



Benjamin Ahn

Assistant Professor

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Education

Ph.D. Engineering Education, Purdue University, 2014

M.S. Aeronautics and Astronautics Engineering, Purdue University, 2009

B. E. Aerospace Engineering, University of New South Wales, 2007

Academic Appointments

Iowa State University (2015-present)

Department of Aerospace Engineering

- *Assistant Professor*, August 2015-present

Human Computer Interaction Program

- *Faculty Member*, August 2015-present

Massachusetts Institute of Technology (2014-2015)

MIT-SUTD Collaboration

- *Postdoctoral Associate*, August 2014-August 2015

Awards and Honors

- Miller Faculty Fellow, Iowa State University, 2019 & 2016.
- Invited Participant, National Academy of Engineering's Frontiers of Engineering Education Symposium, 2016.
- New Faculty Fellow, IEEE's Frontiers in Education Conference, 2016.

Teaching

UNDERGRAD: AerE 411 Aerospace Vehicle Propulsion I, EM 324 Mechanics of Materials.

GRADUATE: ENGR HGED 538X Foundations of Engineering Education.

Research

Interest Areas: Engineering Education

- Higher education: Mentoring, professional practice, recruitment and retention, student diversity;
- Student-centered pedagogy: Cooperative learning; educational technology; hybrid classrooms;
- Workplace socialization/onboarding process: Workplace culture;

Selected Publications (of 42 pubs. including 17 journals, 1 book chapter, 24 conf. proceedings; h-index (Google): 9

1. Bir, D., & **Ahn, B.** (2019). Factor predicting students' persistence and academic success in an aerospace engineering program. *International Journal of Engineering Education*, (accepted with revision).
2. Hilderbrand, J⁺., & **Ahn, B.** (2018). Student video viewing habits in an online mechanics of materials engineering course. *International Journal of Engineering Pedagogy*, 8(3), 40-59. DOI: 10.3991/ijep.v8i3.7948
3. **Ahn, B.** & Nelson, M. (2018). Assessment of the effects of using the cooperative learning pedagogy in a hybrid mechanics of materials course. *International Journal of Mechanical Engineering Education*, 1-17. DOI: 10.1177/0306419018759734
4. **Ahn, B.**, & Bir, D. (2018). Student interactions with online videos in a large hybrid mechanics of materials course. *Advances in Engineering Education*, 6(3), 1-24.
5. Berdanier, C., Tally, A., Branch, S., **Ahn, B.**, & Cox, M. F. (2016). A strategic blueprint for the alignment of doctoral competencies with disciplinary expectations. *International Journal of Engineering Education*, 32(4), 1759-1773.
6. **Ahn, B.** (2016). Applying the cognitive apprenticeship theory to examine graduate and postdoctoral researchers' mentoring practices in undergraduate research settings. *International Journal of Engineering Education*, 32(4), 1691-1703.
7. **Ahn, B.**, & Cox, M. F. (2016). Knowledge, skills, and attributes of graduate student and postdoctoral mentors in undergraduate research settings. *Journal of Engineering Education*, 105(4), 605-629. DOI: 10.1002/jee.20129
8. Saulnier, C. R., **Ahn, B.**, Bagiati, A., & Brisson, J. G. (2015). Leadership development through design based wilderness education. *International Journal of Engineering Pedagogy*, 5(1), 47-56. DOI: 10.3991/ijep.v5i1.4386
9. **Ahn, B.**, Cox, M. F., London, J., Cekic, O., & Zhu, J. (2014). Creating an instrument to measure leadership, change, and synthesis in engineering undergraduate. *Journal of Engineering Education*, 103(1), 115-136. DOI: 10.1002/jee.20036
10. **Ahn, B.**, Cox, M. F., Zephirin, T., Taylor, K., Osagiede, A., Haller, Y., Groll, E., & Adams, S. G. (2014). Designing courses using case studies and content, assessment, and pedagogy to cultivate professional skills among engineering students. *International Journal of Engineering Education*, 30(6B), 1621-1635.
11. London, J. S., Cox, M. F., **Ahn, B.**, Branch, S. E., Torres-Ayala, A., Zephirin, T., & Zhu, J. (2014). Motivations for pursuing an engineering PhD and perceptions of its added value: A U.S.-based study. *International Journal of Doctoral Studies*, 9, 205-227.
12. Ferguson, D. M., Cawthorne, J. E., **Ahn, B.**, & Ohland, M. W. (2013). Engineering innovativeness. *Journal of Engineering Entrepreneurship*, 4(1), 1-17. DOI: 10.7814/jeen5v3p1fcah
13. Zhu, J., Li, Y., Cox, M. F., London, J., Hahn, J., & **Ahn, B.** (2013). Validation of a survey for graduate teaching assistants: Translating theory to practice. *Journal of Engineering Education*, 102(3), 426-443. DOI: 10.1002/jee.20014
14. **Ahn, B.**, Ismailov, M., & Heister, S. D. (2012). Experimental study swirl injector dynamic response using a hydro-mechanical pulsator. *Journal of Propulsion and Power*, 28(3), 585-595. DOI: 10.2514/1.B34261
15. Cox, M. F., Cekic, O., **Ahn, B.**, & Zhu, J. (2012). Engineering professionals' expectations of undergraduate engineering students. *Leadership and Management in Engineering*, 12(2), 60-70. DOI: 10.1061/(ASCE)LM.1943-5630.0000173

Thesis Advisor/Co-advisor and Postgraduate-Scholar Sponsor

Doctoral (1): D. Bir (2019).

Masters (2): S. Santos (2019), D. Bir (2017).

Professional and Outreach Activities

- Members of AIAA (2018-present), ASEE (2015-present)
- Session Chairs at Conferences: American Society for Engineering Education, Frontiers in Education
- Reviewer: (8 Journals, NSF);
- Director: LAUNCH-UAS Research Experiences for Undergraduate (REU)