

Ji-Ho Park – Curriculum Vitae

Associate Professor
Department of Bio and Brain Engineering
KAIST Institute for Health Science and Technology
Korea Advanced Institute of Science and Technology (KAIST)
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INTERESTS

Developing and implementing bioengineering solutions to improve medical therapy
Areas: nanomedicine, drug delivery, biomaterials, systems nanotechnology, and programming synthetic biosystems

EDUCATION

Ph.D. in Materials Science, University of California, San Diego June 2009
Advisor: Michael J. Sailor, Ph.D. (Department of Chemistry and Biochemistry,
Bioengineering, and Nanoengineering)
Dissertation: “Cooperative Nanomaterials Systems for Cancer Diagnosis & Therapeutics”

M.S. in Medical Science, Yonsei University, Korea Aug 2004
Graduate Student of Brain Korea 21 Project for Medical Science, Yonsei University
Advisor: Kyoung Nam Kim, D.D.S., Ph.D. (Department of Dental Biomaterials and
Bioengineering, College of Dentistry)
Thesis: “Poly(α -hydroxy esters)-Coated Porous Collagen Conduit for Nerve Regeneration”

B.S. in Metallurgical Engineering, Yonsei University, Korea Feb 2002
Department of Metallurgical Engineering, College of Engineering

PROFESSIONAL EXPERIENCE

Tenured Associate Professor. Department of Bio and Brain Engineering, KAIST Mar 2019 - present

Visiting Scholar. Department of Chemistry and Biochemistry, University of California, San Diego (Host: Michael J. Sailor, Ph.D.) Sep 2016 - Aug 2017

Principle Investigator. KAIST Institute for Health Science and Technology, KAIST Jan 2016 - present

Associate Professor. Department of Bio and Brain Engineering, KAIST Sep 2015 - Feb 2019

Adjunct Assistant/Associate Professor. Graduate School of Medical Sciences and Engineering, KAIST	Sep 2014 - Feb 2017
Principle Investigator. KAIST Institute for Optical Science and Technology, KAIST	Jun 2012 - Dec 2015
Principle Investigator. KAIST Institute for the NanoCentury, KAIST	Oct 2010 - Feb 2017
Assistant Professor. Department of Bio and Brain Engineering, KAIST	Oct 2010 - Aug 2015
EWon Assistant Professor. KAIST	Jan 2011 - Dec 2013
Postdoctoral Researcher. Department of Chemistry, University of California, Berkeley, USA (Advisor: Peidong Yang, Ph.D.)	Aug 2009 - Aug 2010

KEY PUBLICATIONS (Selected from 107 papers, total citations: 11423 and *h*-index: 42 as of Jan 26, 2021 according to Google Scholar) *co-corresponding authors, †equal contribution

20. "Evaluation of Intraoperative Near-Infrared Fluorescence Visualization of the Lung Tumor Margin with Indocyanine Green Inhalation" Yu Hua Quan, Chan Hee Oh, Daeho Jung, Ji-Young Lim, Byeong Hyeon Choi, Jiyun Rho, Yeonho Choi, Kook Nam Han, Beop-Min Kim, Chungyeul Kim, **Ji-Ho Park***, and Hyun Koo Kim*, *JAMA Surgery* 155 (2020) 732-740.
19. "Affinity-Driven Design of Cargo-Switching Nanoparticles to Leverage a Cholesterol-Rich Microenvironment for Atherosclerosis Therapy" Heegon Kim, Sandeep Kumar, Dong-Won Kang, Hanjoong Jo, and **Ji-Ho Park**, *ACS Nano* 14 (2020) 6519-6531.
18. "Rekindling RNAi Therapy: Materials Design Requirements for In Vivo siRNA Delivery" Byungji Kim, **Ji-Ho Park**, and Michael J. Sailor, *Advanced Materials* 31 (2019) 1903637.
17. "Single-Cell Photothermal Neuromodulation for Functional Mapping of Neural Networks" Sangjin Yoo, **Ji-Ho Park***, and Yoonkey Nam*, *ACS Nano* 13 (2019) 544-551.
16. "Immunogene Therapy Using Fusogenic Nanoparticles Modulates Macrophage Response to Staphylococcal aureus infection" Byungji Kim, Hong-Bo Pang, Jinyoung Kang, **Ji-Ho Park**, Erkki Ruoslahti, and Michael J. Sailor, *Nature Communications* (2018) 1969.
15. "Cooperative Tumor Cell Membrane Targeted Phototherapy" Heegon Kim, Junsung Lee, Chanhee Oh, and **Ji-Ho Park**, *Nature Comm.* (2017) 15880.
14. "Electro-Optical Neural Platform Integrated with Nanoplasmonic Inhibition Interface" Sangjin Yoo, Raeyoung Kim, **Ji-Ho Park***, and Yoonkey Nam*, *ACS Nano* 10 (2016) 4271-4281.
13. "Liposome-Based Engineering of Cells to Package Hydrophobic Compounds in Membrane Vesicles for Tumor Penetration" Junsung Lee†, Jiyoung Kim†, Moonkyoung Jeong, Hyoungjin Lee, Unbyeol Goh, Hyaeyeong Kim, Byungji Kim, and **Ji-Ho Park**, *Nano Lett.* 15 (2015) 2938-2944.

12. "Photothermal Inhibition of Neural Activity with Near-Infrared-Sensitive Nanotransducers" Sangjin Yoo, Soonwoo Hong, Yeonho Choi, **Ji-Ho Park***, and Yoonkey Nam*, *ACS Nano* 8 (2014) 8040-8049.
 11. "Surface Chemistry of Gold Nanoparticles Mediates Their Exocytosis in Macrophages" Nuri Oh and **Ji-Ho Park**, *ACS Nano* 8 (2014) 6232-6241.
 10. "Endocytosis and Exocytosis of Nanoparticles in Mammalian Cells" Nuri Oh and **Ji-Ho Park**, *Int. J. Nanomedicine* 9 (2014) 51-63.
 9. "In Vivo Clearance and Toxicity of Monodisperse Iron Oxide Nanocrystals" Luo Gu, Ronnie Fang, Michael J. Sailor, and **Ji-Ho Park**, *ACS Nano* 6 (2012) 4947-4954.
 8. "Hybrid Nanoparticles for Detection and Treatment of Cancer" Michael J. Sailor* and **Ji-Ho Park***, *Adv. Mater.* 24 (2012) 3779-3802.
 7. "Nanowire-Based Single Cell Endoscopy" Ruoxue Yan[†], **Ji-Ho Park[†]**, Yeonho Choi, Chul-Joon Heo, Seung-Man Yang, Luke P. Lee, and Peidong Yang. *Nature Nanotech.* 7 (2012) 191-196 (*equal contribution).
 6. "Nanoparticles that Communicate In Vivo to Amplify Tumour Targeting" Geoffrey von Maltzahn, **Ji-Ho Park**, Kevin Y. Lin, Neetu Singh, Christian Schwöppe, Rolf Mesters, Wolfgang E. Berdel, Erkki Ruoslahti, Michael J. Sailor, and Sangeeta N. Bhatia, *Nature Mater.* 10 (2011) 545-552.
- Prior to joining KAIST (2004 ~ 2010),*
5. "Cooperative Nanoparticles for Tumor Detection and Photothermally Triggered Drug Delivery" **Ji-Ho Park**, Geoffrey von Maltzahn, Luvena Ong, Andrea Centrone, T. Alan Hatton, Erkki Ruoslahti, Sangeeta N. Bhatia, and Michael J. Sailor. *Adv. Mater.* 22 (2010) 880-885.
 4. "Cooperative Nanomaterial System to Sensitize, Target, and Treat Tumors" **Ji-Ho Park**, Geoffrey von Maltzahn, Mary Jue Xu, Valentina Fogal, Venkata Ramana Kotamraju, Erkki Ruoslahti, Sangeeta N. Bhatia, & Michael J. Sailor. *Proc. Natl. Acad. Sci. USA.* 107 (2010) 981-986.
 3. "Computationally-Guided Photothermal Tumor Destruction using Long-Circulating Gold Nanorod Antennas" Geoffrey von Maltzahn, **Ji-Ho Park**, Amit Agrawal, Nanda Kishor Bandaru, Sarit K. Das, Michael J. Sailor, and Sangeeta N. Bhatia, *Cancer Res.* 69 (2009) 3892-3900 (*Cover Article*).
 2. "Biodegradable Luminescent Porous Silicon Nanoparticles for *in vivo* Applications" **Ji-Ho Park**, Luo Gu, Geoffrey von Maltzahn, Erkki Ruoslahti, Sangeeta N. Bhatia, and Michael J. Sailor, *Nature Mater.* 8 (2009) 331-336.
 1. "Magnetic Iron Oxide Nanoworms for Tumor Targeting and Imaging" **Ji-Ho Park**, Geoffrey von Maltzahn, Lianglin Zhang, Michael P. Schwartz, Sangeeta N. Bhatia, Erkki Ruoslahti, and Michael J. Sailor, *Adv. Mater.* 20 (2008) 1630-1635 (*Cover Article*).