

Curriculum Vitae

(Last updated: 2015-06-11)

Joonhyuck Park, Ph.D.

Education and Training

- 2008-2013 **Ph.D.** in School of Interdisciplinary Bioscience and Bioengineering
POSTECH, Pohang, Korea
- 2004-2008 **B.S.** in Dept. of Chemistry
POSTECH, Pohang, Korea

Professional Experiences

- 2013-present **Post doc.** in Dept. of Chemistry
POSTECH, Pohang, Korea

Publications

1. **Joonhyuck Park**, Junhwa Lee, Jungheon Kwag, Yeonggyeong Baek, Bumju Kim, Calvin Jinse Yoon, Seoyeon Bok, So-Hye Cho, Ki Hean Kim, G-One Ahn, and Sungjee Kim, "Quantum Dots in an Amphiphilic Polyethyleneimine Derivative Platform for Cellular Labeling, Targeting, Gene Delivery, and Ratiometric Oxygen Sensing", *ACS Nano*, 2015, *ASAP*
2. Youngrong Park, Yeon-Mi Ryu, Yebin Jung, Taejun Wang, Yeonggyeong Baek, Yeoreum Yoon, Sang Mun Bae, **Joonhyuck Park**, Sekyu Hwang, Jaeil Kim, Eun-Ju Do, Sang-Yeob Kim, Euiheon Chung, Ki Hean Kim, Sungjee Kim*, and Seung-Jae Myung*, "Spraying Quantum Dot Conjugates in the Colon of Live Animals Enabled Rapid and Multiplex Cancer Diagnosis Using Endoscopy", *ACS Nano*, 2014, 8, 8896-8910
3. Jungju Yoon, Jungheon Kwag, Tae Joo Shin, **Joonhyuck Park**, Yong Man Lee, Yebin Lee, Jonghyup Park, Jung Heo, Chulmin Joo, Tae Jung Park, Pil J. Yoo, Sungjee Kim and Juhyun Park, "Nanoparticles of Conjugated Polymers Prepared from Phase-Separated Films of Phospholipids and Polymers for Biomedical Applications" , *Advanced Matererials*, 2014, 26, 4559-4564
4. Juwon Park, Jaejung Song, **Joonhyuck Park**, Nokyoung Park, Sungjee Kim, "Branched DNA-based Synthesis of Fluorescent Silver Nanocluster", *Bull. Korean Chem. Soc.*, 2014, 35(4) 1105-1109
5. **Joonhyuck Park**, Youngrong Park, and Sungjee Kim, "Signal Amplification via Biological Self-Assembly of Surface-Engineered Quantum Dots for Multiplexed Subattomolar Immunoassays and Apoptosis Imaging", *ACS Nano*, 2013, *ASAP* (IF: 12.062, JCR2012)
6. Seungho Cho, Sungwook Jung, Sanghwa Jeong, Jiwon Bang, **Joonhyuck Park**, Youngrong Park and Sungjee Kim, "Strategy for Synthesizing Quantum Dot-Layered Double Hydroxide Nanocomposites and Their Enhanced Photoluminescence and Photostability", *Langmuir*, 2013, 29, 441– 447 (IF: 4.187, JCR2012)

7. Sungwook Jung, Jutaek Nam, Sekyu Hwang, **Joonhyuck Park**, Jaehyun Hur, Kyuhyun Im, Nokyoung Park, and Sungjee Kim "Theragnostic pH-Sensitive Gold Nanoparticles for the Selective Surface Enhanced Raman Scattering and Photothermal Cancer Therapy", *Analytical chemistry*, 2013, 85, 7674-7681
8. Jutaek Nam, Nayoun Won, Jiwon Bang, Ho Jin, **Joonhyuck Park**, Sungwook Jung, Sanghwa Jung, Youngrong Park and Sungjee Kim, "Surface engineering of inorganic nanoparticles for imaging and therapy", *Advanced Drug Delivery Reviews*, 2012, Published Online <http://dx.doi.org/10.1016/j.addr.2012.08.015>
9. Jiwon Bang, **Joonhyuck Park**, Ranganathan Velu, Eunjin Yoon, Kyunghoon Lee, Sunghee Cho, Soonwook Cha, GeeSung Chae, Taiha Joo and Sungjee Kim, "Photoswitchable quantum dots by controlling the photoinduced electron transfers", *Chemical Communications*, 2012, 48, 9174 – 9176
10. Nayoun Won, Sanghwa Jeong, Kangwook Kim, Jungheon Kwag, **Joonhyuck Park**, Sang Geol Kim, and Sungjee Kim, "Imaging Depths of Near-Infrared Quantum Dots in First and Second Optical Windows", *Molecular Imaging*, 2012, 11, 338-352
11. **Joonhyuck Park**, Jutaek Nam, Nayoun Won, Ho Jin, Sungho Jung, Sungwook Jung, So-Hye Cho, and Sungjee Kim "Compact and Stable Quantum Dots with Positive, Negative, or Zwitterionic Surface: Specific Cell Interactions and Non-Specific Adsorptions by the Surface Charges", *Advanced Functional Materials*, 2011, 21, 1558-1566
12. Ho Jin, Jutaek Nam, **Joonhyuck Park**, Sungho Jung, Kyuhyun Im, Jaehyun Hur, Jong-Jin Park, Jong-Min Kim and Sungjee Kim, "Strong polyelectrolyte quantum dot surface for stable bioconjugation and layer-by-layer assembly applications". *Chemical Communications.*, 2011, 47, 1758-1760
13. Suk Ho Bhang, Nayoun Won, Tae-Jin Lee, Ho Jin, Jutaek Nam, **Joonhyuck Park**, Hyokyun Chung, Hyun-Seo Park, Yung-Eun Sung, Sei Kwang Hahn, Byung-Soo Kim, and Sungjee Kim, "Hyaluronic Acid - Quantum Dot Conjugates for In Vivo Lymphatic Vessel Imaging", *ACS Nano*, 2009, 3(6), 1389-1398.

Awards and honors

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| 2011.04 | Bionano@Nice-2011 student/post-doctoral travel awards, E-MRS 2011 Spring Meeting |
| 2009.08 | Prize for Nanotechnology Research Innovation & Symposium Chair Award, NANO KOREA 2009 SYMPOSIUM |

Presentations

1. **Joonhyuck Park**, Jungheon Kwag, Junhwa Lee, Yeonggyeong Baek, Bumju Kim, Kihean Kim, Seoyeon Bok, G-one Ahn and Sungjee Kim, "Polyethyleneimine Based Amphiphilic Polymer Platform for Quantum Dot Cell Labeling, Ratiometric Fluorescence Molecular Sensing, and Gene Delivery Vehicle" (Poster presentation) Pioneer NanoSeoul Forum 2014 (2014.10.10), Seoul, Republic of Korea
2. **Joonhyuck Park**, Youngrong Park, and Sungjee Kim "Rapid, Highly Sensitive, and Multiplexed Immunoassays by Signal Amplifications Using Biological Self-assembled Quantum Dots" (Poster presentation) Pioneer NanoSeoul Forum 2012 (2012.10.08), Seoul, Republic of Korea
3. Sungjee Kim, **Joonhyuck Park**, and Youngrong Park "Sub-attomolar sensitive and multiplexed immunoassay using surface-engineered quantum dots" (Oral presentation) SPIE Optics+Photonics 2012 (2012.08.12-08.16), San Diego, California, USA

4. **Joonhyuck Park**, Youngrong Park, and Sungjee Kim, "Highly Sensitive and Multiplexed Immunoassays by Signal Amplifications of Targets Using Biological Self-assemblies of Quantum Dots", (Poster presentation) Korean Society for Biochemistry and Molecular Biology (2012.05.30-06.01), Seoul, Republic of Korea
5. **Joonhyuck Park**, and Sungjee Kim "Highly Sensitive and Multiplexed Bioassays by Signal Amplifications of Targets Using QD Biological Self-assemblies" (Poster presentation) Asiasense 2011 (2011.10.23-10.26), Jeju, Republic of Korea
6. **Joonhyuck Park**, and Sungjee Kim "Highly Sensitive and Multiplexed Bioassays by Signal Amplifications of Targets Using Anti-fouling Streptavidin-biotin QD Conjugate Pairs" (Oral presentation for graduate student awards) E-MRS 2011 spring meeting (2011. 5. 9 - 5. 13) Nice, France
7. **Joonhyuck Park**, and Sungjee Kim "Highly Sensitive and Multiplexed Bioassays by Signal Amplifications of Targets Using Anti-fouling Streptavidin-biotin QD Conjugate Pairs" (Poster presentation) E-MRS 2011 spring meeting (2011. 5. 9 - 5. 13) Nice, France
8. **Joonhyuck Park**, Jtaek Nam, Ho Jin, Sungho Jung, Nayoun Won, Sungwook Jung, and Sungjee Kim "Tailored Quantum Dot Surface Modification for Biomedical Applications" (Oral presentation) 2009 MRS Fall Meeting (2009. 11. 30 - 12. 04), Boston, Massachusetts, USA
9. **Joonhyuck Park**, Ho Jin, Songju Oh, Nayeon Won, Seungjoon Oh, Miju Kim, and Sungjee Kim "Tailored quantum dot surface modifications for biomedical applications" (Poster presentation) The Korean Chemical Society (2008. 4. 17), KINTEX, Ilsan, Republic of Korea