



THE NEBRASKA ENGINEER

Nebraska Society of Professional Engineers – A state society of the National Society of Professional Engineers

Volume 39 No. 4

Huskers in Zero - G

Piotr R. Slawinski
UNL Microgravity Team Lead and
Mechanical Engineering Graduate



For a sixth consecutive year University of Nebraska-Lincoln's microgravity team returned to the Johnson Space Center in Houston to conduct an experiment on NASA's "Weightless Wonder". In the past, the UNL team has participated in the Systems Engineering Education Discovery (SEED) program in which schools were matched with projects provided by NASA. After the program repeat in 2013, UNL students proposed their own experiment to NASA's Microgravity University which targeted NASA's Strategic Knowledge Gap (SKG) of providing medical care without a flying surgeon on board a spacecraft. The proposed research project entitled "Noninvasive Biosensing for Long Distance Space Flights" became 1 of 18 experiments in the country accepted to the 2014 program. The Microgravity University program consists of a six-month project

development and outreach period during which students engage in a brainstorm, design, and build process. Teams from around the nation traveled to Houston for "flight week," May 29 to June 7. This week consisted of finalizing projects, presenting the project's safety features during the test readiness review, and conducting experiments. The Weightless Wonder, the DC9 aircraft which provides the microgravity environment, follows a parabolic flight pattern where it ascends to near 33,000 feet and drops to 24,000 feet. The effect of weightlessness is achieved when the aircraft cuts thrust during a 45 degree nose-up ascent and drops naturally into a 45 degree nose-down descent. A near double-gravity portion is encountered as the aircraft pulls up into the next ascent. Here, the plane takes about 40 seconds to recover from free fall and regains upward momentum for another period of microgravity. The aircraft completes 32 parabolas during a 2 hour flight. The final two parabolas simulate Lunar (1/6g) and Martian (1/3g) gravity, respectfully. Experiments must be designed to function within this parabolic pattern.

This year's 15-person team developed a project that worked in tandem with UNL's Terry Research Laboratory (TRL), which develops swallowable diagnostic capsules. These capsules, which measure 15 mm in diameter by 37 mm in length, are 3D printed and contain a power source and electronics as well as a dispensable

"sensor plate" and "attachment mechanism". Once swallowed, the capsules traverse passively until they reach the small intestine where they deploy the sensor plate which attaches to the wall of the small intestine. Designed to biomimic the scoli of intestinal parasites, the sensor plate sucks in tissue via an on-board vacuum chamber and latches on with micro-hooks. Once the mechanical design is validated, sensors will be placed on the plate to collect a patient's intestinal pH, pressure, and temperature data for vital signs measurement and early-stage disease detection. While developing capsule endoscopes, the TRL also developed an in vitro intestinal biomechanics simulator, a device that houses an excised pig intestine designed to replicate the forces of the human bowel on the capsule. This device is designed to mimic the passing of peristaltic waves within human physiological traction (axial) and contact (circumferential) force ranges, as well as wave propagation speeds. Both the capsules and simulator were components of the 2014 microgravity experiment.

Building a research platform was not the team's only goal during this program. Since December, the team focused its efforts on motivating the younger generation to pursue STEM (Science, Technology, Engineering, Mathematics) education. Throughout the semester the microgravity team traveled to several K-12 schools to

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James Goedert, P.E., FNSPE
Omaha, NE
P (402) 880-3138
jgoedert@mail.unomaha.edu



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Lincoln, NE
P (402) 472-5253
kstelling2@unl.edu



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P (402) 323-6572
fredrickson@pbworld.com

NeSPE STATE OFFICE

PO Box 6356
Lincoln, NE 68506
(402) 875-2800-P

Executive Director
Katy Boggs
katy.boggs@nspenebraska.org

Lobbyist
Gordon Kissel
gkissel@kisseles.com

Lobbyist
Joe Kohout
jkohout@kisseles.com

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From the President's Pen

By James Goedert, P.E.,
NeSPE President



Each time I come to our nation's capital I am struck by the magnificence shared with all visitors through universal access to the Smithsonian treasures. We are reminded by our national monuments of the deep respect and gratitude we hold for those who served heroically in our government, our military and in civilian life, often at their own peril. We celebrated the National Society of Professional Engineer's (NSPE) 80th birthday on the week of the 4th of July in Washington, DC. Our collective birthday gift was an eighteen inch diameter bronze plaque embedded in the sidewalk on the mall.

I began my year as President of the Nebraska Society of Professional Engineers (NeSPE) by signing a contract directly with Katy Boggs for one year as Executive Director. She previously worked for Kissel and Associates and has been supporting NeSPE for a number of years. We welcome Katy and feel grateful to have her enthusiastic energy dedicated to this position. We also want to thank the NE Chapter for hosting an amazing 2014 State

Annual Meeting.

The national convention highlighted the new direction that has arisen from the "Race for Relevance" initiative from the last few years. The new direction is described in a concise strategic plan and is called the "Road to Relevance." This road includes support for state and local efforts to ensure membership engagement and networking opportunities. NSPE plans to develop membership benefits to bring more value to society engagement, continuing education and service. I plan to work with each Chapter this year and our membership chairman, Steve Wadas, to establish a plan to reverse the trend of declining membership and look for ways that NeSPE can engage our membership in meaningful activities.

Engineers as servant leaders was one theme that was repeatedly voiced throughout our July conference. We are in a profession that serves society in nearly everything we do. I feel strongly that we find relevance when we truly apply this principle in our everyday lives. Albert Einstein once said "Only a life lived in the service to others is worth living." Let us look each day this year for opportunities to serve and to renew our commitment to excellence in engineering.

James D. Goedert



Huskers in Zero - G

(continued from page 1)

explain the purpose of microgravity experimentation, to advocate involvement in STEM organizations, and to advise students on how they can make an impact if they apply themselves. The team had a division set apart for outreach efforts, lead by a Biological Systems Engineering student, Ethan Monhollon.



Figure 1: Experimental setup before takeoff

UNL's microgravity team designed and built a semi-automated version of the TRL peristalsis simulator which, with a mounted pig intestine, serves as a test platform for the feasibility of the capsule attachment mechanism. The team hopes that such a device will allow for astronauts to swallow a minimal number of pills during a Mars mission. The sensor would communicate wirelessly to readily update mission control on astronauts' health parameters. As shown in Figure 1, the final experiment consists of an inner simulator chamber which is enclosed in a rigid water-tight frame to ensure in-flight double containment. External gloves (on the right) allow for capsule manipulation during the flight.

The experiment in microgravity consisted of activating a capsule, inserting it manually into the intestine, and observing the attachment mechanism as the capsule was passively traversed by the simulated peristaltic waves.

UNL's experiment was developed with pre-programmed parabola sequences

to minimize human error and was operated by 3 flyers during two flights. The flyers had individual roles of: operating software, activating and inserting capsules into the mounted intestine via glove box, and observing and communicating capsule position. The Day 1 crew consisted of Weston Lewis (software), Blake Stewart (capsule interaction), and Tricia Foley (communication) and the Day 2 crew consisted of Piotr Slawinski (software), Ethan Monhollon (capsule interaction), and Effie Greene (communication). Pre-flight setup for both days was completed by the ground crew of Victor Torres and Alfred Tsubaki.

This project was an excellent learning experience in designing a complex machine, manufacturing and building its components, and integrating electronics and software to allow simple user control. Having students on the team from various majors allowed for every member to play a key role in project development. The students not only collaborated with each other but also with our faculty advisors, Dr. Benjamin Terry and Dr. Carl Nelson, and our NASA Mentor, Dr. Baraquiel Reyna. Team members not aforementioned include: Shawn Schumacher, Ty Rempe, Christian Laney, Nick Goeser, Erik Moore, Sawyer Jager, Maggie Clay and Luke Monhollon.



Figure 2: Flight group 1 posing in microgravity

We would like to thank NASA Nebraska Space Grant Consortium as

well as UNL's Mechanical and Materials Engineering Department for providing the funding which made this learning experience possible. We hope that not only did we come to scientific conclusions of health monitoring during space flights, but also inspired future scientists to excel in the classroom.



The Legal Basis for Practice and Beyond

Steve Masters, Executive Director
Rachel Fetterman, Public Information Officer



Legislation

The Nebraska Engineers and Architects Act serves as the legal basis for the technical practice of these two professions. The Act was adopted in 1937 by the Legislature with a major revision in 1997. Many changes in design, materials and project delivery have occurred over the years. Protecting life, health, property, and promoting public welfare have been the consistent basis for this law. The 2014 Legislative Session included changes to the E&A Act that were proposed by the Board of Engineers and Architects (NBEA) via LB 665. The revisions were intended to provide updates consistent with national trends in licensure, as well as simplifying existing language. A public hearing on the bill while in Committee led to amendments. Time did not allow the revised statute to advance to the full Legislature. Senator Krist has expressed an interest in reintroducing the amended legislation in 2015.

A significant amount of time and effort was expended on the creation of the Board's draft bill, in various meetings with stakeholders and incorporation of their responses.

Without question, changes in legislation require a common understanding by all stakeholders. Much of the Act relates to construction projects. As anticipated, the legislation brought together the interests of building/codes officials, builders, municipalities and professional associations. The amended bill is intended to represent the common mind of the various stakeholders.

And Beyond

Recurring national topics for engineers and their companies include changes in design and project delivery, mobility, ethics, and international service opportunities. Experience shows that discussions with NSPE-Nebraska members yield examples of research and projects reflecting these topics. (Discussions with NSPE-Nebraska members regularly yield examples of research and projects reflecting these topics.) Assuring that licensure supports and encourages the success of engineers is extremely important. Not only are we seeing engineers licensing in multiple states, but we are also observing international businesses placing an importance on their engineers being licensed. Earlier this year, an NSPE-Nebraska member suggested ways in which the National Council of Examiners of Engineering and Surveying (NCEES) Model Law Engineer process could be improved. Those comments have been advanced to NCEES. Receiving these types of suggestions and having the opportunity to discuss examples and experiences of Nebraska firms is of great benefit. The importance of rethinking outreach and project delivery for technical professions was highlighted in the editorial "Strategic Planning at the Structural Engineering Institute" by Donald Dusenberry in STRUCTURE magazine, June, 2014. He observed that beyond technical topics, "future

engineers will also need a broad base of soft skills with more focus on creativity and risk management." Outreach to the public and clients providing information about the services that engineers provide and changes occurring within the practice of engineering does support the public health, safety and welfare. Dusenberry's editorial encourages working together "to leverage our combined strengths."

Conclusion

Legislation sponsored by the NBEA is intended to address needed revisions that address "how" individuals are licensed. The collective energies and efforts of numerous stakeholders helped produce a draft statute ready to advance with the 2015 Legislature. That same collaboration is essential to the evolving law and practice of engineering and architecture.

SAVE THE DATE
FOR THE ANNUAL
NeSPE SEMINAR AND
NeSPEEF GOLF OUTING

FRIDAY SEPTEMBER 12



THANK YOU
TO OUR
SPONSORS

SEE PAGES 15-18



Lincoln Financial Group Parking Garage – Omaha, NE

Kristi Nohavec, PE, AIA, LEED AP
(LEO A DALY)



The new Lincoln Financial Group's parking garage provides essential functionality while complementing its surroundings.

Led by LEO A DALY engineers and architects, MCL Construction Company, e.Construct, and Coreslab Structures worked together to construct the garage in 10 months, completing it in October 2013. The 34,000-square foot (surface area) multi-level structure accommodates 193 cars, increasing corporate parking capacity by 18 percent. It has two glass-enclosed staircases and a secure lower level accessible only to employees. Visitor parking is offered on the upper level. Context, color, and capacity were important design themes.

Context – The garage needed to complement Lincoln Financial Group's complex and its surrounding mid-century Indian Hills neighborhood. Both styles were considered during the design phase. Several neighborhood meetings were held to ensure neighbors were aware of the project, and to invite their input. One of the concerns early in the design process was the size of the garage and its potential impact on neighbors' views. To minimize aesthetic impact, the garage was built into the sloping hillside, making it appear removed from the adjacent neighborhood.

The garage also had to fit within the context of the existing traffic configuration, which needed to remain undisturbed during excavation and construction. The circulation road at the top of the hillside enables employee access to other parking areas. To avoid impacting that access, the design team used a soil nail wall to retain the earth under the road while excavating the adjacent hill. An 18-foot high soil nail wall, extending 355-linear feet, anchors the parking garage. The wall was built from the top down in short lifts and required 308 drilled anchors.

Color – Lincoln Financial Group was animate about minimizing the structure's overall aesthetic impact. Shades of green, white, and black featured in the existing hillside and buildings were integrated. More than 200 pieces of black precast panels, white vertical columns, and green pre-cast stem wall components were used. Granite aggregate for the various colors came from Virginia (green), Georgia (white), and Canada (black), resulting in a higher concrete cost per cubic yard than typically seen in precast.



Capacity – The Lincoln Financial Group campus featured around 1,075 parking spaces before adding the new garage. Expanding parking capacity for employees and visitors was critical to accommodating its short- and long-term growth projections. Four different options, including various surface parking configurations, were explored. The garage was the only

way to accommodate all 193 spaces.

Technical Description

The cast-in-place and precast concrete structure required 70 drilled piers with a maximum width of six feet and a maximum depth of 70 feet. Pilecaps were installed over the drilled pier and were connected by traditional grade beams that transfer wall loads to the deep foundations.

The garage was constructed as close as possible to the soil nail wall. We chose to use the strength of the soil nail wall for permanent load-carrying capabilities, enabling the garage's foundation walls to be built independently. The void space between the soil nail wall and the garage wall was filled with 240 cubic yards of geofoam blocks, eliminating lateral load on the garage wall. Rainwater that falls on the geofoam is routed to daintile at the bottom of the 14-foot foam layer, where it ties to the storm lines.

The precast members used for the structure presented a couple unique challenges:

- The middle of the garage features a 30-degree skew enabling it to follow the contour of the hill. This skew resulted in about a dozen trapezoidal double-tees. An enormous amount of formwork was required to make the pie-shaped sections.
- The City of Omaha requires a snow maintenance plan for new parking garages. Snow loads in the locations identified for snow storage required highway bridge style double-tees instead of standard parking garage tees.

Sustainable elements were integrated throughout the project. Storm and rooftop runoff is routed to a new 34,000-gallon underground stormwater system connected to Lincoln Financial Group's irrigation system, reducing the demand for City of Omaha water. To meet Omaha's

Continued on page 7

NSPE Meeting - Washington D.C. Annual Meeting



NeSPE Executive Director Katy Boggs stands with NeSPE President Jim Goedert, P.E. at the WW II Memorial in Washington, DC – in front of the Nebraska pillar of course!



NeSPE President Jim Goedert, P.E. and NeSPE House of Delegate Karl Fredrickson, P.E. attend the opening session during the NSPE Annual Meeting



The Texas Society of Professional Engineers shares their input during a panel session

Lincoln Financial Group Parking Garage

(continued from page 6)

Sustainable elements were integrated throughout the project. Storm and rooftop runoff is routed to a new 34,000-gallon underground stormwater system connected to Lincoln Financial Group's irrigation system, reducing the demand for City of Omaha water. To meet Omaha's tree-planting requirements, the design enabled construction to preserve many mature trees, adding landscaping with a tiered retaining wall system. To minimize energy consumption, all area and parking garage lights are LED. Finally, the garage's electrical backbone was designed to accommodate future installation of electric vehicle charging stations.

In the end, construction of the new Lincoln Financial Group parking garage was completed on time and on budget – meeting current and future design, engineering, capacity, and sustainability needs.

Miscellaneous Facts (for call-out)

- 16,000 cubic yards of dirt were moved from the site to accommodate construction
- Aesthetically-pleasing architectural screening on the lower level preserves an "open" feel while maintaining security for employees
- Interior cable barriers, which prevent cars from driving over the edge, support 6,000 pounds of impact load at both one-foot six-inches high and two-feet three-inches high – meeting both City of Omaha and 2009 IBC code requirements, respectively
- 34,000-gallon underground stormwater system provides irrigation for the garage site
- Electrical backbone accommodates future installation of electric vehicle charging stations

NeSPE State Annual Meeting



Chuck McCumber, P.E. gives a tour at Loup Power



Members exploring at Loup Power during the tours



Attendees taking a look at a historic map during the Loup Power walking tour



Group shot during the annual meeting outing to the TransCanada facilities outside of David City



NSPE Executive Director Mr. Mark Golden giving remarks during the Thursday evening banquet

NeSPE State Annual Meeting



Doug Holle, P.E., now NeSPE Past President passing on the symbolic gavel to Jim Goedert, P.E., our new NeSPE President



NeSPE President Jim Goedert, P.E. providing remarks, including his goals for the year



Jim Goedert, P.E. providing Doug Holle, P.E. with a plaque thanking him for his service as NeSPE President



Steve Wadas, P.E., NeSPE Membership Chair delivers remarks while presenting membership anniversary certificates

University of Nebraska Professor Receives Prestigious Education Award from the National Society of Professional Engineers

Taken from the NSPE Press Release,

Terence Foster, Ph.D., P.E., F.NSPE, of Omaha, Neb., was recently awarded the 2014 Professional Engineers in Higher Education (PEHE) Engineering Education Excellence Award by the National Society of Professional Engineers and the Professional Engineers in Higher Education at its annual meeting in Washington, D.C.

The PEHE Sustaining Universities Program of NSPE established the Engineering Education Excellence Award to annually recognize engineering educators and faculty who have demonstrated the ability to link engineering education with professional practice. The recipients must be licensed and have a faculty appointment in an ABET-accredited engineering program. Recipients receive \$5,000 towards continued implementation of their best practices.

Dr. E. Terence Foster is an engineering professor and on the graduate faculty at the University of Nebraska, where he also holds a courtesy professorship at the Aviation Institute. His doctorate in engineering is from the University of California at Berkeley, and his undergraduate education was from MIT. Foster is a licensed professional engineer in 11 states and is a certified professional constructor. Currently he serves as associate director of the Durham School of Architectural Engineering and Construction. In this position, Foster has led the creation of the EAC-ABET accredited Construction Engineering Program, which offers degrees at the bachelor's, master's, and doctoral levels. Past positions held have been with Union Pacific as an assistant vice president, and with MultiTec as president. In his early career, he was a senior research engineer at the Caltech/NASA Jet Propulsion Laboratory, an Army Captain during the Vietnam era (receiving the Army Commendation Medal), a Fulbright Scholar, and vice president of a computer service subsidiary of HDR.

He has served as the Nebraska state society president, PEHE vice president, and national director of the National Society of Professional Engineers. Foster has been on the boards of two financial institutions: the Nebraska Engineering and Architecture Examiners (as chair), and the Western Heritage Museum (as vice president). In addition, he has served six years on the Board of Governors (as chair) for the National Institute for Certification in Engineering Technology. Currently he is starting his fourth three-year term on the National Board of Directors of the American Institute of Constructors.

For more information on the NSPE/PEHE Engineering Education Excellence Award, please visit the NSPE web site at www.nspe.org/Awards.

* * * * *

The National Society of Professional Engineers is a member-centric, nimble, future-focused, and responsive organization, serving as the recognized voice and advocate of licensed Professional Engineers. Through education, licensure advocacy, leadership training, multidisciplinary networking, and outreach, NSPE enhances the image of its members and their ability to ethically and professionally practice engineering. Founded in 1934, NSPE serves more than 35,000 members and the public through 53 state and territorial societies and just over 400 chapters. For more information, please visit www.nspe.org.



Education Foundation

Annual Report 2013 - 2014

Michael Gerdes, Executive Director,
NeSPE Education Foundation

Introduction

As the non-profit Foundation of the Nebraska Society of Professional Engineers, the mission of the NeSPE Education Foundation is: to provide benefit to the public by funding educational activities aimed towards engineering education; to encourage students in elementary, secondary, and post-secondary education to enter into the engineering profession; and to advance the quality of engineering professionals; and expand the public awareness, understanding and appreciation of the role of engineers in improving the quality of life.

The following is a summary of how your Foundation put your dollars to work over our last fiscal period ending June 30, 2014

Income

With the continued support of corporate and individual donors, foundations and trusts, and volunteers, your Foundation continued to grow. The primary income source is your donations and pledges, which amounted to nearly \$9,800. The secondary and a very important source of funding is the Education Foundation Annual Golf Outing, which resulted in nearly \$7,100 net of expenses. (Our next outing, the 9th Annual Golf Outing is scheduled on Friday September 12, 2014, please mark your calendars). Income associated with the MathCounts program yielded about \$5.2 k in additional income. Total income was about \$30.5 k.

Expenses

For the last 5 years, the Education Foundation is operated in a manner to maintain administrative expenses at a minimum. The Foundation understands it is critical to put your dollars to work in ways our donors' desire and to achieve the maximum return on your investment. Utilizing volunteer administrative operations, the Foundation's administrative expenses were kept as low as possible. No administrative costs were incurred. No miscellaneous costs were incurred for office materials, postage, printed documents or similar items as these items were donated. In excess of 95% of your contributions and funds raised have gone directly to support ongoing programs and scholarships.

The total expenses associated with funding MathCounts competitions at the chapter, state and national levels, providing financial support for programs including the Model Bridge Contest, the TEAMS programs, supporting the UNL student chapter, and providing scholarships was approximately \$18.6 k.

End of 5-year Campaign

The 2013-2014 fiscal year marks the end of the 5-year fund raising campaign. The 5-year campaign was one of the most successful fund raising campaigns in the history of the Education Foundation. Corporations, Trusts and individuals gave generously to support the Foundation.

Annual Gifting

For the period 2014-2015, the Education Foundation will focus on an annual campaign. More information will soon follow on the annual campaign.

Investment Account

With your generosity, the Foundation has been able to build its investment account. Contributions in excess of expenses were re-invested. The investment account balance of your Foundation is currently about \$308 k at the end of the 2013-14 fiscal year.

Summary

A positive year thanks to your contributions and efforts. Of course, the Foundation's success is dependent upon your continued support.

The Need

To support future demand for Science, Technology, Engineering, and Mathematics, the Education Foundation focuses programs at elementary and secondary education levels. Future demand includes: infrastructure improvements, transportation systems upgrades, expanded and updated energy systems and distribution grids. All engineering disciplines are essential to successfully meet future demands for Science, Technology, Engineering, and Mathematics.

Offer a Pledge

The Education Foundation is a 501(c)3 charitable organization and contributions are tax deductible. The Education Foundation can accept bequests of property, memorials or honorary giving, pay-on-death (POD) accounts and donations of publicly traded or privately held stock. To offer your pledge, contact Michael Gerdes, Executive Director.



MATHCOUNTS**STATE Report 2014**

James A. Bartunek, Nebraska State
MATHCOUNTS Coordinator



The 31st Annual MATHCOUNTS competition in Nebraska is now completed. Competition preparations began in September and October of 2013 with the registration of schools and individuals. Teams and individuals progressed through school competitions in January to the Chapter competitions held in February, and then advanced to the State competition that was held on March 22nd at the University of Nebraska East Campus Student Union. Nebraska had a total of 81 teams of four plus an additional 281 individuals registered for the Chapter competitions. After the school and Chapter competitions, 72 MATHLETES from 28 different schools across the state advanced and competed at the State competition in both individual and team examinations to determine which four MATHLETES would comprise the state team representing Nebraska at the National competition in Orlando, FL on May 9. Each Chapter was allowed to send teams of four according to the number of schools registered in their respective Chapter along with four additional individuals to the State competition. After the written competitions, the top teams were determined and the top ten individual students competed in the Countdown Round to select the top math student in the state. Congratulations go to the following schools and individuals:

WINNING TEAMS

The winning top school teams were:

First Place: Lux Middle School - Lincoln

Coach: Michelle Milana

Team Members:

Jesse Lin
Isaac Zhang
Jarod Schwinck
Crystal Xu

Second Place: Hazel Scott Middle School - Lincoln

Coach: Allan Rezac

Team Members:

Jae Hyun Lim
Shruti Mishra
Evan Fulton
Blake Callahan

STATE TEAM MEMBERS

Jae Hyun Lim Hazel Scott Middle School Lincoln

Khoa Nguyen Peter Kiewit Middle School Omaha

Jesse Lin Lux Middle School Lincoln

Isaac Zhang Lux Middle School Lincoln

The Coaches of the Nebraska state team were Michelle Milana from Lux Middle School and Allan Rezac from Hazel Scott Middle School.

Over the 30 previous years of the MATHCOUNTS competition the Nebraska team has finished as high as 4th place and as low as 46th place out of 56 teams. This year the Nebraska team finished in 26th place. Individual team members finished from 38th to 167th in rank out of 224 total competitors. Congratulations to the Nebraska team for their efforts and accomplishments at this year's

National competition. Individual recognitions need to be given to Jae Hyn Lim from Hazel Scott Middle School who was one of only 6 MATHLETES at the National competition for the third year and to Isaac Zhang who made the National Team for the second year from Nebraska.

On Friday, May 9th, the National competition was held at the Westin Walt Disney World Swan Hotel.

On Saturday, May 11th, the MATHLETES and Coaches toured the EPCOT.

Thanks and appreciation should go to each teacher/coach who participated and volunteered so much of their own time to coach teams. Thanks also go to the society members who volunteered their time and without whose help it would be impossible to conduct this outstanding program, and finally to the students and their parents who know the value of a strong foundation in mathematics and are willing to give of their time to participate.

As planning for next year's competition has already begun, now is the time for many more members of our state society to become actively involved and assist in this great program. The date for the State Competition is set for March 21, 2015. The date of the 2015 National MATHCOUNTS Competition is May 8th. The location for the 2015 National MATHCOUNTS Competition will be in Boston, MA.



MARK YOUR CALENDARS

Please join us for a seminar:

Engineering a Faster Round of Golf: How Science & Technology Can Help

Featuring

Matthew Pringle, Ph.D

Technical Director, Equipment Standards - with the
United States Golf Association (USGA)



Friday, September 12th, 2014

Woodland Hills Golf Course, 6000 Woodland Hills Drive, Eagle, NE

Cost: \$30.00 1.0 PDH Available

8:30am—9:30am	NeSPE Board of Directors Meeting (open to all members)
10:00am-10:30am	Registration/Continental Breakfast
10:30am-11:45 a.m.	Presentation/Q&A on ENGINEERING A FASTER ROUND OF GOLF
Noon	Golf registration—lunch on your own at the clubhouse

----- CUT HERE -----

Please submit your RSVP no later than Friday, September 5th

_____ Yes, I plan to attend and have included my pre-payment of \$30.00

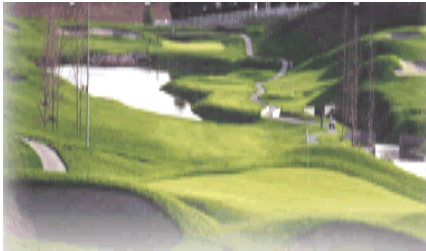
PRE-PAYMENT IS STRONGLY ENCOURAGED. CHECKS ONLY.

Name: _____ Company: _____

Make checks payable to NeSPE and send to:

PO Box 6356, Lincoln, NE 68506— NOTE NEW ADDRESS**

Questions—please call Katy at 402.875.2800



Where:

Woodland Hills Golf Course
 6000 Woodland Hills Drive
 Eagle, Nebraska



When:

Friday, September 12, 2014
 Registration starts at 12:00 noon
Shotgun Start at 1:00 pm



Established in 1988, the Nebraska Society of Professional Engineers Education Foundation (NeSPEEF) is the major source of financial support for the Nebraska Society of Professional Engineers (NeSPE) for the education and ethical training of students desiring to enter into the practice of engineering, advancing the quality of practicing engineers within the state and expanding the public awareness of the role of engineering in improving the quality of life.



Event Questions?

Contact Michael Gerdes at
 402.556.2171 or
mgerdes@thielegeotech.com



9th Annual Golf Outing
FRIDAY
September 12, 2014



Golf Packages

Golf package includes:
18 holes of golf, free range balls, golf cart and flag prizes.

Individual: \$90 / Foursome: \$360

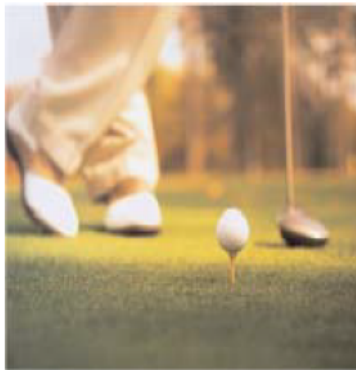
Mulligans: \$5 each, 5 for \$20
Max. of 5 per person

"Gimme" Sales—\$10 / Max. 2 per team

Mulligan and Gimme sales at the registration table before the event.

Registration at 12:00 noon

Shotgun Start at 1:00 PM



Cash Prizes for 1st & 2nd place in 2 flights and flag prizes.

Event Questions?

Contact Michael Gerdes at (402)556-2171 or mgerdes@thielegeotech.com

Sponsorships

- Beverage Cart \$300
- Championship Flight \$250
- Open Flight \$200
- Raffle \$200
- Hole \$125
- Flag/Pin Prizes \$100

Company Name

Send Payment to:
NeSPEEF Golf
13478 Chandler Road.
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