Hakho Lee, PhD

Hostetter MGH Research Scholar
Associate Professor in Radiology, Harvard Medical School
Director, Biomedical Engineering Program
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Research Interests

- Developing new diagnostic platforms
  - Synthesis and characterization of nanoparticles
  - Magnetic, electric and optical biosensors
  - High throughput microfluidic systems
- Clinical applications
  - Cancer biomarkers (tumor cells, extracellular vesicles)
  - Infection diagnosis

Education

09/1998 – 06/2005	PhD Physics, Harvard University, Cambridge, Massachusetts
03/1992 – 02/1998	BS Physics, Seoul National University, Republic of Korea

Professional Experience

03/2017	Hostetter MGH Research Scholar
06/2015 – present	Associate Professor in Radiology Harvard Medical School
10/2010 – present	Director in Biomedical Engineering Program, Center for Systems Biology, Massachusetts General Hospital
10/2010 – 05/2015	Assistant Professor in Radiology Harvard Medical School

Recent Honors

2014	Milton Fund, Harvard University
2015	Final list, Blavatnik National Awards for Young Scientists, The New York Academy of Sciences
2017	Hostetter MGH Research Scholar
2019	Innovation Discovery Award, Partners Healthcare Inc.

Other Experience And Professional Memberships

1999-	Member, American Physical Society
2004-	Member, Material Research Society
2005-	Member, The Institute of Electrical and Electronics Engineers
2009-	Member, Biomedical Engineering Society
2011-2013	Member, NCI Alliance Imaging Working Group
2019-	External Program Consultant NIH NCATS Extracellular RNA Communication Consortium

Selected Publications (Over 120 Publications)

1. Shao, H., Im, H., Castro, C. M., Breakefield, X., Weissleder, R. & Lee, H. New Technologies for Analysis of Extracellular Vesicles. *Chem Rev* **118**, 1917-1950 (2018).

2. Min, J., Im, H., Allen, M., McFarland, P. J., Degani, I., Yu, H., Normandin, E., Pathania, D., Patel, J. M., Castro, C. M., Weissleder, R. & Lee, H. Computational Optics Enables Breast Cancer Profiling in Point-of-Care Settings. *ACS Nano* **12**, 9081-9090 (2018).
3. Min, J., Nothing, M., Coble, B., Zheng, H., Park, J., Im, H., Weber, G. F., Castro, C. M., Swirski, F. K., Weissleder, R. & Lee, H. Integrated Biosensor for Rapid and Point-of-Care Sepsis Diagnosis. *ACS Nano* **12**, 3378-3384 (2018).
4. Huber, S., Min, C., Staat, C., Oh, J., Castro, C. M., Haase, A., Weissleder, R., Gleich, B. & Lee, H. Multichannel digital heteronuclear magnetic resonance biosensor. *Biosens Bioelectron* **126**, 240-248 (2018).
5. Lee, K., Fraser, K., Ghaddar, B., Yang, K., Kim, E., Balaj, L., Chiocca, E. A., Breakefield, X. O., Lee, H. & Weissleder, R. Multiplexed Profiling of Single Extracellular Vesicles. *ACS Nano* **12**, 494-503 (2018).
6. Bae, S. H., Jo, A., Park, J. H., Lim, C. W., Choi, Y., Oh, J., Park, J. M., Kong, T., Weissleder, R., Lee, H. & Moon, J. Bioassay for monitoring the anti-aging effect of cord blood treatment. *Theranostics* **9**, 1-10 (2019).
7. Lee, H. & Castro, C. M. Thermophoretically enriched detection. *Nat Biomed Eng* **3**, 163-164 (2019).