

News from C&PE

Chemical and Petroleum Engineering Newsletter

April 10, 2017

In this issue:

News from C&PE | Upcoming Events | New Publications | Quote of the Month

C&PE Welcomes New Faculty Member Brandon DeKosky



The Chemical and Petroleum Engineering Department is excited to welcome new faculty member Brandon DeKosky whose research interests include vaccines, immunology, virology, molecular biotechnology, therapeutic proteins, and antibody discovery. "Next-generation DNA sequencing technologies have revolutionized the way that immunologists and biotechnologists study adaptive immune responses to vaccination and disease. The DeKosky laboratory works to invent and apply advanced NextGen molecular biology techniques to accelerate development of new human vaccines and therapeutics. The laboratory has a special focus on understanding highly effective human antibody responses to persistent viral infections (including HIV, EBV, CMV), and in characterizing the antibody response to experimental vaccines." To access Dr. DeKosky's publications, click [here](#) and for a link to his full research site, click [here](#).

Graduate Student Emily Li Receives Kokes Award

Congratulations to graduate student Emily (Yuting) Li for being awarded the 2017 Kokes Student Award for the 25th North American Catalysts Society (NACS) National Conference. About this award, Dr. Franklin (Feng) Tao, her research advisor, stated, "She will receive the certificate of this award on the meeting in this June at Denver and she has been offered with free registration and free hotel accommodation to attend the main catalysis meeting of North American. Yuting is the third student of our group after Shiran (2013) and Luan (2015) who received this award. I am happy to know that her hard work has been acknowledged by North American Catalysis Meeting." Dr. Tao is committed to nominating her for future awards and supporting her future successes. Congratulations, Emily!

Juan Bravo Joins Editorial Board of "Catalysts"

Assistant Professor Juan Bravo-Suarez has joined the editorial board of science journal "Catalysts." "Catalysts" is an international open access journal of catalysts and catalyzed reactions. It publishes reviews, regular research papers and short communications in heterogeneous, homogeneous, and enzyme catalysis, and electro- and photo- catalysis as enabled by kinetics, advanced characterizations, and computational studies. Impact Factor: 2.964 For more information about this journal, see [this link](#). To see a list of editors, click [here](#).

News from The Leonard Lab

Kevin Leonard has recently been the recipient of the Army Research Office's "Young Investigators Award." This prestigious award includes a research grant to further his electrochemical research and help The Leonard Lab achieve its various goals. Dr. Leonard was also recently selected by the Royal Society of Chemistry to be one of their "Emerging Investigators for 2017." Along with having his paper published in their journal, his research is being highlighted along with the other Emerging Investigators. For more information and to see a full list of awardees, see [this link](#).

Award News

Kathryn Bauguess, a junior in Chemical Engineering, won 3rd place with her oral presentation and poster titled "Adsorption of Fe(III) Using Zeolite Molecular Sieve" at the Jayhawk Research Symposium on March 31st. Way to go, Kathryn!

New Hiden IGAsorp-HT device in Shiflett Lab

The Shiflett group continues to expand its sorption measurement capabilities. This time with the Hiden IGAsorp-HT, a high temperature bench-top dynamic vapor sorption analyzer, shown in Figure 1. This ultrasensitive microbalance allows for precise studies on the uptake and kinetics of moisture sorption at elevated temperatures (ranging from 5 °C to 250 °C) and at a wide choice of humidity conditions (1%RH to 95%RH). The IGAsorp has different setting modes with the capability of using water or organics as the vapor stream. This high-precision instrument has a 5g sample capacity and measures sample weights to $\pm 0.1 \mu\text{g}$ accuracy using the same force balance method as the IGA and XEMIS instruments. A diagram of the internal system can be seen on Figure 2. Our group is very excited to have the IGAsorp fully operational. For a link to the images, click [here](#).

Congratulations, Cory Berkland

American Institute for Medical and Biological Engineering
College of Fellows



Cory J. Berkland
Solon E. Summerfield Distinguished Professor
Department of Pharmaceutical Chemistry

UPCOMING EVENTS

April 11 Graduate Seminar with Damon Talbot from KU ([FLYER](#))

April 18 Graduate Seminar with [George Hirasaki](#) from Rice University

April 19 67th Annual Environmental Engineering Conference | [LINK](#)

April 25 Graduate Seminar with Rick Stroman from the US Naval Research Lab ([FLYER](#))

April 28 Open tour of the Shiflett Lab | 2-4PM | 2444 LEEP2 ([LINK](#))

April 28 GEA Formal | Griffith Ballroom at the Oread | 8-11PM | [LINK](#)

April 29 **CPE ANNUAL AWARD BANQUET!** Dancing, awards, drinks, fun, and food— what else could ask for? ([FLYER](#))

May 2 Graduate Seminar with [Michael J. Aziz](#) from Harvard University ([FLYER](#))

May 13 School of Engineering Recognition Ceremony 8AM in Allen Fieldhouse

May 13 [Doctoral Hooding Ceremony](#) | 7:30PM | Lied Center

May 14 [KU Commencement Ceremony](#) | 10:30AM | Memorial Stadium ([LINK](#))

{Looking for Graduate Workshops? Check out [THIS link](#)!}

NEW PUBLICATIONS

Adan Y. Leon, Alexander Guzman, Dionisio Laverde, **Raghnath V. Chaudhari, Bala Subramaniam, and Juan J. Bravo-Suarez.** "Thermal Cracking and Catalytic Hydrocracking of a Colombian Vacuum Residue and Its Maltenes and Asphaltenes Fractions in Toluene." *Energy & Fuels*, 0887-0624 (2017).

Mokhtari, M., Wood, D., Ghanizadeh, A., Kulkarni, P., Rasouli, V., Fathi, E., Saidian, M., **Barati, R.**, "Virtual Special Issue: Advances in the Petrophysical and Geomechanical Characterization of Organic-Rich Shales." *Journal of Natural Gas Science & Engineering* (2017)

Regis P. Dowd Jr., Vikram Lakhanpal, and Trung Van Nguyen, "Performance Evaluation of a Hydrogen-Vanadium Reversible Fuel Cell," *J. Electrochemical Society*, **164** (6), F564-F567 (2017).

Barforoush, Joseph M., Dylan T. Jantz, Tess E. Seufferling, Kelly R. Song, Laura C. Cummings, Kevin C. Leonard. "Microwave-assisted synthesis of a nanoamorphous (Ni_{0.8}Fe_{0.2}) oxide oxygen-evolving electrocatalyst containing only "fast" sites." *Journal of Materials Chemistry*. (2017)

Gilbert, W. J. R.; Safarov, J.; Minnick, D. L.; Rocha, M. A.; Hassel, E.; Shiflett, M. B. "Density, Viscosity, and Vapor Pressure Measurements of Water + Lithium Bis(trifluoromethylsulfonyl)imide Solutions." *Chemical and Engineering Data* 2017, In Press.

Shan, J.; Zhang, S.; Choksi, T.; Nguyen, L.; Bonifacio, C.; Li, Y.; Zhu, W.; **Tang, Y.**; Zhang, Y.; Yang, J.; Greeley, J.; Frenkel, A*; **Tao, F*** "Tuning Catalytic Performance through a Single or Sequential Post-Synthesis Reaction(s) in a Gas Phase" *ACS Catalysis*, **7**, 191-204. 2017.

QUOTE OF THE MONTH

"Scientists dream about doing great things. Engineers do them."

- James A Michener



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This newsletter was designed by Grace Lamar and distributed by the C&PE department representative, Martha Kehr: mkehr@ku.edu.

Photo courtesy of University of Kansas images

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