

Newsletter for the Presidential Endowed Scholars Program

THE PRESIDENTIAL SCHOLAR

Issue 2 • Fall 2014

the interim is yours

Kate Thompson

Presidential Scholar • Class of 2015

— JUDY AND BOBBY —
SHACKOULS
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Students Making 'the Interim Theirs'

Dear Friends,

This past year was a special one for the Presidential Endowed Scholars Program. On a special night in April in the Forum Room of Griffis Hall, the senior Presidential Scholars said their farewells to their friends and fellow Scholars. The Class of 2014 has future doctors heading to medical school in Jackson, a future nurse beginning graduate school in Birmingham, an aerospace engineer heading to Stanford, a future educational linguist earning her masters degree from MSU, a future oil executive moving to Houston, a graphic design artist beginning her career in Starkville, and a future teacher finishing her degree in English before changing the lives of her own students. Matthew Berk, Khanh Nguyen, Clint Pride, Vijay Kannuthurai, Whitney Knight, Whitney Ray, Channing Osborne and Anna Russell have been leaders in the Presidential Scholars Program and mentors to their friends and fellow Scholars. I will miss them.

As we celebrated the careers of these graduating seniors, their impact as



Presidential Scholars studying at the University of Oxford, Trinity Term 2014. Sally White, Eddie Mac Huddleston and Jamie Aron



*Top, left to right. Natalie Jones, Kim Kelly, Allie Brown, Roxie Raven
Middle. Max Mosely, Jack Bryan, Aalaap Desai, Rodney Kipchumba, Pres. Keenum
Bottom. Sallie Lin, Emily Damm, Haley Wilcutt, Holly Travis*

leaders in the program is evident in the accomplishments of the current Scholars. In this issue of *The Presidential Scholar*, I introduce you to some of these amazing student-leaders. You will read about an incredible class of rising sophomores, many of whom are already engaging in meaningful research with faculty from across the region and nation. I also introduce you to a Presidential Scholar—senior Kate Thompson—who has pursued excellence with uncommon passion and intellect. Her research is helping to shape current and future scholarship on mammalian reproduction, and her commitment to responsible wildlife management is helping sustain a precarious balance between humans and animals in our ecosystem. You will also read about Zack and Allie Brown, sibling Presidential Scholars who prove that high academic achievement is a family affair.

Zack and Allie are not the only sibling Presidential Scholars. The list of brothers and sisters who are Presidential Scholars includes recent graduate Whitney Ray and her brother Jordan, who graduated in 2005. Whitney interviews her brother in this issue's alumni update. The

Presidential Scholar Program is proud of his journey from MSU to medical school in Jackson, and then from a residency in Dallas to a fellowship in Boston.

As the program's mentor, I continue to marvel at the accomplishments of these students. During the Presidential Scholar Interview Day Luncheon, I asked the Scholars to take intellectual and academic risks during their short time at MSU—to double major, to study abroad, to engage in research, or run for president of the Student Association. Stealing a phrase from *Hamlet*, I asked them to "make the interim theirs." With the support of Dr. Snyder, the Dean of the Judy and Bobby Shackouls Honors College, my goal remains to introduce these scholar-leaders to opportunities that they may barely have dreamed about when they arrived at MSU, and then to welcome them into a community of Scholars—over 170 and counting—who have turned their dreams into realities. I hope you enjoy reading about students who are making the interim theirs.

Dr. Thomas Anderson
Mentor, Presidential Endowed Scholars

Exploring the City on a Hill

Presidential Scholars in Boston

By Natalie Jones. Presidential Scholar. Class of 2017

Each year Presidential Scholars go on a trip to a major city in the United States to experience different cultural and intellectual opportunities and to learn more about competitive graduate programs. This year, we were given the opportunity to travel to Boston, Massachusetts, where we experienced New England history and culture, learned about many academic programs at Harvard, Tufts, and MIT, and were reminded that interdisciplinary studies are vital to solving national and global problems.

The first event that the Presidential Scholars attended was the American Repertory Theater's world premiere of *Witness Uganda* at Harvard Square. This inspirational musical tackled many controversial issues including the corruption of certain aid agencies and the struggles of aid workers in their fight to positively impact countries in need. The next day, after touring the Massachusetts State House, our group visited the renowned New England Conservatory. Here, we enjoyed an informative lecture about a program called "El Sistema" that offers free classical music training to low-income areas in an attempt to alleviate poverty by equipping youth with musical skills, discipline and drive. Afterwards, we attended "A Far Cry", The New England Conservatory's self-conducted orchestra, watched a Celtics game, and explored Boston.

The next two days were filled especially with the distinctive aroma of Boston. From touring the historic Fenway Park, reading at the Kennedy Library, visiting the Museum of Fine Arts, or walking the Freedom Trail, we were immersed in Bostonian history, culture and life. Our final day was organized by the Stennis Center. We began this day with a tour of Tuft University's Fletcher School of International Diplomacy—one of the nation's leading professional schools in international affairs.

The group also traveled to Harvard's Kennedy School of

Public Policy and engaged in a compelling discussion about graduate school with Harvard graduate students and faculty.

At the beginning of my freshman year, I was informed that the Presidential Scholars took an educational trip each year during spring break. I immediately constructed an idea that the trip would be simply a social gathering. What else could one expect with the classic combination of college students, an out of town destination and Spring Break? However, now that I've participated in this yearly adventure, I realize that my assumptions about this trip were wrong. I feel that I speak on behalf of every Presidential Scholar when I say that looking back on this year's trip to Boston, we find ourselves more challenged and inspired than we ever thought possible. This year's trip not only exposed us to some of America's premier academic institutions, but also expanded our perceptions of the world around us and of our futures as Scholars.



Presidential Scholars in Boston



2014 Graduating Class of Presidential Scholars

Front Row(L-R). Whitney Knight, Anna Russell
Second Row. Clint Pride, Vijay Kannuthurai, Channing Osborne, Whitney Ray, Khanh Nguyen, Matthew Berk

Lions and Tigers...and Roller Derby?

By Sallie Lin. Presidential Scholar. Class of 2017



Presidential Scholar Kate Thompson, a rising senior majoring in biochemistry, ventured to South Africa this summer to study the conservation and care of exotic animals. For her first experience out of the U.S., she describes her trip as a great opportunity that has combined all her interests in veterinary medicine, scientific research and conservation.

In South Africa, Kate studied at several national parks and reserves, where she participated in disease-free breeding projects and worked with a variety of native animals, including cheetahs, water buffalos and crocodiles. “Being part of the conservation team in South Africa gave me a unique perspective

on the conservation efforts of veterinarians, game capture experts, and anti-poaching organizations,” Kate explained.

She learned about several methods that will likely promote a positive, permanent change for endangered animals. Of these methods is the legalization of endangered animal breeding for the harvest of meat, horns, fur, and ivory. For example, if rhino horn farming is legalized, the horns can be removed and sold without killing or hurting the animal, and as a result, poaching would be reduced. “The fact of the matter is this: pleading and crying to save the animals is not going to get anything done. Establishing

mutually beneficial systems between endangered animals and people is what will save our species.”



When Kate returned to the U.S., she continued her efforts to help wildlife as a summer intern at In-Sync Exotics in Wylie, Texas. Supporting animal welfare and public education, In-Sync Exotics is a non-profit rescue and rehab center for exotic felines. The organization liberates dozens of big cats, including tigers, lions, ocelots, and servals. Kate explained, “Most of these animals have been horribly mistreated, abused and neglected from private owners and entertainment companies.”

In teaching children and adults about the different species at In-Sync, Kate also helped develop programs that educate the public on the horrible, yet shockingly often legal, treatment of these captive animals. “As a part of this organization, my number one goal is to spread awareness of the exotic animal trade,” the third largest illegal trade in the world behind guns and drugs. As an intern, Kate was involved in animal care and training, and she had the chance to assist in grant and policy writing to fund In-Sync.

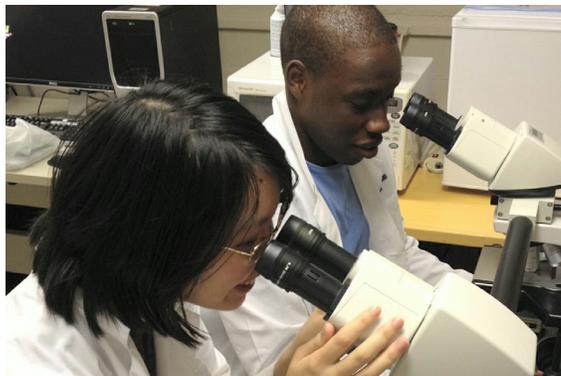
Kate’s commitment to animal ecology complements her accomplishments as an undergraduate researcher at Mississippi State University. This year, she was named an honorable mention for the Goldwater Scholarship, a national award in STEM that recognizes the impact of her future research. When she is not in the laboratory or wrestling exotic animals, Kate’s real impact can be felt on the roller derby rink as Lady MacDeath on Starkville’s Mississippi Brawl Stars.



It's Never Too Soon

Freshman Presidential Scholars Making a Difference

In 2014, the freshman class of Presidential Scholars redefined what is possible for first year researchers, activists and leaders in their local communities and across the globe. Sallie Lin and Rodney Kipchumba, two biological engineering majors, were admitted into the Summer Undergraduate Research Experience Program (SURE) at the University of Mississippi Medical Center. The program trains undergraduates in the biomedical sciences through hands-on research in a laboratory setting in collaboration with a mentor.



Sallie Lin and Rodney Kipchumba at UMMC-SURE

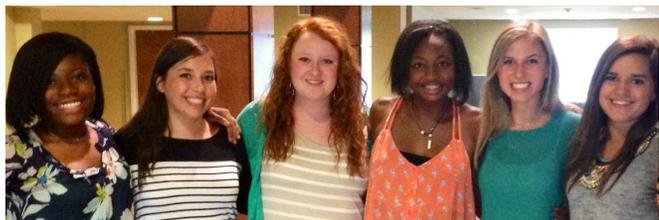
Rodney's research for SURE took him in several directions. In one project he worked closely with a lab partner to produce as much elastin-like polypeptides (ELP) as possible for the lab. Another project required him to analyze the modified ELP + ELP-PEI surface and running solvent contact angling tests to calculate the surface energies of different coating compositions. According to Rodney, the summer research experience "has shuttled me far outside of my comfort zone, and because of this, has been a very valuable experience."

Sallie's SURE experience was equally as fascinating. She was also involved in several projects, from immuno-histochemistry (detecting certain targets in tissue using antibodies) to rat model experiments. Called the "rat whisperer" by her peers in the program, Sallie loved interacting with the rodents during her research. "I handle rats daily to let them get used to people and to prepare them for the experiment. I enjoy working with animals, so rats are no different.

Rats are very gentle creatures and a privilege to work with. Working with them never fazed me." Sallie was most excited to do applied research with experts in her field. "My summer research allowed me to see the big picture."

Other Presidential Scholars from the freshman class spent their summer active in communities across the region and globe.

- *Kim Kelly* traveled through fifteen states over three months doing disaster relief with the North American Mission Board.
- *Holly Travis* traveled to Cusco, Peru to study Spanish and the history of Inca Civilization, and she volunteered as a mentor in a home for girls rescued from sex trafficking.
- *Aalaap Desai* travelled abroad with Global Brigades in Honduras, where he assisted in taking triage, conducting public health seminars and observing doctor consultations.
- *Roxie Raven* helped plan and organize WE Lead, a weeklong summer conference focusing on leadership for thirty high school juniors and seniors. She also acted as counselor for the conference, mentoring a group of six participants.
- *Emily Damm* and *Natalie Jones* were selected to attend the Mississippi NEW Leadership Program. Emily also worked at the MSU Television Center, editing projects, interviewing and developing client relations for the university. Natalie helped to plan a youth conference in Mississippi for over 200 participants.
- *Jack Bryan* conducted research for Mississippi State's Social Science Research Center on the uses of Medicaid in Mississippi. He also attended a Horizons Leadership Conference in Utah.
- *Haley Wilcutt* was an animal intern at Cub Creek Science Camp, in charge of the Junior Vet program, surgery program and adoption program.
- *Allie Brown* received a Research Experience for Undergraduates (REU) from Texas A&M. She worked in the Cardiac Device and Mechanobiology Laboratory.
- *Max Moseley* competed in a triathlon and served as chair of the fundraising committee for the 2015 Southeast Regional Conference for the Institute of Industrial Engineers.



Roxie, second from the right, with her WE Lead participants

Presidential Scholars

A Family Affair

Excellence is genetic in the case of brother and sister Presidential Scholars Zack and Allie Brown. Zack, a rising senior, majoring in mechanical engineering, and Allie, a rising sophomore majoring in biological engineering, are both conducting important scientific research that has taken them away from MSU this summer.

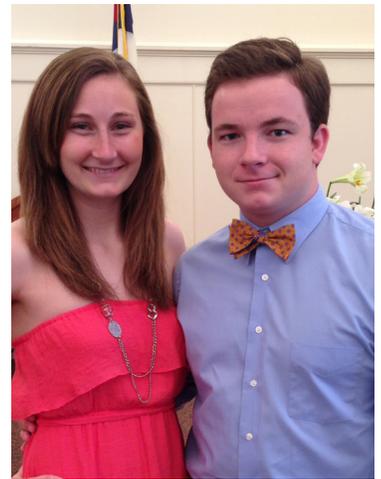
Allie received an Undergraduate Summer Research Grant from Texas A&M to work in the Cardiac Device and Mechanobiology Laboratory with research-mentor Dr. John Criscione, associate professor of biomedical engineering. Allie worked on direct cardiac assist devices capable of providing adjustable passive support and synchronous active assist simultaneously. Allie's goal for the USRG project was to use fluoroscopic imaging to assess how cardiac motion and displacement are affected by the action of an extra-cardiac assist device. The grant also supported Allie's preparation for the Graduate Record Exam, which she will take before applying to graduate school.

Zack is part of the Higher Educational Research Experiences (HERE) Internship Program in Oak Ridge National Lab, funded the Global Security Directorate. Working in the former High Temperature Materials Laboratory with his research-mentor Dr. Michael J. Lance, Zack studied the effect of water vapor on the spallation of Diesel Exhaust Gas Recirculator (EGR) Cooler deposits in order to develop methods of refreshment. Zack

provided Dr. Lance's research team with exhaust flow conditions that could potentially refresh these exhaust coolers to mitigate fouling and promote efficiency in diesel engines.

For Allie, that her brother Zack is also a Presidential Scholar is special to her. "This year, Zack played a much larger role than just my big brother. He has been the ultimate role-model for me because of his dynamic personality and unwillingness to settle for anything less than excellence. He's my biggest supporter."

As Allie's big brother, Zack revels in her accomplishments. "I find quite often that I'm more excited to learn of her achievements than to celebrate my own," Zack says. "Seeing her develop during her freshman year as a fellow Presidential Scholar and researcher was extremely fulfilling as an older brother. I couldn't possibly be more proud of her. Especially when I get the opportunity to say, 'That's my little sister.'"



Allie and Zack Brown

Goldwater Foundation Honors Two Presidential Scholars for Scientific Research

Presidential Scholars Matthew F. Blair, a civil engineering major, and Kate Thompson, a biochemistry major, were among those receiving honorable mention awards this year from the national Barry M. Goldwater Scholarship and Excellence in Education Program.

"Winning two Goldwater honorable mention awards underscores how competitive our Presidential Scholars are on a national level," said Tommy Anderson, prestigious external scholarships director in MSU's Shackouls Honors College.

"Matt and Kate have been engaged in significant research as undergraduates since their sophomore year at Mississippi State," the associate professor of English added. "Their departments have actively supported their research, and their faculty mentors



Kate Thompson and Matt Blair
Goldwater Honorable Mention Award Recipients

Goldwater continued

have been instrumental in introducing them to transformative experiences beyond the classroom.”

Blair’s career goals include a doctoral degree in environmental engineering and research on water quality and renewable energy systems. Thompson will be seeking to apply her knowledge and training in biochemistry and biotechnology to help address fundamental questions in mammalian reproduction and genomics.

“I am very honored to be ranked as an Honorable Mention Goldwater Scholar among such talented, successful individuals,” Thompson said. “I have dedicated so much of my time to my research, and it is a wonderful feeling to have my work acknowledged at a national level.”

Blair concurred, adding, “For me, the Goldwater Scholarship was the next major step in my personal and academic development. It is an honor to be recognized, and serves as motivation to continue working to make a difference in the world around me.”

Anderson said Kate and Matt understood early the value of making presentations in the Honor College’s Undergraduate Research Symposium. “Now, their research is being recognized in scientific publications and with prestigious research internships,” he said, terming their scientific investigations as “some of the most promising in the nation.”

Alumni Update

Meet Jordan Ray, Schillig-Presidential Scholar Class of 2005

Whitney Ray, Distinguished-Presidential Scholar Class of 2014, asked her brother what the Presidential Scholar Program meant to him during his time at MSU.

This group of close-knit scholars played a very influential role in my college experience. This experience was not only a financial advantage but provided me with opportunities that have helped shape me as a person and a student. Since my graduation from MSU in 2005, I have completed medical school at the University of Mississippi School of Medicine, a five-year radiology residency at Baylor University Medical Center in Dallas, Texas, and just recently began my fellowship in Interventional Radiology at Brigham and Women’s Hospital in Boston, Massachusetts, one of the principal teaching facilities in affiliation with the Harvard Medical School.

Because of the Scholars Program, I was introduced to some influential MSU alumni from CEOs to captains of industry. I was able to see how Mississippi State and the Presidential Scholars prepare you for success, and I was further motivated to invest in myself and my education. One of my best memories of the program is the afternoon I spent alone with Dr. Donald Zacharias, the MSU President Emeritus at the time. The conversations I had with him and other speakers helped to prepare me for medical interviews and additional professional encounters I have had since my college years.

I have really enjoyed having my sister Whitney participate in the program over the past four years. Whitney and I are nine years apart in age so it has always given us a closer bond and similar MSU experience. It has been really fun to discuss with her the ways the program has changed and grown over the years, but also share in the cool experiences like having dinner with the president and taking different trips. It has been a really special thing to share with my little sister and I know we are both extremely grateful to have been given the opportunity. The Presidential Scholar program is unparalleled and changes many lives, especially for the two of us. It is something that we will always share and for that I am forever grateful.



We want to hear from you!

The “Alumni Update” is a regular feature in *The Presidential Scholar*. We invite scholars to send us news to share with our more than 150 alumni. Please send professional or personal updates to Dr. Thomas Anderson at tanderson@honors.msstate.edu or call him at 662-325-2522

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Dr. Christopher Snyder
Dean, Judy and Bobby
Shackouls Honors College

A Note From the Dean

This has been a great year for the Shackouls Honors College, and particularly the Presidential Endowed Scholars Program. The Presidential Scholars are active participants in the academic opportunities their scholarships support. These students participate in study-abroad and research opportunities that provide new ways of thinking and seeing the world around them.

In 2013-14, the Presidential Endowed Scholars Programs continued to receive generous support from friends and faculty, including Judy and Bobby Shackouls and John and Jeanne Marszalek. Their gifts support programming

for the Presidential Scholars and make possible experiences like their trip to Boston this year. Of course, our needs continue to grow to support our scholars in their pursuit of ideas that will transform our region and the world.

Please consider making a tax-deductible gift to support the Presidential Endowed Scholars program or to contribute to the Scholars Fund initiated by the generous support of John and Jeanne Marszalek in 2013. To do so, contact the Shackouls Honors College office at 662-325-2522 or shc@honors.msstate.edu.

The Presidential Endowed Scholars Program thanks these friends for their generous support in 2013-14.

- Joe Turner
- Angela Spence Diggs
- Dr. Johnny Sandhu
- John Kosko
- Julie McCallum
- John Harrelson
- Alex and Chelsea McIntosh
- Department of English
- Political Science and Public Administration
- Department of Electrical and Computer Engineering
- Department of Agricultural & Biological Engineering
- Office of the Provost
- Division of Student Affairs
- John and Jeanne Marszalek