

Summers of Science

Many of our MU undergraduates participated in research to fill their summer with scholarship, enrichment, and fun. Here, check out a few of our students:

Krystal Purnell

Major: Animal Science

Hometown: Kansas City, MO

Year: Senior

Summer Location: Melbourne Australia

Experience: Radio tracking kangaroos

Best part: "I got the opportunity to get a kangaroo

named after me. It was very exciting to be able to spend nights where the kangaroos roamed. I visited Phillip Island where I fed koala bears, wombats, kangaroos, wallabies, and emu's!"



Jordan Marshall

Major: Biological Sciences and Spanish minor

Hometown: O'Fallon, IL

Year: Senior

Summer Location: The University of Massachusetts Medical School in Worcester, in the laboratory of Dr. Robert T. Woodland and Dr. Madelyn Schmidt

Experience: "My project this summer, entitled 'Introducing Bcl-X1 to growth factor dependent cells by transgenic retroviral infection,' involved producing a retrovirus to introduce the anti-apoptotic gene Bcl-X1 to cells dependent on growth factor and testing proper protein function by removing growth factor from infected cells and observing population viability."

Best Part: "The advice Dr. Woodland gave me halfway through the summer. He told me that students often get tangled in all of the specifics and forget to step back to take a look at the bigger picture."



Antionette Gray

Major: Biological Sciences

Hometown: Columbia, MO

Year: Senior

Summer Location: Monsanto in Chesterfield, MO

Experience: "I assisted with creating a new nitrate assay protocol that will be used to measure nitrate samples in powdered corn tissue. I applied for and received the 2008 Botany Without Borders Undergraduate Travel Participation Grant. This grant covered my lodging, seminar expenses, and field trips for the entire conference in Vancouver, Canada."



Miles Walz-Salvador

Major: Dual Major in Forestry and Fisheries & Wildlife

Hometown: St. Louis, MO

Year: Sophomore

Summer Location: Missouri Botanical Gardens in Saint Louis, MO

Experience: "My research was on the effects of a the rare and endangered hemi-parasitic prairie plant (Earleaf False-Foxglove) on surrounding vegetative structures."



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Website of the Month: Check out this useful website for undergraduates, graduates, post-docs, and faculty mentors!

Ashley Groves

Major: Biological Sciences

Hometown: Chicago, IL

Year: Senior

Summer Location: University of Missouri

Experience: "Participating in the UMEB program. In the lab of Dr. Reginald Cocroft, I studied animal communication. We were researching if particular insects called treehoppers used vibrations to locate one another in order to mate."

Best Part: "The best thing about my summer was developing a strong bond with my research mentor. He helped to guide me in my research project and gave great advice about how to work in the lab. It is very beneficial to know that my project will assist him in his research and he encourages me to succeed."



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Be in the Know

Achievements, News and Announcements for our community members

EXPRESS Update:

The Exposure to Research for Science Students (EXPRESS) has about 30 undergrads so far this year and has begun Wednesday meetings.

At the September 3rd Express meeting, four faculty members spoke with the students about research at MU. **Dr. Heidi Appel** (Plant Sciences) discussed why plant research is important and the responsibilities students might expect in plant science labs (hands-on research, using the latest technologies, the possibility of fieldwork, and eventual presentation of results).

Dr. Don Burke (Molecular Microbiology & Immunology) discussed how an undergraduate research experience can impact a student's future and how he got started as an undergraduate, studying the biochemistry of ferns. Now Dr. Burke studies viruses, and he talked about the work he and his colleagues do with the HIV virus and gene therapy.

Dr. Michael Garcia (Biological Sciences) explained the various research projects in neurosciences in the Bond Life Sciences Center, Lefevre Hall, Schweitzer Hall, and in the Medical School. Nutritional Sciences chairman **Dr. Chris Hardin** encouraged students to think about life sciences broadly. He discussed research at MU that relates to heart disease, cancer, obesity, diabetes, hypertension, and microcirculation.

Congratulations, Undergraduates!

The following MU undergrads presented posters of their work at our 19th annual Summer Undergraduate Research and Creative Achievement Forum on July 31st:

"Determining the function of SNC1 in Arabidopsis plants," **Joseph Adiasor (Chemistry, St. Louis, MO)**, Fei Gao, and Walter Gassmann

"The ramosa1 gene plays a role in shoot-borne root patterning in Zea mays L.," **Moises Aguayo (Agricultural Business Management, Columbia, MO)**, M. Gerau, G. Davis

"Determining whether mate-searching males use directional information from female signals in Umbonia crassicornis," **Jasmine Dillard (International Business, St. Louis, MO)**, Reginald Crocroft, **Ashley Groves (Biological Sciences, Country Club Hills, IL)**, and Jennifer Hamel

"Significance of hormone replacement therapy in the experience of Lymphedema in breast cancer survivors," **Danielle Huff (Biological Sciences, O'Fallon, IL)** and Jane Armer

Congratulations to the 2008-2009 Express Peer Mentors: Desirè Buckley, Ashley Groves, Osa Okunbor, and Krystal Purnell!



Jennifer Stetler

Major: Dual major of Animal Sciences and Biochemistry

Hometown: Potosi, MO

Year: Senior

Summer Location: Vanderbilt University

Experience: "My project for the summer was to examine the role of a novel viral protein σ 1s from reovirus on how it disrupts the cell cycle. From my work able to indicate that σ 1s cause cell cycle arrest in G2 phase. Practical implications of this work can be used to further understand cancer research and aid development of future cancer treatments."

Best Part: "The most exciting experience was presenting my work at a national conference."

Alyce Johnson

Major: Fisheries & Wildlife

Hometown: Kansas City, MO

Year: Senior

Summer Location: Nanyuki, Kenya

Experience: "My project involved recording zebra vigilance behavior and how it changed depending on the habitat characteristic."

Best Part: "Holding a three month old lion cub while in Nairobi... One of the workers pulled the lioness out of the cage and placed her in my arms, and that 3 month old lion was heavy. She also was trying to claw my face so I did not spend that much time with the cub in my arms, but it was a day to remember."



EXPRESS Calendar

Wednesday, September 17: EXPRESS meeting, 4-5 p.m., 121 LSC, Topic: "Finding your right livelihood (comparing MD vs. PhD vs. MD/PhD)," Speaker: Dr. Joel Maruniak, Associate Professor of Biological Sciences

Friday, September 19: Turn in your contracts, signed by your new faculty mentor by this date!

Saturday, September 20: EXPRESS Student Laboratory Skills Training, 8:30 a.m.-11:30 a.m. Bond Life Sciences Center

Wednesday, September 24: EXPRESS meeting, 4-5 p.m., 121 LSC, Topic: "Graduate Student Stories: Research, Academics, Career Paths," Speakers: MU grad students

SURLS Meeting: Wednesday, September 24, 5:30 p.m., 121 LSC

Speaker Assistant: Dean Stuart Ravnik, Biomedical Sciences, University of Texas Southwestern Medical Center at Dallas

Nexus News

Website of the Month

<http://www.rootsnbluesnbbq.com/>

The Roots n' Blues n' BBQ Festival is coming to Columbia for the second time this October 3rd and 4th. The festival brought the town to life last year with downtown stages and spectacular music. Come out and enjoy the Bel Airs, Noah Earle, Bettye LaVette, and far more!

Retreating to Branson



Twenty Nexus graduate students set out to Branson, Missouri this August for a retreat that would be designed to bring together different perspectives for the graduate students to be successful. New students were able to meet other minority graduate students and were offered mentorship as the “veteran” graduate students offered advice about graduate student life. The benefits of the Retreat were not limited to the newcomers but all involved were able to share with everyone their experiences with lab research, lab environment, graduate classes/comprehensive exams, relationship with mentors, and life in Columbia, Missouri. There was an open forum where personal adventures were discussed from each member of how to

continue self-motivation, overcome the transition of undergraduate to graduate life, and incorporate the individual's strengths and talents into a successful journey of obtaining goals at MU. It was a very enlightening experience for all graduate students regardless of their different stages of their graduate student careers.

However, It was not all work and no

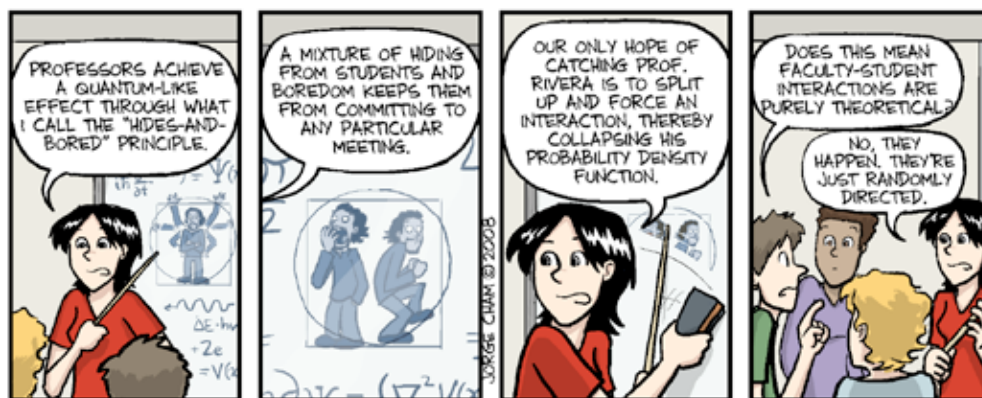
New Staff Member



The Office of Undergraduate Research has hired a new administrative assistant named Pam Monroe. Pam is a life-long resident of Columbia. She holds an associate's degree in business management/marketing and is currently finishing up her bachelor's degree in business and criminal justice. In her spare time, Pam likes to be with her family. She spends her private time doing word and number puzzles and watching home improvement shows. Stop by and see her in 150 LSC.

play for the graduate students as they came together for social interactions and took a break away from the current stress and pressures that coincide with being a graduate student in science. They were able to develop a comradeship through strategy and social gathering games, and other activities such as swimming, basketball, the Ripley's Believe It or Not Museum, and site-seeing. It was a relaxing experience that allowed the peer to peer interaction to promote growth and knowledge on how to be better graduate students, representing the significance of Nexus.

~Benisha Wiltz is a 23-year-old graduate student in Biological Sciences



WWW.PHDCOMICS.COM

Cornell Professor to Speak on October 2nd



Dr. Margaret Bynoe is an assistant professor of Microbiology and Immunology at Cornell University and will be speaking at Monsanto Auditorium in Bond Life Sciences Center on Thursday, October 2nd from 2:15 to 3:15. She received her Ph.D from the Albert Einstein College of Medicine as well as postdoctoral training from Yale University

School of Medicine, where she became an Associate Research Scientist. Juniors and seniors will have the opportunity to have lunch with Dr. Bynoe. The Nexus Graduate Association will be hosting Dr. Bynoe for dinner. Her visit to MU is cosponsored by MMI and the NIGMS IMSD grant.

2008 SACNAS Conference

The 2008 SACNAS National Conference, taking place in Salt Lake City, Utah on October 9-12, celebrates the organization's 35th anniversary. In honor of this milestone, SACNAS marks this year's conference by engaging conference participants from all scientific fields in discourse on global change. The mission of SACNAS (Society for Advancement of Chicanos and Native Americans in Science) is to encourage Chicano/Latino and Native American students to pursue graduate education and obtain the advanced degrees necessary for science research, leadership, and teaching careers at all levels.

Source: <http://www.sacnas.org/confNew/ConfClient/>

What is the NEXUS newsletter anyway?



Our purpose is to create a network for minority undergraduate students, graduate students, post-bac students, post-docs and faculty in the life sciences on this campus. We believe that purposefully creating a network and community will have several benefits: (1) younger students can benefit from older scientists through networking and role modeling; (2) older scientists can have the satisfaction of helping those younger through the pipeline, all members can benefit from mutual support; (3) the community can work together to host speakers of common interest; (4) information on programs, grants and other opportunities can be effectively shared; and (5) the university can take pride in the ongoing campus efforts to diversify the biomedical/life sciences research workforce from the undergraduate to faculty level.

Nexus (nex-us n)

1. a connection associating two or more people or things
2. a group or series of connected individuals or things
3. the center or focus of something
4. a specialized area of the cellular membrane that helps cells to communicate or adhere

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The Office of Undergraduate Research, located at 150 Bond Life Sciences Center, composes and designs the newsletter. If you would like to contribute something to the newsletter (award announcement, science joke, story, etc.), contact graduate assistant John Hendel at JDHendel@gmail.com or 314-920-5880.

