



Spring 2012

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## WELCOME

### Aims

Rock Research Expo (RRE) serves as a newsletter that keeps our campus informed of the scholarly endeavors and potential research opportunities for both faculty members and students. Specifically, Rock Research Expo aims to:

- Share new knowledge of different disciplines on campus,
- Provoke students' interests and curiosity in knowledge exploration,
- Promote long term academic communication and collaboration on campus, and most importantly,
- Develop a success-driven environment of learning for both faculty members and students.

### Scope

- Recent publications of faculty members and students on campus (title, authors, and short abstract),
- Research Projects and Grant Acquisition (title, authors, brief introduction),
- Recent conference presentations of faculty members and students,
- Announcement of visiting scholars on campus and a short biography for each scholar,
- Announcement of research related activities on campus.

### Policies

- Information submitted should be an in-depth elaboration in layman's terms to excite the readers,
- Anyone on campus can submit their information online or by email. Student submissions need to have a supporting letter or email from a faculty member,
- The basic submission standards for the newsletter will be that the submitted material be legible, pertinent, and appropriate to present to the campus community,
- Authors are responsible for the accuracy of their submissions. Newsletter editors and SRU will NOT be responsible for the verification of the submitted information.

**Editorial Board**

Dr. Jeffrey Forrest, Department of Mathematics

Ms. Jessica Marshall, Bailey Library

Ms. Judy Silva, Bailey Library

Mr. Philip Tramdack, Bailey Library

Dr. Jialing Wang, Department of Geography,  
Geology, and the Environment

## FEATURE STORY

### Chinese Visiting Scholar Helps to Guide Faculty/Student Joint Research

Professor Li Xiangdong, a management science scholar, has been a visiting scholar at the Modern China Center of SRU from Jiangsu Technology Normal University. His stay in the USA is entirely funded by China Council of Exchange Scholars.

Since his arrival at the Rock in October 2011, Professor Li has greatly enriched the lives of many SRU students and faculty members. Specifically, Li has been actively involved in the faculty/student joint research with mathematics major Zack Hopkins. They investigate how monetary investments can be and has been employed as a weapon of mass destruction; and how the nation that is potentially affected by the economic warfare can implement strategies to reduce the expected devastating consequences and/or to prevent them from happening at all.



*Li discusses with SRU students why meaningful research is important*

In February 2012, Professor Li, along with SRU mathematics majors Zack Hopkins, Andrew Brown, and Quentin Panger, shared their scholarly experiences and academic achievements with Dr. Jeffrey Forrest's class of Differential Equations.

In particular, Zack described how he made steady career progress through three different research projects with three different mathematics professors. The first project was on the discovery of patterns of tossing a fair die with Professor Richard Marchand, the second on how to rank NFL players with Professor Jacqueline Jensen, and the third with Professors Li and Jeffrey Forrest on money and warfare. He expects to have the current research completed by the end of 2012 summer and plans to submit the result for possible publication in a professional journal. With his minor in finance accompanied by the excitement generated by current work, Zack is also seriously thinking about pursuing a career in finance in order to produce a bigger and more direct impact on society.



*Mathematics major Zack Hopkins shares his academic success*

Andrew Brown shared his experience of joint faculty/student research by describing how and why he was excited about the topics and what potential impact the outcome of the research would bear on the future

development of mathematics and the philosophy of mathematics. Andrew is a graduating senior, who also minors in philosophy and Spanish, and will pursue a PhD degree in mathematics. Because he scored very well on the required standard examinations, he has received, in his own words, "tons of invitations from different graduate schools from around the nation." So, Andrew holds high expectations for what is awaiting ahead of him.



*Mathematics major Andrew Brown shares his academic success*

Quentin Panger, a junior mathematics major and a philosophy minor, talked about how he got involved in his joint faculty/student research. In order to encourage other students to do the same, he went a little deeper with his work by describing what actual and potential infinity were, and how they would affect mathematical induction, a widely used tool for mathematical proofs. Quentin's career goal consists of attending graduate school and obtaining a PhD degree in mathematics.



*Mathematics major Quentin Panger shares his joint faculty/student research experience*

In conclusion of the February 2012 meeting, Professor Li Xiangdong discussed why scholarly research was important in one's professional career, and what advantages mathematics majors would have in future career successes. He then cited an article, published in Wall Street Journal, on Big Data, indicating that by being able to analyze data, no matter which career path a person takes, he/she would be advancing quickly in his/her profession, because he/she would be able to locate and resolve real-life problems.

Through the connection of Professor Li, a delegation from SRU will visit Jiangsu Technology Normal University in the summer of 2012, hoping that these two universities could establish a long-term relationship that will involve the SRU School of Business.





*Professor Jeffrey Forrest shared great scholarly moments with SRU mathematics majors (from left to right) Quentin Panger, Andrew Brown, Zack Hopkins, and Chinese visitor Li Xiangdong*

calculus? Where would we be without the mathematical method of proof known as mathematical induction? I know one thing for sure; being a math major would be a whole lot different and maybe even easier if it weren't for these two very essential tools. But where are we today then? We question things that are hundreds of years old and may alter the foundation of math forever. That is truly a cool thing and I am glad to say that I know people that have altered not just math history but history as a whole."

Here are some of the students' comments about the February meeting:

"... we got to listen to other undergraduate perspectives... about doing research projects... this really made me want ... to discover something great that will change our lives forever."

"This meeting changed how I thought about group projects outside class workroom."

"Learning that students from Slippery Rock were working on such important projects surprised me. It showed me that it doesn't matter what school you go to. It is who the person is that can make these great discoveries."

"I personally hadn't realized that you didn't necessarily have to be the smartest person in the room to do a research project."

"The joint student research about infinities has most interested me. I hope to work on a problem one day that could re-write all the books."

"It was especially interesting to hear from the visiting professor from China because it gave the talk an extra dimension ..."

"It was very interesting learning about the different reasons behind why each individual wanted to do research."

"I cannot believe ... unreal to think that the foundations of mathematics are being challenged."

Where would we be today without the limit theorem of

## RECENT PUBLICATIONS

**Amatucci, Frances M. (School of Business)** and Ethne Swartz (2011) "Through a Fractured Lens: Women Entrepreneurs and the Private Equity Negotiation Process," *Journal of Developmental Entrepreneurship*, 16(3): 333-350.

**Conlon, M. P. (Department of Computer Science)** (2012). "Open Source Software in the Vertical Market: an Open Niche?" *Journal of Information Systems Applied Research*, 5(1): 16-25. <http://jisar.org/2012-5/> ISSN: 1946-1836.

Liu Sifeng, **Forrest, J. (Department of Mathematics)**, Yang Yingjie (2011) "A brief introduction to grey systems theory," *Grey Systems and Intelligent Services (GSIS), 2011 IEEE International Conference*, 15-18 Sept. 2011, pp: 1-9.

**Hartmann, H. (Department of Geography, Geology, and the Environment)**, Becker, S. & T. Jiang (2012) "Precipitation variability in the Yangtze River subbasins," *Water International* 37: 16-31.

**Hartmann, H. (Department of Geography, Geology, and the Environment)** (2012) "Neural Network Based Seasonal Predictions of Lake-Effect Snowfall," *Atmosphere-Ocean* 50: 31-41.

**Jirasakuldech, Benjamas (School of Business)**, Tom Zorn, John Geppert, and Donna Dudley (2011) "Financial Disclosure, Investor Protection, and Stock Market Behavior: An International Comparison," *Review of Quantitative Finance and Accounting*, 37: 181-205.

**Jirasakuldech, Benjamas (School of Business)** and Riza Emekter (2012) "Nonlinear Dynamics and Chaotic Behavior in the REIT Industry: a Pre-and Post 1993 Comparison," *Journal of Real Estate Portfolio Management* (Accepted for Publication on March 13, 2012).

Emekter, Riza, **Benjamas Jirasakuldech (School of Business)**, and Peter Went (2012) "Bubbles in Commodity Markets: An Application of Duration Dependence Test" *Top ten download from SSRN*

*website, Applied Financial Economics*, 22: 581-596.

**Leight, Joanne (Department of Physical Education) and Randall Nichols (Department of Physical Education)** (2012) "Infusing Technology into a Physical Education Teacher Education Program." *Developing Technology-Rich Teacher Education Programs: Key Issues*. IGI Global, 2012: 422-436. Web. 20 Mar. 2012. doi:10.4018/978-1-4666-0014-0.ch027.

**Yi Lin (Department of Mathematics)**, Sifeng Liu, (2011) "Small and large projects: their dynamics and which ones to take," *Kybernetes*, 40 (9/10): 1354-1372.

**Yi Lin (Department of Mathematics)** and Bailey Forrest (2012) *Systematic Structure Behind Human Organizations: From Civilizations to Individuals*. Springer: New York.

Qiao-Xing Li, Si-Feng Liu, **Yi Lin (Department of Mathematics)** (2012) "Grey enterprise input-output analysis," *Journal of Computational and Applied Mathematics*, 236 (7): 1862-1875. ISSN 0377-0427, 10.1016/j.cam.2011.10.018. (<http://www.sciencedirect.com/science/article/pii/S0377042711005619> )

Fellner, Hans, **Lindgren, William (Department of Mathematics)** (2011) "Gustav Theodor Fechner: Pioneer of the Fourth Dimension," *The Mathematical Intelligencer*, 33(3): 126-137.

Hogan, E. **Lusher, A. (School of Business)** and Mondal, S. (2011) "Development of an instrument for indirect assessment of college business programs," *Journal of Case Studies in Accreditation and Assessment*, 2 (Note: Mondal is a former temporary instructor in the School of Business)

Abstract:

In the spirit of continuous improvement, universities are constantly seeking ways to measure and enhance their effectiveness. Within colleges of business, the importance of assessment has been highlighted recently by AACSB accreditation standards dealing with assurance of learning. While AACSB standards focus primarily on direct measures of student learning,

indirect measures of students' experiences can also yield important and actionable knowledge. This paper reports on the validation of a "home-grown" exit survey of business seniors (n = 837) in two universities. The instrument taps into students' evaluations of their general education courses, business core/common classes, experience in their majors, advising, and resource availability. In data from one university, exploratory factor analysis was used to create six reliable summary indices of students' evaluations. This factor structure was replicated in data from the second university. Use of instruments such as this to improve business programs is discussed.

**Mong, D.R. (School of Business)** (2011) "Online delivery of the legal environment of business course," *Proceedings of the Society of Business, Industry, and Economics*, 56-66.  
(<http://www.una.edu/sobie/proc2011.pdf> )

**Katrina J. Quinn (Department of Communication)** (2011) "Exploring an Early Version of Literary Journalism: Nineteenth-century Epistolary Journalism," *Literary Journalism Studies*, 3(1): 33-52.

Wright, John Paul, **Rebecca Schnupp (Department of Criminology and Criminal Justice)**, Kevin M. Beaver, Michael G. Vaughn, & Matt DeLisi (2011) "Genes, maternal negativity, and self-control: Evidence of a gene X environment interaction," *Youth Violence and Juvenile Justice*.

Mary Manning and **Judy Silva (Library)** (2012) "Dual Archivist/Librarians: Balancing the Benefits and Challenges of Diverse Responsibilities," *College & Research Libraries*, 73: 164-181.

**Langdon Smith (Department of Geography, Geology, and Environment)** (2007) "Cape Hatteras: Birth of the National Seashore," *Historical Geography* 35: 38-55.

**Smith T.D. (School of Physical Therapy)**, Eiting T., Bhatnagar K. (2012) "A Quantitative Study of Olfactory, Non-Olfactory, and Vomeronasal Epithelia in the Nasal Fossa of the Bat *Megaderma lyra*," *Journal of Mammalian Evolution*, 19: 27-41.

Muchlinski M. N., Docherty B. A., Alport L. J., Burrows A. M., **Smith T. D. (School of Physical Therapy)**, Paesani S. M. (2011) "Behavioral and Ecological Consequences of Sex-Based Differences in Gustatory Anatomy in *Cebus paella*," *Anatomical Record*, 294: 2179-2192.

**Smith T.D. (School of Physical Therapy)**, Garrett E.C., Bhatnagar K.P., Bonar C .J., Bruening A .E., Dennis J .C., Kinzinger J .H., Johnson E.W., Morrison E. E. (2011) "The Vomeronasal Organ of New World Monkeys (*Platyrrhini*)," *Anatomical Record*, 294: 2158-2178.

Zhining Hu, Jianghuai Zheng, **Jialing Wang (Department of Geography, Geology, and Environment)** (2011) "Impact of Industrial Linkages on Firm Performance in Development Zones: The Case of Jiangsu Province," *Chinese Economy*, 44(2): 78-105.

**Webb, F. L. (School of Business) and Galbraith, D. D. (School of Business)** (May/June 2011) "Transformational Decision Making: A Corporate Success Story in Purchasing," *Journal of Business Case Studies*, 7(3).

## RECENT PRESENTATIONS

**Burkhart, P. (Department of Geography, Geology, and Environment)**, Iksic, C., Litzinger, N., Andresky, L., and Underwood, R. (2011) "Evaluation of Potential Baseflow-Wetland Impacts from Mining of the Jacksville Esker, Butler County, Pennsylvania," Northeastern (46th Annual) and North-Central (45th Annual) Joint Meeting of the Geological Society of America, 20–22 March 2011, Pittsburgh, PA. (Note: Litzinger, Andresky and Underwood are SRU students).

BALDAUF, P. and **BURKHART, P. (Department of Geography, Geology, and Environment)** (2011) "Mass Wasting and Quaternary Landscape Development, Badlands National Park, South Dakota," 2011 GSA Annual Meeting, 9–12 October 2011, Minneapolis, MN.

**Conlon, Michael P. (Department of Computer Science)** (2011) "Open Source Software in the Vertical Market: An Open Niche?" Conference for Information Systems Applied Research, 2011 CONISAR Proceedings, Wilmington, North Carolina, USA, v4 n1808.

**Hartmann, H.**, Andresky, L. & R. Kellar (**all Department of Geography, Geology, and the Environment**) (2012) "Fostering Undergraduate Research: a Study of Precipitation Variability in the Indus River Basin," Oral Presentation at the 2012 Annual Meeting of the Association of American Geographers, 25 February 2012. New York, U.S.A. (Note: The non-bolded names are SRU students).

Andresky, L., Kellar, R. & **H. Hartmann (all Department of Geography, Geology, and the Environment)** (2012) "Precipitation Trends in the Indus River Basin," Poster Presentation at the 2012 Annual Meeting of the Association of American Geographers, 27 February 2012. New York, U.S.A. (Note: The non-bolded names are SRU students).

**Andrzej Szymanski (2011)** "Non-normality points in Cartesian product", 26th Summer Conference on

Topology and Its Applications," July 26-29, 2011, The City College of CUNY, New York, NY, USA.

**Zieg, M.J. (Department of Geography, Geology, and Environment)**, Ryan, A.J., Franze, A.E., and Spigler, C. (2011) "Petrologic evolution of a Nipigon diabase sill, Ontario, Canada: Insights from compositional and textural profiles," Geological Society of America Abstracts with Programs, 43(5): 228.

**Zieg, M.J. (Department of Geography, Geology, and Environment)**, and Marsh, B.D. (2011) "Multiple reinjections and crystal-mush compaction in the Beacon sill, McMurdo Dry Valleys, Antarctica. EOS," Transactions of the American Geophysical Union, 2011 Fall Meeting Supplement, Abstract #V33F-04.