

# HATICE CEYLAN KOYDEMIR, Ph.D.

Assistant Professor – Texas A&M University

Office Address: Texas A&M University

Center for Remote Health Technologies & Systems

600 Discovery Drive 3006 TAMU College Station, TX, 77843-3006

Office: (979) 847-5859

Email: [hckoydemir@tamu.edu](mailto:hckoydemir@tamu.edu)

Webpages: [LinkedIn](#) | [Google Scholar](#) | [Lab Website](#)

## PROFESSIONAL APPOINTMENTS & EDUCATION

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- 2021 - Present Department of Biomedical Engineering, Texas A&M University, TX, USA  
Assistant Professor
- 2021 - Present Center for Remote Health Technologies & Systems, Texas A&M University, TX, USA  
Assistant Professor
- 2022- Present Thrust 2 – Co-lead, NSF funded ERC PATHS-UP
- 2018 - 2021 Department of Electrical and Computer Engineering, UCLA, CA, USA  
Assistant Project Scientist
- 2013 - 2018 Department of Electrical and Computer Engineering, UCLA, CA, USA  
Postdoctoral Scholar
- 2010 - 2013 METU-MEMS Research and Application Center, Ankara, Turkey  
Scientific Project Expert
- 2007 - 2010 Graduate School of Natural and Applied Sciences, Middle East Technical University (METU), Ankara, Turkey  
Research Assistant
- 2013, Ph.D. METU, Ankara, Turkey  
Department of Chemical Engineering
- 2007, M.Sc. METU, Ankara, Turkey  
Department of Chemical Engineering
- 2004, Minor METU, Ankara, Turkey  
Department of Food Engineering
- 2004, B.Sc. METU, Ankara, Turkey  
Department of Environmental Engineering

## PUBLICATIONS

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*Refereed Journal Articles* =====

*Blue: Graduate researchers mentored at Texas A&M University*

*Green: Undergraduate researchers mentored at Texas A&M University*

*Pink: Young scholar researchers mentored at Texas A&M University*

(† denotes equal contributions)

1. [M. Althumayri](#), [R. Banavath](#), L. Beker, **H. Ceylan Koydemir**, “Transparent electrodes and their use in multimodal applications”, (In preparation).
2. [A. Tarman](#), [S. Ahmed](#), [F. Inan](#), **H. Ceylan Koydemir**, “Smart catheters for on-body health monitoring” (In preparation)
3. [M Althumayri](#), **H. Ceylan Koydemir**, “Bioinspired skin model for in vitro evaluation of bloodstream infections”, (In preparation)
4. [J. Korgaonkar](#), [A. Tarman](#), **H. Ceylan Koydemir**, S. Chukkapalli, “Periodontal disease and emerging point-of-care technologies for its diagnosis”, (Under review)

5. **W. Xu**, A. Y. Atik, L. Beker, **H. Ceylan Koydemir**, “Digital monitoring of the microchannel filling flow dynamics using a non-contactless smartphone-based nano-liter precision flow velocity meter”, *Biosensors and Bioelectronics*, 2024 (Accepted)
6. **H. Ceylan Koydemir**, A. Ozcan, “Low-cost and portable systems for biomedical imaging and sensing”, *Current Opinion in Biomedical Engineering*, 2024. <https://doi.org/10.1016/j.cobme.2024.100527>.
7. S. Mallawarachchi<sup>†</sup>, R.E. Cebecioglu<sup>†</sup>, **M. Althumayri**<sup>†</sup>, L. Beker, S.Fernando, **H. Ceylan Koydemir**, “Systematic design and evaluation of aptamers for specific detection of VEGF and PLGF biomarkers of preeclampsia”, *Sensing and Biosensing Research* (Under review)
8. **W. Xu**, **E. Venkat** and **H. Ceylan Koydemir**, “Optical point of care devices for diagnosis of urinary tract infections”. *Current Opinion in Biomedical Engineering*, 2023. <https://doi.org/10.1016/j.cobme.2023.100513>.
9. **W. Xu**, **M. Althumayri**, A. Mohammad, **H. Ceylan Koydemir**, “Foldable Low-Cost Point-of-Care Device for Testing Blood Coagulation Using Smartphones”, *Biosensors and Bioelectronics*, 2023, <https://doi.org/10.1016/j.bios.2023.115755>.
10. V. Shah, X. Yang, A. Arnheim, S. Udani, D. Tseng, Y. Luo, M. Ouyang, G. Destgeer, O. Garner, **H. Ceylan Koydemir**, A. Ozcan, D. Di Carlo, “Amphiphilic Particle-Stabilized Nanoliter Droplet Reactors with a Multimodal Portable Reader for Distributive Biomarker Quantification”, 2023, *ACS Nano*, <https://doi.org/10.1021/acsnano.3c04994>.
11. E. Istif, H. Mirzajani, F. Mirlou, E. Y. Ozuaciksoz, **H. Ceylan Koydemir**, I. Yilgor, E. Yilgor, L. Beker, “Miniaturized wireless sensor enables real-time monitoring of food spoilage”, *Nature Food*, 2023, DOI: 10.1038/s43016-023-00750-9.
12. T. Liu, Y. Li, **H. Ceylan Koydemir**, Y. Zhang, E. Yang, H. Wang, J. Li, B. Bai, A. Ozcan, “Rapid and stain-free quantification of viral plaque via lens-free holography and deep learning”, *Nature Biomedical Engineering*, 2023, <https://doi.org/10.48550/arXiv.2207.00089>.
13. **W. Xu** and **H. Ceylan Koydemir**, “Non-invasive biosensors for early detection and monitoring of bacterial biofilm growth at the point of care,” *Lab Chip*, 2022, DOI <https://doi.org/10.1039/D2LC00776B> (featured in the back cover of the journal) (selected in the list of HOT articles).
14. Y. Li, T. Liu, **H. Ceylan Koydemir**, H. Wang, K. O’Riordan, B. Bai, Y. Haga, J. Kobashi, H. Tanaka, T. Tamaru, K. Yamaguchi, A. Ozcan, “Deep Learning-enabled Detection and Classification of Bacterial Colonies Using a Thin Film Transistor (TFT) Image Sensor”, *ACS Photonics*, 2022, <https://doi.org/10.1021/acsp Photonics.2c00572>.
15. T. Abbasiasl, F. Mirlou, E. Istif, **H. Ceylan Koydemir**, and L. Beker, “A Wearable Paper-Integrated Microfluidic Device for Sequential Analysis of Sweat Based on Capillary Action”, *Sensors and Diagnostics*, 2022, <https://doi.org/10.1039/D2SD00032F>.
16. J. Leonard<sup>†</sup>, **H. Ceylan Koydemir**<sup>†</sup>, V. Koutnik, D. Tseng, A. Ozcan, S. Mohanty, “Smartphone-enabled rapid quantification of microplastics”, *Journal of Hazardous Materials Letters*, 2022, <https://doi.org/10.1016/j.hazl.2022.100052>.
17. V. Koutnik, A. Borthakur, J. Leonard, S. Alkidim, **H. Ceylan Koydemir**, D. Tseng, A. Ozcan, S. Ravi, S. Mohanty, “Mobility of polypropylene microplastics in stormwater biofilters under freeze-thaw cycles”, *Journal of Hazardous Materials Letters*, 2022, <https://doi.org/10.1016/j.hazl.2022.100048>.
18. V. Koutnik, J. Leonard, J. B. Glasman, J. Brar, **H. Ceylan Koydemir**, A. Novoselov, R. Bertel, D. Tseng, A. Ozcan, S. Ravi, S. Mohanty, “Microplastics retained in stormwater control measures: Where do they come from and where do they go?”, *Water Research*, 2022, <https://doi.org/10.1016/j.watres.2021.118008>.
19. **H. Ceylan Koydemir** and A. Ozcan, “Smartphone-based sensors and imaging devices for global health”, *Advanced Optical Technologies*, 2021, <https://doi.org/10.1515/aot-2021-0031>.
20. C. Isil<sup>†</sup>, K. de Haan<sup>†</sup>, Z. Gorocs<sup>†</sup>, **H. Ceylan Koydemir**<sup>†</sup>, S. Peterman, D. Baum, F. Song, T. Skandakumar, E. Gumustekin, A. Ozcan, “Phenotypic analysis of microalgae populations using a

- label-free imaging flow cytometer and deep learning”, *ACS Photonics*, 2021, <https://doi.org/10.1021/acsp Photonics.1c00220>.
21. **H. Ceylan Koydemir** and A. Ray, “Mobile Diagnostic Devices for Digital Transformation in Personalized Healthcare”, *Diagnostics*, 2020, <https://doi.org/10.3390/diagnostics10121008>.
  22. Z. Gorocs, D. Baum, F. Song, K. de Haan, **H. Ceylan Koydemir**, Y. Qiu, Z. Cai, T. Skandakumar, S. Peterman, M. Tamamitsu, A. Ozcan, “Label-free detection of *Giardia lamblia* cysts using a deep learning-enabled portable imaging flow cytometer”, *Lab on a Chip*, 2020, <https://doi.org/10.1039/D0LC00708K>.
  23. K. de Haan<sup>†</sup>, **H. Ceylan Koydemir**<sup>†</sup>, Y. Rivenson, D. Tseng, E. A. Van Dyne, L. Bakic, D. Karınca, K. Liang, M. Ilango, E. Gumustekin, A. Ozcan, “Automated screening of sickle cells using a smartphone-based microscope and deep learning”, *Nature: npj Digital Medicine*, 2020, <https://doi.org/10.1038/s41746-020-0282-y>.
  24. H. Wang<sup>†</sup>, **H. Ceylan Koydemir**<sup>†</sup>, Y. Qiu<sup>†</sup>, B. Bai, Y. Zhang, Y. Jin, S. Tok, E.C. Yilmaz, E. Gumustekin, Y. Rivenson, A. Ozcan, “Early-detection and classification of live bacteria using time-lapse coherent imaging and deep learning”, *Nature: Light Science and Applications*, 2020, <https://doi.org/10.1038/s41377-020-00358-9>.
  25. F. Ghaderinezhad, **H. Ceylan Koydemir**, D. Tseng, D. Karınca, K. Liang, A. Ozcan, S. Tasoglu, “Sensing of electrolytes in urine using a miniaturized paper-based device”, *Nature: Scientific Reports*, 2020, <https://doi.org/10.1038/s41598-020-70456-6>.
  26. **H. Ceylan Koydemir**<sup>†</sup>, S. Rajpal<sup>†</sup>, E. Gumustekin, D. Karınca, K. Liang, Z. Gorocs, D. Tseng, A. Ozcan, “Smartphone-based turbidity reader”, *Nature: Scientific Reports*, 2019, DOI: 10.1038/s41598-019-56474-z.
  27. Y. Zhang , M. Ouyang , A. Ray, T. Liu, J. Kong, B. Bai, D. Kim, A. Guziak , Y. Luo , A. Feizi, K. Tsai, Z. Duan, X. Liu, D.H. Kim, C. Cheung, S. Yalcin, **H. Ceylan Koydemir**, O. Garner, D. Di Carlo, and A. Ozcan, “Computational cytometer based on magnetically-modulated coherent imaging and deep learning”, *Nature: Light Science and Applications*, 2019, DOI: 10.1038/s41377-019-0203-5.
  28. S. Tok, K. de Haan, D. Tseng, **H. Ceylan Koydemir**, A. Ozcan, “Early detection of *E. coli* and total coliform using an automated, colorimetric and fluorometric fiber optics-based device”, *Lab on a Chip*, 2019, DOI: 10.1039/C9LC00652D.
  29. T. Ghonge, **H. Ceylan Koydemir**, E. Valera, G. Berger, C. Garcia, N. Nawar, J. Tiao, G. Damhorst, A. Ganguli, U. Hassan, A. Ozcan, R. Bashir, “Smartphone-imaged, microfluidic technique for measuring CD64 expression from whole blood”, *Analyst*, 2019, DOI: 10.1039/C9AN00532C, (Selected as cover article of the journal).
  30. J. W. Snow, **H. Ceylan Koydemir**, D. K. Karınca, K. Liang, D. Tseng, A. Ozcan, “Rapid imaging, detection, and quantification of *Nosema ceranae* spores in honey bees using mobile phone based fluorescence microscopy”, *Lab on a Chip*, 2019, DOI:10.1039/C8LC01342J.
  31. **H. Ceylan Koydemir**, J.T. Coulibaly, D. Tseng, I. I. Bogoch, A. Ozcan, “Design and validation of a wide-field mobile-phone microscope for the label-free diagnosis of *Schistosomiasis*”, *Travel Medicine and Infectious Disease*, 2018, DOI: 10.1016/j.tmaid.2018.12.001.
  32. V. Müller, J. Sousa, **H. Ceylan Koydemir**, M. Veli, D. Tseng, L. Cerqueira, A. Ozcan, N. Azevedo, F. Westerlund, "Identification of pathogenic bacteria in complex samples using a smartphone based fluorescence microscope", *RSC Advances*, 2018, DOI: 10.1039/C8RA06473C.
  33. Y. Zhang<sup>†</sup>, **H. Ceylan Koydemir**<sup>†</sup>, M. Schimogowa<sup>†</sup>, S. Yalcin, A. Guziak, T. Liu, I. Oguz, Y. Huang, B. Bai, Y. Luo, Y. Luo, Z. Wei, H. Wang, V. Bianco, B. Zhang, R. Nadkarni, K. Hill, and A. Ozcan, “Motility-based label-free detection of parasites in bodily fluids using holographic speckle analysis and deep learning”, *Nature: Light Science and Applications*, 2018, <https://doi.org/10.1038/s41377-018-0110-1>.
  34. Z. Gorocs, M. Tamamitsu, V. Bianco, P. Wolf, S. Roy, K. Shindo, K. Yanny, Y. Wu, **H. Ceylan Koydemir**, Y. Rivenson, and A. Ozcan, “A deep learning-enabled portable imaging flow cytometer

- for cost-effective, high-throughput and label-free analysis of natural water", *Nature: Light Science and Applications*, 2018, DOI:10.1038/s41377-018-0067-0.
35. Y. Wu, A. Calis, Y. Luo, C. Chen, M. Lutton, Y. Rivenson, X. Lin, **H. Ceylan Koydemir**, Y. Zhang, H. Wang, Z. Göröcs, and A. Ozcan, "Label-free bio-aerosol sensing using mobile microscopy and deep learning", *ACS Photonics*, 2018, DOI: 10.1021/acsp Photonics.8b01109.
  36. **H. Ceylan Koydemir** and A. Ozcan, "Smartphones Democratize Advanced Biomedical Instruments and Foster Innovation", *Clinical Pharmacology & Therapeutics*, 2018, DOI: 10.1002/cpt.1081.
  37. Y. Rivenson<sup>†</sup>, **H. Ceylan Koydemir**<sup>†</sup>, H. Wang<sup>†</sup>, Z. Wei, Z. Ren, H. Günaydin, Y. Zhang, Z. Göröcs, K. Liang, D. Tseng, and A. Ozcan, "Deep learning enhanced mobile-phone microscopy", *ACS Photonics*, 2018, DOI:10.1021/acsp Photonics.8b00146.
  38. **H. Ceylan Koydemir** and A. Ozcan, "Wearable and implantable sensors for biomedical applications", *Annual Review of Analytical Chemistry*, 2018, DOI: 10.1146/annurev-anchem-061417-125956.
  39. **H. Ceylan Koydemir**, S. Feng, K. Liang, R. Nadkarni, P. Benien, and A. Ozcan, "Comparison of supervised machine learning algorithms for waterborne pathogen detection using mobile-phone fluorescence microscopy," *Nanophotonics*, 2017, DOI: nanoph-2017-0001.
  40. **H. Ceylan Koydemir**, A. Ozcan, "Mobile phones create new opportunities for microbiology related research and clinical applications", *Future Microbiology*, 2017, DOI: 10.2217/fmb-2017-0046.
  41. I.I. Bogoch, **H. Ceylan Koydemir**, D. Tseng, R.K.D. Ephraim, E. Duah, J. Tee, J.R. Andrews, and A. Ozcan, "Evaluation of a mobile phone based microscope for screening of *Schistosoma haematobium* infection in rural Ghana", *The American Journal of Tropical Medicine and Hygiene*, 2017, DOI: <https://doi.org/10.4269/ajtmh.16-0912>.
  42. Z. Göröcs, Y. Rivenson, **H. Ceylan Koydemir**, D. Tseng, T. L. Troy, V. Demas, and A. Ozcan, "Quantitative fluorescence sensing through highly autofluorescent, scattering, and absorbing media using mobile microscopy", *ACS Nano*, 2016, DOI: 10.1021/acsnano.6b05129.
  43. B. Cortazar<sup>†</sup>, **H. Ceylan Koydemir**<sup>†</sup>, D. Tseng, S. Feng and A. Ozcan, "Quantification of plant chlorophyll content using Google Glass," *Lab on a Chip*, 2015, DOI: 10.1039/c4lc01279h.
  44. **H. Ceylan Koydemir**, Z. Göröcs, D. Tseng, B. Cortazar, S. Feng, R.Y.L. Chan, J. Burbano, E. McLeod, and A. Ozcan, "Rapid imaging, detection and quantification of Giardia lamblia cysts using mobile-phone based fluorescent microscopy and machine learning," *Lab on a Chip*, 2015, DOI: 10.1039/C4LC01358A, (Selected as a cover article of the journal, and it is a part of the themed collection: Lab on a Chip Recent HOT articles).
  45. **H. Ceylan Koydemir**, H. Kùlah, A. Alp, A. Uner, G. Hasçelik, C. Özgen, "A fully microfabricated electrochemical sensor and its implementation for detection of methicillin resistance in *Staphylococcus aureus*", *IEEE Sensors*, 2014, DOI: 10.1109/JSEN.2014.2305152.
  46. **H. Ceylan Koydemir**, H. Kùlah, C. Özgen, "Solvent compatibility of parylene C film layer", *JMEMS*, 2014, DOI: 10.1109/JMEMS.2013.2273032.
  47. **H. Ceylan Koydemir**, H. Kùlah, C. Özgen, A. Alp, G. Hasçelik, "MEMS biosensors for detection of methicillin resistant *Staphylococcus aureus*", *Biosensors and Bioelectronics*, 2011, DOI: 10.1016/j.bios.2011.07.071, (In the list of most downloaded articles between October 2011 - February 2012).

**Refereed Conference Proceedings/Abstracts**=====

**Blue: Graduate researchers mentored at Texas A&M University**

**Green: Undergraduate researchers mentored at Texas A&M University**

**Pink: Young scholar researchers mentored at Texas A&M University**

1. **W. Xu**, **M. Althumayri**, A. Mohammad, **H. Ceylan Koydemir**, "Low-cost, foldable smartphone-based point of care device for blood coagulation testing", SPIE Photonics West, Optical Diagnostics and Sensing XXIV: Toward Point-of-Care Diagnostics, Jan 27 - Feb 1, 2024, San Francisco, CA, USA

2. [W. Xu](#), [M. Althumayri](#), A. Mohammad, **H. Ceylan Koydemir**, "Low-cost smartphone-based foldable device for point-of-care INR monitoring", Nature Conferences on Bioengineering for Global Health, Nov 13-15, 2023, Nashville, Tennessee, USA.
3. [W. Xu](#), [M. Althumayri](#), A. Mohammad, and **H. Ceylan Koydemir**, "Point of care testing of blood coagulation using a smartphone", SciX 2023, 23BIM05: Nanotheranostics: Diagnosis and Treatment of Disease Using Nanomaterials, October 8-13, 2023, Sparks, Nevada, USA.(Invited Talk)
4. Y. Li, T. Liu, **H. Ceylan Koydemir**, Y. Zhang, E. Yang, M. Eryilmaz, H. Wang, J. Li, B. Bai, G. Ma, and A. Ozcan, "Stain-free, rapid, and automated viral plaque assay using time-lapse holographic imaging and deep learning," Optica Frontiers in Optics (FiO) Conference, October 9-12, 2023, Seattle WA
5. **H. Ceylan Koydemir**, "The impact of 1-h bootcamp course on student learning of a biotransport course", 2023 Frontiers in Education (FIE) Conference, October 18 – 21, 2023, College Station, TX, USA.
6. [W. Xu](#), [M. Althumayri](#), A. Mohammad, and **H. Ceylan Koydemir**, "Low-cost point-of-care device for blood coagulation testing utilizing smartphone imaging and foldable design", 6th Annual Biomedical Engineering Graduate Research Symposium, August 15, 2023, College Station, TX, USA.
7. [J. R. Korgaonkar](#), J. McMurray, G. Cote and **H. Ceylan Koydemir**, "Smart urinary catheter bag for multiplex detection of urine parameters at the point of care", 6th Annual Biomedical Engineering Graduate Research Symposium, August 15, 2023, College Station, TX, USA
8. [M. Althumayri](#), [A. Patel](#), and **H. Ceylan Koydemir**, "Exploring the Role of Surface Roughness in Intravenous Line Infections: A Bioinspired Approach", 6th Annual Biomedical Engineering Graduate Research Symposium, August 15, 2023, College Station, TX, USA
9. [W. Xu](#), [M. Althumayri](#), A. Mohammad, and **H. Ceylan Koydemir**, "Blood Coagulation Testing Using a Smartphone", 25th Cardiovascular Research Institute Symposium, August 2-3, 2023, College Station, TX, USA.
10. Y. Li, T. Liu, **H. Ceylan Koydemir**, Y. Zhang, E. Yang, M. Eryilmaz, H. Wang, J. Li, B. Bai, G. Ma, and A. Ozcan, "Rapid, automated, and stain-free viral plaque assay using deep learning and holography," 23 rd Annual UC Systemwide Bioengineering Symposium, June 22-23, 2023, University of California, Berkeley, CA, USA
11. [W. Xu](#) and **H. Ceylan Koydemir**, "Smartphone-enabled low-cost platform for nanoliter flow measurement in microfluidic channels at the point of care", 33rd Anniversary World Congress on Biosensors, 5-8 June 2023, Busan, South Korea.
12. **H. Ceylan Koydemir**, "Smart and Portable Technologies Engineered for Biomedical Sensing and Imaging", 2023 Optica Biophotonics Congress: Optics in the Life Sciences, 24 – 27 April 2023, Vancouver, Canada. (Invited Talk)
13. [W. Xu](#) and **H. Ceylan Koydemir**, "Smartphone-based Nanoliter Flow Measurement in Microfluidic Channels", Advancing Microfluidic Applications, Pittcon 23, March 18-22, 2023, Philadelphia, PA, USA.
14. **H. Ceylan Koydemir**, "Portable Technologies for Medical Diagnostics and Imaging in Low Resource Settings", Biomedical and Astronomical Signal Processing (BASP) Frontiers, February 5-10, 2023, Villars-sur-Ollon, Switzerland.
15. Y. Li, T. Liu, **H. Ceylan Koydemir**, Y. Zhang, E. Yang, H. Wang, J. Li, B. Bai, A. Ozcan, "Stain-free, rapid, and quantitative viral plaque assay using deep learning and time-lapse holographic imaging", SPIE Photonics West, Optics and Biophotonics in Low-Resource Settings IX, Jan 28 - Feb 2, 2023, San Francisco, CA, USA

16. Y. Li, T. Liu, **H. Ceylan Koydemir**, H. Wang, K. O'Riordan, B. Bai, Y. Haga, J. Kobashi, H. Tanaka, T. Tamaru, K. Yamaguchi, A. Ozcan, "Rapid detection and classification of bacterial colonies using a thin film transistor (TFT) image sensor and deep learning", SPIE Photonics West, Optics and Biophotonics in Low-Resource Settings IX, Jan 28 - Feb 2, 2023, San Francisco, CA, USA
17. V. Shah, X. Yang, M. Ouyang, G. Destgeer, S. Udani, A. Arnheim, **H. Ceylan Koydemir**, A. Ozcan, D. Di Carlo, "Lab-on-a-Particle-based NT-proBNP Assay and Portable Reader," IEEE EMBS Micro and Nanotechnology in Medicine Conference, December 5-9, 2022, Hawaii, USA
18. V. Shah, X. Yang, M. Ouyang, A. Arnheim, **H. Ceylan Koydemir**, D. Tseng, Y. Luo, S. Udani, G. Destgeer, A. Ozcan, D. D. Carlo, "Lab-on-a particle assay and portable reader for accessible monitoring of heart failure", MicroTAS 2022 – The 26th International Conference on Miniaturized Systems for Chemistry and Life Sciences, October 23-27, 2022, Hangzhou, China.
19. **W. Xu**, and **H. Ceylan Koydemir**, "Smartphone enabled nanoliter flow measurement in microfluidic channels", BMES (Biomedical Engineering Society) Annual Meeting, Device Technologies and Biomedical Robotics, October 12-15, 2022, San Antonio, Texas, USA.
20. Y. Li, T. Liu, **H. Ceylan Koydemir**, H. Wang, K. O'Riordan, B. Bai, Y. Haga, J. Kobashi, H. Tanaka, T. Tamaru, K. Yamaguchi and A. Ozcan, "Early Detection and Classification of Bacterial Colonies Using a Thin-Film-Transistor (TFT)-Based Image Sensor and Deep Learning," Optica/OSA Frontiers in Optics + Laser Science (FiO-LS) Conference, October 17-20, 2022, Rochester, NY USA
21. **W. Xu**, and **H. Ceylan Koydemir**, "Nanoliter flow measurement in microfluidic channels using a smartphone", 5th Annual Biomedical Engineering Graduate Research Symposium, August 23, 2022, College Station, TX, USA
22. Y. Li, T. Liu, **H. Ceylan Koydemir**, H. Wang, K. O'Riordan, B. Bai, A. Ozcan, "Deep learning-based early detection and classification of bacteria using a thin film transistor array", ACS Fall Meeting, August 21-25, 2022, Chicago, IL, USA
23. C. Isil, K. de Haan, Z. Gorocs, **H. Ceylan Koydemir**, S. Peterman, D. Baum, F. Song, T. Skandakumar, E. Gumustekin, A. Ozcan, "Phenotypic analysis of microalgae populations through label-free imaging flow cytometry," 22nd Annual UC Systemwide Bioengineering Symposium, August 8- 10, 2022, University of California, Santa Barbara, CA, USA
24. Y. Li, T. Liu, **H. Ceylan Koydemir**, H. Wang, K. O'Riordan, B. Bai, Y. Haga, J. Kobashi, H. Tanaka, T. Tamaru, K. Yamaguchi, A. Ozcan, "Deep learning-based detection and classification of coliform bacterial colonies using a thin film transistor (TFT) image sensor," 22nd Annual UC Systemwide Bioengineering Symposium, August 8-10, 2022, University of California, Santa Barbara, CA, USA
25. V. Koutnik, A. Borthakur, J. Leonard, S. Alkidim, **H. Ceylan Koydemir**, D. Tseng, A. Ozcan, and S. K. Mohanty, Enhanced downward transport of microplastics in stormwater biofilters during freeze-thaw cycles. American Chemical Society Spring 2022 National Meeting. San Diego, CA, USA. March 20-24, 2022.
26. V. Koutnik, D.J. Leonard, J. Glassman, A. Novoselov, **H. Ceylan Koydemir**, D. Tseng, A. Ozcan, R. Bertel, S. Ravi, S. K. Mohanty, "What Controls the Distribution and Mobility of Microplastics in Stormwater Treatment Systems in Urban Areas?" AGU Fall Meeting 2021, December 13-15, 2021, New Orleans, LA, USA.
27. C. Isil, K. de Haan, Z. Göröcs, **H. Ceylan Koydemir**, S. Peterman, D. Baum, F. Song, T. Skandakumar, E. Gumustekin, and A. Ozcan, "Label-free imaging flow cytometry for phenotypic analysis of microalgae populations using deep learning," OSA Frontiers in Optics (FiO) Conference, November 1-4, 2021, Virtual Conference.
28. H. Wang, **H. Ceylan Koydemir**, Y. Qiu, B. Bai, Y. Zhang, Y. Jin, S. Tok, E.C. Yilmaz, E. Gumustekin, Y. Rivenson, and A. Ozcan, "Early identification of live bacteria in water samples using

- timelapse holographic imaging and deep learning”, SPIE Optics and Photonics Conference, August 1-5, 2021, Virtual Conference, Paper # 11804-64
29. Z. Göröcs, D. Baum, F. Song, K. de Haan, **H. Ceylan Koydemir**, Y. Qiu, Z. Cai, T. Skandakumar, S. Peterman, M. Tamamitsu, A. Ozcan, "Deep Learning-enabled Holographic Imaging FlowCytometry for Label-Free Detection of Giardia Lambliia in Water Samples," OSA Imaging and Applied Optics Congress, July 19-23, 2021, Virtual Conference
  30. H. Wang, **H. Ceylan Koydemir**, Y. Qiu, B. Bai, Y. Zhang, Y. Jin, S. Tok, E.C. Yilmaz, E. Gumustekin, Y. Rivenson, A. Ozcan. "Deep Learning-enabled Coherent Imaging Achieves Early Detection and Classification of Bacteria in Water Samples," OSA Conference on Lasers and Electro-optics (CLEO), May 9-14, 2021, Virtual Conference
  31. J. Leonard, **H. Ceylan Koydemir**, V. Smirnova, D. Tseng, A. Ozcan, S. Mohanty, "Rapid detection of microplastics using mobile phone technology". ACS Spring 2021, Division of Environmental Chemistry (ENVR), April 5-16, 2021, Virtual Conference.
  32. Z. Göröcs, D. Baum, F. Song, K. DeHaan, **H. Ceylan Koydemir**, Y. Qiu, Z. Cai, T. Skandakumar, S. Peterman, M. Tamamitsu, and A. Ozcan, "High throughput detection and quantification of Giardia lamblia cysts using holographic imaging flow-cytometry and deep learning," American Physical Society, APS March Meeting, March 15-19, 2021, Virtual Conference
  33. H. Wang, **H. Ceylan Koydemir**, Y. Qiu, B. Bai, Y. Zhang, Y. Jin, S. Tok, E.C. Yilmaz, E. Gumustekin, Y. Rivenson, and A. Ozcan, "Early detection and classification of live bacteria using holography and deep learning," American Physical Society, APS March Meeting, March 15-19, 2021, Virtual Conference
  34. C. Isil, K. de Haan, Z. Gorocs, **H. Ceylan Koydemir**, D. Baum, F. Song, T. Skandakumar, E. Gumustekin, A. Ozcan, "Label-free analysis of micro-algae populations using a high-throughput holographic imaging flow cytometer and deep learning", SPIE Photonics West, Label-free Biomedical Imaging and Sensing (LBIS), March 6-11, 2021, San Francisco, CA, USA.
  35. K. De Haan, **H. Ceylan Koydemir**, Y. Rivenson, D. Tseng, E. Van Dyne, L. Bakic, D. Karinca, K. Liang, M. Ilango, E. Gumustekin, A. Ozcan, "Screening of sickle cell disease using a smartphone-based microscope and deep-learning," SPIE Photonics West, Optics and Biophotonics in Low-Resource Settings VII, March 6-11, 2021 Virtual Conference, Paper # 11632-9
  36. T. Liu, Y. Zhang, M. Ouyang, A. Ray, J. Kong, B. Bai, D. Kim, A. Guziak, Y. Luo, A. Feizi, K. Tsai, Z. Duan, X. Liu, D. Kim, C. Cheung, S. Yalcin, **H. Ceylan Koydemir**, O.B. Garner, D. Di Carlo, A. Ozcan, "Deep learning-based cytometer using magnetically modulated coherent imaging," SPIE Photonics West, Optics and Biophotonics in Low-Resource Settings VII, March 6-11, 2021, San Francisco, CA, USA.
  37. Z. Gorocs, D. Baum, F. Song, K. de Haan, **H. Ceylan Koydemir**, Y. Qiu, Z. Cai, T. Skandakumar, S. Peterman, M. Tamamitsu, A. Ozcan, "Label-free detection of Giardia lamblia cysts in water samples using a field-portable imaging flow cytometer and deep learning," SPIE Photonics West, Optics and Biophotonics in Low-Resource Settings VII, March 6-11, 2021, San Francisco, CA, USA.
  38. T. Liu, Y. Zhang, M. Ouyang, A. Ray, J. Kong, B. Bai, D. Kim, A. Guziak, Y. Luo, A. Feizi, K. Tsai, Z. Duan, X. Liu, D. Kim, C. Cheung, S. Yalcin, **H. Ceylan Koydemir**, O.B. Garner, D. Di Carlo, A. Ozcan, "Deep learning-based cytometer using magnetically modulated coherent imaging," SPIE Optics and Photonics Conference, August 24-28, 2020, Virtual Conference, Paper # 11469- 49.
  39. K. de Haan, **H. Ceylan Koydemir**, Y. Rivenson, D. Tseng, E. Van Dyne, L. Bakic, D. Karinca, K. Liang, M. Ilango, E. Gumustekin, A. Ozcan, "Sickle cell disease screening from thin blood smears using a smartphone-based microscope and deep learning," SPIE Optics and Photonics Conference, August 24-28, 2020, Virtual Conference, Paper # 11469-54.
  40. K. de Haan, **H. Ceylan Koydemir**, Y. Rivenson, D. Tseng, E. Van Dyne, L. Bakic, D. Karinca, K. Liang, M. Ilango, E. Gumustekin, A. Ozcan, "Automated screening of sickle cells using a smartphone-based microscope and deep learning," OSA Conference on Lasers and Electro-optics (CLEO), May 11-15, 2020, San Jose, CA USA.

41. T. Liu, Y. Zhang, M. Ouyang, A. Ray, J. Kong, B. Bai, D. Kim, A. Guziak, Y. Luo, A. Feizi, K. Tsai, Z. Duan, X. Liu, D. Kim, C. Cheung, S. Yalcin, **H. Ceylan Koydemir**, O. B. Garner, D. Di Carlo, A. Ozcan, "Deep learning-enabled computational cytometer using magnetically modulated coherent imaging," 2020 OSA Biophotonics Congress: Biomedical Optics (BioMed 2020), April 20-23, 2020, Fort Lauderdale, FL USA.
42. H. Wang, **H. Ceylan Koydemir**, Y. Qiu, B. Bai, Y. Zhang, Y. Jin, S. Tok, E. C. Yilmaz, E. Gumustekin, Y. Luo, Y. Rivenson, A. Ozcan, "Deep learning enables high-throughput early detection and classification of bacterial colonies using time-lapse coherent imaging", SPIE Photonics West, Optics and Biophotonics in Low Resource Settings VI, February 1-6, 2020, San Francisco, CA, USA.
43. S. Tok, K. de Haan, D. K. Tseng, C. F. Usanmaz, **H. Ceylan Koydemir**, A. Ozcan, "Early detection of *E.coli* and total coliform using an automated fiber optics-based sensing system", SPIE Photonics West, Optics and Biophotonics in Low Resource Settings VI, February 1-6, 2020, San Francisco, CA, USA.
44. **H. Ceylan Koydemir**, J. T. Coulibaly, D. Tseng, I. I. Bogoch, A. Ozcan, "Field-testing of a mobile microscope for label-free detection of *Schistosoma* eggs in urine and stool samples", SPIE Photonics West, Optics and Biophotonics in Low Resource Settings VI, February 1-6, 2020, San Francisco, CA, USA.
45. **H. Ceylan Koydemir**, S. Rajpal, E. Gumustekin, D. Karınca, K. Liang, Z. Gorocs, D. Tseng, A. Ozcan, "Turbidity analysis using a smartphone-based reader", SPIE Photonics West, Optics and Biophotonics in Low Resource Settings VI, February 1-6, 2020, San Francisco, CA, USA.
46. V. Müller, J.M. Sousa, **H. Ceylan Koydemir**, M. Veli, D. Tseng, L. Cerqueira, A. Ozcan, N. F. Azevedo, F. Westerlund, "Mobile-phone microscopy-based identification of pathogenic bacteria in complex samples", SPIE Photonics West, Optics and Biophotonics in Low Resource Settings VI, February 1-6, 2020, San Francisco, CA, USA.
47. J. Snow, **H. Ceylan Koydemir**, D. Tseng, D. Karınca, K. Liang, and A. Ozcan, " Rapid and automated detection of *Nosema* infection in honey bees using a mobile microscope", BMES (Biomedical Engineering Society) Annual Meeting, Advances in Sensing and Imaging Technology, October 16-19, 2019, Philadelphia, Pennsylvania, USA.
48. **H. Ceylan Koydemir**, S. Rajpal, E. Gumustekin, D. Karınca, K. Liang, Z. Gorocs, D. Tseng, and A. Ozcan, " Water quality analysis using a smartphone-based turbidity reader", BMES (Biomedical Engineering Society) Annual Meeting, Advances in Sensing and Imaging Technology, October 16-19, 2019, Philadelphia, Pennsylvania, USA.
49. Y. Wu, A. Calis, Y. Luo, C. Chen, M. Lutton, Y. Rivenson, X. Lin, **H. Ceylan Koydemir**, Y. Zhang, H. Wang, Z. Göröcs, and A. Ozcan, "Deep-learning based label free bio-aerosol sensing", BMES (Biomedical Engineering Society) Annual Meeting, Advances in Sensing and Imaging Technology, October 16-19, 2019, Philadelphia, Pennsylvania, USA.
50. Y. Wu, A. Calis, Y. Luo, C. Chen, M. Lutton, Y. Rivenson, X. Lin, **H. Ceylan Koydemir**, Y. Zhang, H. Wang, Z. Göröcs, and A. Ozcan, "Mobile label-free bio-aerosol sensing using deep neural networks," 20<sup>th</sup> Annual UC Systemwide Bioengineering Symposium, June 27-29, 2019, University of California, Merced, CA, USA.
51. Z. Göröcs, M. Tamamitsu, V. Bianco, P. Wolf, S. Roy, K. Shindo, K. Yanny, Y. Wu, **H. Ceylan Koydemir**, Y. Rivenson, and A. Ozcan, "Label-free monitoring of algae using a high throughput, field-portable imaging flow cytometer," 20<sup>th</sup> Annual UC Systemwide Bioengineering Symposium, June 27-29, 2019, University of California, Merced, CA, USA.
52. J. Snow, **H. Ceylan Koydemir**, D. Tseng, D. Karınca, K. Liang, and A. Ozcan, "Detection of *Nosema ceranae* in honey bees using a mobile microscope," 20<sup>th</sup> Annual UC Systemwide Bioengineering Symposium, June 27-29, 2019, University of California, Merced, CA, USA.
53. **H. Ceylan Koydemir**, J. T. Coulibaly, D. Tseng, I. I. Bogoch, and A. Ozcan, "Field testing of a mobile phone microscope for label-free screening of *Schistosoma* eggs," 20<sup>th</sup> Annual UC Systemwide Bioengineering Symposium, June 27-29, 2019, University of California, Merced, CA, USA.



54. Y. Zhang, **H. Ceylan Koydemir**, M. M. Schimogawa, S. Yalcin, A. Guziak, T. Liu, I. Oguz, Y. Huang, B. Bai, Y. Luo, Y. Luo, Z. Wei, H. Wang, V. Bianco, B. Zhang, R. Nadkarni, K. Hill, and A. Ozcan, "Label-free and high-throughput detection of motile parasites in bodily fluids using time-resolved speckle imaging," 20<sup>th</sup> Annual UC Systemwide Bioengineering Symposium, June 27-29, 2019, University of California, Merced, CA, USA.
55. **H. Ceylan Koydemir**, S. Rajpal, E. Gumustekin, D.Karinca, K. Liang, Z.Gorocs, D. Tseng, and A. Ozcan, "Field portable smartphone based reader for turbidity analysis," 20<sup>th</sup> Annual UC Systemwide Bioengineering Symposium, June 27-29, 2019, University of California, Merced, CA, USA.
56. Y. Wu, A. Calis, Y. Luo, C. Chen, M. Lutton, Y. Rivenson, X. Lin, **H. Ceylan Koydemir**, Y. Zhang, H. Wang, Z. Göröcs, A. Ozcan, "Label-free bio-aerosol sensing using on-chip holographic microscopy and deep learning", OSA Conference on Lasers and Electro-optics (CLEO'19), May 5-10, 2019, San Jose, CA USA.
57. Z. S. Göröcs, M. Tamamitsu, V. Bianco, P. Wolf, S. Roy, K. Shindo, K. Yanny, Y. Wu, **H. Ceylan Koydemir**, Y. Rivenson, A. Ozcan, "Portable imaging flow-cytometer using deep learning-based holographic image reconstruction", OSA Conference on Lasers and Electro-optics (CLEO'19), May 5-10, 2019, San Jose, CA USA.
58. Y. Zhang, **H. Ceylan Koydemir**, M. Shimogowa, S. Yalcin, K. Hill, A. Ozcan, " High-throughput and label-free detection of motile parasites in bodily fluids using lensless time-resolved speckle imaging" OSA Conference on Lasers and Electro-optics (CLEO'19), May 5-10, 2019, San Jose, CA USA.
59. J. Snow, **H. Ceylan Koydemir**, D. Karınca, K. Liang, D. Tseng, A. Ozcan, "Honey bee parasite detection using a smartphone", The Emerging Researchers National (ERN) Conference in Science, Technology, Engineering and Mathematics (STEM), Feb 21-23, 2019, Washington, DC, USA.
60. Y. Wu, A. Calis, Y. Luo, C. Chen, M. Lutton, Y. Rivenson, X. Lin, **H. Ceylan Koydemir**, Y. Zhang, H. Wang, Z. Göröcs, A. Ozcan, "Deep-learning enabled label-free bio-aerosol sensing using mobile microscopy", SPIE Photonics West 2019, Optics and Biophotonics in Low Resource Settings V, February 2-7, 2019, San Francisco, CA, USA.
61. Y. Rivenson, **H. Ceylan Koydemir**, H. Wang, Z. Wei, Z. Ren, H. Gunaydin, Y. Zhang, Z. Gorocs, K. Liang, D. Tseng, A. Ozcan, "Deep learning enhances mobile microscopic imaging", SPIE Photonics West 2019, Optics and Biophotonics in Low Resource Settings V, February 2-7, 2019, San Francisco, CA, USA.
62. Z. S. Göröcs, M. Tamamitsu, V. Bianco, P. Wolf, S. Roy, K. Shindo, K. Yanny, Y. Wu, **H. Ceylan Koydemir**, Y. Rivenson, A. Ozcan, "Deep learning-based label-free imaging flow cytometry for on-site analysis of water samples", SPIE Photonics West 2019, Optics and Biophotonics in Low Resource Settings V, February 2-7, 2019, San Francisco, CA, USA.
63. J. Snow, **H. Ceylan Koydemir**, D. Karınca, K. Liang, D. Tseng, A. Ozcan, "Bee parasite detection using a smartphone", SPIE Photonics West 2019, Optics and Biophotonics in Low Resource Settings V, February 2-7, 2019, San Francisco, CA, USA.
64. Y. Zhang, **H. Ceylan Koydemir**, M. Shimogowa, S. Yalcin, K. Hill, A. Ozcan, "Time-resolved holographic speckle analysis for label-free and high-throughput detection of motile parasites in bodily fluids", SPIE Photonics West 2019, Optics and Biophotonics in Low Resource Settings V, February 2-7, 2019, San Francisco, CA, USA.
65. Y. Rivenson, **H. Ceylan Koydemir**, H. Wang, Z. Wei, Z. Ren, H. Gunaydin, Y. Zhang, Z. Gorocs, K. Liang, D. Tseng, A. Ozcan, "Deep learning bridges the gap between mobile and laboratory grade microscopes", BMES (Biomedical Engineering Society) Annual Meeting, Advances in Sensing and Imaging Technology, October 17-20, 2018, Atlanta, Georgia, USA.
66. Y. Zhang, **H. Ceylan Koydemir**, M. Shimogowa, S. Yalcin, K. Hill, A. Ozcan, "Label-free and high-throughput detection of motile parasites from bodily fluids using time-resolved speckle imaging", BMES (Biomedical Engineering Society) Annual Meeting, Advances in Sensing and Imaging Technology, October 17-20, 2018, Atlanta, Georgia, USA.

67. S. Rajpal, **H. Ceylan Koydemir**, Z. Gorocs, D. Karnica, A. Ozcan, "Turbidity Measurement Using A Smartphone," BMES (Biomedical Engineering Society) Annual Meeting, October 17–20, 2018, Atlanta, Georgia, USA
68. T. Ghonge, **H. Ceylan Koydemir**, E. Valera, J. Berger, A. Ganguli, G. Damhorst, A. Ozcan, and R. Bashir, "A smartphone-assisted microfluidic assay for measuring CD64 expression on neutrophils in suspected sepsis-positive patients", BMES (Biomedical Engineering Society) Annual Meeting, Nanotechnologies for Global Health and Infectious Diseases, October 17-20, 2018, Atlanta, Georgia, USA.
69. Y. Rivenson, **H. Ceylan Koydemir**, H. Wang, Z. Wei, Z. Ren, H. Gunaydin, Y. Zhang, Z. Gorocs, K. Liang, D. Tseng, A. Ozcan, "Deep learning improves mobile-phone microscopy", SPIE Optical Engineering and Applications 2018, August 19-23, 2018, San Diego, CA, USA.
70. H. Wang, Y. Rivenson, **H. Ceylan Koydemir**, Z. Wei, Z. Ren, H. Gunaydin, Y. Zhang, Z. Gorocs, K. Liang, D. Tseng and A. Ozcan, "Deep learning enhances mobile microscopy," OSA Imaging and Applied Optics Congress, June 25-28, 2018, Orlando, Florida, USA (Post-deadline Paper).
71. Y. Rivenson, **H. Ceylan Koydemir**, H. Wang, Z. Wei, Z. Ren, H. Günaydin, Y. Zhang, Z. Göröcs, K. Liang, D. Tseng, A. Ozcan, "Deep learning improves smartphone microscopy using a convolutional neural network," 20<sup>th</sup> TechConnect World Innovation Conference, Chemical, Physical & Bio-Sensors Symposium, May 13-16, 2018, Anaheim, CA, USA.
72. Z. Göröcs, Y. Rivenson, **H. Ceylan Koydemir**, D. Tseng, T.L. Troy, V. Demas and A. Ozcan, "Compact imaging system for quantitative fluorescence sensing through autofluorescent, scattering and absorbing media", SPIE Photonics West 2018, Optics and Biophotonics in Low Resource Settings III, 27 January – 1 February 2018, San Francisco, CA, USA, Paper # 10485-23.
73. Z. Göröcs, Y. Rivenson, **H. Ceylan Koydemir**, D. Tseng, T.L. Troy, V. Demas and A. Ozcan, "Quantitative fluorescence sensing through an autofluorescent skin tissue phantom using a portable microscope," 18<sup>th</sup> Annual UC Systemwide Bioengineering Symposium, June 28-30, 2017, University of California, Los Angeles, CA, USA.
74. **H. Ceylan Koydemir**, I. I. Bogoch, D. Tseng, R.K.D. Ephraim, E. Duah, J. Tee, J. R. Andrews, and A. Ozcan, "Field testing of a mobile phone microscope for screening of schistosomiasis in Sub-Saharan Africa," 18<sup>th</sup> Annual UC Systemwide Bioengineering Symposium, June 28-30, 2017, University of California, Los Angeles, CA, USA.
75. **H. Ceylan Koydemir**, S. Feng, K. Liang, D. Tseng, R. Nadkarni, P. Benien, and A. Ozcan, "Automated detection and enumeration of waterborne pathogens using mobile phone microscopy and machine learning," OSA Conference on Lasers and Electro-optics (CLEO '17), May 14-19, 2017, San Jose, CA, USA.
76. Z. Göröcs, Y. Rivenson, **H. Ceylan Koydemir**, D. Tseng, T. Troy, V. Demas, and A. Ozcan "Mobile microscope for quantitative fluorescence sensing through highly autofluorescent and scattering media" OSA Conference on Lasers and Electro-optics (CLEO '17), May 14-19, 2017, San Jose, CA USA.
77. **H. Ceylan Koydemir**, S. Feng, K. Liang, R. Nadkarni, D. Tseng, P. Benien and A. Ozcan, "Rapid detection and quantification of waterborne pathogens using smartphone based fluorescence microscopy and machine learning," The Emerging Researchers National (ERN) Conference in Science, Technology, Engineering and Mathematics (STEM), March 2-4, 2017, Washington, DC, USA.
78. **H. Ceylan Koydemir**, S. W. Feng, K. Liang, R. Nadkarni, D. Tseng, P. Benien, A. Ozcan, "A survey of supervised machine learning models for mobile-phone based pathogen identification and classification", SPIE Photonics West 2017, Optics and Biophotonics in Low Resource Settings III, 28 January – 2 February 2017, San Francisco, CA, USA, Paper # 10055-9.
79. **H. Ceylan Koydemir**, and A. Ozcan, "Waterborne pathogen detection using a smartphone-based fluorescence microscope and machine learning", Biological and Chemical Sensors Summit, December 5-7, 2016, La Jolla, CA, USA.

80. **H. Ceylan Koydemir**, and A. Ozcan, "Waterborne pathogen detection using a smartphone-based fluorescence microscope and machine learning", Clean Air and Water Solutions Conference, American Filtration and Separations Society, October 25-26, 2016, San Diego, CA, USA.
81. **H. Ceylan Koydemir**, I.I. Bogoch, D. Tseng, R.K.D. Ephraim, E. Duah, J. Tee, J. R. Andrews, and A. Ozcan, "Label-free field screening of *Schistosoma haematobium* eggs in urine samples using a cost-effective smartphone based microscope", BMES (Biomedical Engineering Society) Annual Meeting, Micro/Nano Tools in Medicine, October 5-8, 2016, Minneapolis, Minnesota, USA.
82. **H. Ceylan Koydemir**, E. Van Dyne, D. Tseng, S. Feng, D. Karınca, K. Liang, R. Nadkarni, R. Varma, and A. Ozcan, "Sickle cell detection using a smartphone based transmission microscope", 17<sup>th</sup> Annual UC Systemwide Bioengineering Symposium, June 13-15, 2016, University of California, San Francisco, CA, USA.
83. **H. Ceylan Koydemir**, I. I. Bogoch, D. Tseng, R.K.D. Ephraim, E. Duah, J. Tee, J.R. Andrews, and A. Ozcan, "Field-testing of a cost-effective mobile-phone based microscope for screening of *Schistosoma haematobium*", SPIE Photonics West 2016, Optics and Biophotonics in Low Resource Settings II, February 13-18, 2016, San Francisco, CA, USA, Paper # 9699-23.
84. **H. Ceylan Koydemir**, Z. Göröcs, D. Tseng, B. Cortazar, S. W. Feng, R. Yan Lok Chan, J. Burbano, E. McLeod, A. Ozcan, "Rapid and sensitive detection of waterborne pathogens using machine learning on a smartphone based fluorescence microscope", SPIE Photonics West 2016, Optics and Biophotonics in Low Resource Settings II, February 13-18, 2016, San Francisco, CA, USA, Paper # 969934.
85. **H. Ceylan Koydemir** and A. Ozcan, "Mobile-phone based optical imaging platform for rapid and accurate detection and quantification of waterborne pathogens in low resource settings", The Knowledge Foundation's Sensor Global Summit 2015, Track 3: Sensor R&D – Advanced Materials, Design, Modeling & Fusion for Sensor Applications, November 10 - 11, 2015, La Jolla, California, USA (Invited Talk).
86. **H. Ceylan Koydemir**, Z. Göröcs, D. Tseng, B. Cortazar, S. Feng, R. Yan Lok Chan, J. Burbano, E. McLeod, and A. Ozcan, "Mobile-phone based optical microscopy and machine learning platform for rapid detection and quantification of waterborne pathogens in low resource settings", IEEE Global Humanitarian Technology Conference (GHTC), October 8-11, 2015, Seattle, Washington, USA.
87. B. Cortazar, **H. Ceylan Koydemir**, D. Tseng, S. Feng, and A. Ozcan, "Non-destructive and rapid plant chlorophyll quantification using Google Glass," BMES (Biomedical Engineering Society) Annual Meeting, October 7-10, 2015, Tampa, Florida, USA.
88. **H. Ceylan Koydemir**, B. Cortazar, D. Tseng, S. Feng, and A. Ozcan, "Non-invasive and field-based quantification of plant chlorophyll content using Google Glass", 16<sup>th</sup> Annual UC Systemwide Bioengineering Symposium, June 22-24, 2015, University of California, Santa Cruz, CA, USA.
89. **H. Ceylan Koydemir**, Z. Göröcs, D. Tseng, and A. Ozcan, "Rapid and sensitive detection and counting of *Giardia lamblia* cysts in water samples using a field portable and cost-effective fluorescence imaging platform on a mobile-phone", University of California, Global Health Day, April 18, 2015, University of California, Los Angeles, CA, USA.
90. **H. Ceylan Koydemir**, Z. Göröcs, E. McLeod, D. Tseng and A. Ozcan, "Field portable fluorescence microscopy for detection of *Giardia lamblia* cysts in water samples," SPIE Photonics West, Optics and Biophotonics in Low-Resource Settings, February 7-12, 2015, San Francisco, CA, USA, Paper # 9314-28.
91. B. Cortazar, **H. Ceylan Koydemir**, D. Tseng, S. W. Feng, and A. Ozcan, "Field quantification of plant chlorophyll content using Google Glass," SPIE Photonics West, Optics and Biophotonics in Low Resource Settings, February 7-12, 2015, San Francisco, CA, USA, Paper # 9314-4.
92. **H. Ceylan Koydemir**, Z. Göröcs, E. McLeod, D. Tseng, A. Ozcan, "Waterborne pathogen detection using a smart phone based fluorescent microscopy," MicroTAS 2014 – The 18<sup>th</sup> International Conference on Miniaturized Systems for Chemistry and Life Sciences, October 26-30, 2014, San Antonio, Texas, USA.

93. A.P. Gifford, **H. Ceylan Koydemir**, and A. Ozcan, "Automated Detection of *Giardia lamblia* Cysts and *Cryptosporidium parvum* Oocysts in Microscopy Images Using Digital Image Processing," BMES (Biomedical Engineering Society) Annual Meeting, October 22-25, 2014, San Antonio, Texas, USA.
94. **H. Ceylan Koydemir**, Z. Göröcs, E. McLeod, D. Tseng, A. Ozcan, " Smartphone enabled waterborne pathogen detection using fluorescence microscopy", 15<sup>th</sup> Annual UC Systemwide Bioengineering Symposium, June 18-20, 2014, University of California, Irvine, USA.
95. G. Bahrieh, **H. Ceylan Koydemir**, M. Erdem, E. Özgür, U. Gündüz, H. Külah, "Dielectric characterization of imatinib resistant K562 leukemia cells through electrorotation with 3-D electrodes", IEEE SENSORS 2013 Conference, November 3-6, 2013, Baltimore, Maryland, USA.
96. **H. Ceylan Koydemir**, D. Hocaoglu, H. Külah, C. Özgen, "Femtogram-level detection of *Staphylococcal enterotoxin B* using MEMS based micro electrochemical sensor", 44<sup>th</sup> World Chemistry Congress, August 11-16, 2013, İstanbul, Turkey.
97. H. Torul, U. Tamer, Y. Adıgüzel, H. Çiftçi, **H. Ceylan Koydemir**, and H. Külah, "SERS based nonenzymatic glucose detection on chip", 8<sup>th</sup> International Conference on Instrumental Methods of Analysis Modern Trends and Applications, September 15-19, 2013, Thessaloniki, Greece.
98. **H. Ceylan Koydemir**, H. Külah, C. Özgen, "Integration of a disposable microelectrochemical sensor with microfluidics for point of care applications", Uluslararası Katılımlı Elektrokimya Çalıştayı – Nanoyapı Modifiye Elektrokimyasal ve Biyoelektrokimyasal Sistemler, June 23-28, 2013, Muğla, Turkey.
99. **H. Ceylan Koydemir**, H. Külah, C. Özgen, "Thin film biosensor for electrochemical detection of hybridization of DNA", 10<sup>th</sup> National Chemical Engineering Congress, September 3-6, 2012, İstanbul, Turkey.
100. **H. Ceylan Koydemir**, H. Külah, C. Özgen, İ. Tosun, "Effects of solvents on dissolution of photoresist in parylene microchannels", TechConnect World 2012(Nanotech), June 18-21, 2012, Santa Clara, California, USA.
101. **H. Ceylan Koydemir**, H. Külah, C. Özgen, A. Alp, G. Hasçelik, "MEMS based micro electrochemical sensor for detection of MRSA", 7<sup>th</sup> National Molecular and Diagnostic Microbiology Congress, June 5-8, 2012, Ankara, Turkey.
102. **H. Ceylan Koydemir**, H. Külah, C. Özgen, "A micro electrochemical sensor for the detection of methicillin resistance in *Staphylococcus aureus*", 22<sup>nd</sup> Anniversary World Congress on Biosensors, May 15-18, 2012, Cancun, Mexico.
103. D. Ertürkan, **H. Ceylan Koydemir**, H. Külah, and C. Özgen, "Detection of *Candida albicans* with the use of protocol developed for MEMS based biosensors", Turkish National Committee of Automatic Control, September 14-16, 2011, İstanbul, Turkey.
104. **H. Ceylan**, H. Külah, A. Alp, G. Hasçelik, C. Özgen, "Design and fabrication of MEMS based electrochemical biosensor", 9<sup>th</sup> National Chemical Engineering Congress, June 22-25, 2010, Ankara, Turkey.
105. **H. Ceylan**, H. Külah, A. Alp, C. Özgen and G. Hasçelik, "A disposable MEMS DNA biosensor for antibiotic resistant gene detection in *Staphylococcus aureus*", 15<sup>th</sup> National Biomedical Engineering Meeting, April 21-24, 2010, Antalya, Turkey.
106. **H. Ceylan**, H. Külah, C. Özgen, A. Alp, G. Hasçelik, "Detection of bacterial DNA using MEMS based DNA biosensor", Turkish National Committee of Automatic Control, October 13-16, 2009, İstanbul, Turkey.
107. **H. Ceylan**, C. Özgen, "Dynamic modelling and optimal control of a multicomponent batch distillation column", 17<sup>th</sup> IFAC World Congress, July 6-11, 2008, Seoul, Korea.
108. **H. Ceylan**, C. Özgen, "Dynamic modeling and simulation studies for a multicomponent batch packed distillation column", 8<sup>th</sup> National Chemical Engineering Congress, August 26-28, 2008, Malatya, Turkey.
109. **H. Ceylan**, C. Özgen, "Optimal control of multicomponent batch packed distillation column", Turkish National Committee of Automatic Control, September 05-07, 2007, İstanbul, Turkey.

**Non-refereed Research Presentations**=====**Blue: Graduate researchers mentored at Texas A&M University****Green: Undergraduate researchers mentored at Texas A&M University****Pink: Young scholar researchers mentored at Texas A&M University**

1. M. Lopez, W. Xu, and H. Ceylan Koydemir, “Smartphone -Based Microscope with sub-micron resolution”, PATHS-UP Summer RET Poster Session, June 30, 2023, Texas A&M University, College Station, TX, USA.
2. A. Patel, M. Althumayri, R. Banavath, H. Ceylan Koydemir, “Evaluation of flexible electrodes/substrates for wearable and lab-on-a-palm electrochemical platforms”, PATHS-UP Summer REU Research Program, Texas A&M University, August 3, 2023, College Station, TX, USA
3. J. Garza, M. Althumayri, R. Banavath, H. Ceylan Koydemir, “Fabrication of screen-printed electrodes for electrochemical biosensors”, PATHS-UP Summer YS Research Program, Texas A&M University, July 20, 2023, College Station, TX, USA
4. J. Nguyen, W. Xu, and H. Ceylan Koydemir, “Non-invasive glucose monitoring via colorimetry”. 2023 Texas A&M Student Research Week, March 20 -24, 2023, Texas A&M University, College Station, TX, USA.
5. T. Tanner, Y. Cortez, J. Nguyen, W. Xu, H. Ceylan Koydemir, “Non-invasive glucose saliva smartphone sensor using colorimetry,” PATHS-UP Summer Research Program, Texas A&M University, July 20, 2022, College Station, TX, USA.
6. K. Wang, W. Xu, and H. Ceylan Koydemir, “Measuring fluid viscosity using a mobile phone, 2022 PATHS-UP Undergraduate Research Summer Poster Session, August 3, 2022, Texas A&M University, College Station, TX, USA.
7. J. Nguyen, W. Xu, and H. Ceylan Koydemir, Non-Invasive Glucose Monitoring via Colorimetry. 2022 PATHS-UP Undergraduate Research Summer Poster Session, August 3, 2022, Texas A&M University, College Station, TX, USA.

**Invited Talks** =====

1. H. Ceylan Koydemir, “Global health technologies enhanced with learning approaches for better diagnostics at the point of care”, Biosensors Summit, TBD.
2. H. Ceylan Koydemir, “Integrated biomedical sensing and imaging technologies for point-of-care diagnostics”, FDA Microbiology Division, November 9, 2023.
3. H. Ceylan Koydemir, “Point of care testing of blood coagulation using a smartphone”, SciX 2023, October 8-13, 2023, Sparks, Nevada, USA. (Invited Talk)
4. H. Ceylan Koydemir, “Portable sensing and imaging technologies for personalized telemedicine”, Koc University, Aug 3, 2023, Istanbul, Turkey.
5. H. Ceylan Koydemir, “Telehealth systems for point-of-care diagnostics”, Middle East Technical University, July 28, 2023, Istanbul, Turkey.
6. H. Ceylan Koydemir, “Smart and portable technologies engineered for biomedical sensing and imaging”, 2023 Optica Biophotonics Congress: Optics in the Life Sciences, 24 – 27 April 2023, Vancouver, Canada.

7. **H. Ceylan Koydemir**, “Technologies and systems for medical diagnostics and imaging in low resource settings”, University of Sao Paulo, Brazil, March 21, 2023.
8. **H. Ceylan Koydemir**, “Mobile health technologies for medical diagnostics and imaging in low resource settings”, Center for infectious and inflammatory diseases, TAMU, Houston, March 13, 2023.
9. **H. Ceylan Koydemir**, “Portable technologies for medical diagnostics and imaging in low resource settings”, Biomedical and Astronomical Signal Processing (BASP) Frontiers, February 5-10, 2023, Villars-sur-Ollon, Switzerland.
10. **H. Ceylan Koydemir**, “Portable sensing and monitoring technologies for global health”, Department of Electrical and Computer Engineering, Texas A&M University, Sep 2022.
11. **H. Ceylan Koydemir**, “Mobile Health Technologies for Global Health Applications”, Department of Electrical and Computer Engineering, ECEN681 Graduate Seminar, Texas A&M University, Nov 2021.
12. **H. Ceylan Koydemir**, “Mobile microscopy”, DelNAM SS2, Portugal, 2021 (Invited Virtual Talk).
13. **H. Ceylan Koydemir**, “Deep learning enables high-throughput early detection and classification of bacterial colonies using time-lapse coherent imaging”, GarageTalk, Koc R&D, 2020 (Invited Talk).
14. **H. Ceylan Koydemir**, “Engineering smart and mobile technologies for global health”, Department of Bioengineering, UCLA, 2019.
15. **H. Ceylan Koydemir**, “Mobile phone-based microscopes as digital imaging, sensing, and diagnostic tools”, Environmental Science Colloquium, UCLA, 2018.
16. **H. Ceylan Koydemir** and A. Ozcan, "Mobile-phone based optical imaging platform for rapid and accurate detection and quantification of waterborne pathogens in low resource settings", The Knowledge Foundation's Sensor Global Summit 2015, Track 3: Sensor R&D – Advanced Materials, Design, Modeling & Fusion for Sensor Applications, November 10 - 11, 2015, La Jolla, California, USA.

**Book** =====

1. A. Ray and **H. Ceylan Koydemir**, “Mobile Diagnosis 2.0”, *Diagnostics*, MDPI, Special Issue E-book, 2021.

**Book Chapter** =====

1. **H. Ceylan Koydemir**, H. Kùlah, C. Özgen, “Thin films and biosensors”, in “Thin Films and Coatings in Biology”, Editors: S. Nazarpour, M. Chaker, Springer, 2014.

**Patents** =====

1. **H. Ceylan Koydemir** and **W. Xu**, “Smartphone enabled PT/INR screening device and its microfluidic cartridge” submitted a disclosure document through TAMU Tech Transfer Office, filed in Aug 2023.
2. A. Ozcan, Y. Rivenson, H. Wang, **H. Ceylan Koydemir**, Y. Qui, “System and method for the early detection and classification of live microorganisms using time-lapse coherent imaging and deep learning”, published on February 2023 (pending).
3. A. Ozcan, Y. Rivenson, K. de Haan, **H. Ceylan Koydemir**, “Portable electronic microscope for automated screening of sickle cells using deep learning”, submitted disclosure document through UCLA Tech Transfer Office, filed in Nov 2019.

4. A. Ozcan, K. de Haan, **H. Ceylan Koydemir**, S. Tok, D. Tseng, “Early detection of *E.coli* and total coliform using an automated colorimetric and fluorometric fiber optics-based device”, submitted disclosure document through UCLA Tech Transfer Office, (U.S. Patent No. 17/627,400, 2022).
5. A. Ozcan, Y. Zhang, **H. Ceylan Koydemir**, “Device and method for motility-based label-free detection of motile objects in a fluid sample”, (U.S. Patent No. 17/285,898, 2021)
6. A. Ozcan, S. Feng, D. Tseng, B. Cortazar, H. Ceylan Koydemir, “Method and device for quantification of plant chlorophyll content” (U.S. Patent No. 10,175,215, issued 1/8/2019).
7. **H. Ceylan Koydemir**, H. K ulah, C.  zgen, “Micro electrochemical sensor”, (TR 2014 14481 B).

## TEACHING EXPERIENCE

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- 2023 – 2024, (Spring 2024) ENGR 491, Research – Aggie Challenge, Department of Bioengineering, Texas A&M University
- 2023 – 2024, (Fall 2023), (Spring 2024) BMEN 691, Research, Department of Bioengineering, Texas A&M University
- 2023 – 2024, (Fall 2023), (Spring 2024) BMEN 491, Honor-research, Department of Bioengineering, Texas A&M University
- 2023 – 2024, (Fall 2023), (Spring 2024) BMEN 291, Research, Department of Bioengineering, Texas A&M University
- 2023 – 2024, (Fall 2023), BMEN 341, Biotransport, Department of Bioengineering, Texas A&M University
- 2023 – 2024, (Fall 2023), BMEN 685, Directed Studies, Department of Bioengineering, Texas A&M University
- Spring 2023, New course proposed - Advances in Microfabrication in Microfluidics.
- 2022 - 2023, (Spring 2023), BMEN 291, Department of Bioengineering, Texas A&M University
- 2022 - 2023, (Fall 2022) BMEN 452 (Sections 500 and 501), Mass and Energy Transport in Biosystems, Department of Bioengineering, Texas A&M University
- 2021 - 2022, (Fall 2021) BMEN 452, Mass and Energy Transport in Biosystems, Department of Bioengineering, Texas A&M University
- 2022 - 2023, (Fall 2022) (Spring 2023), BMEN 691, Department of Bioengineering, Texas A&M University
- 2021 - 2022, (Spring 2022) (Summer 2022), BMEN 691, Department of Bioengineering, Texas A&M University
- 2022 - 2023, (Fall 2022) (Spring 2023), BMEN 491, Department of Bioengineering, Texas A&M University
- 2021 - 2022, (Spring 2022), BMEN 491, Department of Bioengineering, Texas A&M University
- 2007 – 2012, Teaching Assistantship at Department of Chemical Engineering, METU, Course name: CHE 420 Chemical Engineering Laboratory III
- Spring 2023 - Present TAMU Engineering SPLP Koydemir, University Youth Program.

## EDITORIAL BOARDS & PROFESSIONAL SERVICE

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### *External Reviews*

- 2023 - Present, NSF
- 2023, NIH Reviewer (EBIT, R01, R21)

### *External Service to Publications*

- *Referee for numerous scientific journals*
  - Nature Scientific Reports,

- Nature Microbiology,
- Biosensors and Bioelectronics (Elsevier),
- Measurement (Elsevier),
- RSC Advances,
- Journal of Physics: Condensed Matter (IOP Science),
- Optics & Laser Technology,
- Nature Scientific Data,
- Lab Chip,
- *Special Issue Editor*
  - 2023, Current Opinion in Biomedical Engineering, Elsevier (w/ A. Ozcan)
  - 2020, Guest Editor, Diagnostics, Mobile Diagnosis 2.0
- *Editor*
  - 2020, Guest Editor, Sensors, Bioimaging and Biosensing in Telemedicine

#### ***External Conference/Workshop Organizer***

- 2024, IEEE International Symposium on Biomedical Imaging, Reviewer
- 2024, Program Committee Member, CLEO, Photonic Advances for Biosciences
- 2024, Session Chair, SPIE Photonics West, Optical Diagnostics and Sensing XXIV: Toward Point-of-Care Diagnostics
- 2024, Session Chair, SPIE Photonics West, Optics and Biophotonics in Low-Resource Settings IX, Recent
- 2024, Program Committee Member, SPIE Photonics West, Optical Diagnostics and Sensing XXIV: Toward Point-of-Care Diagnostics,
- 2024, Program Committee Member, SPIE Photonics West, Optics and Biophotonics in Low-Resource Settings IX
- 2024, ASEE BED Abstract Reviewer
- 2023, Program Committee Member, Optica, Frontiers in Optics & Laser Science 2023
- 2023, Session Chair, 2023 Optica Biophotonics Congress: Optics in the Life Sciences, Clinical Applications
- 2023, Session Chair, SPIE Photonics West, Optical Diagnostics and Sensing XXIV: Toward Point-of-Care Diagnostics
- 2023, Program Committee Member, SPIE Photonics West, Optics and Biophotonics in Low-Resource Settings IX
- 2023, ASEE BED Abstract Reviewer
- 2023, Abstract Reviewer, Biomedical Engineering Society (BMES) Annual Meeting
- 2023, Judge, Texas A&M, BME Graduate Research Symposium
- 2022, Panel Moderator, PATHS-UP IPAB Meeting, Diabetes
- 2022, Session Chair, Biomedical Engineering Society (BMES) Annual Meeting, Fluorescence Lifetime Imaging, Imaging Cells, Molecules, and Genome
- 2022, Abstract Reviewer, Biomedical Engineering Society (BMES) Annual Meeting
- 2020, Abstract Reviewer, Biomedical Engineering Society (BMES) Annual Meeting
- 2020, Session Chair, SPIE Photonics West, Machine Learning Enabled Microscopy and Sensing
- 2019, Session Chair, SPIE Photonics West, Tomographic Methods
- 2019 - Present, Technical Program Committee Member, IEEE Global Humanitarian Technology Conference
- 2019 - 2022, Abstract Reviewer, IEEE Global Humanitarian Technology Conference



- 2015, 2017, 2018, Organizing Committee Member, HHMI Undergraduate Research Day at UCLA

### ***External Professional Society Leadership***

- 2022 - Present, Member, AAAS
- 2022 - IEEE Engineering in Medicine and Biology Society Membership
- 2023 - IEEE Society on Social Implications of Technology Membership
- 2022 - Wearable Biomedical Sensors and Systems, IEEE Engineering in Medicine and Biology Society Technical Committee Member
- 2022 - Biomedical Imaging and Image Processing, IEEE Engineering in Medicine and Biology Society Technical Committee Member
- 2023, Member, ASM (American Society for Microbiology)
- 2023 - Present, Member, Optica
- 2023 - Present, Senior Member, IEEE
- 2021 - 2022, Member, IEEE
- 2019 - Present, Member, SPIE
- 2016 - Present, Member, BMES

### ***Other External Professional***

- 2023, Texas A&M University, Dr. Dionel Avilés '53 and Dr. James Johnson '67 Graduate Fellowship Program Reviewer
- 2023, Department of Defense, Smart Scholarships for Service Program Evaluator

### ***Departmental Service***

- Spring 2024, Bagnato Search Comm - TTF, TAMU, Biomedical Engineering
- Spring 2024, Graduate Admission Sub-Committee Member, TAMU, Biomedical Engineering
- Spring 2024, Graduate Awards Sub-Committee Member, TAMU, Biomedical Engineering
- Spring 2024, Graduate Committee Member, TAMU, Biomedical Engineering
- Fall 2023, Graduate Committee Member, TAMU, Biomedical Engineering
- Fall 2023, Bagnato Search Comm - TTF, TAMU, Biomedical Engineering
- Fall 2023, Graduate Admission Sub-Committee Member, TAMU, Biomedical Engineering
- Fall 2023, Graduate Awards Sub-Committee Member, TAMU, Biomedical Engineering
- Fall 2022, Graduate Committee Member, TAMU, Biomedical Engineering
- Fall 2022, Facilities Member, TAMU, Biomedical Engineering
- Spring 2022, Undergraduate Committee Member, TAMU, Biomedical Engineering
- Spring 2022, REDI Committee Member, TAMU, Biomedical Engineering
- Fall 2021, Graduate Committee Member, TAMU, Biomedical Engineering
- Fall 2021, Facilities Member, TAMU, Biomedical Engineering

### ***Outreach***

- 2023, Dr. Koydemir initiated a Virtual Young Scholar Program. This will be one of the educational activities of her NSF CAREER proposal.
- 2023, PATHS-UP Summer REU program
- 2023, PATHS-UP Summer RET program
- 2023, PATHS-UP Summer Young Scholars Program
- 2022, Design Reviewer, The Women in Engineering (WE) Program at Texas A&M University
- 2022, Texas Science & Engineering Fair 2022, Judge
- 2022, Student Research Week at TAMU, Judge

- 2022, PATHS-UP Summer REU program
- 2022, PATHS-UP Summer Young Scholars Program
- 2022, Member, National Center for Faculty Development & Diversity
- 2015, 2017, 2018, Organizing Committee Member, HHMI Undergraduate Research Day at UCLA
- 2015-2021, Research Mentor, HHMI Undergraduate Research Day at UCLA

### ***Major Professional Development Activities***

- Fall 2023, SEC Course: Teaching with Artificial Intelligence (Ongoing)
- Fall 2022 - Spring 2023, Center for Teaching Excellence - ACUE Effective Teaching Practices: Cohort E
- 2022 cohort for NSF CMMI's Game Changer Academies (CGCA) for Advancing Research Innovation (Advanced Fellow)
- 2022 cohort for NSF CMMI's Game Changer Academies (CGCA) for Advancing Research Innovation
- Spring 2022, TTLC Teaching Change Book Community
- May 2022, Center for Teaching Excellence - ACUE ITTEL (Inclusive Teaching for Equitable Learning) Certificate
- May 2021, CIMER/NRMN Training in Effective Research Mentorship for Postdocs and Future Faculty

### **AWARDS & FELLOWSHIPS**

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- 2022, Department of Defense, Office of Naval Research, Defense University Research Instrumentation Program (DURIP) Award,
- 2013, METU Ph.D. Thesis of the Year Award, given by METU Prof. Dr. Mustafa N. Parlar Education and Research Foundation
- 2013, Dr. Haluk Sanver Technology Award, given by the Department of Chemical Engineering, METU
- 2011, Prof. Dr. Hasan Orbey, Ph.D. Thesis Award, given by the Department of Chemical Engineering, METU
- 2011, The Scientific and Technological Research Council of Turkey Incentive Award for the International Scientific Publications, given by TUBITAK
- 2011, METU Publication Award, given by METU
- 2010, The Best Paper Award in the 15<sup>th</sup> National Biomedical Engineering Conference
- 2005 – 2012, The Scientific and Technological Research Council of Turkey Ph.D. and M.Sc. Fellowships

### **DISSERTATIONS**

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- Ph.D. Thesis: MEMS based electrochemical DNA sensor to detect methicillin resistant *Staphylococcus aureus* (MRSA) and vancomycin resistant *Enterococcus* species  
Supervisors: Prof. Canan Özgen (METU, Department of Chemical Engineering) & Prof. Haluk Külah (METU, Department of Electrical and Electronics Engineering)  
This work comprises the design, fabrication, and implementation of a micro electrochemical sensor for early diagnosis of MRSA infection using MEMS technology and surface chemistry procedures.
- M.Sc. Thesis: Control and simulation studies for a multicomponent batch packed distillation column

Supervisor: Prof. Canan Özgen (METU, Department of Chemical Engineering)

## MEDIA COVERAGE

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- Texas A&M News, "[Researchers Aim to Reduce Catheter-Related Infections with Wearable Sensor](#)", 12/2023
- Medicalxpress.com, "[New method uses optics and AI to find viruses faster](#)", 08/2023
- EurekAlert, "[Revolutionary sensor enables real-time spoilage alerts on food](#)", 6/2023
- InceptiveMind, "[Miniaturized wireless sensor enables real-time spoilage alerts on food](#)", 6/2023
- AzoSensors, "[Real-Time Monitoring of Food Spoilage Made Possible by New Wireless Sensor](#)", 6/2023
- Phys.org, "[Wireless sensor enables real-time spoilage alerts on food](#)", 6/2023
- Phys.org, "[Deep learning enables early detection and classification of live bacteria using holography](#)," 7/2020
- Daily Bruin, "[UCLA researchers develop prototype to more efficiently detect rare cells in blood](#)," 10/2019
- Phys.Org, "[AI-based cytometer detects rare cells in blood using magnetic modulation and deep learning](#)," 10/2019
- Daily Bruin, "[UCLA researchers develop smartphone-based microscope to detect lethal bee parasites](#)," 2/2019
- Phys.Org, "[Mobile-phone microscope detects the 'silent killer' of honeybees](#)," 1/2019
- Phys.Org, "[Mobile device makes the detection of parasitic infections faster and more sensitive using artificial intelligence](#)," 12/2018
- R&D Magazine, "[Detection Device Identifies Parasitic Infections Faster, with More Sensitivity](#)," 12/2018
- Daily Bruin, "[UCLA researchers developing improved device for detecting dangerous algal blooms](#)," 9/2018
- Science Daily, "[Deep learning transforms smartphone microscopes into laboratory-grade devices](#)," 4/2018
- Laser Focus World, "[Microscopy: Deep learning improves microscopy images-without system adjustments](#)," 1/2018
- Science Discoveries, "[Detecting waterborne pathogen using a smartphone-based microscope](#)," 12/2017
- BioOptics World, "[Noninvasive app captures chlorophyll content quickly, cheaply](#)," 3/2015
- Scientific American, "[Google Glass Takes Sharp Look At Plant Health](#)," 2/2015
- Daily Bruin, "[UCLA lab develops Google Glass app for rapid diagnosis of plant health](#)," 2/2015
- RSC Chemistry World, "[Google Glass to monitor plant health](#)," 2/2015