

YOUNGEUN KIM, PH.D.

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EDUCATION

Wyss Institute for Biologically Inspired Engineering, Harvard University, Boston, MA

Department of Systems Biology, Harvard Medical School, Boston, MA

Postdoctoral scholar, Jan 2017 – present

Research Advisor: Professor Peng Yin

Northwestern University, Evanston, IL

Ph.D. in Materials Science and Engineering, December 2016

Thesis Title: “Transmutable Nanoparticles and Reconfigurable Nanoparticle Superlattices”

Research Advisor: Professor Chad A. Mirkin

Carnegie Mellon University, Pittsburgh, PA

B.S. in Materials Science and Engineering *with Honors*, May 2011

Double Major in Biomedical Engineering

Research Advisor: Professor Michael E. McHenry & Professor Yu-li Wang

Major GPA: 3.99/4.0 Overall GPA: 3.71/4.0

PUBLICATIONS

M. X. Wang, E. S. Seo, P. A. Gabrys, D. Fleischman, B. Lee, **Y. Kim**, H. A. Atwater, R. J. Macfarlane, C.A. Mirkin. “Epitaxy: Programmable Atom Equivalents Versus Atoms”, *ACS Nano*, DOI:10.1021/acsnano.6b06584 (2017).

Y. Kim, R. J. Macfarlane, M. R. Jones, C. A. Mirkin. “Transmutable Nanoparticles with Reconfigurable Surface Ligands”, *Science*, 351, 6273, pp 579-582 (2016).

Featured in: C&EN News of the Week, Science Perspective by Andrea R. Tao (DOI:10.1126/science.aae0455)

R. V. Thaner*, **Y. Kim***, T. I. N. G. Li*, R. J. Macfarlane, S. T. Nguyen, M. Olvera de la Cruz, C. A. Mirkin. “Entropy-Driven Crystallization Behavior in DNA-Mediated Nanoparticle Assembly,” *Nano Letters*, 15 (8), pp 5545-5551 (2015). *equal contribution

Y. Kim, R. J. Macfarlane, C. A. Mirkin. “Dynamically Interchangeable Nanoparticle Superlattices Through the Use of Nucleic Acid-Based Allosteric Effectors,” *J. Am. Chem. Soc.*, 135, pp 10342-10345 (2013).

S. L. Hellstrom, **Y. Kim**, J. A. Fakonas, A. J. Senesi, R. J. Macfarlane, C. A. Mirkin, H.A. Atwater. “Epitaxial Growth of DNA-assembled Nanoparticle Superlattices on Patterned Substrates,” *Nano Letters*, 13 (12), pp 6084-6090 (2013).

S. Chang, W-H. Guo, **Y. Kim**, Y-L. Wang. “Guidance of Cell Migration by Substrate Dimension,” *Biophysical Journal*, 104, 2 (2013).

K. L. McNerny, **Y. Kim**, D. E. Laughlin, M. E. McHenry. “Chemical Synthesis of Monodisperse γ -Fe-Ni Magnetic Nanoparticles with Tunable Curie Temperatures for Self-Regulated Hyperthermia,” *J. Appl. Phys.*, 107, 09A312 (2010).

HONORS AND AWARDS

Materials Research Society Graduate Student Silver Award	2015
International Institute of Nanotechnology Outstanding Researcher Award	2015
Ryan Fellowship (Northwestern University)	2014
International Precious Metals Institute Graduate Student Award	2014
Departmental Merit Award (Northwestern University)	2011
Meeting of the Minds, Intel Poster Competition 1 st Prize	2010
15 th Annual ASM-Pittsburgh Undergraduate Poster Competition, First Place	2010
Interdisciplinary Program in Nanotechnology (IUPN) Research Grant	2009
Krivobok Brooks Metallography Award	2008
Intel Freshmen Year Research Experience Award	2008
College of Engineering Dean's List (GPA 3.75 and above)	

PRESENTATIONS

Y. Kim. "Transmutable Nanoparticles with Reconfigurable Surface Ligands", Wyss Institute at Harvard University, Boston MA (2016).

Y. Kim, R.J. Macfarlane, M.R. Jones, C.A. Mirkin. "Transmutable Nanoparticles with Reconfigurable Surface Ligands", Materials Research Society Fall Meeting, Boston MA (2015)

Y. Kim, C.A. Mirkin. "Adaptive and Stimuli-Specific Materials: Post-Synthesis Control of Nanoparticle Superlattices", International Precious Metals Institute 38th Conference, Orlando FL (2014)

LEADERSHIP AND ACTIVITIES

Biomaterials Subgroup Leader (Mirkin group), Jun 2014 – Oct 2016
Materials Research Society International Student Affairs Subcommittee Representative, Jul 2014 – Oct 2016
Argonne Beam Team (Mirkin group) Leader, Dec 2013 – May 2016
"Shadow a Scientist" Program, Coach, May 2013
Graduate Women Across Northwestern, Oct 2011 – Oct 2016
Biomedical Engineering Design Team Leader, Aug 2010 – Dec 2010
Material Advantage (CMU chapter), President, May 2009 – Aug 2010
Materials Science and Engineering Student Advisory Council, President, Jan 2010 – Jan 2011
Society of Women Engineers, Aug 2008 – May 2011

TEACHING EXPERIENCE

Teaching Assistant for Intro to Materials Science, Northwestern University, Spring 2016
Held office hours, designed laboratory experiments, graded exams and homework questions, and taught undergraduate students an introductory materials science and engineering course

Teaching Assistant for X-Ray Crystallography, Northwestern University, Winter 2015
Held office hours and taught graduate students a materials science and engineering course on X-ray diffraction and crystallography

Teaching Assistant for Biomaterials, Northwestern University, Winter 2014
Assisted teaching and graded homeworks in a materials science engineering course on biomaterials.

Teaching Assistant for Computing at Carnegie Mellon, Carnegie Mellon University, Fall 2008 – Spring 2011
Held lectures for undergraduate students a required computer skills course on basic computer usages and programming