

# Hwangbo Bae

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**Overview** Research experience of applying rigorous qualitative methods to explore engineering students' career preparation, leadership development, and out-of-class activities.

Active participation in professional conferences to exhibit research and expand scholarly networks

Research interests in preparing future civil engineers with sufficient skills and knowledge and retaining construction professionals by uncovering organizational, interpersonal, intrapersonal factors

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**EDUCATION** **University of Florida**, Gainesville, Florida  
Ph.D. Civil and Coastal Engineering Aug 2019 ~ Dec 2022 (expected)  
**Virginia Tech**, Blacksburg, Virginia  
M.S. Civil Engineering | Construction Eng. & Management Jan 2018 ~ Aug 2019  
B.S. Civil Engineering | Land Development & CEM Aug 2011 ~ Dec 2017

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## ACADEMIC EXPERIENCE

Research Assistant, *Leadership in Construction (SRL)* Jan 2018 ~ Present

- Find relationship between construction safety and workers competencies
- Build responsibility on given tasks and develop authorship of the project
- Develop communication skills and take critical notes in team discussion

Research Assistant, *Environmental Biotechnology & Bioenergy Lab* (Jason He Ph.D.),

- Treated waste water with Microbial Fuel Cells (MFC) Mar 2014~ Aug 2014
- Scaled up MFC system for wastewater treatment
- Analyzed chemical activities in wastewater before/after treatment

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## MANUSCRIPTS PUBLISHED

**Bae, H.**, Simmons, D. R., and Polmear, M. (2021). Promoting the quarry workers' hazard identification through formal and informal safety training. *Safety and Health at Work*. doi: 10.1016/j.shaw.2021.02.003

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## PEER-REVIEWED CONFERENCE

**Bae, H.**, Polmear, M., & Simmons, D. R. (2021). Faculty members' perceptions of engineering students' preparedness for leadership competencies. *Proceedings of the 128th ASEE Annual Conference and Exposition*. Long Beach, CA, US.

**Bae, H.**, Simmons, D. R., & Polmear, M. (2020). The impact of internships on civil engineering students' exploration of learning styles. *Proceedings of the 127th ASEE Annual Conference and Exposition*. Montreal, Canada.

**Bae, H.**, Simmons, D. R., & McCall, C. (2019). Construction companies as facilitators of satisfying work environment. *Proceedings of the Engineering Project Organization Conference: A Challenge Summit*. Vail, Colorado. [paper invited for journal]

**Bae, H.**, McCall, C., & Simmons, D. R. (2019). Investigating Work, Cultural, and Life Values of Construction Employees. *Proceedings of the Associated Schools of Construction: The Business of the Built Environment*. Denver, Colorado.

**Bae, H.,** Simmons, D. R., & McCall, C. (2019). Developing a Conceptual Model of Construction Employees' Professional Values. *Abstract submitted to Research in Engineering Education Symposium*. Cape Town, South Africa.

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#### MANUSCRIPTS SUBMITTED FOR REVIEW

**Bae, H.,** Simmons, D. R., & McCall, C. (under review). Building Agency: Recruiting and Retaining Construction Professionals in Industry. *Engineering Project Organization Journal*.

**Bae, H.,** Polmear, M., and Simmons D. R., (under review). Bridging the gap between industry expectations and academic preparation: Civil engineering students' employability. *Journal of Civil Engineering Education*.

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#### MANUSCRIPTS IN PROGRESS

**Bae, H.,** Simmons, D. R., McCall, C., & Polmear, M. (in progress). Photo elicitation in construction engineering research: The value of coupling participants' inside perspectives with researchers' outside perspective. *Visual Studies*.

**Bae, H.,** Simmons, D. R. (in progress). Improving workplace safety through trust and safety controls. Associate Schools in Construction

**Bae, H.,** Simmons, D. R. (in progress). The influences of internships in shaping civil engineering students' career choice: Associate Schools in Construction

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#### GUEST LECTURES

Delivered a presentation in Safety Hazards in Construction at Virginia Tech, 2018

- Safety Climate and Safety Culture

Delivered guest lectures in Civil Engineering Operations 1 course at the University of Florida, 2021

- The New Role of the Project Manager
  - Leadership in Project Planning
  - Decision Making in Project Execution
  - Develop and Maintain Motivations on the Project Management
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#### PROFESSIONAL EXPERIENCE

Artillery Sergeant, *Republic of Korea Marine Corps.*, April 2015 ~ Jan 2017

- Led a crew of 9 people without any injuries and fatalities
- Trained "Double Dragon" war-simulated activity with US Marine Corps.
- Equipped with adept skills in learning new technologies as did in running K-55 (155mm Self Propelled Howitzer)

Parking Assistant, *E-Mart*, Gimhae, Korea, Dec 2014 ~ March 2015

- Managed the parking service for shoppers to direct available spots in busy hours
- Prioritized safety through identifying potential threats to shoppers
- Executed leadership in building positive relationship with managers and coworkers

Volunteer at Orphanage (Teacher), *Bangjuwon*, Gimhae, Korea Summer 2008, 2009

- Managed to respect different perspectives of people
- Interacted with 20 sponsors to motivate and encourage the charity for orphans
- Organized weekly schedules with 15 children for up-coming lectures

Const. Labor, *Changwon Elementary School*, Changwon, Korea Summer 2009, 2010

- Transported heavy materials using crane with assistance from foreman
  - Demolished old classrooms and bathrooms with diligent workers
  - Rebuilt them and painted with eco-friendly chemistry
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#### FUNDS RECEIVED

GSC Travel Funding by Flour Enterprises (Spring 2019)

\$500

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**EXTRACURRICULAR ACTIVITIES**

UF Korean Student Association	2019 ~ present
Korean American Scientists and Engineers Association	2019 ~ present
American Society of Engineering Education	2020 ~ present
Diversity Inclusion at VT	2018 ~ 2019
American Society of Civil Engineers	Member since 2012
Virginia Tech LOGOS (Christian community)	2011 ~ 2019
Korean Football Club (Intramural sport team at VT)	2011 ~ 2019
World Travel- South Korea, Japan, China, Philippines, Myanmar	