

# Damir Akchurin

3501 Saint Paul Street, Baltimore, MD, 21218

Email: [AkchurinDA@gmail.com](mailto:AkchurinDA@gmail.com)

Phone number: 518.366.5151

## RESEARCH INTERESTS

---

- Thin-Walled Structures
- Cold-Formed Steel (CFS)
- Advanced High-Strength Steel
- Structural Analysis and Design

## EDUCATION

---

**Johns Hopkins University**, Baltimore, MD **Expected May 2025**  
Doctor of Philosophy (PhD), Civil Engineering

- Emphasis in Structural Engineering.

**Johns Hopkins University (JHU)**, Baltimore, MD **May 2022**  
Master of Science in Engineering (MSE), Civil Engineering, **Honors, GPA: 3.91/4.00**

- Emphasis in Structural Engineering.
- Recipient of "Excellence in Civil Engineering Masters Studies" award.

*Selected Coursework:* EN.560.619 Advanced Structural Analysis (A), EN.560.634 Structural Fire Engineering (A).

**State University of New York Polytechnic Institute (SUNY Poly)**, Utica, NY **May 2021**  
Bachelor of Science (BS), Civil Engineering (CE), **Summa Cum Laude, GPA: 3.97/4.00**

- Emphasis in Structural and Geotechnical Engineering.
- Recipient of "Outstanding Academic Achievements" award.
- Qualified for President's Excellence List for maintaining GPA > 3.80 throughout all semesters of the BS degree.
- Member of the SUNY Poly's Chapter of the National Society of Leadership and Success.

*Selected Coursework:* CE-301 Structural Engineering (A+), CE-410 Structural Steel Design (A), CE-412 Finite Element Analysis (A).

**School-Lyceum No. 60**, Nur-Sultan, Kazakhstan **May 2017**  
High-School Diploma, **GPA: 4.00/4.00**

- Represented the school by participating and taking winning places in various city-wide, region-wide, country-wide, and international-wide knowledge competitions in algebra, geometry, physics, and economics subjects.

## RESEARCH EXPERIENCE AND ACADEMIC PROJECTS

---

**Investigation of Structural Stability of CFS Lipped Channels with Stiffeners**, CE Department, JHU **Summer 2022**

- Investigated the structural stability and buckling behavior of high strength low-alloy (HSLA) steel columns with a newly developed optimized lipped channel cross-section with intermediate longitudinal by conducting a series of extensive axial compression tests. The scope of work also included laser scanning the columns to determine the effect of geometric imperfections and tensile coupon testing to determine the material properties of HSLA steel.
- The research report "Compressive Capacity of Cold-Formed High Strength Low-Alloy Lipped Channels with Stiffeners" was approved by the Cold-Formed Steel Research Committee (CFSRC) committee and published.
- The work is a part of a research project funded by Nucor Corporation.

**Optimization of CFS Section**, CE Department, SUNY Poly **July 2020 – April 2021**

- The main objective of this work was to provide the development of an optimization scheme that produces a family of optimized cold-formed steel lipped channel sections considering reduced stiffness and strength due to cross-sectional instabilities such as local and distortion buckling.
- The conference paper "Optimization of cold-formed steel members considering reduced stiffness and strength due to cross-sectional instabilities" was presented at the 2022 Structural Stability Research Council Annual Stability Conference.
- The work is a part of a research project funded by National Science Foundation (NSF).

**Development of CUFSM Hole Module**, CE Department, SUNY Poly **January 2020 – June 2020**

- Investigated the buckling behavior of perforated and unperforated cold-formed steel sections and developed a simple module for the CUFSM open-source software to perform elastic buckling analysis to obtain the design parameters needed for DSM considering the influence of holes.
- The research report "Development of CUFSM Hole Module and Design Tables for the Cold-Formed Steel Cross-Sections with Typical Web Holes in AISI D100" was approved by the American Iron and Steel Institute (AISI) committee and published.
- The project was funded by AISI Small Project Fellowship.

## Damir Akchurin

### Development of CFS Design Tables, CE Department, SUNY Poly

January 2020 – June 2020

- Developed a database that intends to provide the local and distortional buckling strengths for the cross-sections provided in AISI Cold-Formed Steel Design Manual to aid design engineers.
- The research report "Development of Design Tables for the Cold-Formed Steel Cross Sections in AISI D100" was approved by the AISI committee and published.
- The project was funded by AISI Small Project Fellowship.

### Investigation of Effectiveness of Rocking Foundations, CE Department, SUNY Poly

Summer 2019

- Investigated efficiency and reliability of foundation rocking mechanism for dissipating seismic energy and improving the performance of structures. Correlated performance of rocking foundations with their design capacity and earthquake demand parameters using extensive data analysis of centrifuge and shaking table experimental results.
- The research paper "Capacity-Demand-Performance Correlations for Rocking Foundations using Extensive Centrifuge Experimental Data Analysis" was published in "Soil Dynamics and Earthquake Engineering" journal.

## TEACHING EXPERIENCE

---

### Academic Tutor, SUNY Poly, Utica, NY

August 2019 – April 2021

- Provided tutoring assistance to more than 100 undergraduate students with the following courses: ESC-210 (Statics), CE-230 (Civil Engineering Materials), ESC-230 (Mechanics of Materials), MAT-253 (Calculus III).
- Nominated to position by faculty members based on course performance.

## INDUSTRY EXPERIENCE

---

### Engineer Intern, Arabtec Construction LLC, Nur-Sultan, Kazakhstan

Summer 2018

- Interned at QA/QC and Construction departments.
- Filed daily requests for materials.
- Inspected quality of the work performed on the construction site.
- Assured safety of workers on-site.

## RELEVANT SKILLS

---

Technical: MATLAB, Python, Julia, R, Arduino, LaTeX, FEA, SolidWorks, ABAQUS, AutoCAD, Mathematica, HTML, CSS.  
Languages: English (advanced), Russian (fluent), Kazakh (fluent), Tatar (fluent), French (basic), German (basic), Spanish (basic).

## RESEARCH PUBLICATIONS

---

### Journal Articles:

- (1) Gajan, S., Soundararajan, S., Yang, M., and Akchurin, D. (2020). "Effects of rocking coefficient and critical contact area ratio on the performance of rocking foundations from centrifuge and shake table experimental results", Soil Dynamics and Earthquake Engineering ([Retrieve here](#))

### Conference Papers:

† - denotes author who presented paper

- (2) Akchurin†, D., Ding, C., Xia, Y., Blum, H., Schafer, B.W., Li, Z. (2022). "Optimization of cold-formed steel members considering reduced stiffness and strength due to cross-sectional instabilities." Proceedings of the Structural Stability Research Council Annual Stability Conference, March 22-25, 2022. Denver, CO. ([Retrieve here](#))
- (1) Ding†, C., Xia, Y., Akchurin, D., Li, Z., Blum, H., Schafer, B.W. (2022). "Simulation of Compressive Strength of Wall Studs Cold-Formed from Advanced High Strength Steels." Proceedings of the Structural Stability Research Council Annual Stability Conference, March 22-25, 2022. Denver, CO. ([Retrieve here](#))

### Technical Reports:

- (2) Akchurin, D. and Li, Z., "Development of Design Tables for the Cold-Formed Steel Cross-Sections in AISI D100," AISI Small Project Fellowship Research Report, March 2020. ([Retrieve here](#))
- (1) Akchurin, D. and Li, Z., "Development of CUFMSM hole module and Design Tables for the Cold-Formed Steel Cross-Sections with typical web holes in AISI D100," AISI Small Project Fellowship Research Report, March 2020. ([Retrieve here](#))

## LICENSES AND CERTIFICATIONS

---

- [MATLAB Onramp](#), MathWorks, Issued September 2019
- [MATLAB Fundamentals](#), MathWorks, Issued May 2020
- [MATLAB for Data Processing and Visualization](#), MathWorks, July 2020
- [MATLAB Programming Techniques](#), MathWorks, Issued August 2020

**HONORS AND AWARDS**

---

**Excellence in Civil Engineering Masters Studies Award, JHU, May 2022**

- «For demonstrated excellence in the pursuit of a Master's Degree»

**Outstanding Academic Achievement Award, SUNY Poly, May 2021**

- «Given to the student who has demonstrated outstanding academic achievement and character»

**President's Excellence List, SUNY Poly**

- Qualified for President's Excellence List for maintaining GPA > 3.80 throughout all semesters of the BS degree.