

## MESSAGE FROM THE CHAIR

Dear Alumni and Friends,

As always, it has been a very busy and productive year for our faculty and students, and I am pleased to be able to share some of these things with you. Perhaps our most notable accomplishments include: 1) having about 70% of our graduating class being fortunate and able to complete a Civil and Environmental Engineering study abroad experience, 2) recognizing that ten of our current faculty are rated as some of the best teachers on campus, 3) conducting the very successful second “Life Long Learning” conference under the leadership of the department’s Scholarship Society, and 4) securing \$2.15 million in extramurally funded research contracts. In addition, in a recent survey, 98% of our students rated their entire educational experience as either “excellent” or “good.” Our student enrollment continues to grow. Last Fall Semester, we had 435 undergraduates and 68 graduate students – our highest enrollment in history. I expect this trend will continue.

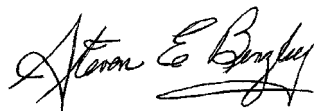


We are pleased to announce that Professor Rick Balling has been awarded the King and Diane Husein Professorship for the years 2011-2013. This is truly a great honor and an opportunity provided to our faculty through the generous support of King and Diane. As you read this newsletter, you will be pleased to see many things that appropriately represent the “tip of the iceberg” of what goes on in a typical year. For example, you can read of Professor Miller’s research impact on the lake quality in Yellowstone National Park, Professor Fonseca’s work on the viability of using fly ash in Portland cement, Professor Saito’s experiences on a short leave in Europe, Professor Nelson’s emerging prominence in helping to solve water related issues in the Dominican Republic, and the significance of Professor Jones’ new book - *Arc Hydro Groundwater: GIS for Hydrogeology*. Also highlighted are articles on some of the successes achieved by our ASCE, ITE, and EERI student chapter competition teams as well as some outstanding individual accomplishments of a few of our students. As always, our ASCE student chapter, under the leadership of Professor Borup, continues to be one of the leading chapters in the nation.

Please note the information about the significant changes we are implementing in our senior capstone projects and their coupling with our graduate offerings in business /project management and leadership. To make this effort successful, we will be asking for help from you as our alumni.

In closing, let me sincerely thank you for your support of the department. The continued generosity and encouragement of our alumni and friends provides a great boost to our faculty and students.

My best,



Steven E. Benzley, Chair  
Department of Civil and Environmental Engineering  
Ira A. Fulton College of Engineering and Technology  
Brigham Young University

# MESSAGE FROM THE PRESIDENT

On behalf of the Scholarship Society Board of Directors for the Department of Civil and Environmental Engineering, I would like to express a few thoughts about our efforts. In 2008, and as the brainchild of committee member Steven K. Noble (95), DOWL/HKM Engineers, the Board and department staff put on the first Life Long Learning Conference, which was specifically tailored to assist practicing LDS engineers obtain continuing education hours, raise scholarship funds, and provide renewed connection to BYU. The success of the first conference was built upon and last year, October, 2010, we had the second bi-annual conference with 150 attendees. The two day conference was a great success, with top quality speakers providing the following relevant and timely topics, often with a unique gospel understanding:

- UDOT 1-15 Core - Engineering, Processes, and People
- Lessons from the 2010 Chilean Earthquake
- California Levees - Good, Bad or Just Plain Ugly?
- Transportation Safety - The Impact of Fatigue & Drowsy Driving
- ASCE's Vision for 2025
- Leadership and Self Deception
- Doing Business in Today's Economy – A Gospel Perspective
- Colorado River Issues & Lake Powell Environmental Study
- Construction in India – A Mission President and Civil Engineer's Perspective
- Public Relations on Engineering Topics
- Joseph Smith's Plat of Zion - The Ultimate Green Community
- Engineering Management & Leadership Option for MS Students
- New Innovative Technologies in the US Army Corps of Engineers
- Sustainable Development - Kennecott Land

Many attendees were anxious for the next conference, which will be held in October 2012. We would encourage all alumni and LDS engineers to mark their calendars and plan on attending. Conference information will be posted at <http://ceen.et.byu.edu>.

As you may or may not be aware, the Department of Civil and Environmental Engineering at BYU is very unique in that it has its own organized and dedicated scholarship committee to support the department and provide financial assistance directly to engineering students. Through the efforts of the committee and supporting alumni, we now have an endowed account totaling over 2.5 million dollars. The interest from this account and other donations allowed the department to dispense over \$120,000 in engineering scholarship funds this past year. If you would like to join the Board and our ongoing efforts on behalf of the Civil Engineering students, please contact Steven E. Benzley, CEEn Department Chair, at 801.422.3620 or [seb@byu.edu](mailto:seb@byu.edu).

As most alumni can attest, attending BYU was a great privilege. Studying engineering, with its logic-based focus, under the light of the gospel, and with its faith-based focus, is a unique opportunity. One of the desires of the committee is to increase the positive influence LDS engineers have throughout the world. By providing financial assistance, it is felt that even more students can be attracted, encouraged, supported, and graduated in the noble profession of engineering. To accomplish this desire, the Board has set a goal to increase the endowment fund to 5 million dollars. We realize that there are many demands on us but anything you can offer to the endowed account will bless students in the years ahead. By following the steps indicated below, each of you can help us reach our goals. Every donation, no matter the amount, will make a difference in the students' lives and education. Let's give back blessings to others just as we have been blessed. Visit the CEEn Department website at <http://ceen.et.byu.edu>, and click on "Contribute to CEEn." We thank you in advance for your generosity.

Neil O. Anderson, President

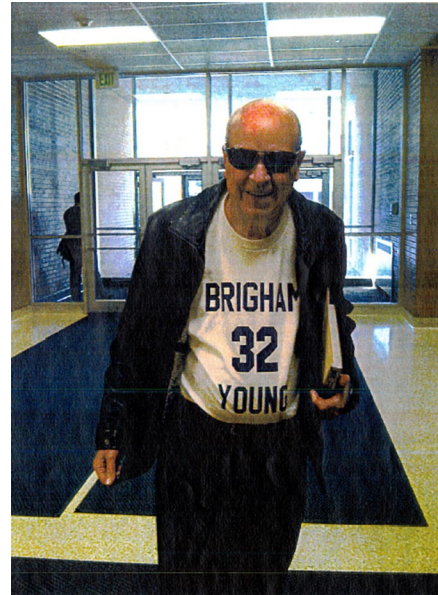
# DR. HANK CHRISTIANSEN

Hank (Dr. C) Christiansen retired effective 1 January 2011 after serving 46 years as a faculty member in the Department of Civil and Environmental Engineering. He came to Brigham Young University after completing his doctorate at Stanford University, service as an officer in the United States Army, and five years working as an engineer in aerospace.

His length of service in a professional position at Brigham Young University is an all-time record for the Ira A. Fulton College of Engineering and Technology. He held the rank of Professor for 39 years which is an all-time record for the college and is believed to be an all-time record for Brigham Young University. Hank served as Chair of the Department from 1980 until 1986.

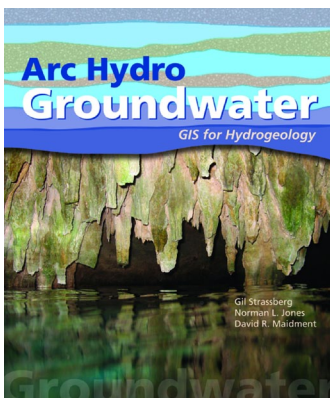
Hank was a founder of CAEDM here at Brigham Young University. He was the founder and director of the Engineering Computer Graphics Laboratory and the Engineering Mechanics Instructional Laboratory. His research in computer graphics was sponsored by nine organizations, and he served as a consultant to 18 organizations. Hank served on the Board of Directors of Evans and Sutherland Computer Corporation, SIGGRAPH, and the National Computer Graphics Association. Hank is the recipient of numerous honors and awards at the Department, College, and University level.

Dr. C will continue teaching dynamics part-time in the department for the next two and a half years.



# DR. NORM JONES

*Arc Hydro Groundwater: GIS for Hydrogeology* was published in February 2011 through ESRI Press and was co-authored by Professor Norm Jones of the BYU Department of Civil and Environmental Engineering. This book describes a data model for storing and managing groundwater data in a geographic information system (GIS). It is based on the industry-standard ArcGIS software developed by Environmental Systems Research Institute (ESRI) in Redlands, California. The groundwater data model shares a common framework with the surface water data model presented in *Arc Hydro: GIS for Water Resources* (ESRI Press 2002). Together, these two data models offer a comprehensive overview of water resources. Examples illustrating concepts and uses of the data model for management, visualization, and analysis, make this book an invaluable resource for hydrologists, water professionals, GIS specialists, and students who work with groundwater data to research and solve water resource problems.



*Arc Hydro Groundwater: GIS for Hydrogeology* uses sample data sets from the Edwards Aquifer and other locations in Texas to address the following:

- The Arc Hydro framework
- 3D subsurface representation in GIS
- Geological mapping
- Aquifers, wells, and boreholes
- 3D hydro-geologic models
- Time series for hydrologic systems
- Groundwater simulation models



# KING & DIANE HUSEIN PROFESSORSHIP

Professor Rick Balling has received the King and Diane Husein Professorship for the years 2011-2013. This professorship was established in the BYU Department of Civil and Environmental Engineering through a generous endowment provided by King and Diane Husein in 2002. The purpose of the professorship is “to promote and encourage outstanding teaching and research, thus providing a superior education for students.” Professor Balling is noted as an engaging and rigorous teacher of structural engineering and is particularly recognized for his popular study abroad class – China Megastructures, which he has taught for four years to over 80 students. The last two years he has teamed up with Dr. Grant Schultz, who teaches a companion course titled China Megacities. He has been a member of the department since 1982. He has published more than 100 articles on structural and engineering optimization, received multiple research grants from the National Science Foundation, and has twice been co-recipient of the State-of-the-Art Award from the American Society of Civil Engineers.



## DR. RICK BALLING

Professor Balling’s current research is about a transformative urban paradigm for the 21st century which he calls the “greenplex”. He believes the 20th century urban paradigm of skyscrapers and sprawl is unsustainable for at least four reasons: 1) Energy is wasted to heat and cool our cities since the geometric form of disconnected skyscrapers has excessive exposed surface area; 2) Skyscrapers have limited escape routes as observed during the 9/11 tragedy; 3) People are exposed to bad weather conditions in our cities including heat waves, blizzards, hurricanes, dust storms, and pollution; 4) Cities are paralyzed by ground level congestion since horizontal movement is restricted to ground level. Professor Balling defines the greenplex as tall buildings which are:



1) interconnected with skybridges at multiple levels, 2) enclosed in a transparent ethylene-tetrafluoroethylene (ETFE) envelope supported

by the buildings themselves, and 3) sustained with green technologies such as ground source heat pumps, hydronic heating and cooling, on-site wastewater treatment, and solar/wind/rainwater harvesting. The buildings within the greenplex have the same view and feel as buildings in our current cities except that the weather outside is always perfect, congestion is absent, they are more safe, and they are more economical to build.

A greenplex may consist of a few buildings, a university campus, or an entire city, and it may be constructed incrementally over time, building by building. The Parkview Green in Beijing is a greenplex-like project scheduled to open in 2012 with LEED platinum certification (see pictures).



# DR. WOOD MILLER

Dr. Wood Miller has presented and published two papers internationally. In June 2010, he presented his paper, "Trophic State Evaluations for Lakes in Yellowstone Park, USA," at the Tenth International Conference on Water Pollution 2010, in Bucharest, Romania and published the paper in *Water Pollution X* with Wessex Institute of Technology Press. In December 2010, Dr. Miller presented another paper, entitled "Monitoring and Classifying Trophic States of Lakes in Yellowstone Park, USA," at the International Conference on Energy, Water & Environment in Amman, Jordan. He published the paper in the *International Journal of Sustainable Water and Environmental Systems*.



H.R.H. Prince Philip of the UK once wrote, "To anyone concerned about the conservation of nature, the very name Yellowstone is a battle cry. This is where it all started. Yellowstone was the first wilderness set aside for a national park. It remains an inspiration and the confirmation that dreams can be made to come true. People all over the world are working on similar dreams and I think they could not do better than to paste up over their desks the word 'Yellowstone'."

Most everyone has heard of Yellowstone Park. Dr. Miller has found that there is also significant interest in many countries regarding the monitoring and management of the water quality of the Yellowstone lakes. Many concerned individuals may learn from Yellowstone researchers, such as Dr. Miller, how to evaluate and protect the water quality in their national parks.

Dr. Miller's papers discuss the monitoring of 40 lakes in Yellowstone Park and present the updated trophic state classifications for these lakes. Phosphorus, nitrogen, chlorophyll-a, transparency and other lake characteristics have been studied to classify the trophic state of the lakes over the past 15 years. The four main trophic states are oligotrophic, mesotrophic, eutrophic & hyper-eutrophic.

The greater the trophic state, the greater the level of eutrophication, which is the natural aging process of a lake. Human interaction may introduce accelerated loadings of nutrients into aquatic systems. Five methods have been used to classify the lakes: Carlson and Burns Trophic State Indices, Vollenweider and Larsen-Mercier Models, and the Nitrogen-Phosphorus Ratio.

The goals of this research program have been to determine if human activity is causing accelerated eutrophication in the lakes, documentation of current trophic conditions, monitoring of trends, identification of areas of concern, and development of a data baseline to which future evaluations can be compared. Most of the Yellowstone lakes are in good trophic condition and don't appear to be negatively impacted by human interaction.

The summary of the trophic state results indicates that there is 1 oligotrophic lake, 27 mesotrophic lakes, 10 eutrophic lakes and 2 hyper-eutrophic lakes. The majority are in the mesotrophic state, which means they are healthy lakes, except for the 8 lakes with strongly mesotrophic states. There is also concern for the 10 lakes that are in the eutrophic state and even more concern for the 2 lakes in the hyper-eutrophic state.



The summary of the trophic state changes over time indicates that there are 9 lakes which are increasing in change or becoming more eutrophic. There are 7 lakes which are decreasing or becoming less eutrophic, while 17 lakes have shown no change over the years. As of last year, the remaining 7 lakes had only been sampled during 1 year, so the change cannot be determined.



# DR. FERNANDO FONSECA

The viability of replacing Portland cement in masonry grout with high volumes of class F fly ash or ground granulated blast furnace slag is being investigated. The use of these cement replacement materials would improve the competitiveness and sustainability of concrete masonry construction. The high volume replacement of Portland cement with fly ash or slag will most likely not cause a decrease in cement's production, but it will cause a better use of available resources.

The research is being conducted at the structures laboratory at Brigham Young University, under the direction of Dr. Fernando Fonseca, in collaboration with Mr. Kurt Siggard, Executive Director of Concrete Masonry Association of California and Nevada. Professional masons from the Utah Masonry Council assembled the prisms with the help of research assistants.



The benefits of this research include (a) using 100% recycled materials, (b) making construction more affordable because less expensive materials are used, (c) making construction industry expansion possible without increasing green-house gases emission, (d) making the masonry concrete construction more competitive, (e) alleviating the demand for Portland cement especially in developing countries where masonry construction is the preferred construction method, and (f) reducing the disposal of fly ash and slag materials in landfills, ponds, and (in many areas of the world) in river systems. Although this research is in its infancy, its impact may be significant and broad, transcending time by benefiting generations to come.

# DR. MITSURU SAITO

Dr. Saito took his professional development leave in June and July of this year and worked in the Center for Innovation in Transportation (CENIT) of the Universidad Tecnológica de Catalonia in Barcelona, Spain. He combined his leave with two technical conferences and presented three papers. The first conference he attended was the Urban Transport 2011 International Conference, held in Pisa, Italy, from June 8th to 9th, where he presented a paper coauthored with his PhD student, Thomas Jin. The other was the 6th International Symposium on Highway Capacity and Quality of Services, held in Stockholm, Sweden, from June 28th to July 2nd. He presented two papers in this conference: one coauthored with his former undergraduate honor student, Greg Macfarlane and Dr. Schultz, and the other coauthored with one of his former master's students, Yaye Keita.

Dr. Saito had two goals for his professional leave: 1) Receive training on Aimsun by TSS, a transportation planning and simulation software originally developed by Dr. Barceló of CENIT; and 2) Basic research applying the latest technologies to collect dynamic mobility performance data and use them to manage work zone traffic



congestion. Dr. Saito visited with TSS's software engineers at their headquarters in Barcelona. He will incorporate use of this software in his Traffic Simulation course starting Winter 2012. By doing so, graduate students in the Transportation program will be exposed to three popular traffic-simulation software programs available in the market: SimTraffic, VISSIM, and Aimsun. Dr. Barceló has been working on cutting-edge research for applying dynamic travel time data collected by Bluetooth technology and GPS data from taxis driving through the streets to manage traffic flow in downtown Barcelona and the effect of their penetration rates on the accuracy of travel time prediction and dynamic O-D estimation.

# TELL US ABOUT YOURSELF!

We always enjoy hearing from our alumni! Please take a moment and fill out this short information form. We will compile the responses in future issues of Civil Talk so that your classmates can know what you are doing.

## ALUMNI UPDATE

Name \_\_\_\_\_ Spouse's name \_\_\_\_\_ Date of Response \_\_\_\_\_

BYU Civil Engineering Degree (s) (level, date) \_\_\_\_\_

Other Additional Degree(s) (level, date, institution) \_\_\_\_\_

BYU ID (if you know it): \_\_\_\_\_

Your Employer \_\_\_\_\_ Job Title \_\_\_\_\_

Job Function \_\_\_\_\_

Business Address \_\_\_\_\_

Is this a new address? \_\_\_\_\_ Work Phone \_\_\_\_\_ Fax Number \_\_\_\_\_

Home Address \_\_\_\_\_

Is this a new address? \_\_\_\_\_ Home Phone \_\_\_\_\_ Cell Phone \_\_\_\_\_

Email: \_\_\_\_\_ Best way to contact you? Home phone / Cell / Email

We invite you to provide us with news of yourself. We are interested in your job description, jobs, new degrees, promotions, research, awards, publications, and news of your family and life outside of work. News is welcome even if you do not wish it to be included in our alumni updates section of Civil Talk. Also, if possible, please attach your business card and a picture of you or your family to this form when you return it.

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Please fold in half, tape on the top, and mail.

Brigham Young University  
Civil & Environmental Engineering  
368 Clyde Building  
Provo, UT 84602-4081





# FISH & CHICKEN FRY

## Scholarship Society Annual Alumni Fish Fry & Chicken

Don't miss the chance to celebrate and reunite with old BYU friends. Come to the Civil & Environmental Engineering Scholarship Society Alumni Homecoming and Reunion!

### Fish Fry & Chicken Dinner

When: Homecoming Weekend, Friday, October 7

Where: Clyde Building Student Lounge

Time: Social Hour 5:00 PM - 5:30 PM

Dinner 5:30 PM - 7:00 PM

The Third Annual Civil Engineering Golf Tournament will be held Saturday, October 8, 2011 at the Sleepy Ridge Golf Course in conjunction with BYU Homecoming. See page 15 for more details.

We will be finished by 7:00 PM in order to allow you to enjoy other Homecoming activities that evening.

Please RSVP the information listed below in one of the following ways: (1) online at <http://ceen.et.byu.edu> and click on the link for the CE Homecoming Fish Fry; (2) Call 801.422.2811; or (3) Mail this form to BYU Civil Engineering, Fish Fry, 368 Clyde Building, Provo, UT 84602.

☐ Golf Tournament ☐ Fish Fry ☐ Both

Name: Last \_\_\_\_\_ First \_\_\_\_\_ M.I. \_\_\_\_\_

Address \_\_\_\_\_ City/State/Zip \_\_\_\_\_

Email \_\_\_\_\_ Phone: Home \_\_\_\_\_ Cell \_\_\_\_\_

Number Attending Fish Fry: Adults \_\_\_\_\_ Children \_\_\_\_\_ Number Attending Golf Tournament \_\_\_\_\_

Names of people attending Golf Tournament \_\_\_\_\_

**Please RSVP by Monday, October 3, 2011**

# SCHOLARSHIP DONATION

## BYU Civil & Environmental Engineering Scholarship Donations

Name: Last \_\_\_\_\_ First \_\_\_\_\_ M.I. \_\_\_\_\_

Address \_\_\_\_\_ City/State/Zip \_\_\_\_\_

Email \_\_\_\_\_ Phone: Home \_\_\_\_\_ Cell \_\_\_\_\_

☐ Alumni ☐ Friends of BYU

Select Amount

☐ \$25 ☐ \$50 ☐ \$150 ☐ \$300 ☐ \$1,000 ☐ \$2,500 ☐ Other \_\_\_\_\_

Please make checks payable to BYU Civil Engineering. You may also donate via **credit card** by visiting our department website, <http://ceen.et.byu.edu> and click on the "Contribute to CEEn" link.

\*\*If you desire, you may also include a separate letter of explanation regarding this donation.

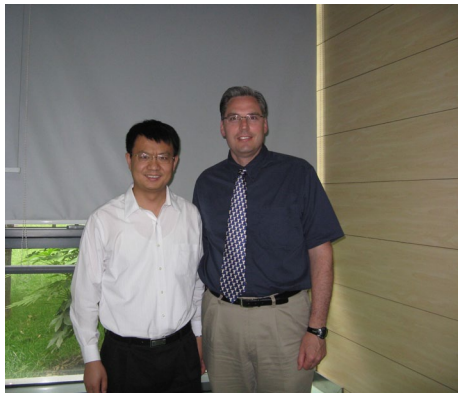
Scholarship Society  
Brigham Young University  
Civil & Environmental Engineering  
368 Clyde Building  
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# CHINA

## DR. GRANT SCHULTZ

Spring Term 2011 marked the second year that the China Study Abroad program was expanded to include a transportation course. The China Megacities course was taught by Professor Grant G. Schultz with 24 students participating in the course. The course outcomes were designed to complement the five key areas outlined by the Ira A. Fulton College of Engineering and Technology to prepare students to meet the challenges of engineering and technology in the 21st century, including: Leadership, Innovation, Global Awareness, Character Development, and Technical Excellence. In addition, students were able to incorporate lifelong learning as they experienced China first-hand.



Each student in the course participated as a member with a defined leadership role on a three person team. Each team prepared a research based technical term project prospectus, outline, report, and presentation. The overall objective of the project was to enable students to obtain in-depth knowledge and experience with regard to a megacity transportation topic and to share this knowledge with the class. Related objectives were to help familiarize students with the body of technical literature available, as the term project report was research-based, and to provide students an opportunity to interact as teams and to practice leadership skills. To share the knowledge gained, each team made a professional oral presentation to the class on the significant findings of their term project topic. The general topic areas assigned to the students were primarily based on various transportation modes (e.g., auto, pedestrian, transit, air, freight, etc.). Topics included: goods movement and freight; transportation parking, growth, planning, and policy for personal autos and pedestrian and bicycle movement; public transportation; high speed rail (including MAGLEV); air transportation and airports; expressway planning and design; and safety.

The final objective of the course was to provide the students an opportunity to experience China firsthand. This experience included interacting directly with the people, riding the public transportation whenever possible, and interacting with engineering students in China. Using Dr. Schultz's contacts at Tongji University in Shanghai and the Beijing University of Technology, students in the course were assigned to work with Chinese students to help with data collection and an understanding of issues and challenges in China. One of the highlights of the two-week trip to China was the opportunity that the students had to visit both the Beijing University of Technology and Tongji University and to interact with students one on one. In the words of one of the students in the course:

"The most important thing I did was communicate with my correspondents in China. They did not teach me much at all about transportation in China, but because I knew them, I cared about what I was studying. No matter that when I got to China I learned I was dead wrong about things I put my time into--that is not the issue. The issue is that I learned and I loved doing it."

Overall this experience helped to shape the students in several areas. Again, in the words of one of the students in the course: "Working in teams for our research was a good experience. Working with engineering students in China was an excellent opportunity. Visiting the transportation engineering campus in China was a [once in a] lifetime experience."





# DOMINICAN REPUBLIC

DR. JIM NELSON

Two years ago at one of the WMS training courses I was teaching, I became acquainted with an experienced hydrologist from the Dominican Republic. Not long after that he became the acting director of what would be equivalent to our USGS. Through a World Bank project he asked me to help in developing a national hydrologic information system. Having served a mission there in the early 80's, I was thrilled to have the opportunity to work professionally there on such a high level project. The opportunity also led to taking a group of students there as we have been doing in Mexico for years and work on several flood warning and groundwater problems, and perform an evaluation of potential sites for small



hydroelectric plants. The students had a great experience as they worked closely with engineers there on some projects of real national importance. One group developed a GIS-based flood monitoring system that was instantly put in place to help provide ongoing summaries of potential flood threats. I'm grateful to the support of the college and department and, most importantly, for the wonderful students who continue to make these activities so successful.

# MEXICO

DR. ROLLIN HOTCHKISS

"I didn't realize that what I had learned so far in Civil Engineering would allow me to make a difference in people's lives" was a typical quote from one of the 17 students who accompanied Dr. Hotchkiss for a 9-day project trip to Zacatecas, Mexico in March 2011. The most difficult part of the trip for all was readjusting to daily life in Provo after returning, which didn't seem to carry the significance of what the students had most recently accomplished. The students had been organized into five project teams and matched with students from the University of Zacatecas (UAZ) in January. Real-world projects, selected by Professor Oscar Dzul from UAZ, were all associated with flooding problems in local pueblos and towns. Hazards ranged from sediment clogging local



stream channels to street flooding to water supply. Each team had worked from January to March on potential solutions, so when they met their UAZ counterparts in March, all were well prepared to work in earnest together. Each team analyzed alternative solutions for their pueblo and wrote a project report that included a reconnaissance-level economic and environmental analysis. The reports are given to the pueblos who implement solutions when funding becomes available. The group also enjoyed the spiritual experience of presenting a fireside to the local ward that included music, song, and testimony. When plenty of great food, friendship, and fun were added to the demanding work schedule, students were saturated for 9 days with memories that will last a life time.

# ITE

Students from the BYU Institute of Transportation Engineers (ITE) student chapter competed in the ITE Western District Collegiate Traffic Bowl in Anchorage, AK in July. Winning 1st place, they continued to the International Collegiate Traffic Bowl in St. Louis, MO in August. The students competed against the winners of the other eight ITE Districts across the United States and Canada, won their preliminary round and then competed against NC State and the University of Toronto in the final round, successfully bringing home first place! They received a check for \$2000 for the Student Chapter and were very excited to have won the event. It was a great conference in St. Louis.



# EERI

At the Earthquake Engineering Research Institute (EERI) Seismic Design Competition, the BYU chapter received 6th place in San Diego.



# ASCE

ASCE Finalist for the Ridgeway Award, 2010  
ASCE Region 8 Distinguished Chapter, 2010  
ASCE Advisor Letter of Commendation, 2010  
2011 Rocky Mountain Conference Awards:

- 1st place - Technical Paper - Sharlan Montgomery
- 1st place - Construction
- 2nd place - Concrete Canoe



ASCE Student Chapter received the Sportsmanship Award at the 2010 Rocky Mountain Conference for rescuing a sinking USU canoe.

The BYU student chapter completed 4,000 hours of service in 2010.

# STUDENT CHAPTERS



# KEVIN FRANKE



Kevin Franke, a Ph.D. student in the Department of Civil and Environmental Engineering at BYU, was recently selected as the 2011-2012 EERI/FEMA Graduate Fellow. The Earthquake Engineering Research Institute is a leading professional organization committed to the mitigation of earthquake hazards. Kevin was selected from a large number of talented graduate student applicants across the country specializing in various earthquake-related disciplines. Kevin is the first graduate student in the state of Utah to be awarded the EERI/FEMA Graduate Fellowship since its inception in 1992.

Kevin is studying under Dr. Kyle Rollins, and his Ph.D. research involves the development of a performance-based model for computing kinematic pile response due to lateral spreading. This model will provide engineers with a tool to objectively evaluate the performance of both new and existing deep foundation systems exposed to liquefaction and lateral spreading hazards. Part of Kevin's research involved the investigation and analysis of several bridges in Costa Rica damaged from lateral spreading during the 1991 M7.6 Limon earthquake. In addition to his graduate studies, Kevin works full-time as a geotechnical engineer for URS Corporation. He and his wife Ruby currently have 5 young children.

# JAMES PETERSON

Graduate student James (BJ) Peterson began his BYU football experience as a walk-on in 2007. As spotlighted in the *Daily Herald*, "Peterson played at Brighton High School in Salt Lake City with former Cougars Bryan Kehl (now with the New York Giants) and Tom Sorensen. But he never got anything other than letters of interest from college football programs. So he served an LDS mission to the Philippines, and when he returned in 2006, he attended BYU as a student. 'I'd go to a BYU game and think, "Man, I want to play football,"' he said. 'I still had a love for this game.' So in 2007, he joined about 150 others for a tryout. 'I came out cold turkey,' he said. 'No one even knew who I was.'" BJ was offered a scholarship and eventually started dressing for games.



BJ (wide receiver) was one of six BYU players on the 2010 BYU football team to be recognized this year by the National Football Foundation College Hall of Fame (NFF) as a member of the 2011 NFF Hampshire Honor Society.

# AWARDS & ACHIEVEMENTS

- Students **Sharlan Montgomery** and **Eric Sumsion** recently spoke at the Ira Fulton College Convocation, both in April and August respectively.
- **Marcus Bennett** received 1st place (\$200) in the Utah Chapter Paper Competition.
- **Bryan Wilson** received a \$20,000 fellowship from the Portland Cement Association.
- **Aaron Wilson** received 1st place (\$150) in the Utah Chapter Paper Competition.
- **David Gelder** received 1st place for his Ethics Paper in the ASCE 2010 Rocky Mountain Conference
- **Devin Moore**: 2nd place (\$100) in the Utah Chapter Paper Competition; Harold F. Hammond Scholarship for Graduate Study (\$3,000); Outstanding Undergraduate Student Award, Western District
- **Oliver Obregon** received the CONACYT Graduate Fellowship from Mexico's NSF, full tuition and \$1000/mo stipend.
- **Steven Dudley** received the Western District Fellowship, \$1,000.
- **Jeremy Searle**: Burton Marsh Scholarship (\$4,000); Intermountain Section Scholarship (\$2,000); Western District Fellowship (\$1,000); 2nd place (\$100) in the Utah Chapter Paper Competition; Outstanding Graduate Student Award, Western District
- **Charles Hope** and Dr. Spencer Guthrie have co-invented a patent-pending slurry spreader device.



# DAVID ANDRUS, NEW CE CSR



David Andrus joined the Civil Engineering staff in May 2011 as the new Computer Support Representative. David was born in Garden Grove, CA but grew up in Provo. He graduated from Provo High School in 1999, and served in the Illinois Peoria mission from August 2000 to August 2002. He graduated with a Bachelor of Science degree in Digital Media from Utah Valley University in 2008. He previously worked at UVU doing technical support from 2006-2011. David married his wife, Megan, on May 31, 2008 in the Jordan River temple. They have one son, James, who was born in October 2010. They currently reside in Orem, UT and are thrilled for the opportunity to support the Civil Engineering department at BYU. David enjoys choral singing, traveling, and tinkering with all things elec-

## STACEY WADE, BS 2004

“Since graduating, we have been blessed with three beautiful children: Asia (6), Callie (4), and Taiyan. I was voted ‘most likely to have 12 children’ at the awards banquet for my graduating year, so, woohoo! We’re one-fourth of the way there. We have also been blessed to allow me to be at home with our children while my husband finished a BS and MS at BYU and is working part-time towards a Ph.D. at the University of Maryland – College Park. We’re enjoying the experience of living on the East Coast and so close to our nation’s capital. We still love BYU sports, especially football and have met many new friends who are also alumni. I’ve used many of the lessons taught at BYU to serve neighbors, Relief Society, and Primary.”



## SATYENDRA GUPTA, PHD 1972

I have been appointed as the first Vice Chancellor of The ICAFI University, Raipur, Chhattisgarh, India (This post is just like a president of a U.S. University). In India we call it Vice Chancellor. It is a new University established by State Legislation of the Chhattisgarh State ( a state in India’s central area near Bhopal, Indore, Nagpur). I joined the post on 23 June 2011.

## THIRD ANNUAL GOLF TOURNAMENT

The Third Annual Civil Engineering Golf Tournament will be held Saturday, October 8th, 2011 at Sleepy Ridge Golf Course in conjunction with BYU Homecoming. Meet at the golf course at 8:00 A.M. and there will be a shotgun start at 8:30 A.M. The Golf Tournament is open to all Civil Engineering Alumni and their family and friends. The tournament will be a 4-man scramble (9 holes). There will be prizes awarded to the first place team, the person with the longest drive, and the person who gets closest to the hole. The cost to enter this tournament is \$35.00 per person or \$140 per team. Included in the cost is greens fees, a cart, a sleeve of balls, and lunch! Get your team together or just sign up and be placed on a team. Space is limited to 72 players, so RSVP soon to ensure your spot (first come – first serve). To RSVP, see page 9, call us at 801-422-2811, or visit our website at <http://ceen.et.byu.edu> and click on the link for the Third Annual Civil Engineering Golf Tournament (please let us know your name, email, phone #, how many will be playing, and the names of the people that will be playing).



# SENIOR CAPSTONE PROJECTS

## Respected Fellow Alumni:

In response to ASCE's body of knowledge, ABET requirements, and more importantly valuable feedback from you, the Department of Civil and Environmental Engineering at BYU is making some important changes to the undergraduate culminating design or capstone class as well as developing an emphasis for the graduate program in business/project management and leadership. Pilot programs conducted over the past year and a half represent our initial efforts to move the program to a higher level of distinction.

The graduate business operations and senior capstone project classes being piloted are great forums for gaining practical experience including: project and team management, proposals, estimating, client interactions, and applied design experience. Please consider helping the department develop a world class emphasis in business/project management and leadership by considering your ability to become a project sponsor and/or inviting others to help.

Please consider sponsoring a project. More details can be found on our website: **Overview:** <http://ceen.et.byu.edu/page/program-overview-0>; **Becoming a sponsor:** <http://ceen.et.byu.edu/page/become-sponsor>; **Benefits:** <http://ceen.et.byu.edu/page/benefits>

If interested, please contact Andy Kirby, our Project Coordinator, at: email: [andykirby@ldschurch.org](mailto:andykirby@ldschurch.org); office phone: (801) 240-4873; mobile phone: (801) 699-1336

Please help us get the word out. Your network may hold the resources that we need. We appreciate your interest and support. Together, we can make this a great success for the students!