

## BIOGRAPHICAL SKETCHES

Dong-Kyun Ko, Ph.D.

### a. Professional Preparation

Yonsei University	Seoul, Korea	Materials Science and Engineering	BS, 2005
University of Pennsylvania	Philadelphia, PA	Materials Science and Engineering	MS, 2007
University of Pennsylvania	Philadelphia, PA	Materials Science and Engineering	PhD, 2011
M. I. T.	Cambridge, MA	Quantum Dot Solar Cells	Postdoc, 2011-2014

### b. Appointments

New Jersey Institute of Technology (Newark, NJ), Department of Electrical and Computer Engineering,  
*Associate Professor*, 09/2020-present

New Jersey Institute of Technology (Newark, NJ), Department of Electrical and Computer Engineering,  
*Assistant Professor*, 09/2014-08/2020

Lawrence Berkeley National Laboratory (Berkeley, CA), Molecular Foundry, Inorganic Nanostructures,  
*Visiting Scholar*, 04/2009-08/2009

### c. Products

#### ● Five Most Relevant Publications (Nanoelectronics & Optoelectronics):

1. S. B. Hafiz; M. M. Al Mahfuz; D. -K. Ko, "Vertically-Stacked Intraband Quantum Dot Devices For Mid-Wavelength Infrared Photodetection," ACS Appl. Mater. Interfaces, 13, 937-943 (2021)
2. S. B. Hafiz; M. M. Al Mahfuz; M. R. Scimeca; S. Lee; S. J. Oh; A. Sahu; D. -K. Ko, "Ligand engineering of mid-infrared Ag<sub>2</sub>Se colloidal quantum dots," Physica E: Low Dimens. Syst. Nanostruct., 123, 114223 (2020).
3. S. Hafiz; M. Scimeca; A. Sahu; D. -K. Ko, "Colloidal Quantum Dots for Thermal Infrared Sensing and Imaging," Nano Convergence, 6, 7 (2019).
4. S. Hafiz; M. R. Scimeca; P. Zhao; I. J. Paredes; A. Sahu; D. -K. Ko, "Silver Selenide Colloidal Quantum Dots for Mid-Wavelength Infrared Photodetection," ACS Appl. Nano Mater., 2, 1631-1636 (2019)
5. D. -K. Ko; P. R. Brown; M. G. Bawendi; V. Bulovic, "p-i-n Heterojunction Solar Cells with a Colloidal Quantum-Dot Absorber Layer", Adv. Mater., 26, 4845-4850 (2014).

- Five Other Publications (Thermoelectric Power Generation & Materials Chemistry):

1. C. Sun; A. H. Goharpy; A. Rai; T. Zhang; D. -K. Ko, "Paper Thermoelectrics: Merging Nanotechnology with Naturally Abundant Fibrous Material," *ACS Appl. Mater. Interfaces*, 8, 22182-22189 (2016).
2. K. -H. Kim; D. -K. Ko; Y. -T. Kim; N. H. Kim; J. Paul; C. B. Murray; R. Acharya; Y. H. Kim; W. F. DeGrado; G. Grigoryan, "Protein-Directed Self-Assembly of a Fullerene Crystal," *Nat. Commun.*, 7, 11429 (2016).
3. D. -K. Ko; Y. J. Kang; C. B. Murray, "Enhanced Thermopower via Carrier Energy Filtering in Solution-Processable Pt-Sb<sub>2</sub>Te<sub>3</sub> Nanocomposites," *Nano Lett.*, 11, 2841-2844 (2011).
4. D. -K. Ko; J. J. Urban; C. B. Murray, "Carrier distribution and dynamics of nanocrystal solids doped with artificial atoms," *Nano Lett.*, 10, 1842-1847 (2010).
5. D. -K. Ko; C. B. Murray, "Probing the Fermi Energy Level and the Density of States Distribution in PbTe Nanocrystal (Quantum Dot) Solids by Temperature-Dependent Thermopower Measurements," *ACS Nano*, 5, 4810-4817 (2011).

#### **d. Synergistic Activities**

- **Lead Symposium Organizer** of "D04 - Quantum Dot Science and Technology," *239th ECS Meeting*, Chicago, IL (converted to virtual meeting, May 30-June 3, 2021)
- **Symposium Co-organizer** of "D01 – Dielectrics for Nanosystems," *237<sup>th</sup> ECS Meeting*, Montreal, Canada (converted to virtual meeting, May 10- 15, 2020)
- **Track Chair** of "Nanoelectronics: Devices – SET, RTD, QD, Molecular," *19th IEEE International Conference on Nanotechnology (IEEE-NANO)*, Macau, China (July 22-26, 2019)
- **Session Chair** of "D01 - Materials and Device Modeling," *236th ECS Meeting*, Atlanta, GA (October 13-17, 2019)
- **Associate Editor** of *2019 IEEE-NANO Contributed papers*, "Nanoelectronics: Devices – SET, RTD, QD, Molecular" Session Track (03/2019-06/2019)
- **Guest Editor** of *Nano Convergence* (Springer Nature), "Synthesis, Self-Assembly, and Applications of Colloidal Inorganic Nanocrystals," 2018-2019