

## **Denny Yu, PhD**

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[Denny Yu - Purdue University School of Industrial Engineering  
Yu Group](#)

## **Education**

PhD Industrial and Operations Engineering University of Michigan, Ann Arbor, MI

MSE Industrial and Operations Engineering, University of Michigan, Ann Arbor, MI

BS Bioengineering, University of California, Berkeley, CA

## **Research and Work Experience**

Assistant Professor, School of Industrial Engineering, Purdue University, West Lafayette, IN

Assistant Professor of Healthcare Systems Engineering, College of Medicine, Mayo Clinic, Rochester, MN

Research Associate, Department of Health Sciences Research, Mayo Clinic, Rochester, MN

Graduate Student Research Assistant, Center for Ergonomics, University of Michigan, Ann Arbor, MI, Advisor: Thomas J. Armstrong, PhD

Liberty Mutual Safety Research Fellow, Liberty Mutual Research Institute for Safety, Hopkinton, MA, Advisors: Jia-Hua Lin, PhD, and Xu Xu, PhD

NSF Engineering Innovations Fellow, Applied Biomechanics, Alameda, CA

## **Honors and Awards**

### **Fellowships**

Delivery System Science Fellowship

National Science Foundation Graduate Student Fellowship

American Society of Safety Engineers, Liberty Mutual Safety Research Fellowship

National Institute for Occupational Safety and Health (NIOSH) Traineeship

Dieter W. Jahns Student Practitioner Award, Foundation for Professional Ergonomics

## Select Publications

1. **Yu, D.**, Dural, C., Morrow, M., Yang, M., Collins, J., Hallbeck, S., Kjellman, M., & Forsman, M. (2016). Intraoperative workload in robotic surgery assessed by wearable motion tracking sensors and questionnaires. *Surgical Endoscopy*. PMID: 27495330
2. **Yu, D.\***, Xu, X., & Lin, J.-H. (2017). Impact of posture choice on one-handed pull strength variations at low, waist, and overhead pulling heights. *International Journal of Industrial Ergonomics*. doi:<https://doi.org/10.1016/j.ergon.2017.07.004>
3. **Yu, D.**, Lowndes, B., Morrow, M., Kaufman, K., Hallbeck, M.S., & Bingener, J. (2015). Impact of a novel laparoscopic tool on wrist ergonomics and surgeon performance. *Surgical Endoscopy*. DOI: 10.1007/s00464-015-4634-7. PMID: 26541720
4. **Yu, D.**, Blocker, R. C., Sir, M. Y., Hallbeck, M. S., Hellmich, T. R., Cohen, T., . . . Pasupathy, K. S. (2016). Intelligent Emergency Department: Validation of Sociometers to Study Workload. *Journal of Medical System*40(3), 1-12. doi: 10.1007/s10916-015-0405-1 PMID: 26645317
5. **Yu, D.**, Green, C., Kasten, S. J., Sackllah, M. E., & Armstrong, T. J. (2016). Effect of alternative video displays on postures, perceived effort, and performance during microsurgery skill tasks. *Applied ergonomics*, 53, Part A,281-289. doi: 10.1016/j.apergo.2015.10.016. PMID: 26585502
6. Zhou, T., Cha, J. S., Gonzalez, G. T., Wachs, J. P., Sundaram, C., & **Yu, D.** (2018, March). Joint Surgeon Attributes Estimation in Robot-Assisted Surgery. In *Companion of the 2018 ACM/IEEE International Conference on Human-Robot Interaction* (pp. 285-286). ACM.
7. Park, A. E., Zahiri, H. R., Hallbeck, M. S., Augenstein, V., Sutton, E., **Yu, D.**, ... & Bingener, J. (2016). Intraoperative" Micro Breaks" With Targeted Stretching Enhance Surgeon Physical Function and Mental Focus: A Multicenter Cohort Study. *Annals of surgery*. PMID:26863399
8. Abdelrahman, A., Bingener, J., **Yu, D.**, Lowndes, B., & Hallbeck, M.S. (2015). Impact of Single Incision versus 4-Port Laparoscopic Cholecystectomy on Surgeon Stress and Workload: A Randomized Controlled Trial. *Surgical Endoscopy*, 1-7. DOI: 10.1007/s00464-015-4332-5. PMID: 26194249.
9. Ostovari, M., **Yu, D.**, Yih, Y., & Steele-Morris, C. J. (2017). Impact of an Onsite Clinic on Utilization of Preventive Services. *Journal of Occupational and Environmental Medicine*, 59(7), 615-623. doi:10.1097/jom.0000000000001034
10. Lowndes, B., Thiels, C. A., Habermann, E. B., Bingener, J., Hallbeck, S., & **Yu, D.** (2016). Impact of patient factors on operative duration during laparoscopic cholecystectomy: Evaluation from the National Surgical Quality Improvement Program (NSQIP) Database. *The American journal of surgery*.

11. **Yu, D.**, Lowndes, B., Thiels, C., Bingener, J., Abdelrahman, A., Lyons, R., & Hallbeck, S. (2016). Quantifying Intraoperative Workloads Across the Surgical Team Roles: Room for Better Balance? *World J Surg.* doi:10.1007/s00268-016-3449-6
12. **Yu, D.**, Minter, R. M., Armstrong, T. J., Frischknecht, A. C., Green, C., & Kasten, S. J. (2014). Identification of technique variations among microvascular surgeons and cases using hierarchical task analysis. *Ergonomics*, 57(2), 219-235.  
DOI:10.1080/00140139.2014.884244. PMID: 24521243

## Teaching

- IE 386 Work Analysis and Design I
- IE 590 Human Factors and Medical Devices
- IE 690 Sensing Approaches For Human Factors Research

## Certifications

2015-Present – Board of Certification in Professional Ergonomics (BCPE), Certified Professional Ergonomist (CPE)

Last updated: 08/2018