

**Curriculum Vitae**  
**Yang-Seon Kim**  
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**EDUCATION**

Ph.D.    **The Pennsylvania State University**, PA, USA

Mechanical Engineering (Advisor: Prof. Jelena Srebric), Aug. 2011- Dec. 2014  
Dissertation Title: “Calibration of Building Energy Simulations with Occupancy and Plug-load Schedules Derived from Metered Building Electricity Consumption”

M.S.        **Yonsei University**, S. Korea, Mechanical Engineering, Aug. 2010

Thesis Title: “Application of Air Ions for Bacterial De-Colonization in Air Filters Contaminated by Air Borne Bacteria; Mechanism involved in Antibacterial Action of Air Ions”

B.S.        **Yonsei University**, S. Korea, Physics, Mechanical Engineering, Feb. 2008

**AWARDS & SCHOLARSHIP**

- Grant-in-Aid Fellowship, American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), 2013
- Global research internship program, National Research Foundation of Korea(NRF), Dec. 2010
- 2nd Yonsei Mechanical Engineering Graduate Student Symposium - Excellence award, Yonsei University, Dec. 2008
- Yonsei Honorary Scholarship, Yonsei University, 2006

**RESEARCH EXPERIENCES**

- **Building Science Group, the Penn State University**, Aug. 2011- Dec. 2014

**-“EFRI-SEED: Creating Opportunities for Adaption based upon PULSE”**

Sponsor: National Science Foundation (NSF), Office of Emerging Frontiers in Research & Innovation (EFRI), Science in Energy and Environmental Design (SEED)

Designed and measured the occupants information, building energy data analysis, and building energy simulation

**- “Simulation and Modeling at the Energy Efficient Buildings Hub”**

Sponsor: U.S. Department of Energy

Field data collection, building energy data analysis, and building energy simulation

**- “Ventilation and Indoor Air Quality in Retail Stores”** (Aug. 2011- Dec. 2012)

Sponsor: American Society of Heating, Ventilating and Air Conditioning Engineers (ASHRAE) Designed and measured the indoor air quality data collection and survey  
Survey data analysis

- **Lawrence Berkeley National Laboratory**, Jan. 2011 – Jun. 2011

- Research intern (Energy and Environmental Technology Division)
- Field data collection, Big Box project

- **NE2 (Nano Energy/Environment Fusion System)Lab., Yonsei University**, Jan. 2008 – Dec. 2010

- Graduate Research Assistant
- Application of air ions for bacterial de-colonization in air filters contaminated by air borne bacteria; Mechanism involved in antibacterial action of air ions (Jan. 2008 – Aug. 2010)
- Sterilization of circulation air and filter of air conditioner using an ionizer (Apr. 2009 – Sep. 2009)

- **NE2 (Nano Energy/Environment Fusion System)Lab., Yonsei University**, June. 2007 – Dec. 2007

- Undergraduate Intern
- Researched and interpretation for micro size virtual impactor with FLUENT

## **PUBLICATIONS AND CONFERENCE PROCEEDINGS**

- “Occupants’ perception of indoor environmental quality and its relationship to measured environmental parameters in retail stores”, **Kim\*,Y.S.**, Zhao\*,M. and Srebric, J., **Indoor Air** (submitted) (\* These authors contributed equally to the research and manuscript)
- “Improvement of building energy simulation accuracy with occupancy schedules derived from hourly building electricity consumption,” **Kim,Y.S.**, Srebric, J., accepted, **ASHRAE transactions 121 (1)**, 2015.
- “Evaluation of Indoor Mold Growth Relative to Indoor Humidity Using a Multi-Zone Modeling,” Jareemit, D., Shu, S., Heidarinejad, M., **Kim, Y.S.**, Liu, J., Alhafi, Z., Srebric, J., Proceeding of the **CLIMA 2013**, Prague, Czech Public, June, 2013
- “Fabrication of a multi-walled carbon nanotube-deposited glass fiber air filter for the enhancement of nano and submicron aerosol particle filtration and additional antibacterial efficacy”, Park, J.H., Yoon, K.Y., Na, H., **Kim, Y.S.**, Hwang,J., **Science of the Total Environment**, 409, 4123-2138, 2011.

- “Application of air ions for bacterial de-colonization in air filters contaminated by airborne bacteria”, **Kim, Y.S.**, Yoon, K.Y., Park, J.H., Hwang, J., **Science of the Total Environment**, 409, 748-755, 2011.
- “Application of air ions for bacterial de-colonization in air filters contaminated by airborne bacteria; Mechanism involved in antibacterial action of air ions”, **Kim, Y.S.**, Yoon, K.Y., Park, J.H., Hwang, **International Aerosol Conference (IAC 2010)**, Helsinki, Finland, Aug, 2010.
- “Removal of submicron aerosol particles and bioaerosols using carbon fiber ionizer assisted fibrous medium filter media”, Park,J.H., Yoon,K.Y., **Kim,Y.S.**, Byeon, J.H., and Hwang, J., **J. Mech. Sci. Technol.**, 23, 1846-1851, 2009.
- “Effect of unipolar air ions on viability of bioaerosols deposited on a filter”, **Kim,Y.S.**, Yoon,K.Y., Park,J.H., and Hwang, J., **Asian Aerosol Conference AAC09**, Bangkok, Thailand, Nov, 2009.

#### Journal Articles in Preparation

- “Studying the effect of occupancy rates on the building electricity consumption in different types of buildings”, **Kim,Y.S.** and Srebric, J., **Energy and Buildings**.
- “Calibration of building energy simulations with occupancy and plug-load schedules derived from metered building electricity consumption,” **Kim,Y.S.**, Heidarinejad, M., Dahlhausen, M., and Srebric, J., **Energy and Buildings**.

#### **TECHNICAL REPORT**

- “ASHRAE Research Project 1596-RP: Ventilation and Indoor Air Quality in Retail Stores”, Crain, N., Nirlo, E., Zaatari, M., Hoisington, A., Urquidi, J., Shu, S., **Kim, Y.S.**, Jareemit, D., Siegel, J.A., and Srebric, J., 2012.

#### **PRESENTATIONS**

- “Improvement of building energy simulation accuracy with occupancy schedules derived from hourly building electricity consumption,” **ASHRAE Winter Conference 2015**, Chicago, IL, Jan., 2015
- “Characterization of air exchange rates (AER) and associated occupant survey outcomes in retail stores (RP-1596),” **ASHRAE Annual Conference 2014**, Seattle, WA, June, 2014