

Jimin Park

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EDUCATION

Ph.D.	Massachusetts Institute of Technology <i>Materials Science and Engineering</i> <i>Minor: Bioengineering/Neuroengineering</i> (Advisor: Professor Polina Anikeeva)	2017-
M.S.	Seoul National University <i>Materials Science and Engineering</i> (Advisor: Professor Ki Tae Nam)	2012-2014
B.S.	Seoul National University <i>Materials Science and Engineering</i> Graduate Summa cum laude	2008-2012

RESEARCH & WORK EXPERIENCE

2014 - 2017	Korea Institute of Science and Technology (KIST) <i>Center for Biomaterials, Biomedical Research Institute, Research Scientist</i>	Seoul, Korea
2011 - 2012	Seoul National University College of Medicine <i>Department of Nuclear Medicine, Bundang Hospital, Research Scientist</i>	Seoul, Korea

RESEARCH INTERESTS

- Electrochemical and Chemomagnetic Modulation of Neural Circuits *In Vivo*
- Bioinspired Design of Electrocatalysts for Biological and Energy Applications
- Multiscale Analysis of Cell-Material Interface

PUBLICATIONS

First Authored

1. **Jimin Park**[†], Kyoungsuk Jin[†], Atharva Sahasrabudhe, Po-Han Chiang, Joseph H. Maalouf, Florian Koehler, Dekel Rosenfeld, Siyuan Rao, Tomo Tanaka, Tural Khudiyev, Zachary J. Schiffer, Yoel Fink, Ofer Yizhar, Karthish Manthiram*, Polina Anikeeva*, “TBD”, *Nature Nanotechnology*, Accepted (2020)

2. **Jimin Park**, Anthony Tabet, Junsang Moon, Po-Han Chiang, Florian Koehler, Atharva Sahasrabudhe, and Polina Anikeeva*, “Remotely Controlled Proton Generation for Neuromodulation” *ChemRxiv* (2020)
3. **Jimin Park**†, Gun Hyuk Jang†, Yeon Wook Jung†, Hyunseon Seo, Hyung-Seop Han, Joonho Lee, Youngmin Seo, Hojeong Jeon, Myoung-Ryul Ok, Pil-Ryung Cha, Hyun-Kwang Seok, Kwan Hyi Lee*, Yu-Chan Kim*, “Tailoring H₂O₂ generation kinetics with magnesium alloys for efficient disinfection on titanium surface”, *Scientific Reports* 10, 6536 (2020)
4. **Jimin Park**†, Hyunseon Seo†, Hae Won Hwang, Jonghoon Choi, Kyeongsoo Kim, Goen Jeong, Eun Shil Kim, Hyung-Seop Han, Yeon-Wook Jung, Youngmin Seo, Hojeong Jeon, Hyun-Kwang Seok, Yu-Chan Kim*, Myoung-Ryul Ok*, “Interface Engineering of Fully Metallic Stents Enabling Controllable H₂O₂ Generation for Antirestenosis”, *Langmuir* 35, 10 (2019)
5. **Jimin Park**†, Minjung Park†, Hyunseon Seo†, Hyung-Seop Han, Ji-Young Lee, Dongkyu Koo, Kyeongsoo Kim, Pil-Ryung Cha, James Edwards, Young-Woon Kim, Kang-Sik Lee, Myoung-Ryul Ok, Hojeong Jeon, Hyun-Kwang Seok*, Yu-Chan Kim*, “A new corrosion-inhibiting strategy for biodegradable magnesium: reduced nicotinamide adenine dinucleotide (NADH)”, *Scientific Reports* 8, 17743 (2018)
6. **Jimin Park**†, Ki Dong Yang†, Na-Young Kim, Kang-Won Jung, Viet-Duc Le, Hee-Jin Lim, Junghyun An, Kyoungsuk Jin, Yong-Hyun Kim, Ki Tae Nam*, DaeWon Moon*, “Quantitative Analysis of Calcium Phosphate Nanocluster Growth Using Time-of-Flight Medium-Energy-Ion-Scattering Spectroscopy”, *ACS Central Science*, 9, 1253 (2018)
7. **Jimin Park**†, Seul Kathy Ku†, Deok Won Seo, Kahyun Hur, Dmitry Shvartsman, Hojeong Jeon, David J. Mooney, Kangwon Lee, “Label-free bacterial detection using polydiacetylene liposomes”, *Chemical Communications* 52, 10346 (2016). – *Selected as an outside back cover*
8. **Jimin Park**, Ping Du, Jin-Kyung Jeon, Gun Hyuk Jang, Mintai Peter Hwang, Hyung-Seop Han, Kwideok Park, Kwan Hyi Lee, Jee-Wook Lee, Hojeong Jeon, Yu-Chan Kim, Jong Woong Park, Hyun-Kwang Seok, and Myoung-Ryul Ok “Magnesium-corrosion triggered spontaneous generation of H₂O₂ on oxidized Ti for promoting angiogenesis”, *Angewandte Chemie International Edition*, 49, 14753 (2015)
9. **Jimin Park**†, Hyunah Kim†, Inchul Park, Kyoungsuk Jin, Sung Eun Jerng, Sun Hee Kim, Ki Tae Nam, Kisuk Kang, “Coordination Tuning of Cobalt Phosphates toward efficient water oxidation catalyst”, *Nature Communications* 6, 8253 (2015)
10. **Jimin Park**, Hyung-Seop Han, Yu-Chan Kim, Jae-Pyeong Ahn, Myoung-Ryul Ok, Kyung Eun Lee, Jee-Wook Lee, Pil-Ryung Cha, Hyun-Kwang Seok & Hojeong Jeon* “Direct and accurate measurement of size dependent wetting behaviors for sessile water droplets”, *Scientific Reports* 5, 18150 (2015)

11. **Jimin Park**†, Kyoungsuk Jin†, Joohee Lee, Ki Dong Yang, Sangbaek Park, Nam Hee Kim, Donghun Kim, Uk Sim, Donghyuk Jeong, Hae Lin Jang, Sangbaek Park, Donghun Kim, Nark-Eon Sung, Sun Hee Kim, Seungwu Han, and Ki Tae Nam*, “Hydrated Manganese (II) Phosphate ($Mn_3(PO_4)_2 \cdot 3H_2O$) as a Water Oxidation Catalyst”, *Journal of the American Chemical Society* 136, 7435 (2014)
12. **Jimin Park**†, Hyunah Kim†, Kyoungsuk Jin, Byung Ju Lee, Yong-Sun Park, Hyungsub Kim, Inchul Park, Ki Dong Yang, Hui-Yun Jeong, Jongsoo Kim, Koo Tak Hong, Ho Won Jang, Kisuk Kang*, and Ki Tae Nam* “A New Water Oxidation Catalyst : Lithium Manganese Pyrophosphate with Tunable Mn Valency”, *Journal of the American Chemical Society* 136, 4201 (2014).

Co-Authored

1. Jin-Kyung Jeon, Hyunseon Seo, **Jimin Park**, Soo Ji Son, Yeong Rim Kim, Eun Shil Kim, Jong Woong Park, Woong-Gyo Jung, Hojeong Jeon, Yu-Chan Kim, Hyun-Kwang Seok, Jae Ho Shin, Myoung-Ryul Ok, “Conceptual Study for Tissue-Regenerative Biodegradable Magnesium Implant Integrated with Nitric Oxide-Releasing Nanofibers”, *Metals and Materials International* 4, 1098 (2019)
2. Hyung-Seop Han, Gun Hyuk Jang, Indong Jun, Hyunseon Seo, **Jimin Park**, Sion Glyn-Jones, Hyun-Kwang Seok, Kwan Hyi Lee, Diego Mantovani, Yu-Chan Kim, James R Edwards, “Transgenic zebrafish model for quantification and visualization of tissue toxicity caused by alloying elements in newly developed biodegradable metal” *Scientific Reports*, 1, 1, (2018)
3. Jaeho Park, Hyung-Seop Han, **Jimin Park**, Hyunseon Seo, James Edwards, Yu-Chan Kim, Myoung-Ryul Ok, Hyun-Kwang Seok, Hojeong Jeon, “Corrosion behavior of biodegradable Mg-based alloys via femtosecond laser surface melting”, *Applied Surface Science*, 448, 424 (2018)
4. Mintai P. Hwang, Ramesh Subbiah, In Gul Kim, Kyung Eun Lee, **Jimin Park**, Sang Heon Kim, Kwideok Park “Approximating bone ECM: Crosslinking directs individual and coupled osteoblast/osteoclast behavior”, *Biomaterials* 103, 22 (2016)
5. Indong Jun, Yong-Woo Chung, **Jimin Park**, Hyung-Seop Han, Jaeho Park, Saeromi Kim, Hyunjung Lee, Sang Hoon Kim, Hyunjung Kim, Hyun-Kwang Seok, Yu-Chan Kim, Hojeong Jeon, “Ultra-thin metal films with defined topographical structures as in vitro cell culture platform for unveiling vascular cell behaviors”, *Advanced Healthcare Materials* 5, 2396 (2016)
6. Ping Du, Muhammad Suhaeri, Ramesh Subbiah, Se Young Van, **Jimin Park**, Sang Heon Kim, Kwideok Park, Kangwon Lee, “Elasticity modulation of fibroblast-derived matrix for endothelial cell vascular morphogenesis and mesenchymal stem cell differentiation”, *Tissue Engineering* 22, 415 (2016)
7. Indong Jun, Yong-Woo Chung, Yun-Hoe Heo, Hyung-Seop Han, **Jimin Park**, Hongsoo Jeong, Hyunjung Lee, Yu Bin Lee, Yu-Chan Kim, Hyun-Kwang Seok, Heungsoo Shin, Hojeong Jeon, “Creating hierarchical topographies on fibrous platforms using femtosecond laser ablation for directing myoblasts behavior”, *ACS Applied Materials & Interfaces* 8, 3407 (2016)

8. Jee-Wook Lee, Hyung-Seop Han, Kyenog-Jin Han, **Jimin Park**, Hojeong Jeon, Myoung-Ryul Ok, Hyun-Kwang Seok, Jae-Pyeong Ahn, Kyung Eun Lee, Dong-Ho Lee, Seok-Jo Yang, Sung-Youn Cho, Pil-Ryung Cha, Hoon Kwon, Tae-Hyun Nam, Jee Hye Lo Han, Hyoung-Jin Rho, Kang-Sik Lee, Yu-Chan Kim and Diego Mantovani, “Long-term clinical study and multiscale analysis of in vivo biodegradation mechanism of Mg alloy”, *Proceedings of the National Academy of Sciences* 113, 716 (2016)
9. Kyoungsuk Jin, Arim Chu, **Jimin Park**, Donghyuk Jeong, Sung Eun Jerng, Uk Sim, Hui-Yun Jeong, Chan Woo Lee, Yong-Sun Park, Ki Dong Yang, Gajendra Pradhan, Donghun Kim, Nark-Eon Sung, Sun Hee Kim, and Ki Tae Nam, “Partially Oxidized Sub-10 nm MnO Nanocrystals with High Activity for Water Oxidation Catalysis”, *Scientific Reports* 5, 10279 (2015)
10. Ki Dong Yang, Yoonhoo Ha, Uk Sim, Junghyun An, Chan Woo Lee, Kyoungsuk Jin, Younghye Kim, **Jimin Park**, Jung Sug Hong, Jun Ho Lee, Hye-Eun Lee, Hui-Yun Jeong, Hyungjun Kim and Ki Tae Nam, “Graphene Quantum Sheet Catalyzed Silicon Photocathode for Selective CO₂ Conversion to CO”, *Advanced Functional Materials*, 26, 233 (2015)
11. Hae Lin Jang, Keunho Lee, Chan Soon Kang, Hye Kyoung Lee, Hyo-Yong Ahn, Hui-Yun Jeong, Sunghak Park, Seul Cham Kim, Kyoungsuk Jin, **Jimin Park**, Tae-Youl Yang, Jinhong Kim, Seon Ae Shin, Heung Nam Han, Kyu Hwan Oh, Ho-Young Lee, Jun Lim, Kug Sun Hong, Malcolm Snead, Jimmy Xu, Ki Tae Nam, “Biofunctionalized Ceramic with Self-Assembled Networks of Nanochannels”, *ACS nano* 9, 4447 (2015)
12. Jaeho Park, Hyung-Seop Han, Sunhee Lee, **Jimin Park**, Yu-Chan Kim, Myoung-Ryul Ok, Hyun-Kwang Seok, Seok Chung, Jee-Wook Lee, Hojeong Jeon “Improvement of coating adhesion ability on magnesium by femtosecond laser surface modification” *European Cells and Materials* 30, 55 (2015)
13. Hyung-Seok Jang, Jung-Ho Lee, Yong-Sun Park, Young-O Kim, **Jimin Park**, Tae-Youl Yang, Kyoungsuk Jin, Jaehun Lee, Sunghak Park, Jae Myoung You, Ki-Woong Jeong, Areum Shin, In-Seon Oh, Min-Kyung Kwon, Yong-Il Kim, Hoon-Hwe Cho, Heung Nam Han, Yangmee Kim, Yoon Ho Chang, Seung R. Paik, Ki Tae Nam*, and Yoon-Sik Lee* “Tyrosine mediated two dimensional peptide assembly and its role as a bio-inspired catalytic scaffold”, *Nature Communications* 5, 3665 (2014)
14. Jung-Hoon Park, Chunghyun Park, HyeonSeung Yu, **Jimin Park**, Seungyong Han, Jonghwa Shin, Seung Hwan Ko, Ki Tae Nam, Yong-Hoon Cho, YongKeun Park, “Subwavelength light focusing using random nanoparticles”, *Nature Photonics* 7, 454 (2013)
15. Byung Seok Moon, Hee Seup Kil, Jun Hyung Park, Ji Sun Kim, **Jimin Park**, Dae Yoon Chi, Byung Chul Lee and Sang Eun Kim “Facile aromatic radiofluorination of [18F]flumazenil from diaryliodonium salts with evaluation of their stability and selectivity”, *Org. Biomol. Chem.* 9, 8346 (2011)
16. Jinsoo Kim, **Jimin Park**, Jongheop Yi, Woo-Sik Kim, “Molecular Separation of Dibromobenzene Isomers by using Selective Guest Inclusion of G₂NDS Host Framework”, *Korean Chemical Engineering Research* 45, 487 (2007)

AWARDS AND SCHOLARSHIPS

2017 -	Doctoral Study Abroad Scholarship, Kwanjeong Educational Foundation Scholarship
2016	Principal Candidate for the 2017 Fulbright Graduate Study Award (gratefully declined)
2016	Principal Candidate for the 2017 Korea Foundation for Advanced Studies (gratefully declined)
2015	National Research Council of Science and Technology Chairman's Award , Korean government
2015	Best Research Team of the Year , KIST
2012 - 2014	Master Study Scholarship, Kwanjeong Educational Foundation Scholarship
2012	Seoul National University - <i>Summa cum laude</i> - (College of Engineering)
2008 - 2012	Korean President Scholarship (Bachelor's Degree)
2006 - 2008	Samsung Scholarship (High School)

TEACHING EXPERIENCE

- Department of Materials Science and Engineering, Seoul National University, Korea

<i>Biomedical Materials</i> (Undergraduate course)	Spring 2012
<i>Self-design Experiments in Materials</i> (Undergraduate course)	Spring 2013
<i>Phase Transformation in Materials</i> (Undergraduate course)	Fall 2011

SELECTED PRESENTATIONS AND PATENTS

- On-Demand Generation of Chemical Signals with Electromagnetic Fields for Neuronal Modulation, MRS Fall Conference, Boston, USA (2018)
- Biodegradable Metal-Corrosion Induced Formation of Reactive-Oxygen-Species (ROS) for Tissue Engineering, MRS Spring Conference, Arizona, USA (2016)
- Metal-Corrosion Triggered Spontaneous Generation of Reactive-Oxygen-Species on Nanostructured Ti for Biological Applications, MRS Fall Conference, Boston, USA (2015)
- $\text{Mn}_3(\text{PO}_4)_2 \cdot x\text{H}_2\text{O}$ and method for manufacturing the same, Patent, 10-2013-0078315 (10-1493160-0000), Korea (2015) (Registered)
- Water Oxidation Catalysts, Patent, 10-1493160-0000, Korea (2015) (Registered)
- Orthopedic or dental metal complex for promoting angiogenesis by production of reactive oxygen species, Patent, 10-2015-139988, Korea (2015)

REFERENCES

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