

JUNGWON PARK

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PROFESSIONAL CAREER

Assistant Professor	Seoul National University Seoul, 08826, South Korea <i>School of Chemical and Biological Engineering</i>	9/2016 – present
Research Associate	Harvard University Cambridge, MA, 02138, United States <i>Advisor: David A. Weitz</i> <i>John A. Paulson School of Engineering and Applied Sciences.</i>	8/2015 – 8/2016
Post-Doc	Harvard University Cambridge, MA, 02138, United States <i>Advisor: David A. Weitz</i> <i>John A. Paulson School of Engineering and Applied Sciences.</i>	7/2012 – 8/2015

EDUCATION & ACADEMIC HONORS

Ph. D in Chemistry	University of California, Berkeley Berkeley CA 94720, United States <i>Advisor: A. Paul Alivisatos</i> Dissertation title: Direct Observation of Colloidal Nanocrystals by Using Liquid Cell Transmission Electron Microscopy	8/2006 – 5/2012
B.S. in Chemistry	Pohang University of Science and Technology (POSTECH), Pohang, Korea <i>Advisor: Kwang S. Kim</i> <ul style="list-style-type: none">• Graduation standing: 1/6, completed all course work requirements in seven semesters• Overall GPA: 3.86/4.30• POSTECH Diploma of Honors for 5 semesters out of 7	3/2000 – 8/2003

TEACHING

Seoul National University

9/2016 – present

Topics in inorganic materials and semiconductor processes.

University of California, Berkeley

8/2006 – 5/2012

Graduate Student Instructor for General Chemistry.

Graduate Student Instructor for General Chemistry for chemistry major student.

AWARDS

- Student fellowship, Frontiers in Electron Microscopy and Material Science 9/2011
- Samsung Lee Gun Hee Scholarship for Ph.D program. 9/2006 – 6/2010

PUBLICATIONS

- **Jungwon Park**, Hyesung Park, Peter Ercius, Adrian Pegoraro, Chen Xu, Jin Woong Kim, Sang Hoon Han, David A. Weitz, “Direct Observation of Wet Biological Samples by Graphene Liquid Cell Transmission Electron Microscopy”, *Nano Letters* (*Nano Lett.* **2015**, *15*, 4737-4744).
: highlighted in Nature (*Nature*, **2015**, *522*, 394).
- **Jungwon Park***, Hans Elmlund*, Peter Ercius*, Jong Min Yuk, David Limmer, Qian Chen, Kwanpyo Kim, Sang Hoon Han, David A. Weitz, Alex Zettl, and A. Paul Alivisatos, “3D Structure of Individual Nanocrystals in Solution By Electron Microscopy”, *Science* (*Science* **2015**, *349*, 290-295).
: highlighted in Nature (*Nature*, **2015**, *523*, 385).
- A. Paul Alivisatos, Hoduk Cho, **Jungwon Park**, “New tools for observing the growth and assembly of colloidal inorganic nanocrystals”, *Faraday Discussions* (*Faraday Discuss.* **2015**, *181*, 15-18).
- Won Chul Lee*, Kwanpyo Kim*, **Jungwon Park***, Jahyun Koo, Hu Young Jeong, Hoonkyung Lee, David A. Weitz, Alex Zettl, Shoji Takeuchi, “Graphene-templated Directional Growth of an Inorganic Nanowire”, *Nature Nanotechnology* (*Nature Nanotech.* **2015**, *10*, 423-428).
- You Zhou*, **Jungwon Park***, Jian Shi, Manish Chhowalla, Hyesung Park, David A. Weitz, Shriram Ramanathan, “Control of Emergent Properties at a Correlated Oxide Interface with Graphene”, *Nano Letters* (*Nano Lett.* **2015**, *15*, 1627-1634).
- Kai-Yang Niu, **Jungwon Park**, Haimei Zheng, and A. Paul Alivisatos, “Revealing hollow nanoparticle formation by Kirkendall effect”, *Nano Letters* (*Nano Lett.* **2013**, *13*, 5715-5719).
- Qian Chen, Jessica M Smith, **Jungwon Park**, Kwanpyo Kim, Davy Ho, Haider Rassol, Alex Zettl, and A. Paul Alivisatos, “3D Motion of DNA-Au Nanoconjugates in Graphene Liquid Cell Electron Microscopy”, *Nano Letters* (*Nano Lett.* **2013**, *13*, 4556-4561).
- Jong Min Yuk*, **Jungwon Park***, Peter Ercius, Kwanpyo Kim, Daniel J. Hellebusch, Miachael F. Crommie, Jeong Yong Lee, Alex Zettl, and A. Paul Alivisatos, “High-Resolution EM of Colloidal Nanocrystal Growth using Graphene Liquid Cells”, *Science* (*Science* **2012**, *336*, 61-64),
: highlighted in Nature, Scientific American, C&EN, BBC News, Nanotechweb.org, RSC Chemistry World News, Physicsworld.com, Phys.org and others.
- **Jungwon Park**, Haimei Zheng, Won Chul Lee, Phillip L. Geissler, Eran Rabani, and A. Paul Alivisatos, “Direct Observation of Nanoparticle Superlattice Formation by Using Liquid Cell Transmission Electron Microscopy”, *ACS Nano* (*ACS Nano* **2012**, *6*, 2078-2085).
- Jong Min Yuk, Kwanpyo Kim, Benjamin Aleman, William Regan, Ji Hoon Ryu, **Jungwon Park**, Peter

Ercius, Hyuck Mo Lee, A. Paul Alivisatos, Michael F. Crommie, Jeong Yong Lee, and Alex Zettl, “Graphene veils and sandwiches”, *Nano Letters* (*Nano Lett.* **2011**, *11*, 3290-3294).

- **Jungwon Park**, Haimei Zheng, Young-wook Jun, and A. Paul Alivisatos, “Hetero-Epitaxial Anion Exchange Yields Single-Crystalline Hollow Nanoparticles”, *Journal of the American Chemical Society* (*J. Am. Chem. Soc.* **2009**, *131*, 13943–13945).
- Jonathan S. Owen, **Jungwon Park**, Paul-Emile Trudeau, and A. Paul Alivisatos, “Reaction chemistry and ligand exchange at cadmium-selenide nanocrystal surfaces”, *Journal of the American Chemical Society* (*J. Am. Chem. Soc.* **2008**, *130*, 12279–12281).
- **Jungwon Park**, Maciej Kolaski, Han Myoung Lee, and Kwang S. Kim, “Insights into the structures, energetics, and vibrations of aqua-rubidium(II) complexes: *Ab initio* study”, *Journal of Chemical Physics* (*J. Chem. Phys.* **2004**, *121*, 3108-3116).
- Han Myoung Lee, P. Tarakeshwar, **Jungwon Park**, Maciej Roman Kolaski, Yeo Jin Yoon, Hai-Bo Yi, Woo Youn Kim, and Kwang S. Kim, “Insights into the Structures, Energetics, and Vibrations of Monovalent Cation-(Water)₁₋₆ Clusters”, *Journal of Physical Chemistry A* (*J. Phys. Chem. A* **2004**, *108*, 2949-2958).

PAPERS IN PREPARATION

- **Jungwon Park**, David Limmer, Peter Lu, David A. Weitz, “Roughening on the surface of ice nanocrystals”, *under review in PNAS*.
- QHwan Kim, **Jungwon Park**, David A. Weitz, Wonho Jhe, “Direct observation of formation and diffusion of surface nanobubbles”, *revision in Nature Communications*.
- Jingshan Du, **Jungwon Park**, QHwan Kim, Deren Yang, David A. Weitz, “Direct observation of electron-induced transformation and lattice fluctuation in AgCl-Ag heterojunctions”, *in preparation*.
- **Jungwon Park**, Peter Ercius, Hyunhoo Bae, Hyesung Park, Hoonkyung Lee, David A. Weitz, “Tight interface between ligand-capped metal nanocrystals and graphene”, *in preparation*.
- **Jungwon Park**, Min-kyung Choo, Peter Ercius, Hyesung Park, Jin Mo Park, David A. Weitz, “Electron microscopic study of cytokine-induced responses and cell death of macrophage”, *in preparation*.
- **Jungwon Park**, Won Chul Lee, Shoji Takeuchi, A. Paul Alivisatos, “Direct observation of drying-mediated nanoparticle self-assembly”, *in preparation*.

BOOK CHAPTERS

- **Jungwon Park**, Vivekananda P. Adiga, Alex Zettl, A. Paul Alivisatos, “Chapter 19. High resolution imaging of liquids in TEM through graphene windows”, *Liquid Cell Electron Microscopy edited by Frances M. Ross*, Cambridge University Press, *in press*.

PRESENTATIONS

Invited

- Jungwon Park, and A. Paul Alivisatos, “In-situ Study of Colloidal Nanoparticles in Atomic Resolution by Using Graphene Liquid Cells”, *Argonne National Laboratory User Meeting*, Argonne, IL. 5/2012
- Jungwon Park, Haimei Zheng, Won Chul Lee, Phillip L. Geissler, Eran Rabani, and A. Paul Alivisatos, “In-situ observation of nanoparticle growth and nanoparticle superlattice formation by liquid phase TEM”, *Frontiers in Electron Microscopy and Material Science*, Napa, CA. 9/2011

Oral presentation

- Jungwon Park, Ji Tae Park, Jun Byun, David A. Weitz, “Correlative Light/Electron Microscopy by Using Graphene Liquid Cells”, *Materials Research Society*, San Francisco, CA. 4/2014
- Jungwon Park, Jong Min Yuk, Peter Ercius, Alex Zettl and A. Paul Alivisatos, “Direct observation of nanoparticle growth in atomic resolution by using graphene liquid cells”, *Materials Research Society*, San Francisco, CA. 4/2012
- Jungwon Park, Eran Rabani, Haimei Zheng, and A. Paul Alivisatos, “Watching real-time assembly of nanocrystals using in-situ liquid phase TEM”, *Materials Research Society*, Boston, MA. 11/2010

Poster presentation

- Jungwon Park, Haimei Zheng, Woung-wook Jun, and A. Paul Alivisatos, “Hetero-Epitaxial Anion Exchange Yields Single-Crystalline Hollow Nanoparticles”, *American Chemical Society*, San Francisco, CA. 3/2010
- Jungwon Park, Maciej Kolaski, Eun Cheol Lee, Han Myoung Lee, Yeo Jin Yoon, Seung-kyu Min, and Kwang S, Kim, “*Ab initio* Study for Hydrated Structures of Mono-valent Cations”, *Theory and Application of Computational Chemistry(TACC-2004)*, Gyeongju, Korea. 2/2004