



Lab renovations provide hands-on learning

Learning by doing is an important educational experience for Construction Management and Engineering students. Understanding the importance of hands on learning, the Department has invested almost a quarter of a million dollars to beef up the experiment facility for the Concrete Materials and Performance Laboratory, the Soil and Highway Materials Laboratory, and the Computer Lab. This is a major investment that the Department made in recent years. The newly renovated labs are compatible with the industry standards used by the State Departments of Transportation, engineering and construction firms, and material batch plants. Since these renovations, students have been able to conduct lab experiments following the American Society for Testing and Materials (ASTM) procedures and standards. A number of courses utilize these labs, including the Concrete Design & Construction and Soils & Foundations courses that were offered in 2013. Students who took these courses provided overwhelmingly positive feedback.

NDSU CONSTRUCTION MANAGEMENT AND ENGINEERING

Newsletter
Spring 2014

Students win ASC competition

A group of Construction Management and Engineering students proved that what they have learned at NDSU extends far beyond the classroom. Last October, NDSU students competed in the annual North Central Associated Schools of Construction (ASC) Region 4 competitions in Nebraska City, Nebraska. The ASC news release states that students had 18 hours to prepare a proposal based on plans and specifications from real-life construction projects in four different divisions: Commercial, Design-Build, Heavy-Highway, and Residential. The process began with scheduling, estimating, and running cost analysis and concluded with a final presentation of the proposal to a panel of industry judges.

In the Design-Build Division, NDSU's Jon Steen, Jordan Gleason, Cory Jackson, Chase Baker,

Nicholas Anderson, and Christopher Miller led their team to first place. NDSU students also placed in the top three of two other competitions. Second place in the residential division was won by NDSU's Shane Hillen, Jeff Jackson, Tony Leighow, Carin Neseth, Jonathan Pistorius, and Alex Feil. NDSU's Eric Diederich, Derek Dame, Seth Morken, Justin Ostgard, Travis Trottier, and Cody Grinsteiner won third place in the Heavy Highway Division. Teams were coached by Dr. Jongchul Song and assisted by Dr. Yilei Huang. Students competed against teams from ten other universities in Iowa, Kansas, Minnesota, Missouri, Nebraska, and South Dakota.

2 message from the Chair

In the last couple of years, the Department has gone through a number of dramatic changes in personnel and facility which resulted in significant improvements in teaching and learning. I was selected and felt humbled to serve as the Department Chair starting in July 2012. Dr. Todd L. Sirotiak, having over 20 years working experience in the construction industry, joined the department as an associate professor in fall 2013. His specialty areas are cost control, sustainability, and engineering education. Dr. Matthew L. Stone joined the department as an assistant professor in fall 2013 as well. His teaching and research interests are cost estimating, life cycle analysis, and infrastructure construction. Currently, the Department is seeking another faculty member specializing in building mechanical/building electrical systems.

Along with the personnel changes, almost a quarter of a million dollars has been invested to upgrade laboratories in the Department. Major upgrades included replacing all of the computers, adding an Océ ColorWave 300 plotter and a PolyVision smart

board in the Computer Laboratory. A rapid freeze thaw cabinet with sonometer, a RHM 3000 iCAR rheometer, and a 250 K frame and testpilot beam tester were added to the Concrete Materials and Performance Laboratory. The Soil and Highway Materials Laboratory was upgraded with a digital pro loader and display, triaxial cell, sieve shaker, and various size sieves.



The Department is on the upswing and the demand for our graduates remains strong. It is my pleasure to share some of good news of the Department with you in this newsletter. In particular, our students won first place in the ASC Region 4 Design-Build Competition, and Mr. Paul Cossette, an NDSU graduate with a B.S. in Construction Engineering in 1982 received the 2013 NDSU College of Engineering Distinguished Alumnus Award. Finally, I would like to thank all constituents of the construction programs for continually supporting our programs at NDSU.

Outstanding construction graduates

Samantha Crow (left) was named the Outstanding Construction Graduate at the graduating seniors dinner on April 4, 2013. Other nominees were Jesse Grinstiener, Casey Harling, Dustin Lemke, and Jonathan Steen. The dinner was sponsored by Ambassador Steel, Barnard Construction, Construction Engineers, Dakota Construction, Industrial Builders, Inc., M.A. Mortenson, Olaf Anderson & Son, and Roer's Construction.



Student interns in Alaska



The drive to travel outside North Dakota and gain experience in his major led one Construction Management student to an internship in Valdez, Alaska. As cited in an NDSU news Banner Story, Jon Lawler was selected as an intern for Dunkin & Bush, which initially began in the summer of 2012, and was so successful that it led to a second internship last summer. His work began with long days of manual labor, including sandblasting and painting, but gave way to some managerial work. His success during the first internship was recognized when his contributions to a project estimating competition won two of the project's sections.

His success in the second internship continued. His previous work earned him rave reviews, and he was then able to work directly with contractors and to estimate projects. His time in Valdez allowed him to gain valuable experience to bring back to NDSU for his last semester. Since graduating in December 2013, he has found a managerial job in commercial construction.

Scholarship recipients

For the 2013-14 school year, the students in the Department of Construction Management and Engineering received \$40,255 in scholarships. The following is a list of these scholarship recipients.

- Wyatt Aberle
- Allan Anderson
- Jack Burns
- Luke Capistrant
- Samuel Caven
- Ryan Christensen
- Derek Dame
- Brittany Diederich
- Jordan Gleason
- Shane Hillen
- Ognjen Ivanic

- Jeffrey M. Jackson
- Tanner Jones
- Lucas Judd
- Megan Larson
- Seth Morken
- Brendan Nelson
- Austan Schmidt
- Steven Schmidt
- Tyler Schultz
- Bryan Silvers
- Taylor Werner





Megan Larson, undergraduate student

As a junior, she has finally realized how important student involvement is. This is her second year as an Ambassador for the College of Engineering, her second year with NDSU Habitat for Humanity, and first with Associated General Contractors and Student Advisory Council. Through these organizations she has met other students, traveled to San Francisco, gotten to know faculty, and involvement even led to her internship, which she will be returning to for the second year. In the spring, she is serving in the faculty search committee to represent the voice of undergraduate students.

Nate Rumschlag, graduate student

As a professional engineer, he had been looking for ways to stay ahead of the educational curve. Going back to school was not feasible with a career and young family. After researching a number of large Midwestern universities and their online programs, he left disappointed by their cost and restrictions. It was apparent that many schools consider Distance & Continuing Education (DCE) as something they 'have to' rather than 'get to' do for their students.

Participating in a master's program at NDSU via DCE has been a wonderful experience. The application of resident tuition rates to a Hoosier like him make the use of graduate courses to meet licensing requirements a cost effective choice. Being able to complete his continuing education requirements without travel or lost work time is something he

wanted available. He has heard many professionals disregard continuing education requirements and call them a waste of time and money. He believes you get out of your continuing education what you put into it, and with the help of the faculty at NDSU and the Construction Management and Engineering Department he is only raising his expectations.

Though he has not received a master's degree from NDSU, he is already taking the skills from his classes and implementing them into his work. That is the point of continuing education, honestly, isn't it? Utilization of scheduling tools and techniques has proven valuable to him in managing his projects, and has allowed him to track and evaluate his consultants in measurable ways that otherwise would not have been possible.



Mohammad M. Molla, Ph.D. student

With over five years of professional journey and contribution to the civil/construction engineering industry with global and multinational experiences, Mohammad M. Molla is currently pursuing a Ph.D. with an emphasis in Construction Engineering under the supervision of Dr. Matthew L. Stone. His research focus is on life cycle cost analysis of construction materials. He earned an M.S. in Construction Management in spring 2013 from NDSU and a B.S. in Civil Engineering with a major in Transportation Engineering from Bangladesh University of Engineering and Technology in 2006.

**Joseph Membah, Ph.D. student**

Joseph is a Ph.D. candidate under the supervision of Dr. Eric Asa. His research is to develop a novel cost estimation model that can be employed in estimating transportation tunnel costs. Cost estimation for transportation tunnel projects during the feasibility stage is complex and challenging. There is a need for a reliable cost estimation process which could be used by state/federal agencies to prepare accurate estimates for transportation tunnel projects. Findings from his study could significantly improve the way tunnel costs are calculated and enhance project accountability.

**Dalu Zhang, Ph.D. student**

After receiving an M.S. in Construction Management from NDSU in 2013, Dalu is continuing his Ph.D. study under the supervision of Dr. Jerry Gao. His research is focused on materials and methods that improve the durability of concrete pavements. He is designing the experiments to evaluate the factors that affect the durability of concrete pavements. The outcomes of his research will provide sustainable solutions to concrete durability problems in roads, highways, and airport pavements.



6 faculty and staff news

Faculty

Eric Asa, Associate Professor



Dr. Asa is the Director of the Computational and Sustainable Infrastructure Laboratory (CSI Lab). He has just completed the second phase of the Earthwork Shrinkage Calculation project which was funded by the North Dakota Department of Transportation. Dr. Asa and his master's and doctoral students are using ordinary statistics, mathematical models, spatial statistics, and other computational methods to solve construction, engineering, and infrastructure problems. Dr. Asa is serving on several committees, including Chair of Research and Graduate Studies Committee, Secretary of Academic Affairs Committee (CoE), the Promotion and Tenure Evaluation Committee of the College, and Improving Quality of Academic Operations Committee (NDSU).

Yong Bai, Chair and Professor



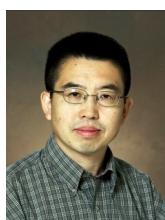
Dr. Bai started his career at NDSU as the chair of the Department of Construction Management and Engineering in July 2012. Since then, he has actively taken necessary measures to improve the quality of five degree programs offered by the department and enhanced the infrastructure to support teaching and learning activities. Dr. Bai gave his keynote speech titled, "Risk Allocation and Dispute Resolution Mechanisms in Chinese Public Projects: An Empirical Study," in the 2013 International Conference on Construction and Real Estate Management in Karlsruhe, Germany on October 10, 2013. He has been selected as the Chair of the Technical Committee of the 10th Asia Pacific Transportation Development Conference in Beijing, China from May 25-27, 2014. The American Society of Civil Engineers (ASCE) co-sponsored both conferences. In March 2014, he is going to give a presentation on sustainable construction in the 2nd Biennial Conference on Sustainable Business, Energy and Development in Asia in Hiroshima, Japan.

Bradley Bowen, Assistant Professor



Dr. Bowen has been conducting outreach to K-12 in the Fargo-Moorhead area for years. Most recently, he served as a judge for the robotics competition. On December 6 and 7, 2013, NDSU hosted the Northern Plains BEST Regional competition at the Fargo Civic Center. As part of the competition, teams were required to submit an engineering notebook. The purpose of the notebook was to document the engineering design process the teams used as they designed, built, and tested their robots. Dr. Bowen has been the notebook judging coordinator for the NDSU sponsored BEST robotics competition since 2011. In this role, he is responsible for overseeing all the judges that participate in the notebook judging portion of the robotics competition. This involves coordinating, training, and assisting the volunteers as they judge each of the project notebooks.

Zhili "Jerry" Gao, Associate Professor



Dr. Gao is the director of the Concrete Materials and Performance (CMP) Laboratory and the Immersive Visual Design and Construction Laboratory (iVDC Lab). The CMP Lab provides opportunity for students to conduct hands-on experiments. He and his master's and Ph.D. students are using Building Information Modeling technology to improve the integration of architecture, structure, mechanical systems, electrical systems, and construction through the entire project life cycle.

Yilei Huang, Lecturer



Dr. Huang interned with Industrial Builders in the summer of 2013. He was a field engineer in the Sanford Fargo Medical Center project. He teaches Survey, Construction Management Capstone, and Construction Engineering Capstone courses. He is the co-editor for the 10th Asia Pacific Transportation Development Conference, which will be held in Beijing, China in May 2014.

Charles McIntyre, Associate Professor

Dr. McIntyre was on development leave in 2013. During this period, he developed GO GREEN, a study abroad program in Germany which will start in summer 2014. McIntyre was elected as a board member of the American Society for Education Engineering (ASEE), and he regularly attends ASEE conferences. He focuses on hands-on teaching and has created internships and field trips for students. By holding relationships with industry professionals, he keeps up to date with the latest industry trends and incorporates them into his classes.

Todd L. Sirotiak, Associate Professor

Dr. Sirotiak joined the Department in fall 2013. He has over 25 years of experience in the construction industry and has over 10 years of consulting experience. He has held executive positions in top businesses. In addition to teaching, he has worked with non-profits, start-ups, entrepreneurial organizations, sustainability organizations, and more. Some of his research focuses include estimating, management, cost, sustainability, and lean construction.

Jongchul Song, Assistant Professor

Dr. Song is the director of the Soil and Highway Materials Laboratory. When teaching, he always tries to find new ways to instruct his classes. For example, in his Mechanical and Electrical Construction class, he used a real-world case of MEP coordination in his teaching. He was tenured in August 2013. In December 2013, he taught Contract Management at Shandong Jianzhu University. This is the second time he has taught in China.

Matthew L. Stone, Assistant Professor

Dr. Stone received his Ph.D. in December 2013 from the University of Alabama. His research interests include life cycle cost analysis of heavy/highway construction, probabilistic cost estimating and scheduling, and GIS applications in the construction industry. He currently teaches Introduction to Construction Management and Engineering, Construction Safety, and Construction Quality Control courses.

Staff**Ann Denney and Ingrid Scarski**, Administrative Secretaries

Ann Denney (left) and Ingrid Scarski (right) are valuable assets for the Department. Their support of the students has continuously received applause from students. They contribute immensely to the success of our construction programs. The Ingrid Scarski Scholarship was established in 1997 and has been awarded to students annually since 1999.



Distinguished alumnus recognized

The Senior Vice President of Mortenson Construction and NDSU Construction Engineering graduate Paul Cossette was awarded the College of Engineering's 2013 Distinguished Alumnus Award. An NDSU news story about the award states that Cossette graduated from NDSU in 1982 with a Bachelor of Science in Construction Engineering. He has stayed active with NDSU as a member of the NDSU Development Foundation board of trustees, the Industry Advisory Council for the Department of Construction Management and Engineering, and the Advisory Council for the College of Engineering.

Cossette has worked with Mortenson Construction for 32 years, working up to the Senior Vice President position which he has held for 16 years. He leads Mortenson's Minneapolis office and also works with Mortenson's Federal Contracting Group and Civil Construction Group. Some of his national projects include the Walt Disney Concert Hall in Los Angeles and the Denver International Airport Concourse B. Currently and locally, he is working on the new Sanford Medical Center in Fargo.

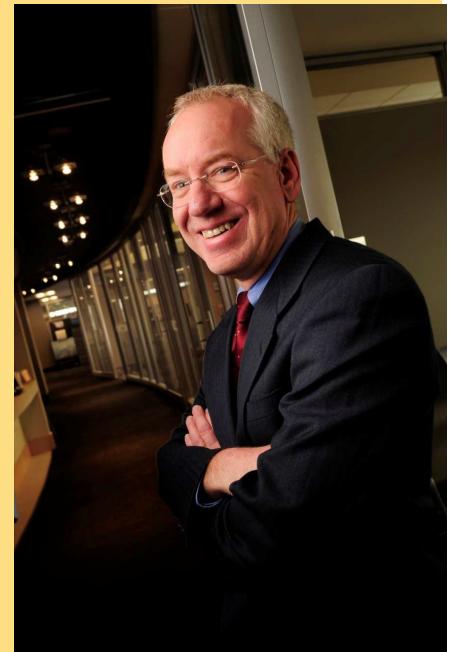


Image © M. A. Mortenson Company

IAC member news



Image © Constructor Magazine

Congratulations to Paul Diederich for serving as the 2013 president of the Associated General Contractors of America (AGC). As cited in Prairie Business Magazine, Diederich is the president of Industrial Builders, Inc., a West Fargo construction business. He and Industrial Builders are responsible for the construction of some notable buildings in Fargo, such as the Fargodome and the Main Avenue Veterans Memorial Bridge. Diederich is the first North Dakota resident to serve as the AGC president and is a long-time strong supporter of NDSU's construction programs. He was the president of the Construction Department's Industry Advisory Council (IAC). Currently, he serves as a member of IAC.



Image © Noridian

Ken Roseth, VP of Enterprise Corporate Services at Noridian

Ken Roseth's Eagle Scout training still guides him today. According to Noridian, whether he's devising flood evacuation plans for Noridian or anticipating needs of the visiting Chinese delegation, Ken is prepared. Before becoming VP of Enterprise Corporate Services at Noridian. Ken held a number of positions within the Noridian organization. Ken also oversaw the construction of Fargo's Essentia Health Hospital and Clinic and later served as Vice President of support services and facilities management. He completed the original Essentia hospital project two months ahead of schedule and \$2 million under budget.

Building Essentia allowed Ken and his wife to return to North Dakota from Ohio, where he had worked as a facilities senior project manager at the Cleveland Clinic. His degree in construction management from North Dakota State University, Fargo, and his master's degree in business administration from the University of Mary, Fargo, are two key backgrounds for someone in his position. Ken oversees all Noridian offices in North Dakota. He also oversees offices in Arizona, Minnesota, California, Maryland, Iowa, Georgia and Washington.

Joanna Slominski, Construction Executive at Mortenson Construction

Joanna Slominski (North Dakota State University, B.S. in Construction Engineering, 2004) is the construction executive at Mortenson Construction on the new Sanford Fargo Medical Center located at I-94 and Veterans Boulevard in Fargo. As construction executive, she plans, organizes, staffs, and oversees the budget and construction of what will be the single largest healthcare project in North Dakota history.

Slominski joined Mortenson following graduation from NDSU and her project experience includes the University of Minnesota's TCF Bank Stadium, Minneapolis; Walker Art Center Expansion & Renovation, Minneapolis; Grand Casino Hinckley and Welcome Center, Hinckley; John B. Davis Education and Service Center, Minneapolis; the Heart of the Zoo for the Minnesota Zoo, Apple Valley as well as the renovation of Orchestra Hall in Minneapolis; and other projects.



Image © M. A. Mortenson Company

Kyle Kuntz, General Manager and Part Owner at Kuntz Builders Inc.

After 2 years working in Minneapolis, MN, the activity in the rapidly-growing Bakken Shale region of North Dakota brought Kyle Kuntz, and NDSU Construction Management graduate, back to be part of the family business that was started by his father in 1978 in Dickinson, ND. Kuntz Builders's portfolio of work includes both residential and commercial projects, but the company takes pride in the residential work they have undertaken for families in the region because that helps secure the success of the area.



Image © Kuntz Builders Inc.

Kyle Kuntz believes in North Dakota and its future. Currently, Kuntz is the President of the Dickinson Area Builders Association and a Director for the North Dakota Association of Builders. A new opportunity for Kuntz is serving on the Board of Directors of Catholic Health Initiatives St. Joseph's Hospital in Dickinson as it builds its brand new 100 million dollar hospital facility to be completed fall of 2014.

10 student organizations

Associated General Contractors of America

The Associated General Contractors of America (AGC) is an organization designed to promote relationships among students and industry professionals. The NDSU student chapter of AGC hosts industry speakers, organizes site visits, and competes in the annual ASC competition. Jordan Gleason is the current president of the NDSU student chapter of AGC.



National Association of Home Builders

The National Association of Home Builders (NAHB) NDSU chapter meets to have discussions with industry professionals and learn about real-world construction practices. Six students from NDSU competed in the 2014 Residential Construction Management Competition in Las Vegas, Nevada and placed 9th out of 35 teams. NDSU was also a Platinum Honoree for attending the conference for the last 20 years. Lucas Judd is the current president of the NDSU student chapter of NAHB.



Sigma Lambda Chi

Sigma Lambda Chi is an international construction honor society that gives construction students the opportunity to be recognized for their academic achievements and gain connections with industry professionals. The following students were named new members of Sigma Lambda Chi in spring 2013.

Joshua Beeber
Jack Burns
Sam Caven
Derek Dame
Erik Diederich
Casey Harling

Cory Jackson
Jeff Jackson
Mohammad Molla
Kyle Pederson
Jonathan Steen



Student Advisory Council

The Student Advisory Council (SAC) gives a voice to construction students and provides a connection between students, faculty, and industry professionals. SAC members meet with the Department Chair each semester to provide student recommendations on how to improve the construction programs. Seth Morken is the current SAC chair.



Department history

The Department of Construction Management and Engineering was initially established at North Dakota State University (NDSU) in 1978. However, the formal construction program at NDSU was created in December 1969 and students entered the program in the fall of 1970. After more than 40 years of continued development, the Department currently offers five degree programs and one graduate certificate program. The Bachelor of Science in Construction Engineering program has been accredited since 1983 by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). It is the third oldest Bachelor of Science in

Construction Engineering program in the United States. The American Council for Construction Education (ACCE) has accredited the Bachelor of Science in Construction Management program since 1984. Besides the two Bachelor programs, the Department offers a Master of Construction Management degree, Master of Science in Construction Management degree, and Doctor of Philosophy degree with an emphasis in Construction Engineering. In addition, the Department has a global reach through a 2+ program with Shandong Jianzhu University in China and a summer study abroad course, GO GREEN, in Germany.

Degree programs

Bachelor of Science in Construction Engineering

Bachelor of Science in Construction Management

Graduate Certificate in Construction Management (online)

Master of Construction Management (online)

Master of Science in Construction Management

Doctor of Philosophy with an emphasis in Construction Engineering



NDSU CONSTRUCTION MANAGEMENT AND ENGINEERING

North Dakota State University
PO Box 6050, Dept. 2475
Fargo, ND 58108-6050

www.ndsu.edu/construction

NDSU NORTH DAKOTA STATE UNIVERSITY

STUDENT FOCUSED - LAND GRANT - RESEARCH UNIVERSITY

