CEEES GRADUATE STUDENT NEWSLETTER
January 2017

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DGS' DESK

Happy New Year! Wishing everyone a very productive year, and one full of happiness, good health, and peace!

A friendly reminder that graduate student recruitment season is in full swing, and your respective advisors may be asking you for help with hosting and entertaining prospective students to our department. Your input and participation play a vital role in recruiting top quality students applying to our department.

Please don't forget to participate and attend our annual "Chili Cook-Off" on Thursday, February 2nd, 2017 – "Groundhog Day", which takes place in room 217 Cushing Hall, between 11:30 am and 1:00 pm. Please bring in your favorite home-made Chili, and compete for departmental bragging rights for one year. If you don't have a chili entry and wish to participate in the event, if possible then please bring a salad or desert to the event. Refreshments will be made available.

Best wishes, Tony Simonetti

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ANNOUNCEMENTS

Conferences

Shuo Yang and **Yenan Cao** of the Mavroeidis group presented their research at the 16th World Conference on Earthquake Engineering, held from January 9-13 in Santiago, Chile. Shuo presented "Importance of Permanent Ground Displacement on the Dynamic Response of a Bridge Crossing a Fault Rupture Zone," and Yenan delivered a presentation titled "Wave Passage Effects on Torsional Response of Symmetric Buildings in the Near-Fault Region."

Academic Social Happy Hour

As the organizers of the academic social happy hour events have worked to provide fun, informative, and fulfilling events for students in the department over the last year and a half, a new look and brand is now emerging to make everything easier for and more appealing to the students. The name CEEES GSO is currently being tested along with a new University developed logo. The organizers welcome your feedback on all we do, and have created a survey for just that. Please fill it out here (https://goo.gl/forms/7akGoANYd9lgr9IM2). Thank you to everyone who already contributed!

With the hustle and bustle of the end of the semester, no academic social happy hour event was held in December.

Please come out to the first of a packed semester of events in 2017 starting with Chinese food from J.W. Chen's, Jeopardy/Trivia/Games, and speakers TBA. We will meet in our usual place, **Cushing 217, at 5:30 PM on Friday, January 20**. We will have refreshments as well.

Below is a tentative schedule for the rest of the semester:

January 20 at 5:30 PM - Jeopardy/Trivia/Game night with Chinese Food in Cushing 217

February 2 11:30-1:00 PM - Department chili cook off in Cushing 217

February - Bowling at Chippewa Bowl

March 2017 - St. Patrick's Day party.

April 2017 - Outdoor park activities and games party.

May 2017 - Potluck at a local park.

If you have any particular questions or concerns regarding the academic social events, please contact any of the organizers: **Andrew Schranck** (aschranc@nd.edu), **Theresa Aragon** (aragon.10@nd.edu), **Lara Grotz** (sisman.1@nd.edu), and **Stefanie Lewis** (Lewis.184@nd.edu). They would love to hear from you.

GRADUATE STUDENT SPOTLIGHT

Hanyu Ma: To forge innovative and lasting solutions to local and global sustainability challenges, development of novel nanomaterials and a better understanding of the chemical science on nanoscale are in great need. Working with Prof. Chongzheng Na and Prof. Peter Burns, I am dedicated to developing and understanding nano-catalysts and nano-adsorbents for environmental and energy applications. I received a MS degree in Chemical Engineering and I have spent my last 4.5 years designing metal, metal oxide and metal phosphide nano-catalysts for reduction of aqueous contaminants, generation of hydrogen from ammonia borane and hydrodesulfurization. I have also synthesized carbon nanotube and graphene oxide based composites for adsorption of aqueous contaminants. I have published five papers as first or co-first author on journals of environmental engineering and catalysis and I have four manuscripts to be submitted before graduation. I have received several academic awards, including the Environmental Chemistry Graduate Student Award from American Chemistry Society and Student Award from Sustainable Nanotechnology Organization.

Lab Link
http://www.petercburns.com/home.html

GRADUATE STUDENT UNION UPDATE

The GSU recessed after the November council meeting, but will pick back up for 2017 with the first meeting on **Thursday, January 19**. Please let **Andrew Schranck** (aschranc@nd.edu) know if you have any concerns or feedback pertaining to student government.

All graduate students can receive conference funding once per year from the GSU based on a competitive application process. See the Conference Presentation Grants website (http://gsu.nd.edu/about/cpg/) for more details.

RESEARCH GROUP SPOTLIGHT

Jeremy Fein Research Group – The Fein research group (Geomicrobiology) characterizes the effects of bacteria on the fate and mobility of heavy metal and radionuclide contaminants in groundwater systems. The group consists of Ph.D. students **Clayton Johnson** (second year) and **Margaret Butzen** (first year) and post-doctorates Dr. Qiang Yu and Dr. Angelica Vazquez-Ortega. The group takes an experimental approach in order to isolate and model reactions that occur in these systems including: adsorption, reduction-oxidation, and precipitation reactions. The objective is to derive thermodynamic and kinetic models to describe these reactions for various metals under realistic geologic systems. These models can be used to improve our ability to understand contaminant transport in the environment and to design effective remediation approaches.

Currently, Clayton is working to develop an analytical tool using confocal laser scanning microscopy for determining actual metal partitioning in the environment between the aqueous phase, and adsorption to solid material and bacteria. This tool could be used to verify the quantitative models that have been developed during laboratory experiments by the Fein group for various metal contaminants. Margaret and Qiang are characterizing the sulfhydryl site, a specific functional group located on the bacteria cell wall and within the bacteria EPS that has a high affinity for binding metals, but a relatively low total site concentration compared to other functional groups. Qiang is researching the effect growth conditions and growth media have on the total sulfhydryl site concentration. Margaret is characterizing the adsorption behavior of sulfhydryl sites under low metal loading conditions; specifically, adsorption of cadmium, a common environmental contaminant. Low metal loading conditions are studied in order to isolate the sulfhydryl site reactions, and because these conditions are similar to those present even in contaminated environments. Angelica has been studying adsorption onto Mn-oxidizing bacteria, and has begun experiments to determine the effects of bacteria on the mobility and fate of uranium under reducing conditions.

THE GRADUATE SCHOOL – SCHEDULE OF DEADLINES

	Fall 2016	Spring 2017	Summer 2017
Teaching assistant list submitted to Graduate School	Aug. 15	Jan. 5	—
First class day	Aug. 23	Jan. 17	—
All course changes	Aug. 30	Jan. 24	—
Initial graduation list available in GradAdmin (Registrar)	Sept. 6	Jan. 31	June 27
Fall/Spring break begins	Oct. 15	Mar. 11	—
Course discontinuance	Oct. 28	Mar. 24	—
Preliminary theses/dissertations submitted for formatting check*	Nov. 7	Mar. 13	Jun. 19
Thanksgiving break begins (Wed. – Sun.)	Nov. 23	—	—
Easter break begins (Fri. – Mon.)	—	Apr. 14	—
Master's comprehensive examinations & PhD dissertation defenses**	Nov. 28	Apr. 7	Jul. 11
All admission to candidacy forms submitted to Graduate School	Dec. 5	Apr. 13	Jul. 17
Final theses/dissertations submitted to Graduate School	Dec. 5	Apr. 13	Jul. 17
Last class day	Dec. 8	May 3	Jul. 28
Final exams begin	Dec. 12	May 8	—
Graduation date (official degree conferral)	Jan. 8	May 20	Aug. 6

FELLOWSHIP/SCHOLARSHIP/EMPLOYMENT OPPORTUNITIES

- **ASCE Scholarships and Fellowships** (Deadline: February 10)
(http://www.asce.org/scholarships/)
(http://www.asce.org/asce_fellowships/)

- **Graduate Student Union Conference Presentation Grants** (Rolling basis)
(http://gsu.nd.edu/about/cpg/)

- **Graduate School Professional Development Awards** (Rolling basis)
(http://graduateschool.nd.edu/professional_development/professional-development-award-application---s-e/)

NEWSLETTER CONTACTS

If you wish to include or contribute news items for the next issue of the newsletter, please contact one of the editorial members below:

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