

HeaYeon Lee

CEO/President, Mara Nanotech, INC. / Visiting Scholar, Harvard-Mass General Brigham, US

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EDUCATION

Osaka University, Japan	Ph.D	Chemistry	1995
Pukyong Nat' l University	MS	Applied Chemistry	1990
Pukyong Nat' l University	BS	Applied Chemistry	1987

PROFESSIONAL ACTIVITIES

- Visiting Scholar, Harvard-Mass General Brigham (Brigham and Women's Hospital and Massachusetts General Hospital), US, 2024 to Present
- CEO, President, Mara Nanotech, INC., South Korea, 2018 to Present
- CEO, President, Mara Nanotech New York, INC., US, 2016 to Present
- Adjunct Professor, College of Human Ecology, Chungnam Nat'l University, South Korea, 2018 to Present
- Visiting Scholar, Department of Pharmaceutical Sciences, Bouve College of Health Sciences, Northeastern, US, 2016 to 2020
- Adjunct Associate Professor, Department of Nano-integrated Cogno-Mechatronics Engineering, Pusan Nat'l University, South Korea, 2014 to 2018
- Invited Professor, Institute of Nanotechnology, Ecole Centrale, University of Lyon, France, 2014, 2015
- Associate Research Professor, Department of Mechanical and Industrial Engineering, Northeastern University, USA, 2011 to 2015
- Invited Professor, School of Physics, Konkuk University, South Korea, 2014 to 2019
- Consultant for HealthCare Device, Matsushita Electric Industrial Co. Ltd. (Panasonic), Japan, 2003 to 2006
- Designated Professor from Assistant Professor, *The Institute of Scientific and Industrial Research*, Osaka University, Japan 2003 to 2011
- *JSPS & Research Fellow, The Institute of Scientific and Industrial Research*, Osaka University, Japan, 2000 to 2003
- *Lecturer & Korea Research Foundation Fellow, Department of Chemistry*, Pukyong Nat'l University, South Korea, 1996 to 2000

AWARD AND HONORS

- National NanoFab Center Outstanding Research Achievement Award, South Korea, 2022
- Commendation by Ministry of Trade, Industry and Energy, Seoul, South Korea, 2018
- Women Enterprise Supporting Center Award, Seoul, South Korea, 2018
- Japan Securities Scholarship Foundation Award, Tokyo, Japan, 2008
- Research Fellowship, ATEC Co, Ltd. Japan, 2005

- Japan Society for the Promotion of Science (JSPS) Fellow, Tokyo, Japan, 2001
- Japanese Mainichi Economical Newspaper, “A Master Craftsman of the 1st Nanotechnology” 2004
- Japanese Nikkei Industrial Newspaper, “Development of Rapid Electrical DNA Chip” 2002
- Young Scientist Fellow Award, Korea Research Foundation, South Korea, 1997
- Young Scientist Award, Korea Science and Engineering Foundation, South Korea, 1998

ACHIVEMENTS

- Domestic and overseas SCI Journal 98 papers
- Domestic and overseas Patents (registration and application) about 20

MAIN SCIENTIFIC PUBLICATION

- “Noninvasive and Continuous Monitoring of On-Chip Stem Cell Osteogenesis Using a Reusable Electrochemical Immunobiosensor, Zahra Rezaei, Andrea Navarro Torres, Nicole Joy Bassous, Yu Shrike Zhang, **HeaYeon Lee**, Deok-Ho Kim, Ali Khademhosseini, Mehmet Remzi Dokmeci, and SuRyonShin* ACS Sensors, In press (2024)
- “A Heart-Breast Cancer-on-a-Chip Platform for Disease Modeling and Monitoring of Cardiotoxicity Induced by Cancer Chemotherapy” J.Lee, S.Mehrotra, E.Zare-Eelanjegh, R.Rodrigues, A.Akbarinejad, D.Ge, L.Amato, K.Kiaee, Y.Fang, A.Rosenkranz, W.Keung, B.B.Mandal, R.Ali, T.Zhang, **H.Y.Lee**, M.Dokmeci, Y.Shrike Zhang, A.Khademhosseini*, S.R.Shin*, *Small*, 17, 2004258 (2020)
- “Measuring Bone Biomarker Alkaline Phosphatase with Wafer-Scale Nanowell Array Electrodes” J.K.Lee, C. Bubar, H.G.Moon, J.Kim, A.Busnaina, **H.Y.Lee***, S. Shefelbine*, *ACS Sensors*, 3 (12), 2709–2715 (2018)
- “Innovations in Biomedical Nanoengineering for Healthier Life: Nanowell Array technology based Biosensor”, Y.T.Seo, S.Jeong, J.K.Lee, H.S.Choi, J.Kim, **H.Y.Lee***, *Nano Convergence*, <https://doi.org/10.1186/s40580-018-0141-6> (2018)
- “Polypyrrole Micro/Nano Sphere Arrays for High Performance Supercapacitor”, J.K.Lee, H.Jeong, A.Busnaina, R.Lavall, Y.L.Kim, Y.J.Jung, **H.Y.Lee***, *ACS Appl. Mater. Interfaces*, On-line published DOI: 10.1021/acsami.7b11574 (2017)
- “Single microfluidic electrochemical sensor system for simultaneous multi-pulmonary hypertension biomarker analyses”, G.H.Lee, J.K.Lee, J.H.Kim, H.S.Choi, J.Kim, S.H.Lee, **H.Y.Lee***, *Scientific Reports*, 7:7545 (2017)
- “Nonmediated, Label-free based Detection of Cardiovascular Biomarker in a Biological Sample”, J.K.Lee, S.R.Shin, A.Desalvo, G.H.Lee, J.Y.Lee, A.Polini, S.K.Chae, H.Jeong, J.Kim, H.S.Choi, **H.Y.Lee***, *Advanced Healthcare Material*, 700231-7 (2017)
- Label-free and Regenerative Electrochemical Microfluidic Biosensors for Continual Monitoring of Cell Secretomes”, S.R.Shin, T.Kilic, Y.S.Zhang, H.Avci, N.Hu, D.Kim, C.Branco, J.Aleman, S.Massa, A.Silvestri, J.Kang, A.Desalvo, M.A.Hussaini, S.K.Chae, A.Polini, N.Bhise, M.A.Hussain, **H.Y.Lee**, M.R.Dokmeci, A.Khademhosseini, *Advanced Science*, 1600522 (2017)

RESEARCH INTERESTS

- FemTech (Female Technology)
- NanoBiosensor based Medical Device (In-Vitro Diagnostics)
- POCT(Point-of-care-test)_Immunoassay
- Semiconductor based Electrochemical Nanobiosensor