

NATALIE P. WAKSMANSKI

The University of Akron

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EDUCATION

Ph.D. Student, Civil Engineering

University of Akron, Akron, OH

January 2013 - current, GPA: 4.0/4.0

Bachelor of Science, Civil Engineering, *Magna Cum Laude*

Illinois Institute of Technology, Chicago, IL

Date of graduation: 2012, GPA: 3.8/4.0

Bachelor of Science, Mathematics, *University Honors, Magna Cum Laude*

Dominican University, River Forest, IL

Date of graduation: 2012, GPA: 3.77/4.0

RESEARCH EXPERIENCE

Research Assistant

January 2013 – current

University of Akron, Department of Civil Engineering, Akron, OH

- Static and dynamic analysis of quasicrystal multilayered structures
- Investigation of high-velocity impact on composite materials

Research Assistant

May 2011 – December 2012

Illinois Institute of Technology, Department of Civil, Architectural, and Environmental Engineering, Chicago, IL

- Study of traditional and novel sensor types employed for structural health monitoring systems
- Preparation of proposals for conference, research and outreach projects
- Assisted the coauthors in preparing a book chapter titled “Sensors Used in Structural Health Monitoring” for *Health Assessment of Engineering Structures: Bridges, Buildings and Other Infrastructures*

PUBLICATIONS

1. Waksanski, N., Pan, E., Yang, L., and Gao, Y., “Free vibration of a multilayered one-dimensional quasicrystal plate.” *ASME Journal of Vibration and Acoustics*. Submitted.
2. Yang, L., Gao, Y., Pan, E., and Waksanski, N. “Electric-elastic field induced by a straight dislocation in one-dimensional quasicrystals.” *Acta Physica Polonica A*. Accepted.
3. Yang, L., Gao, Y., Pan, E., and Waksanski, N. “An exact solution for a multilayered two-dimensional decagonal quasicrystal plate.” *International Journal of Solids and Structures*. Available online 27 January 2014.

4. Modares, M., and Waksanski, N. "An Overview of Structural Health Monitoring for Steel Bridges." *Practice Periodical on Structural Design and Construction*. Available online 25 October 2012.

PRESENTATIONS

1. "Applications of Mathematics in Structural Engineering." Math Club Lecture Series, Dominican University, Oral, November 7, 2012.
2. "Structural Health Monitoring Procedure for Infrastructure Safety and Security." Security Research Expo, Illinois Institute of Technology, Poster, September 25, 2012.
3. "Structural Health Monitoring using Sensor Technologies." Undergraduate Research Day, Illinois Institute of Technology, Poster, April 2, 2012.
4. "Reliability of Sensor Technologies for Structural Health Monitoring." Reliable Engineering Computing Lecture Series, Illinois Institute of Technology, Oral, March 21, 2012.
5. "Structural Design and Analysis of Steel Frame for Modular Construction." Interprofessional Projects Program (IPRO) Day, Illinois Institute of Technology, Oral, December 2, 2011.

TEACHING EXPERIENCE

Teacher Assistant

October 2012 – December 2012

Chicago Pre-College Science and Engineering Program, Illinois Institute of Technology, Chicago, IL

- Facilitated discussion of bridge engineering concepts and applications
- Assisted teachers with management of 72 fourth grade students
- Prepared and organized materials for highly-engaging bridge building activities
- Monitored and provided guidance to students during hands-on activities

Teaching Assistant

July 2012 – August 2012

Illinois Institute of Technology, Department of Civil, Architectural, and Environmental Engineering, Chicago, IL

- Instructed students how to create and analyze Finite Element 2D and 3D structural models
- Developed a comprehensive project to assess students' understanding of taught material
- Created solutions and graded structural analysis homework
- Scheduled and maintained regular office hours to meet with students
- Provided weekly report on the status of student performance to the instructor

Teaching Assistant

September 2009 – April 2011

Dominican University, Mathematics Department, River Forest, IL

- Organized, maintained and reported grades for four assistant professors
- Facilitated quizzes in classes up to 25 students
- Evaluated and graded College Algebra, Calculus II, and Differential Equations homework
- Met with instructors to discuss student performance on homework assignments
- Provided assistance to students with homework assignments and projects

PROFESSIONAL LICENSE

Enrolled Professional Engineering Intern (#061.036965) IL

PROFESSIONAL EXPERIENCE

Resident Assistant

January 2009 – May 2012

Dominican University, Office of Residence Life, River Forest, IL

- Provided paraprofessional advising for up to 58 undergraduate students
- Maintained safety and order in residence halls of 600 students by enforcing university policies
- Provided detailed documentation of any university policy violations for incident reports
- Created, planned, and implemented educational, social, and recreational programs
- Mediated conflicts between residents and responded appropriately to emergency situations
- Collaborated and executed programs with members of the Residence Life team

AWARDS

Distinguished Senior in Mathematics Award, Dominican University, 2012

Sidney A. Guralnick Scholarship Award for Outstanding Performance in Undergraduate Studies in Civil Engineering, Illinois Institute of Technology, 2012

Undergraduate Research Day Award for Excellence in Engineering Theme of Security, Illinois Institute of Technology, 2012

Peer Award, Dominican University Office of Residence Life, 2011

SERVICES

Ad Hoc Reviewer for J. of Aerospace Eng., Mech. Research Comm. and J. Appl. Mech. Eng Analysis Boundary Elem, Acta Mech. and Applied Math Modelling

Dominican University Math Club Co-President 2010-2011

MEMBERSHIPS

Kappa Mu Epsilon Mathematics Honors Society

National Residence Hall Honorary

American Society of Civil Engineers – Student Member

COMPUTER SKILLS

MATLAB – finite element and finite difference source code

Mathematica – micromechanics and composite analysis source code

SAP2000, MathCad, Maple, Autocad, Java, Microsoft Office, Adobe Acrobat

LANGUAGE SKILLS

Fluent in speaking, reading and writing in Polish

Intermediate speaking, reading and writing skills in Spanish