

Yongqiang (Jerry) Gong, PhD, PE  
515-735-6826 | gongyq2010@gmail.com  
1319 Nebraska Avenue, Ames, Iowa, 50014

---

## **EDUCATION**

Aug. 2015 – July 2019                      Ph.D. in Structural Engineering | Iowa State University  
Aug. 2015 – July 2017                      M.S. in Structural Engineering | Iowa State University  
Aug. 2010 – July 2014                      B.S. in Civil Engineering / Dalian Uni. of Technology, China

## **AWARDS AND HONORS**

Aug. 2015 – July 2018                      US National Science Foundation Research Assistantship  
May 2013    Japan Sumitomo Corporation Innovation Award  
May 2011 – May 2013                          China National Student Scholarship

## **LICENSURE**

Sept 2021    Licensed Professional Engineer in NE, IA, OK  
Oct 2021    Passed SE Vertical Exam, NE

## **WORK EXPERIENCE**

July. 2022 -                      Technical Support Engineer (Remote) | Risa Tech. Inc., Lake Forest, CA

- Provide clients with solutions and guidance to structural engineering questions in critical projects in local, state, and national communities.
- Implement latest design codes and specifications into RISA products for engineer users, including
  - ASCE 7 – Minimum Design Loads and Associated Criteria for Buildings and Other Structures by American Society of Civil Engineers
  - IBC – International Building Code by International Code Council
  - ACI 318 – Building Code Requirements for Structural Concrete by American Concrete Institute
  - AISC 360 and AISC 341 – Specification and Seismic Provisions for Structural Steel Buildings by American Institute of Steel Construction
  - NDS – National Design Specification for Wood Construction by American Wood Council
  - TMS 402/602 – Building Code Requirements and Specifications for Masonry Structures by the Masonry Society
- Work with customers via telephone, email, and conferencing gathering information to understand their software needs and offering design solutions with RISA software

- Test the software to ensure a quality software package
- Write technical engineering specifications to support the product development team
- Providing hand calculations to validate the software

Mar. 2019 – July 2022      Structural Engineer | Shive-Hattery, Inc., Des Moines, Iowa

- Design and Assessment of Bridges and Industrial Buildings
  - Design concrete and steel structures with high performance and resilience
  - Design transportation infrastructure including pedestrian bridges and DOT bridges.
  - Lead structural discipline and coordinate with project managers, contractors, architects, and civil and MEP engineers
- Selected Project Products
  - West Des Moines Raccoon River Pedestrian Bridge
  - IA DOT Bridge Design
  - IFF Dupont Building Expansion – Iowa, New York, Oklahoma & Texas
  - General Mills Building Expansion – Missouri & Nebraska

Nov. 2018 – Mar. 2019      Structural Engineer | RGD Consulting, Inc., Jupiter, Florida

- Design of Commercial, Residential, and Educational Buildings
  - Developed structural design spreadsheets in accordance with building codes ASCE 7, ACI 318, AISC, ACI530, and IBC.
  - Designed civil structures including beams, columns, shear walls, foundations, slabs, retaining walls, and roof trusses.
- Selected Project Products
  - Jack & Jill Elementary School Design.
  - The Angler Staff Housing Design.
  - The Jupiter Theatre Center Design.
  - The Miami Standard Hotel Design.

## **RESEARCH EXPERIENCE**

Aug. 2015 – July 2019    Research Assistant

Advisor: Simon Laflamme, Department of CCEE, Iowa State University

- Research Project I:
 

“Dense Sensor Network for Bridge Damage Detection and Vehicle Matching.” In collaboration with Institute of Transportation and Department of Mechanical Engineering, Iowa State University.

  - Generated three types of sensor network data using finite element simulation for vehicle identification and detection, and for localization of structural degradation in bridges.

- Applied a spatiotemporal pattern network to facilitate real-time health monitoring and decision making for bridge networks.
- Research Project II:  
 “Semi-Active Controlled Panel Cladding to Improve the Performance of Buildings Under Multiple Hazards.” In collaboration with Lehigh University and funded by National Science Foundation.
  - Designed, fabricated, and experimentally tested a novel variable friction cladding connection using SolidWorks, 3D printer, and MTS machine.
  - Developed and verified motion-based design approach for the semi-active façade system to mitigate blast, wind, and earthquake load effects.
- Research Project III:  
 “Multifunctional Structural Panel for Energy Efficiency and Multi-Hazard Mitigation.” In collaboration with University of Alabama in Huntsville and funded by National Science Foundation.
  - Developed a multi-functional liquid mass damper for building protection combined with building energy efficiency.

## **TEACHING & MENTORING EXPERIENCE**

Aug. 2017 – Nov. 2018                      Teaching Assistant | Iowa State University, Ames, Iowa

- CE 549 / 449 Structural Health Monitoring                      Fall Semester 2017 & 2018
  - Prepare course material and instructed course labs
  - Supervised over 20 teams on course projects
  - Hosted office hours and appointments
- CE 532 Structural Analysis II    Fall Semester 2017
  - Occasionally replaced instructor to teach classes
  - Graded assignments and hosted office hours
- Undergraduate Independent Study Mentoring                      Spring 2018
  - Mentored two undergraduates on their independent research study
  - Provided guidance on study proposal, experiment, and project report

## **SKILLS**

- Modeling              BIM360, Revit 3D, Navisworks, OpenBridge Designer, Microstation
- Design and Analysis    Risa, Ram, Tedds, Ansys
- Programming    Matlab, Java, R, Python, Html5
- General                      Zoom, Microsoft Teams & Office Suite, Mathcad, ProjectWise

## SELECTED PUBLICATIONS

1. **Gong, Y.**, Cao, L., Laflamme, S., Ricles, J., Quiel, S., & Taylor, D. (2021). Numerical validation of variable friction cladding connection for multi-hazard mitigation. *Journal of Vibration and Control*, 107754630923933.
2. Cao, L., **Gong, Y.**, Ubertini, F., Wu, H., Chen, A., Laflamme, S. (2020). Development and validation of a nonlinear dynamic model for tuned liquid multiple columns dampers. *Journal of Sound and Vibration*, 115624.
3. **Gong, Y.**, Cao, L., Laflamme, S., Ricles, J., Quiel, S., & Taylor, D. (2019). Variable friction cladding connection for seismic mitigation. *Engineering Structures*, 189, 243-259.
4. **Gong, Y.**, Cao, L., Laflamme, S., Ricles, J., Quiel, S., & Taylor, D. (2019). Motion-based design approach for a novel variable friction cladding connection used in wind hazard mitigation. *Engineering Structures*, 181, 397-412.
5. **Gong, Y.**, Cao, L., Laflamme, S., Quiel, S., Ricles, J., & Taylor, D. (2018). Characterization of a novel variable friction connection for semi-active cladding system. *Structural Control and Health Monitoring*, 25(6), e2157.
6. Liu, C., **Gong, Y.**, Laflamme, S., Phares, B., & Sarkar, S. (2016). Bridge damage detection using spatiotemporal patterns extracted from dense sensor network. *Measurement Science and Technology*, 28(1), 014011.
7. Liu, C., **Gong, Y.**, Laflamme, S., Phares, B., & Sarkar, S. (2016, October). Damage Detection of Bridge Network With Spatiotemporal Pattern Network. In *ASME 2016 Dynamic Systems and Control Conference* (pp. V001T12A003-V001T12A003). American Society of Mechanical Engineers.

## CONFERENCE PRESENTATIONS

1. **Gong, Y.**, Cao, L., Micheli, L., Laflamme, S., Quiel, S., & Ricles, J. (2018, March). Performance evaluation of a semi-active cladding connection for multi-hazard mitigation. In *Active and Passive Smart Structures and Integrated Systems XII* (Vol. 10595, p. 105950B). International Society for Optics and Photonics.
2. Micheli, L., Cao, L., **Gong, Y.**, Cancelli, A., Laflamme, S., & Alipour, A. (2017, April). Probabilistic performance-based design for high performance control systems. In *Active and Passive Smart Structures and Integrated Systems 2017* (Vol. 10164, p. 101642I). International Society for Optics and Photonics.
3. **Gong, Y.**, Cao, L., Laflamme, S., Quiel, S., Ricles, J., & Taylor, D. (2017). Performance evaluation of a variable friction cladding system for seismic hazard mitigation. 3rd Huixian International Forum on Earthquake Engineering for Young Researchers. University of Illinois, Urbana-Champaign.
4. **Gong, Y.**, Cao, L., Laflamme, S., Quiel, S., Ricles, J., & Taylor, D. (2017). Semi-active control of a variable friction cladding system for multi-hazard mitigation. *Engineering Mechanics Institute Conference*. University of California, San Diego.