensors for sweat analysis: a review. *Microsystems & Nanoengineering*, 9(1).

doi:10.1038/s41378-022-00443-6

- Gao, W., Ota, H., Kiriya, D., Takei, K., & Javey, A. (2019). Flexible Electronics toward Wearable Sensing. *Accounts of Chemical Research*, 52(3), 523-533. doi:10.1021/acs.accounts.8b00500
- Germain, M., Caputo, F., Metcalfe, S., Tosi, G., Spring, K., Åslund, A. K. O., . . . Schmid, R. (2020). Delivering the power of nanomedicine to patients today. *Journal of Controlled Release*, 326, 164-171. doi:10.1016/j.jconrel.2020.07.007
- Gilbert, J., Sebastiani, F., Arteta, M. Y., Terry, A., Fornell, A., Russell, R., . . . Nylander, T. (2024). Evolution of the structure of lipid nanoparticles for nucleic acid delivery: From *in situ* studies of formulation to colloidal stability. *Journal of Colloid and Interface Science*, 660, 66-76. doi:10.1016/j.jcis.2023.12.165
- Goenka, A., Khan, F., Verma, B., Sinha, P., Dmello, C. C., Jogalekar, M. P., . . . Ahn, B. C. (2023). Tumor microenvironment signaling and therapeutics in cancer progression. *Cancer Communications*, 43(5), 525-561. doi:10.1002/cac2.12416
- Gohil, S. H., Iorgulescu, J. B., Braun, D. A., Keskin, D. B., & Livak, K. J. (2021). Applying high-dimensional single-cell technologies to the analysis of cancer immunotherapy. *Nature Reviews Clinical Oncology*, 18(4), 244-256. doi:10.1038/s41571-020-00449-x
- Golombek, S. K., May, J. N., Theek, B., Appold, L., Drude, N., Kiessling, F., & Lammers, T. (2018). Tumor targeting via EPR: Strategies to enhance patient responses. *Advanced Drug Delivery Reviews*, 130, 17-38. doi:10.1016/j.addr.2018.07.007
- Gonzalez, G., Roppolo, I., Pirri, C. F., & Chiappone, A. (2022). Current and emerging trends in polymeric 3D printed microfluidic devices. *Additive Manufacturing*, 55. doi:10.1016/j.addma.2022.102867
- Gunti, S., Hoke, A. T. K., Vu, K. P., & London, N. R. (2021). Organoid and Spheroid Tumor Models: Techniques and Applications. *Cancers*, 13(4). doi:10.3390/cancers13040874
- Guo, L., Cao, M. M., Chen, X., Zhang, L. X., Zhang, X. C., Zou, L. Q., & Liu, W. (2024). One-step fabrication of microfluidic W/O/W droplets as fat-reduced high internal phase emulsions: Microstructure, stability and 3D printing performance. *Food Hydrocolloids*, 150. doi:10.1016/j.foodhyd.2024.109742
- Han, S. J., Kwon, S., & Kim, K. S. (2021). Challenges of applying multicellular tumor spheroids in preclinical phase. *Cancer Cell International*, 21(1). doi:10.1186/s12935-021-01853-8
- Han, Y., Yang, J. L., Zhao, W. W., Wang, H. M., Sun, Y. L., Chen, Y. J., . . . Zhang, H. Y. (2021). Biomimetic injectable hydrogel microspheres with enhanced lubrication and controllable drug release for the treatment of osteoarthritis. *Bioactive Materials*, 6(10), 3596-3607. doi:10.1016/j.bioactmat.2021.03.022
- Heikenfeld, J., Jajack, A., Feldman, B., Granger, S. W., Gaitonde, S., Begtrup, G., & Katchman, B. A. (2019). Accessing analytes in biofluids for peripheral biochemical monitoring. *Nature Biotechnology*, 37(4), 407-419. doi:10.1038/s41587-019-0040-3
- Heikenfeld, J., Jajack, A., Rogers, J., Gutruf, P., Tian, L., Pan, T., . . . Kim, J. (2018). Wearable sensors: modalities, challenges, and prospects. *Lab on a Chip*, 18(2), 217-248. doi:10.1039/c7lc00914c
- Hofer, M., & Lutolf, M. P. (2021). Engineering organoids. *Nature Reviews Materials*, 6(5), 402-420. doi:10.1038/s41578-021-00279-y
- Hoogenboezem, E. N., & Duvall, C. L. (2018). Harnessing albumin as a carrier for cancer therapies. *Advanced Drug Delivery Reviews*, 130, 73-89. doi:10.1016/j.addr.2018.07.011

- Hou, J., Li, M. Z., & Song, Y. L. (2018). Patterned Colloidal Photonic Crystals. *Angewandte Chemie-International Edition*, 57(10), 2544-2553. doi:10.1002/anie.201704752
- Ingber, D. E. (2020). Is it Time for Reviewer 3 to Request Human Organ Chip Experiments Instead of Animal Validation Studies? *Advanced Science*, 7(22). doi:10.1002/advs.202002030
- Jahani, Y., Arvelo, E. R., Yesilkoy, F., Koshelev, K., Cianciaruso, C., De Palma, M., . . . Altug, H. (2021). Imaging-based spectrometer-less optofluidic biosensors based on dielectric metasurfaces for detecting extracellular vesicles. *Nature Communications*, 12(1). doi:10.1038/s41467-021-23257-y
- Jiang, L., Hassan, M. M., Ali, S., Li, H. H., Sheng, R., & Chen, Q. S. (2021). Evolving trends in SERS-based techniques for food quality and safety: A review. *Trends in Food Science & Technology*, 112, 225-240. doi:10.1016/j.tifs.2021.04.006
- Jiang, Z. Q., Shi, H. R., Tang, X. Y., & Qin, J. L. (2023). Recent advances in droplet microfluidics for single-cell analysis. *Trac-Trends in Analytical Chemistry*, 159. doi:10.1016/j.trac.2023.116932
- Jubelin, C., Muñoz-Garcia, J., Griscom, L., Cochonneau, D., Ollivier, E., Heymann, M. F., . . . Heymann, D. (2022). Three-dimensional in vitro culture models in oncology research. *Cell and Bioscience*, 12(1). doi:10.1186/s13578-022-00887-3
- Kalantar-Zadeh, K., Tang, J. B., Daeneke, T., O'Mullane, A. P., Stewart, L. A., Liu, J., . . . Dickey, M. D. (2019). Emergence of Liquid Metals in Nanotechnology. *Acs Nano*, 13(7), 7388-7395. doi:10.1021/acsnano.9b04843
- Karamikamkar, S., Yalcintas, E. P., Haghniaz, R., de Barros, N. R., Mecwan, M., Nasiri, R., . . . Khademhosseini, A. (2023). Aerogel-Based Biomaterials for Biomedical Applications: From Fabrication Methods to Disease-Targeting Applications. *Advanced Science*, 10(23). doi:10.1002/advs.202204681
- Lähnemann, D., Köster, J., Szczurek, E., McCarthy, D. J., Hicks, S. C., Robinson, M. D., . . . Schönhuth, A. (2020). Eleven grand challenges in single-cell data science. *Genome Biology*, 21(1). doi:10.1186/s13059-020-1926-6
- Lareau, C. A., Duarte, F. M., Chew, J. G., Kartha, V. K., Burkett, Z. D., Kohlway, A. S., . . . Buenrostro, J. D. (2019). Droplet-based combinatorial indexing for massive-scale single-cell chromatin accessibility. *Nature Biotechnology*, 37(8), 916-+. doi:10.1038/s41587-019-0147-6
- Larson, N. M., Mueller, J., Chortos, A., Davidson, Z. S., Clarke, D. R., & Lewis, J. A. (2023). Rotational multimaterial printing of filaments with subvoxel control. *Nature*, 613(7945), 682-+. doi:10.1038/s41586-022-05490-7
- Lawson, C. E., Harcombe, W. R., Hatzenpichler, R., Lindemann, S. R., Löffler, F. E., O'Malley, M. A., . . . McMahon, K. D. (2019). Common principles and best practices for engineering microbiomes. *Nature Reviews Microbiology*, 17(12), 725-741. doi:10.1038/s41579-019-0255-9
- Lee, H. A., Ma, Y. F., Zhou, F., Hong, S., & Lee, H. (2019). Material-Independent Surface Chemistry beyond Polydopamine Coating. *Accounts of Chemical Research*, 52(3), 704-713. doi:10.1021/acs.accounts.8b00583
- Lee, H. A., Park, E., & Lee, H. (2020). Polydopamine and Its Derivative Surface Chemistry in Material Science: A Focused Review for Studies at KAIST. *Advanced Materials*, 32(35). doi:10.1002/adma.201907505
- Li, L., Xu, P., Xu, W. X., Lu, B., Wang, C. Y., & Tan, D. P. (2024). Multi-field coupling vibration patterns of the multiphase sink vortex and distortion recognition method. *Mechanical Systems and Signal Processing*, 219. doi:10.1016/j.ymssp.2024.111624

- Li, L. X., Verstraeten, I., Roosjen, M., Takahashi, K., Rodriguez, L., Merrin, J., . . . Friml, J. (2021). Cell surface and intracellular auxin signalling for H⁺ fluxes in root growth. *Nature*, *599*(7884), 273-+. doi:10.1038/s41586-021-04037-6
- Li, S. G., Ali, F., Zaib, A., Loganathan, K., Eldin, S. M., & Khan, M. I. (2023). Bioconvection effect in the Carreau nanofluid with Cattaneo-Christov heat flux using stagnation point flow in the entropy generation: Micromachines level study. *Open Physics*, *21*(1). doi:10.1515/phys-2022-0228
- Li, S. G., Zhang, H. Y., Zhu, M., Kuang, Z. J., Li, X., Xu, F., . . . Xia, F. (2023). Electrochemical Biosensors for Whole Blood Analysis: Recent Progress, Challenges, and Future Perspectives. *Chemical Reviews*, *123*(12), 7953-8039. doi:10.1021/acs.chemrev.1c00759
- Li, T., Liu, H., Zhao, X. P., Chen, G., Dai, J. Q., Pastel, G., . . . Hu, L. B. (2018). Scalable and Highly Efficient Mesoporous Wood-Based Solar Steam Generation Device: Localized Heat, Rapid Water Transport. *Advanced Functional Materials*, *28*(16). doi:10.1002/adfm.201707134
- Li, W., Zhang, L. Y., Ge, X. H., Xu, B. Y., Zhang, W. X., Qu, L. L., . . . Weitz, D. A. (2018). Microfluidic fabrication of microparticles for biomedical applications. *Chemical Society Reviews*, *47*(15), 5646-5683. doi:10.1039/c7cs00263g
- Li, X. M., Bista, P., Stetten, A. Z., Bonart, H., Schür, M. T., Hardt, S., . . . Butt, H. J. (2022). Spontaneous charging affects the motion of sliding drops. *Nature Physics*, *18*(6), 713-+. doi:10.1038/s41567-022-01563-6
- Lin, Y. L., Genzer, J., & Dickey, M. D. (2020). Attributes, Fabrication, and Applications of Gallium-Based Liquid Metal Particles. *Advanced Science*, *7*(12). doi:10.1002/advs.202000192
- Liu, H. G., Lin, W. X., & Hong, M. H. (2021). Hybrid laser precision engineering of transparent hard materials: challenges, solutions and applications. *Light-Science & Applications*, *10*(1). doi:10.1038/s41377-021-00596-5
- Liu, Y., Chen, J. W., Zhang, H., Gou, H. C., & Dong, G. N. (2024). Wedge-shaped lyophilic pattern on superlyophobic surface for unidirectional liquid guidance and lubrication enhancement. *Tribology International*, *194*. doi:10.1016/j.triboint.2024.109552
- Liu, Y., Gu, H. M., Jia, Y., Liu, J., Zhang, H., Wang, R. M., . . . Zhang, Q. Y. (2019). Design and preparation of biomimetic polydimethylsiloxane (PDMS) films with superhydrophobic, self-healing and drag reduction properties via replication of shark skin and SI-ATRP. *Chemical Engineering Journal*, *356*, 318-328. doi:10.1016/j.cej.2018.09.022
- Liu, Y., Yang, G. Z., Hui, Y., Ranaweera, S., & Zhao, C. X. (2022). Microfluidic Nanoparticles for Drug Delivery. *Small*, *18*(36). doi:10.1002/smll.202106580
- Liu, Y., Yang, M. Y., Deng, Y. X., Su, G., Enniful, A., Guo, C. C., . . . Fan, R. (2020). High-Spatial-Resolution Multi-Omics Sequencing via Deterministic Barcoding in Tissue. *Cell*, *183*(6), 1665-+. doi:10.1016/j.cell.2020.10.026
- Lohse, D. (2022). Fundamental Fluid Dynamics Challenges in Inkjet Printing. *Annual Review of Fluid Mechanics*, *54*, 349-382. doi:10.1146/annurev-fluid-022321-114001
- Loo, L., Simon, J. M., Xing, L., McCoy, E. S., Niehaus, J. K., Guo, J. M., . . . Zylka, M. J. (2019). Single-cell transcriptomic analysis of mouse neocortical development. *Nature Communications*, *10*. doi:10.1038/s41467-018-08079-9
- López-Valdeolivas, M., Liu, D. Q., Broer, D. J., & Sánchez-Somolinos, C. (2018). 4D Printed Actuators with Soft-Robotic Functions. *Macromolecular Rapid Communications*, *39*(5). doi:10.1002/marc.201700710

- Lu, N., Tay, H. M., Petchakup, C., He, L. W., Gong, L. Y., Maw, K. K., . . . Hou, H. W. (2023). Label-free microfluidic cell sorting and detection for rapid blood analysis. *Lab on a Chip*, 23(5), 1226-1257. doi:10.1039/d2lc00904h
- Luan, E. X., Shoman, H., Ratner, D. M., Cheung, K. C., & Chrostowski, L. (2018). Silicon Photonic Biosensors Using Label-Free Detection. *Sensors*, 18(10). doi:10.3390/s18103519
- Ma, Q. M., Song, Y., Sun, W. T., Cao, J., Yuan, H., Wang, X. Y., . . . Shum, H. C. (2020). Cell-Inspired All-Aqueous Microfluidics: From Intracellular Liquid-Liquid Phase Separation toward Advanced Biomaterials. *Advanced Science*, 7(7). doi:10.1002/adv.201903359
- Maeki, M., Kimura, N., Sato, Y., Harashima, H., & Tokeshi, M. (2018). Advances in microfluidics for lipid nanoparticles and extracellular vesicles and applications in drug delivery systems. *Advanced Drug Delivery Reviews*, 128, 84-100. doi:10.1016/j.addr.2018.03.008
- Maeki, M., Uno, S., Niwa, A., Okada, Y., & Tokeshi, M. (2022). Microfluidic technologies and devices for lipid nanoparticle-based RNA delivery. *Journal of Controlled Release*, 344, 80-96. doi:10.1016/j.jconrel.2022.02.017
- Mandal, D., & Banerjee, S. (2022). Surface Acoustic Wave (SAW) Sensors: Physics, Materials, and Applications. *Sensors*, 22(3). doi:10.3390/s22030820
- McKain, M. R., Johnson, M. G., Uribe-Convers, S., Eaton, D., & Yang, Y. (2018). Practical considerations for plant phylogenomics. *Applications in Plant Sciences*, 6(3). doi:10.1002/aps.3.1038
- Mehraji, S., & DeVoe, D. L. (2024). Microfluidic synthesis of lipid-based nanoparticles for drug delivery: recent advances and opportunities. *Lab on a Chip*, 24(5), 1154-1174. doi:10.1039/d3lc00821e
- Miller, T. E., Beneyton, T., Schwander, T., Diehl, C., Girault, M., McLean, R., . . . Erb, T. J. (2020). Light-powered CO₂ fixation in a chloroplast mimic with natural and synthetic parts. *Science*, 368(6491), 649-+. doi:10.1126/science.aaz6802
- Miranda, I., Souza, A., Sousa, P., Ribeiro, J., Castanheira, E. M. S., Lima, R., & Minas, G. (2022). Properties and Applications of PDMS for Biomedical Engineering: A Review. *Journal of Functional Biomaterials*, 13(1). doi:10.3390/jfb13010002
- Mittal, N., Ansari, F., Gowda, V. K., Brouzet, C., Chen, P., Larsson, P. T., . . . Söderberg, L. D. (2018). Multiscale Control of Nanocellulose Assembly: Transferring Remarkable Nanoscale Fibril Mechanics to Macroscale Fibers. *Acs Nano*, 12(7), 6378-6388. doi:10.1021/acsnano.8b01084
- Nan, L., Zhang, H. D., Weitz, D. A., & Shum, H. C. (2024). Development and future of droplet microfluidics. *Lab on a Chip*, 24(5). doi:10.1039/d3lc00729d
- Nasseri, B., Soleimani, N., Rabiee, N., Kalbasi, A., Karimi, M., & Hamblin, M. R. (2018). Point-of-care microfluidic devices for pathogen detection. *Biosensors and Bioelectronics*, 117, 112-128. doi:10.1016/j.bios.2018.05.050
- Niculescu, A. G., Chircov, C., Bîrca, A. C., & Grumezescu, A. M. (2021). Fabrication and Applications of Microfluidic Devices: A Review. *International Journal of Molecular Sciences*, 22(4). doi:10.3390/ijms22042011
- Nie, J. H., Wang, Z. M., Ren, Z. W., Li, S. Y., Chen, X. Y., & Wang, Z. L. (2019). Power generation from the interaction of a liquid droplet and a liquid membrane. *Nature Communications*, 10. doi:10.1038/s41467-019-10232-x
- Nielsen, A. V., Beauchamp, M. J., Nordin, G. P., & Woolley, A. T. (2020). 3D Printed Microfluidics. In P. W.

- Bohn & J. E. Pemberton (Eds.), *Annual Review of Analytical Chemistry, Vol 13* (Vol. 13, pp. 45-65).
- Nishat, S., Jafry, A. T., Martinez, A. W., & Awan, F. R. (2021). Paper-based microfluidics: Simplified fabrication and assay methods. *Sensors and Actuators B-Chemical*, 336. doi:10.1016/j.snb.2021.129681
- Nnachi, R. C., Sui, N., Ke, B. W., Luo, Z. H., Bhalla, N., He, D. P., & Yang, Z. G. (2022). Biosensors for rapid detection of bacterial pathogens in water, food and environment. *Environment International*, 166. doi:10.1016/j.envint.2022.107357
- Noviana, E., Ozer, T., Carrell, C. S., Link, J. S., McMahon, C., Jang, I., & Henry, C. S. (2021). Microfluidic Paper-Based Analytical Devices: From Design to Applications. *Chemical Reviews*, 121(19), 11835-11885. doi:10.1021/acs.chemrev.0c01335
- Nyein, H. Y. Y., Bariya, M., Tran, B., Ahn, C. H., Brown, B. J., Ji, W. B., . . . Javey, A. (2021). A wearable patch for continuous analysis of thermoregulatory sweat at rest. *Nature Communications*, 12(1). doi:10.1038/s41467-021-22109-z
- Olanrewaju, A., Beaugrand, M., Yafia, M., & Juncker, D. (2018). Capillary microfluidics in microchannels: from microfluidic networks to capillarie circuits. *Lab on a Chip*, 18(16). doi:10.1039/c8lc00458g
- Ozer, T., McMahon, C., & Henry, C. S. (2020). Advances in Paper-Based Analytical Devices. In P. W. Bohn & J. E. Pemberton (Eds.), *Annual Review of Analytical Chemistry, Vol 13* (Vol. 13, pp. 85-109).
- Pang, X. L., Lv, J. A., Zhu, C. Y., Qi, L., & Yu, Y. L. (2019). Photodeformable Azobenzene-Containing Liquid Crystal Polymers and Soft Actuators. *Advanced Materials*, 31(52). doi:10.1002/adma.201904224
- Parlak, O., Keene, S. T., Marais, A., Curto, V. F., & Salleo, A. (2018). Molecularly selective nanoporous membrane-based wearable organic electrochemical device for noninvasive cortisol sensing. *Science Advances*, 4(7). doi:10.1126/sciadv.aar2904
- Perdomo, J., Leung, H. H. L., Ahmadi, Z., Yan, F., Chong, J. J. H., Passam, F. H., & Chong, B. H. (2019). Neutrophil activation and NETosis are the major drivers of thrombosis in heparin-induced thrombocytopenia. *Nature Communications*, 10. doi:10.1038/s41467-019-09160-7
- Pérez-López, A., Torres-Suárez, A. I., Martín-Sabroso, C., & Aparicio-Blanco, J. (2023). An overview of *in vitro* 3D models of the blood-brain barrier as a tool to predict the *in vivo* permeability of nanomedicines. *Advanced Drug Delivery Reviews*, 196. doi:10.1016/j.addr.2023.114816
- Picollet-D'hahan, N., Zuchowska, A., Lemeunier, I., & Le Gac, S. (2021). Multiorgan-on-a-Chip: A Systemic Approach To Model and Decipher Inter-Organ Communication. *Trends in Biotechnology*, 39(8), 788-810. doi:10.1016/j.tibtech.2020.11.014
- Pittman, T. W., Decsi, D. B., Punyadeera, C., & Henry, C. S. (2023). Saliva-based microfluidic point-of-care diagnostic. *Theranostics*, 13(3), 1091-1108. doi:10.7150/thno.78872
- Plebani, R., Potla, R., Soong, M., Bai, H. Q., Izadifar, Z., Jiang, A., . . . Ingber, D. E. (2022). Modeling pulmonary cystic fibrosis in a human lung airway-on-a-chip. *Journal of Cystic Fibrosis*, 21(4), 606-615. doi:10.1016/j.jcf.2021.10.004
- Pottier, C., Fresnais, M., Gilon, M., Jérusalem, G., Longuespée, R., & Sounni, N. E. (2020). Tyrosine Kinase Inhibitors in Cancer: Breakthrough and Challenges of Targeted Therapy. *Cancers*, 12(3). doi:10.3390/cancers12030731
- Poulet, G., Massias, J., & Taly, V. (2019). Liquid Biopsy: General Concepts. *Acta Cytologica*, 63(6), 449-

455. doi:10.1159/000499337

- Qi, C., Zhou, T., Wu, X. J., Liu, K. L., Li, L., Liu, Z., . . . Kong, T. T. (2024). Micro-nano-fabrication of green functional materials by multiphase microfluidics for environmental and energy applications. *Green Energy & Environment*, 9(8), 1199-1219. doi:10.1016/j.gee.2023.05.012
- Qin, P. W., Park, M., Alfson, K. J., Tamhankar, M., Carrion, R., Patterson, J. L., . . . Du, K. (2019). Rapid and Fully Microfluidic Ebola Virus Detection with CRISPR-Cas13a. *Acs Sensors*, 4(4), 1048-1054. doi:10.1021/acssensors.9b00239
- Qiu, Y., Zhang, E., Plamthottam, R., & Pei, Q. B. (2019). Dielectric Elastomer Artificial Muscle: Materials Innovations and Device Explorations. *Accounts of Chemical Research*, 52(2), 316-325. doi:10.1021/acs.accounts.8b00516
- Qu, Q. L., Yang, A. Q., Wang, J., Xie, M., Zhang, X. L., Huang, D., . . . Huang, C. B. (2023). Responsive and biocompatible chitosan-phytate microparticles with various morphology for antibacterial activity based on gas-shearing microfluidics. *Journal of Colloid and Interface Science*, 649, 68-75. doi:10.1016/j.jcis.2023.06.006
- Quan, P. L., Sauzade, M., & Brouzes, E. (2018). dPCR: A Technology Review. *Sensors*, 18(4). doi:10.3390/s18041271
- Quintard, C., Tubbs, E., Jonsson, G., Jiao, J., Wang, J., Werschler, N., . . . Gidrol, X. (2024). A microfluidic platform integrating functional vascularized organoids-on-chip. *Nature Communications*, 15(1). doi:10.1038/s41467-024-45710-4
- Raj, M. K., & Chakraborty, S. (2020). PDMS microfluidics: A mini review. *Journal of Applied Polymer Science*, 137(27). doi:10.1002/app.48958
- Ramachandran, A., Huyke, D. A., Sharma, E., Sahoo, M. K., Huang, C. H., Banaei, N., . . . Santiago, J. G. (2020). Electric field-driven microfluidics for rapid CRISPR-based diagnostics and its application to detection of SARS-CoV-2. *Proceedings of the National Academy of Sciences of the United States of America*, 117(47), 29518-29525. doi:10.1073/pnas.2010254117
- Reboud, J., Xu, G. L., Garrett, A., Adriko, M., Yang, Z. G., Tukahebwa, E. M., . . . Cooper, J. M. (2019). Paper-based microfluidics for DNA diagnostics of malaria in low resource underserved rural communities. *Proceedings of the National Academy of Sciences of the United States of America*, 116(11), 4834-4842. doi:10.1073/pnas.1812296116
- Roces, C. B., Lou, G. S., Jain, N., Abraham, S., Thomas, A., Halbert, G. W., & Perrie, Y. (2020). Manufacturing Considerations for the Development of Lipid Nanoparticles Using Microfluidics. *Pharmaceutics*, 12(11). doi:10.3390/pharmaceutics12111095
- Royo, F., Théry, C., Falcón-Pérez, J. M., Nieuwland, R., & Witwer, K. W. (2020). Methods for Separation and Characterization of Extracellular Vesicles: Results of a Worldwide Survey Performed by the ISEV Rigor and Standardization Subcommittee. *Cells*, 9(9). doi:10.3390/cells9091955
- Ryu, K. H., Huang, L., Kang, H. M., & Schiefelbein, J. (2019). Single-Cell RNA Sequencing Resolves Molecular Relationships Among Individual Plant Cells. *Plant Physiology*, 179(4), 1444-1456. doi:10.1104/pp.18.01482
- Sachdeva, S., Davis, R. W., & Saha, A. K. (2021). Microfluidic Point-of-Care Testing: Commercial Landscape and Future Directions. *Frontiers in Bioengineering and Biotechnology*, 8. doi:10.3389/fbioe.2020.602659
- Sahoo, J. K., Hasturk, O., Falcucci, T., & Kaplan, D. L. (2023). Silk chemistry and biomedical material

- designs. *Nature Reviews Chemistry*, 7(5), 302-318. doi:10.1038/s41570-023-00486-x
- Salmen, F., De Jonghe, J., Kaminski, T. S., Alemany, A., Parada, G. E., Verity-Legg, J., . . . van Oudenaarden, A. (2022). High-throughput total RNA sequencing in single cells using VASA-seq. *Nature Biotechnology*, 40(12). doi:10.1038/s41587-022-01361-8
- Satpathy, A. T., Granja, J. M., Yost, K. E., Qi, Y. Y., Meschi, F., McDermott, G. P., . . . Chang, H. Y. (2019). Massively parallel single-cell chromatin landscapes of human immune cell development and intratumoral T cell exhaustion. *Nature Biotechnology*, 37(8), 925-+. doi:10.1038/s41587-019-0206-z
- Schneider, G. (2018). Automating drug discovery. *Nature Reviews Drug Discovery*, 17(2), 97-113. doi:10.1038/nrd.2017.232
- Scott, S., & Ali, Z. (2021). Fabrication Methods for Microfluidic Devices: An Overview. *Micromachines*, 12(3). doi:10.3390/mi12030319
- Serrano, D. R., Kara, A., Yuste, I., Luciano, F. C., Ongoren, B., Anaya, B. J., . . . Lalatsa, A. (2023). 3D Printing Technologies in Personalized Medicine, Nanomedicines, and Biopharmaceuticals. *Pharmaceutics*, 15(2). doi:10.3390/pharmaceutics15020313
- Sezer, N., & Koç, M. (2021). A comprehensive review on the state-of-the-art of piezoelectric energy harvesting. *Nano Energy*, 80. doi:10.1016/j.nanoen.2020.105567
- Shah, S., Dhawan, V., Holm, R., Nagarsenker, M. S., & Perrie, Y. (2020). Liposomes: Advancements and innovation in the manufacturing process. *Advanced Drug Delivery Reviews*, 154, 102-122. doi:10.1016/j.addr.2020.07.002
- Shakeri, A., Khan, S., & Didar, T. F. (2021). Conventional and emerging strategies for the fabrication and functionalization of PDMS-based microfluidic devices. *Lab on a Chip*, 21(16), 3053-3075. doi:10.1039/d1lc00288k
- Shepherd, S. J., Issadore, D., & Mitchell, M. J. (2021). Microfluidic formulation of nanoparticles for biomedical applications. *Biomaterials*, 274. doi:10.1016/j.biomaterials.2021.120826
- Shirejini, S. Z., & Inci, F. (2022). The Yin and Yang of exosome isolation methods: conventional practice, microfluidics, and commercial kits. *Biotechnology Advances*, 54. doi:10.1016/j.biotechadv.2021.107814
- Sidhom, K., Obi, P. O., & Saleem, A. (2020). A Review of Exosomal Isolation Methods: Is Size Exclusion Chromatography the Best Option? *International Journal of Molecular Sciences*, 21(18). doi:10.3390/ijms21186466
- Srivastava, P., & Prasad, D. (2023). Isothermal nucleic acid amplification and its uses in modern diagnostic technologies. *3 Biotech*, 13(6). doi:10.1007/s13205-023-03628-6
- Stueber, D. D., Villanova, J., Aponte, I., Xiao, Z., & Colvin, V. L. (2021). Magnetic Nanoparticles in Biology and Medicine: Past, Present, and Future Trends. *Pharmaceutics*, 13(7). doi:10.3390/pharmaceutics13070943
- Su, R. T., Wang, F. J., & McAlpine, M. C. (2023). 3D printed microfluidics: advances in strategies, integration, and applications. *Lab on a Chip*, 23(5), 1279-1299. doi:10.1039/d2lc01177h
- Sun, J. W., Rutherford, S. T., Silhavy, T. J., & Huang, K. C. (2022). Physical properties of the bacterial outer membrane. *Nature Reviews Microbiology*, 20(4), 236-248. doi:10.1038/s41579-021-00638-0
- Thomford, N. E., Senthebane, D. A., Rowe, A., Munro, D., Seele, P., Maroyi, A., & Dzobo, K. (2018). Natural Products for Drug Discovery in the 21st Century: Innovations for Novel Drug Discovery.

International Journal of Molecular Sciences, 19(6). doi:10.3390/ijms19061578

- Tian, T., Shu, B. W., Jiang, Y. Z., Ye, M. M., Liu, L., Guo, Z. H., . . . Zhou, X. M. (2021). An Ultralocalized Cas13a Assay Enables Universal and Nucleic Acid Amplification-Free Single-Molecule RNA Diagnostics. *Acs Nano*, 15(1), 1167-1178. doi:10.1021/acsnano.0c08165
- Toju, H., Peay, K. G., Yamamichi, M., Narisawa, K., Hiruma, K., Naito, K., . . . Kiers, E. T. (2018). Core microbiomes for sustainable agroecosystems. *Nature Plants*, 4(5), 247-257. doi:10.1038/s41477-018-0139-4
- Tolabi, H., Davari, N., Khajehmohammadi, M., Malektaj, H., Nazemi, K., Vahedi, S., . . . Oliveira, J. M. (2023). Progress of Microfluidic Hydrogel-Based Scaffolds and Organ-on-Chips for the Cartilage Tissue Engineering. *Advanced Materials*, 35(26). doi:10.1002/adma.202208852
- Toombs, J. T., Luitz, M., Cook, C. C., Jenne, S., Li, C. C., Rapp, B. E., . . . Taylor, H. K. (2022). Volumetric additive manufacturing of silica glass with microscale computed axial lithography. *Science*, 376(6590), 308-+. doi:10.1126/science.abm6459
- Treves, H., Küken, A., Arrivault, S., Ishihara, H., Hoppe, I., Erban, A., . . . Stitt, M. (2022). Carbon flux through photosynthesis and central carbon metabolism show distinct patterns between algae, C₃ and C₄ plants. *Nature Plants*, 8(1), 78-+. doi:10.1038/s41477-021-01042-5
- van Erp, R., Soleimanzadeh, R., Nela, L., Kampitsis, G., & Matioli, E. (2020). Co-designing electronics with microfluidics for more sustainable cooling. *Nature*, 585(7824), 211-+. doi:10.1038/s41586-020-2666
- van Renterghem, A. W. J., van de Haar, J., & Voest, E. E. (2023). Functional precision oncology using patient-derived assays: bridging genotype and phenotype. *Nature Reviews Clinical Oncology*, 20(5), 305-317. doi:10.1038/s41571-023-00745-2
- Velasco, V., Shariati, S. A., & Esfandyarpour, R. (2020). Microtechnology-based methods for organoid models. *Microsystems & Nanoengineering*, 6(1). doi:10.1038/s41378-020-00185-3
- Wang, B. F., Li, Y. W., Zhou, M. F., Han, Y. L., Zhang, M. Y., Gao, Z. L., . . . Liu, B. F. (2023). Smartphone-based platforms implementing microfluidic detection with image-based artificial intelligence. *Nature Communications*, 14(1). doi:10.1038/s41467-023-36017-x
- Wang, C., Liu, M., Wang, Z. F., Li, S., Deng, Y., & He, N. Y. (2021). Point-of-care diagnostics for infectious diseases: From methods to devices. *Nano Today*, 37. doi:10.1016/j.nantod.2021.101092
- Wang, H., Lu, H., & Zhao, W. J. (2023). A review of droplet bouncing behaviors on superhydrophobic surfaces: Theory, methods, and applications. *Physics of Fluids*, 35(2). doi:10.1063/5.0136692
- Wang, H., Zhang, W., Ladika, D., Yu, H. Y., Gailevicius, D., Wang, H. T., . . . Yang, J. K. W. (2023). Two-Photon Polymerization Lithography for Optics and Photonics: Fundamentals, Materials, Technologies, and Applications. *Advanced Functional Materials*, 33(39). doi:10.1002/adfm.202214211
- Wang, J., Ma, P., Kim, D. H., Liu, B. F., & Demirci, U. (2021). Towards microfluidic-based exosome isolation and detection for tumor therapy. *Nano Today*, 37. doi:10.1016/j.nantod.2020.101066
- Wang, Q., Ren, Z. H., Zhao, W. M., Wang, L., Yan, X., Zhu, A. S., . . . Zhang, K. K. (2022). Research advances on surface plasmon resonance biosensors. *Nanoscale*, 14(3), 564-591. doi:10.1039/d1nr05400g
- Wang, X., Hong, X. Z., Li, Y. W., Li, Y., Wang, J., Chen, P., & Liu, B. F. (2022). Microfluidics-based strategies for molecular diagnostics of infectious diseases. *Military Medical Research*, 9(1). doi:10.1186/s40779-

022-00374-3

- Wang, Z. Y., Orejon, D., Takata, Y., & Sefiane, K. (2022). Wetting and evaporation of multicomponent droplets. *Physics Reports-Review Section of Physics Letters*, *960*, 1-37. doi:10.1016/j.physrep.2022.02.005
- Welch, N. L., Zhu, M. L., Hua, C., Weller, J., Mirhashemi, M. E., Nguyen, T. G., . . . Myhrvold, C. (2022). Multiplexed CRISPR-based microfluidic platform for clinical testing of respiratory viruses and identification of SARS-CoV-2 variants. *Nature Medicine*, *28*(5), 1083-+. doi:10.1038/s41591-022-01734-1
- Wu, M. X., Ozcelik, A., Rufo, J., Wang, Z. Y., Fang, R., & Huang, T. J. (2019). Acoustofluidic separation of cells and particles. *Microsystems & Nanoengineering*, *5*. doi:10.1038/s41378-019-0064-3
- Xiao, L., & Sun, H. D. (2018). Novel properties and applications of carbon nanodots. *Nanoscale Horizons*, *3*(6), 565-597. doi:10.1039/c8nh00106e
- Xue, X. F., Kim, Y. S., Ponce-Arias, A. I., O'Laughlin, R., Yan, R. Z., Kobayashi, N., . . . Fu, J. P. (2024). A patterned human neural tube model using microfluidic gradients. *Nature*. doi:10.1038/s41586-024-07204-7
- Yafia, M., Ymbern, O., Olanrewaju, A. O., Parandakh, A., Kashani, A. S., Renault, J., . . . Juncker, D. (2022). Microfluidic chain reaction of structurally programmed capillary flow events. *Nature*, *605*(7910), 464-+. doi:10.1038/s41586-022-04683-4
- Yang, Q., Li, J. H., Wang, X. Y., Peng, H. L., Xiong, H., & Chen, L. X. (2018). Strategies of molecular imprinting-based fluorescence sensors for chemical and biological analysis. *Biosensors and Bioelectronics*, *112*, 54-71. doi:10.1016/j.bios.2018.04.028
- Yang, S. M., Lv, S. S., Zhang, W. J., & Cui, Y. B. (2022). Microfluidic Point-of-Care (POC) Devices in Early Diagnosis: A Review of Opportunities and Challenges. *Sensors*, *22*(4). doi:10.3390/s22041620
- Ye, R. Q., James, D. K., & Tour, J. M. (2019). Laser-Induced Graphene: From Discovery to Translation. *Advanced Materials*, *31*(1). doi:10.1002/adma.201803621
- Ye, T., Pan, D. Y., Huang, C., & Liu, M. B. (2019). Smoothed particle hydrodynamics (SPH) for complex fluid flows: Recent developments in methodology and applications. *Physics of Fluids*, *31*(1). doi:10.1063/1.5068697
- Yetisen, A. K., Martinez-Hurtado, J. L., Ünal, B., Khademhosseini, A., & Butt, H. (2018). Wearables in Medicine. *Advanced Materials*, *30*(33). doi:10.1002/adma.201706910
- Youn, Y. S., & Bae, Y. H. (2018). Perspectives on the past, present, and future of cancer nanomedicine. *Advanced Drug Delivery Reviews*, *130*, 3-11. doi:10.1016/j.addr.2018.05.008
- Yu, Y., Yuk, H., Parada, G. A., Wu, Y., Liu, X. Y., Nabzdyk, C. S., . . . Zhao, X. H. (2019). Multifunctional "Hydrogel Skins" on Diverse Polymers with Arbitrary Shapes. *Advanced Materials*, *31*(7). doi:10.1002/adma.201807101
- Zhang, H., Lin, X., Cao, X. Y., Wang, Y., Wang, J. L., & Zhao, Y. J. (2024). Developing natural polymers for skin wound healing. *Bioactive Materials*, *33*, 355-376. doi:10.1016/j.bioactmat.2023.11.012
- Zhang, H., Yang, J., Sun, R. Z., Han, S. R., Yang, Z. G., & Teng, L. S. (2023). Microfluidics for nano-drug delivery systems: From fundamentals to industrialization. *Acta Pharmaceutica Sinica B*, *13*(8), 3277-3299. doi:10.1016/j.apsb.2023.01.018
- Zhang, P., Sun, D., Cho, A., Weon, S., Lee, S., Lee, J., . . . Choi, W. (2019). Modified carbon nitride

nanozyme as bifunctional glucose oxidase-peroxidase for metal-free bioinspired cascade photocatalysis. *Nature Communications*, 10. doi:10.1038/s41467-019-08731-y

Zhang, P. R., Bachman, H., Ozcelik, A., & Huang, T. J. (2020). Acoustic Microfluidics. In P. W. Bohn & J. E. Pemberton (Eds.), *Annual Review of Analytical Chemistry, Vol 13* (Vol. 13, pp. 17-43).

Zhao, Z. Y., Wang, Z., Li, G., Cai, Z. W., Wu, J. Z., Wang, L., . . . Cui, W. G. (2021). Injectable Microfluidic Hydrogel Microspheres for Cell and Drug Delivery. *Advanced Functional Materials*, 31(31). doi:10.1002/adfm.202103339

Zheng, W. S., Zhao, S. J., Yin, Y. H., Zhang, H. D., Needham, D. M., Evans, E. D., . . . Weitz, D. A. (2022). High-throughput, single-microbe genomics with strain resolution, applied to a human gut microbiome. *Science*, 376(6597), 1068-+. doi:10.1126/science.abm1483

Zhou, R. Y., Wang, C., Huang, Y. X., Huang, K., Wang, Y. L., Xu, W. D., . . . Ying, Y. B. (2021). Label-free terahertz microfluidic biosensor for sensitive DNA detection using graphene-metasurface hybrid structures. *Biosensors and Bioelectronics*, 188. doi:10.1016/j.bios.2021.113336

Zhu, H. L., Zhang, H. Q., Xu, Y., Lassákova, S., Korabecná, M., & Neuzil, P. (2020). PCR past, present and future. *BioTechniques*, 69(4), 317-325. doi:10.2144/btn-2020-0057