ST. EDWARD'S UNIVERSITY

McNair Scholars Program

The Orbit

SPRING 2017 • VOLUME 11

2016–2017 Welcome McNair Scholars

▲ 2016–2017 Cohort, December 2016

Katelynn Badour
Psychology

Nubia Briones
Psychology

Zwiesineyi Chindori-Chininga
Environmental Science and Policy; Religious and Theological Studies

Sarahi Enriquez
Forensic Chemistry

Jacqueline Flores
Theater Arts

Rachel Leader
Sociology

Erick Muñoz
Philosophy

Chantal Neutzler
Biology

Norma Itzel Salas
Social Work

Anthony Sanchez
Biochemistry

Alicia Torres
Psychology

Neal Whetstone
Political Science

Congratulations, McNair Graduates 2016–2017

Ana Avalos
Melissa Chavarria
Emily Dalton
Marcela Nicole Kunkel
Amy Ontai
Jaqueline Ortuño
Isavannah Reyes
Lorena Sierra
Nickolaus Stiles
Crisel Suarez

SCHOLAR HIGHLIGHT: ISAVANNAH REYES GRADUATING SENIOR, BIOINFORMATICS

Isavannah Reyes joined the St. Edward's University McNair Scholars Program as a sophmore in December 2014. During her tenure, she has produced two research projects under the supervision of Dr. Charles Hauser and delivered her results at multiple prestigious academic conferences. She was the first SEU student to be awarded a Howard Huges Medical Institute research appointment during summer 2016. Isavannah will join the Computer Science doctoral program at the University of California, Riverside in Fall 2017. McNair is proud of her multiple achievements.

How did the McNair Program help you to prepare for graduate school?

One of the main ways that McNair has helped me was initially garnering my interest in graduate school along with introducing me to a path I never really considered or knew much about. My family and I always thought that getting just an undergraduate degree was a significant accomplishment. I knew that I really enjoyed research before I joined, so McNair seemed like the right program for me.

McNair has also helped me perfect different pieces of my graduate application, such as by finding more opportunities to grow my C.V. For example, McNair has offered me the ability to attend conferences by editing my abstract and finding the resources to fund these trips. Last summer, I did research at the University of Washington with HHMI EXROP, and I do not think I would have been accepted without the help of McNair in fine-tuning my purpose statement and getting great letters of recommendation. Similarly, I also have had help with my graduate applications for this upcoming year.

Which McNair experience(s) do you find to be the most memorable, impactful and/or useful in assisting you in applying to graduate school?

Being able to attend and present at conferences were the most memorable for me. I was able to see my presentation skills improve as I went to more conferences. My first presentation with McNair during my summer research in 2015, I was really nervous when practicing, but I ended up doing really well and was proud of myself for coming through in the end. This, along with various other conference presentations, has reduced my anxiety (though not completely) and has made me feel more comfortable about the fact that I know my research well. I think that these skills will hopefully carry through to graduate school.

Who did you work with on your McNair research and what do you most appreciate about your mentor/advisor?

I worked with Dr. Charles Hauser for two years and for research for my major. I appreciated that Dr. Hauser was relatively lenient and allowed me to learn and grow on my own terms, but he was always there when I didn't understand something. I also liked how we often worked on problems together rather than him just telling me answers. It made him seem more like a colleague and not an intimidating mentor. It was generally easier for me to learn by doing rather than listening as well.

What advice do you have for our current McNair Scholar undergraduates and other students interested in participating in the McNair Scholars Program?

The best advice I can give is this: try not to doubt your ability to get into graduate school. I believe that doubting yourself gets in the way of actually accomplishing what you want, so try to shift your thoughts to positive ones and you will make your life easier. Another thing to keep in mind: don't work so hard that you burn yourself out. Take time to relax and have some fun between all the work you do. Also, always get as much help as you can when writing applications and abstracts; it really does make a huge difference.

Lastly, take your GRE right after the prep course!

From the Director's Desk

The end of the academic year for the McNair program culminates with our annual recognition reception and the publication of our annual newsletter. We take these opportunities to recognize and celebrate the accomplishments of our scholars and our alumni over the past year. Please congratulate these scholars at our reception and as you see them on campus.

Each spring, in the McNair office we eagerly await our scholars' notification of graduate school and summer research acceptances, as well as fellowship and other academic awards. For the eighth year in a row, we had scholars accepted to the National Conference for Undergraduate Research, a highly competitive conference. The three scholars accepted this year are in the fields of Mathematics and Religious Studies, Environmental Science and Policy, and Behavioral Neuroscience. This year 4000 undergraduates from across the nation presented at NCUR in Memphis, TN. In addition one of our scholars has been accepted to Summer Undergraduate Research Experience in psychology at the University of Texas at Austin. At Honors night this spring, eleven of our scholars received awards including scholarships. Please read further in our newsletter for scholar names and more details.

We are in our in the final year of our third five year funding cycle, and we submitted a proposal to continue funding for another five years. As in previous competitions, the competition will be stiff, but we believe we have a strong proposal. If we are funded, we will celebrate 15 years of serving McNair scholars, and we have many successes to celebrate with nine PhDs and 70 other graduate degrees conferred. This fall we will have over 24 scholars enrolled in PhD programs and another 18 in master's programs.

In addition to acknowledging the accomplishments of our scholars and McNair alumni, we also take great pleasure in acknowledging all of you on our campus who help McNair scholars in so many ways. We owe our success to the tremendous support and assistance from faculty, staff and administration across the university. We could not do this program without your support and contributions in time and ideas. We are grateful for all you contribute to our scholars.

Molly Minus, PhD
Director, McNair Scholars Program
Associate Vice President for Academic Affairs

2016-2017 MCNAIR FACULTY MENTORS

Thank you to the following St. Edward's University faculty members who support the program by mentoring students and directing their research. The McNair Scholars Program would not be successful without their dedication.

School of Behavioral and Social Sciences
Jessica Boyette-Davis, PhD
Amy Lynn Concilio, PhD
John Cotter, PhD
Anna Escamilla, PhD
Kelly Green, PhD
Charles Hauser, PhD
Chad Long, PhD
Moira Martin, PhD
Mity Myhr, PhD
Rachael Neal, PhD
Sara Villanueva, PhD
Michael D. Wasserman, PhD
Christie Wilson, PhD

School of Natural Sciences
Teresa Bilinski, PhD
Jason Callahan, PhD

School of Natural Sciences (cont.)
Fidelma O'Leary, PhD
Casie Parish-Fisher, PhD
Tricia Shepard, PhD
Santiago Toledo, PhD
Paul Walter, PhD

School of Humanities
Kelley Coblentz-Bautch, PhD
Stephen Dilley, PhD
Michelle Polgar, MA
Jennifer Veninga, PhD
William Zanardi, PhD

School of Education
Amy Nathan Wright, PhD

McNair Scholars Program at St. Edward's University

The Ronald E. McNair Postbaccalaureate Achievement Program is dedicated to providing research-related experiences and academic support to talented undergraduates who are interested in pursuing a PhD degree.

This federally funded TRIO program targets first-generation college students from low-income families and students from populations underrepresented in graduate education.

Program benefits include:

- Academic, career and personal counseling
- Research mentoring by a faculty mentor
- Preparation for GRE
- Assistance in applying to graduate school
- Professional development seminars
- Paid travel to professional and research conferences
- Training in research methodology
- Summer research internship with research stipend of up to $2,800
- Graduate school application waivers from more than 200 universities

Eligibility requirements include:

- GPA of 2.7 or better
- Undergraduate status with 45 or more credit hours
- U.S. citizen or permanent resident
- Low-income and first generation college student, or member of a group underrepresented in graduate study (i.e., Hispanic, African-American, Native American or Pacific Islander [Guamanian, Native Hawaiian or Samoan])

For more information, visit **stedwards.edu/mcnair-scholars-program** or call **512-428-1268.**

▲ **Journal cover design by Alexa Bogran '18, Graphic Design**

McNair Scholars Program Research Journal, Volume IX, Fall 2017

The McNair Scholars Program proudly announces the publication of Volume IX of its annual research journal.

The journal features articles by the following scholars:

Ana Avalos
Melissa Chavarria
Emily Dalton
Amy Ontai
Jaquelin Ortuño
Nickolaus Stiles
Pablo Castro
Brianna Collins
Marcela Kunkel
Mayra Ortega
Lorena Sierra
Wilson Whitener

McNair Research Journal Faculty Editorial Board 2016–2017

Peter Austin, PhD
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Laurie Heffron, PhD
Arcelia Hernandez, PhD
Casie Parish-Fisher, PhD
Michelle Robertson, PhD
Tammie Rubin, MFA

▲ **2016-2017 McNair Scholars Research Internship Cohort**

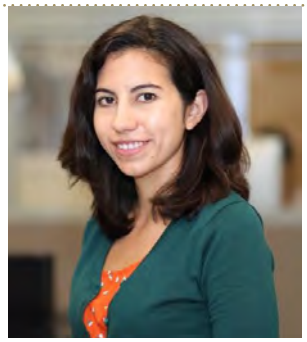
McNair Scholars Prepare for Summer Research Internship in Summer 2017

Every spring and summer following their induction, McNair scholars enroll in the McNair summer research internship at St. Edward's University, each working alongside their respective faculty mentor to formally conduct a research project of their interest. Scholars then present their findings at our annual research symposium and at national academic conferences across the U.S.

McNair in Industry: Dr. GiNell Elliot

Academic Profile

St. Edward's University Graduation: May 2007
Major at St. Edward's: Bioinformatics
Graduate Institution: Washington University in St. Louis
Graduate Program: Computational and Systems Biology
Current Occupation: Bioinformatics Investigator



▲ **GiNell Elliot, '07**

How did the McNair Program help you prepare for graduate school?

Without the McNair program, I simply wouldn't have considered graduate school. It had never occurred to me as a valid option. By stepping me through the application process, McNair encouraged me to try for something that seemed beyond my reach.

Which McNair experience(s) do you find to be the most memorable, impactful and/or useful in assisting you with the completion of your graduate studies?

The McNair summer program was altogether impactful, from the GRE prep to the application assistance to the friendship and support of other scholars and program staff. Applying to graduate school can be an intimidating process, particularly for first-generation students like myself, and support through that process makes a big difference.

Most people only think of entering academia as the natural progression after receiving a PhD, but that is not the only option. How have you found your PhD helpful in pursuing work within the private sector? What professional projects has it prepared you to undertake?

More and more PhD students are pursuing careers outside of academia. PhD programs are increasingly aware of this and trying to find ways to support students in that pursuit. In the case of bioinformatics, most industry research positions require a PhD or Masters degree. In my current role as a bioinformatics researcher in cancer drug development, I must be able to work independently to solve research questions that rapidly evolve as new technologies and data types develop. My PhD prepared me for my current position by training me in experimental techniques and data analysis methods that are relevant for biomedical research. It also taught me the process of conducting research.

What encouraged you to pursue work outside of the higher education system?

Those in my field who stay in academia generally move away from hands-on research and either teach or manage a research lab. I pursued a PhD because I enjoy the hands-on part of research, and I wanted to continue that in my career, so I chose to look outside academia.

How did/do you market your PhD and academic history as transferable skills outside of the higher education system?

Many private sector companies seek PhDs because their training develops self-motivation and general problem solving skills. There are also programs that help pair students with careers outside of academia. For example, several PhD students from my cohort went on to American Association for the Advancement of Science (AAAS) Fellowships where they transitioned to careers in science policy.

What advice do you offer students seeking graduate studies?

There are many advantages to graduate degrees, particularly in STEM fields. PhD programs can often be entered directly from undergraduate and even cover costs of tuition and provide stipends for cost of living. Despite a tough academic job market, those with graduate degrees have more job stability and earn more on average than those without. If you're a STEM major, it's worth thinking about your long-term career goals and whether a PhD can open up options that interest you.

That said, PhD programs are demanding and require dedicated perseverance. Sadly, students of color and first-generation/low-income students are severely underrepresented in higher education, which can lead to culture shock and feelings of imposter syndrome. Establishing a support network is essential—connect with other students and seek out mentors. Utilize university resources, like career counseling and psychological services. Importantly, remember that you are as entitled to the degree as anyone else, and if you stick with it, you will get there.

McNair Scholars Research Presentations

ANA AVALOS

Major: Religious and Theological Studies

Graduation: May 2017

“Gazing Downwards: The Salvific and Problematic Nature of the Guadalupana Symbol:”

- 13th Annual McNair Scholars Research Symposium at St. Edward’s University, July 2016
- 22nd Annual McNair Research Conference at University of Buffalo, New York, July 2016
- Symposium of Undergraduate Research and Creative Expression at St. Edward’s University, April 2017

“Here Be Dragons: Bridging Ritual and Mestiza Feminist Theologies:”

- Honors Thesis Symposium at St. Edward’s University, November 2016

PABLO CASTRO

Major: History; Political Science

Graduation: May 2018

“The Moorish and Catholics: Analysis, Comparision and Contrast of Governing Iberia:”

- 13th Annual McNair Scholars Research Symposium at St. Edward’s University, July 2016
- 20th Annual MKN McNair Heartland Research Conference, Kansas City, September 2016

LUANA CHAIRES

Major: Political Science

Graduation: May 2018

“An Analysis of the Impact of Redistricting Commissions on Turnout and Cmpetiont in Congressional Elections:”

- 13th Annual McNair Scholars Research Symposium at St. Edward’s University, July 2016
- 22nd Annual McNair Research Conference at University of Buffalo, New York, July 2016
- 4th Annual Undergraduate Research Day at the Capital, Austin, April 2017
- Symposium of Undergraduate Research and Creative Expression at St. Edward’s University, April 2017

MELISSA CHAVARRIA

Major: Political Science; Sociology

Graduation: May 2017

“Undocumented Survivors of Domestic Violence: Does VAWA Help? Interactions of Attorneys/Nonprofit Staff with Survivors:”

- 13th Annual McNair Scholars Research Symposium at St. Edward’s University, July 2016
- 22nd Annual McNair Research Conference at University of Buffalo, New York, July 2016
- Symposium of Undergraduate Research and Creative Expression at St. Edward’s University, April 2017

“Incarcerated Survivors: Are Their Needs Being Met”

- Symposium of Undergraduate Research and Creative Expression at St. Edward’s University, April 2017

BRIANNA COLLINS

Major: Enviromental Chemistry

Graduation: May 2018

“The Effect of Vacancy Defects on Ion Transfer in Carbon Nanotubes:”

- 13th Annual McNair Scholars Research Symposium at St. Edward’s University, July 2016
- 20th Annual MKN McNair Heartland Research Conference, Kansas City, September 2016
- Symposium of Undergraduate Research and Creative Expression at St. Edward’s University, April 2017

EMILY DALTON

Major: Environmental Science and Policy

Graduation: May 2017

“Rural Romanian Women and Agriculture:”

- University of Maryland 17th Annual National Conference for McNair Scholars & Undergraduate Research at College Park, Maryland, March 2016
- Symposium of Undergraduate Research and Creative Expression at St. Edward’s University, April 2016

“Assessing Assessments of Sustainability:”

- 13th Annual McNair Scholars Research Symposium at St. Edward’s University, July 2016
- 20th Annual MKN McNair Heartland Research Conference, Kansas City, September 2016
- Symposium of Undergraduate Research and Creative Expression at St. Edward’s University, April 2017

MARCELA KUNKEL

Major: Behavioral Neuroscience

Graduation: May 2017

“The Stripper and the Villian: How Stereotypical Names Affect Perceived Attractiveness:”

- Symposium of Undergraduate Research and Creative Expression at St. Edward’s University, April 2016
- Southwestern Psychological Association, April 2017

“The Effect of the “Thigh Gap” on the Ideal Female Waist-to-Hip Ratio:”

- 13th Annual McNair Scholars Research Symposium at St. Edward’s University, July 2016
- 22nd Annual McNair Research Conference at University of Buffalo, New York, July 2016
- Southwestern Psychological Association, April 2017

“Two an a Half Meths: A Comparison of Anxiolytic Effects Between Female Rats Given an Acute Dose of Methanmphetamine or Methylphenidate (Ritalin):”

- Honors Thesis Symposium at St. Edward’s University, November 2016
- Southwestern Psychological Association, April 2017

AMY ONTAI

Major: Biology

Graduation: August 2017

“From Beach Boys Babes to Bleached Bays: The Effects of Westernization on Hawaiian Coral Reefs:”

- Symposium of Undergraduate Research and Creative Expression at St. Edward’s University, April 2017

“Effects of Ashe Juniper-dominated versus Oak-deciduous-areas on Soil Ecology in South Central Texas:”

- 13th Annual McNair Scholars Research Symposium at St. Edward’s University, July 2016
- 24th Annual California McNair Scholars Symposium at Unversity of California-Berkeley, August 2016
- 2nd Annual Student Excellence Showcase at St. Edward’s University, February 2017
- University of Maryland 18th Annual National Conference for McNair Scholars & Undergraduate Research at College Park, Maryland, March 2017

“Fly Sci with Miss Ontai: An Interactive Science Web-series to Engage Middle School Students:”

- Honors Thesis Symposium at St. Edward’s University, November 2016
- Annual Biomedical Research Conference for Minority Students, November 2016

MAYRA ORTEGA

Major: Behavorial Neuroscience

Graduation: May 2018

“Depression and Aggression in Children: Parent Perspective”

- 13th Annual McNair Scholars Research Symposium at St. Edward’s University, July 2016
- 20th Annual MKN McNair Heartland Research Conference, Kansas City, September 2016
- National Conference of Undergraduate Research at the University of Memphis at Memphis, April 2017

JAQUELIN ORTUÑO

Major: Enviromental Science and Policy

Graduation: May 2017

“Efficient Mosquito Vector Abundance Comparison Between Developed and Protected Natural Areas:”

- 13th Annual McNair Scholars Research Symposium at St. Edward’s University, July 2016
- 24th Annual California McNair Scholars Symposium at Unversity of California-Berkeley, August 2016
- National Conference of Undergraduate Research at the University of Memphis at Memphis, April 2017

ISAVANNAH REYES

Major: Bioinformatics

Graduation: May 2017

"RNA-Seq Analysis of Phosphate-deprived Chlamydomonas reihardtii Cells:"

- University of Maryland 17th Annual National Conference for McNair Scholars & Undergraduate Research at College Park, Maryland, March 2016

"Designing de novo protein Interfaces to Bind the Signaling Receptor TrkA"

- University of Washington Undergradute Research Symposium, August 2016
- St. Edward's University Brother Lucian Blersch Symposium, September 2016

GILBERT RIVERA

Major: Mathematics

Graduation: May 2017

"The Effect of Corona Discharge on Tropospheric Ozone Levels:"

- 13th Annual McNair Scholars Research Symposium at St. Edward's University, July 2016
- 24th Annual California McNair Scholars Symposium at Unversity of California-Berkeley, August 2016

ANTHONY SANCHEZ

Major: Biochemistry

Graduation: May 2019

"Structural Analogues of the Active Site of Nickel Acireductone Dioxygenase (Ni-ARD)"

- Symposium of Undergraduate Research and Creative Expression at St. Edward's University, April 2017

LORENA SIERRA

Major: Social Work

Graduation: May 2017

"Students with Intellectual Disabilities and their Access to Postsecondary Education:"

- 13th Annual McNair Scholars Research Symposium at St. Edward's University, July 2016
- 24th Annual California McNair Scholars Symposium at Unversity of California-Berkeley, August 2016

NICKOLAUS STILES

Major: Psychology

Graduation: May 2017

"The Role of Religion in Punitive Behavior:"

- 13th Annual McNair Scholars Research Symposium at St. Edward's University, July 2016
- 24th Annual California McNair Scholars Symposium at Unversity of California-Berkeley, August 2016

"Religion, Gender, and Punishment: Disentangling the Trinity:"

- 2017 Annual Society of Personality & Social Psychology (SPSP) Convention, January 2017
- 2nd Annual Student Excellence Showcase at St. Edward's University, February 2017

"This is Your Brain on Morality: New Answers to Old Questions"

- Symposium of Undergraduate Research and Creative Expression at St. Edward's University, April 2017

CRISEL SUAREZ

Major: Mathematics

Graduation: May 2017

"Online SPARC Visualization: Drawing and Animating with Answer Set Programs:"

- FIU McNair Scholars Research Conference at Florida International University, October 2016

"Tiling with TETRIS:"

- 2nd Annual Student Excellence Showcase at St. Edward's University, February 2017
- University of Maryland 18th Annual National Conference for McNair Scholars & Undergraduate Research at College Park, Maryland, March 2017
- Symposium of Undergraduate Research and Creative Expression at St. Edward's University, April 2017

"Modeling the Flow of Refugees in the Middle East and Europe"

- Honors Thesis Symposium at St. Edward's University, April 2017

WILSON WHITENER

Major: Religious and Theological Studies and Mathematics

Graduation: May 2018

"Psalms of Solomon: Solomonic Attribution within the Context of Second Temple Pseudopigrapha:"

- 13th Annual McNair Scholars Research Symposium at St. Edward's University, July 2016
- 22nd Annual McNair Research Conference at University of Buffalo, New York, July 2016

"All Roads Lead to the Reformation:The Protestant Reformation, Natural Philosophy, and the Rise of Science:"

- 2nd Annual Student Excellence Showcase at St. Edward's University, February 2017

"Investigating Creation: Re-reading the "Book of Nature" in the Wake of the Protestant Reformation:"

- University of Maryland 18th Annual National Conference for McNair Scholars & Undergraduate Research at College Park, Maryland, March 2017
- National Conference of Undergraduate Research at The University of Memphis at Memphis, April 2017

NCUR 2017
NATIONAL CONFERENCE ON UNDERGRADUATE RESEARCH
THE UNIVERSITY OF MEMPHIS

Congratulations to McNair Scholars

- Mayra Ortega
- Jaquelin Ortuño
- Wilson Whitener

who were accepted to present at the 31st Anniversary NCUR Conference at the University of Memphis.

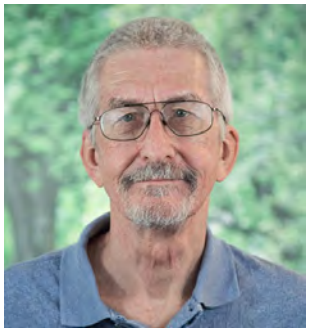
Congratulations to Our Scholars for Another Successful Year!

Faculty Spotlight: Dr. Charles Hauser, Associate Professor of Bioinformatics and Dr. John Cotter, Associate Professor of Geography

Dr. Charles Hauser received his undergraduate training in botany and chemistry from the University of Texas, Austin. While there he carried out plant surveys for land overlooking Redbud Island in Austin. Following graduation, he worked with a group at Shell Research in Houston, formulating solid resins used in a diverse array of products from sailboat hulls to carbon-fiber bicycles. Dr. Hauser returned to academics, receiving his Ph.D. in Biochemistry and Biophysics working with Dr. H. Gray at the University of Houston. His research focused on the enzymology of the nuclease BAL31, a dual-functional endo- and exo-nuclease. Dr. Hauser subsequently went to Duke University working with Drs. N.W. Gillham and J.E. Boynton where his post-doctoral research focused on characterization of chloroplast post-transcriptional regulation mechanisms in the unicellular green alga, Chlamydomonas reinhardtii. Dr. Hauser transitioned into bioinformatics while at Duke, where as a research scientist he was involved with building the first set of gene models for the Chlamydomonas genome project and later with annotation of the draft genomic sequence generated by DOE-JGI in collaboration with Dr. Arthur Grossman at Stanford. Dr. Hauser came to St. Edward's in 2004 to establish the Bioinformatics Program where he has had the pleasure of working with many students.

▲ Dr. Charles Hauser

Dr. John Cotter is an Associate Professor of Geography and Environmental Science and Policy whose teaching responsibilities include World Regional Geography, Environmental Geology, Weather and Climate, and Human Ecology. He has over 25 years of experience as a self-employed cartographer and has illustrated over 150 books in a wide range of fields, as well as acting as a mapping consultant for conservation and human rights organizations. His research interests range from Texas agriculture to disease ecology. One research project in progress involves the recent development of commercial olive production in Texas and its connections to global climate change. The relationship between culture and environment is a dominant theme in both his teaching research.



▲ Dr. John Cotter

How long, and in what capacities, have you been involved with the Ronald E. McNair Scholars Program at St. Edward's University? What have been some of the most memorable McNair projects that you have worked on?

Charles Hauser: I have had the pleasure of supervising three McNair scholars: GiNell Elliott (2007), Erik Escobar (2014), and most recently Isavannah Reyes (2014-present). Each student and their projects have left great memories:

GiNell: I recall meeting her and her mother under the Sorin Oak at a reception and her mother pulled me aside and said GiNell should join the bioinformatics program but needed a nudge. GiNell finished her PhD at Washington Unversity last year and is now a Bioinformatics Investigator at Novartis Institutes for BioMedical Research. GiNell loved movies, and I would get the scoop on the best movies to watch for from her while we worked on programming projects. What fun!

Erik: Going to get blood samples from Austin spay and neuter clinic for his assays screening for leishmaniasis. Eric did all the leg work to line up getting samples and the folks at the clinic thought it was a great project. But walking into a room of feral cats being spay and neutered was memorable!

Isavannah: While being a pretty quiet and reserved person, there is a lot going on in her head! That was evident the first summer we worked together on a computational project. It was great to see her selected as an HHMI EXROP fellow, and based on that experience, decide on a career path in computational biology.

John Cotter: Four years ago I had only the vaguest understanding of the nature of the McNair Scholars Program. I did not reach out to the program, it reached out to me. Monica Rivas (now in the graduate school Architecture program at the University of Houston) came to my office with a request. I knew her relatively well because she had taken two of my classes, and I was also her academic adviser. She asked me if I would like to be her mentor for a research project involving rooftop gardens in Austin. I was intrigued; so after a lengthy conversation I agreed. It was the right decision.

Why did you choose to get involved with the McNair Scholars Program?

CH: What better program is there to contribute in some small way to get really talented students on their career path! As an added bonus, I get to interact with the McNair staff and get the latest on bicycle racing from Molly Minus.

JC: I have also worked with Emily Dalton, whose research project was "Assessing the Assessment of Sustainability," and Jackie Ortuño, who wanted to study mosquito ecology, specifically involving Aedes aegypti, the vector of Zika virus and Yellow Fever. The projects were all quite different. But one thing all three had in common was the enthusiasm and intellectual curiosity of these three McNair Scholars.

From a faculty point of view, how do you think the McNair Program helps to prepare students for graduate school?

CH: McNair takes a very holistic approach to preparing students for graduate school. Getting students involved early and in a sustained way in the research enterprise is key I think. They quickly acquire the critical thinking skills, habits of mind scientists require, and ability to learn from and deal with failure. I am a firm believer that we all learn deeper by doing and for the sciences, that means students engaging in the scientific process with open-ended problems for which I don't have the answer to give them. McNair also does a great job preparing students to present their results and to experience how science is disseminated at meetings. Obviously, facilitating student success on preparing for GRE exams and preparing personal statements is the final focus to ensure students land in good programs.

JC: The McNair Program covers all of the bases in preparing students for success in graduate school. This goes beyond academics and an in-depth hands-on research experience. I particularly appreciate how the students are provided with personal guidance about expectations for graduate school workloads and performance in general, how to assess graduate programs, preparation for the GRE and encouragement to attend professional conferences and give papers and/or poster sessions. What is the life of a scientist like? And what shape does a successful career take? By encouraging students to ask such questions and providing answers or at least representative specific examples, they develop sets of reasonable expectations for their professional futures. The McNair curriculum, combined with close, long-term contact with mentors is all time well spent. From a faculty perspective, this is all time well spent for everyone involved, not just the students.

What advice would you provide to students from a background in the sciences who are interested in applying to McNair?

CH: Apply! It is an opportunity you will not regret. McNair will help you to understand yourself, your interests, talents and refine your career path. In the process, you build a community of life-long friends and colleagues with wide-ranging interests and talents.

JC: One particular piece of advice that I always give about graduate school is that if you are looking for a Masters Degree, look for a program. But if you are looking for a Ph.D. look for the person (or persons) that you want to work with. What articles or book influenced you the most? Where is the author? Why not go straight to the ones that can most likely help you achieve your goals? This extends beyond graduate school programs. When Monica Rivas was working on her rooftop gardens project, she came across an article that described a project in progress. The article was not recent, so she looked up the author and sent a email to find out whether there was any available current information about project. This resulted in a series of emails going back and forth and ultimately a telephone conversation that offered her a spot in a rooftop gardens workshop at UC Berkeley. By being proactive, she had an opportunity that she would never have otherwise had, and she took it.

Dr. Hauser, how long have you been at St. Edward's University and what lead you to join the Biological Sciences department?

CH: I came to St. Edward's in 2004 to start the Bioinformatics Program. Throughout my career at Duke, I had the opportunity to work with many undergraduates in the lab. Over time, I came to realize I enjoyed that enormously and shifted my focus from research to teaching. I had the good fortune to land at St. Edward's.

Dr. Cotter, how long have you been at St. Edward's University and what lead you to join the Political Science, Global Studies, Environmental Science and Policy department?.

JC: I have been a member of the St. Edward's University faculty since spring semester 2000. I never anticipated a career as a professor, but when I was asked to teach a couple of classes as an adjunct I took the opportunity. I did not realize it at the time, but I was ready for a career change. The collegial atmosphere and intense contact with students is so different from the large state universities that I attended. I appreciate the small liberal arts university experience. The McNair Program provides exactly the type of environment where both faculty and student professional development can thrive.

Intellectual Entrepreneurship Internship: Scholar Nickolaus Stiles and Mentor Skylar Brannon, M.F.A.

McNair Scholars participate in the Intellectual Entrepreneurship Internship program, which pairs them with doctoral student mentors from the University of Texas at Austin. Scholars shadow their mentors by sitting in on graduate classes, assisting with doctoral research, attending graduate seminars and programs, and meeting with their mentors to discuss life as a graduate student. This year, we review the collaboration between SEU Scholar Nick Stiles and UT Graduate Skylar Brannon.

Skylar, please feel free to tell us a little about yourself. What program are you enrolled in at UT, and what are you currently researching? How did you relate /connect it to your IE Mentee's interest?

Skylar: I am a first generation college student and I received my BA in psychology from Baylor University in 2014. I'm currently in my 3rd year in the Social Psychology program at UT Austin and I work with Dr. Bertram Gawronski. I am currently researching how people identify inconsistencies in their systems of beliefs and how they recognize these inconsistencies. I am specifically interested in examining these questions for beliefs about other individuals (impressions), moral beliefs, and beliefs about the self. Nick and I were interested in very similar topics. Based on his experiences studying religiosity and prosocial behavior, he was interested in studying how people maintain their moral identities, how group alignments influence moral judgments and moral identity, and the mental processes underlying moral judgments and decision-making. Our mentor-mentee relationship was great in this respect because our interests overlapped enough for us to relate to each other and share our excitement about certain topics, but we were also non-redundant enough that we were able to introduce each other to new topics and new ideas.

How did you hear about the Intellectual Entrepreneurship Internship Program? What inspired you to become an IE Mentor?

Skylar: I heard about this program from another friend who is also very passionate about mentoring. As a first generation college student, I would have struggled to pursue my goals without excellent mentorship and I wanted to give back to students like me as much as possible. I enjoy helping others find their passions, determine their goals, and find experiences that push them in the right direction and I wanted to join this program to do just that.

Skylar, what were some of the topics that you and Nick discussed during your time together?

Skylar: Nick and I focused a lot on preparing his application materials for graduate school, particularly his personal statement. It takes a lot of practice and thought to identify the common thread in all of your experience and communicate that to someone in a couple pages. So, we talked a lot about how to extract core experiences from each of his research experiences and construct a cohesive narrative. We also read a few articles together and discussed different ideas, how they fit within the broader field, etc.

Nick: Each one of these types of discussions were extremely helpful for evaluating and applying to programs. Having experienced eyes look over my application allowed me to hone and tailor the most important message you want to send programs–i.e., I am the best candidate for you and here's why. Likewise, being able to discuss topics relevant to my field with a seasoned graduate student allowed me to gain experience in discussing topics at the graduate level–a useful skill to have during the interview process.

What events, activities and course did you invite, or encourage Nick to participate in along with you on campus at the University of Texas at Austin?

Skylar: Unfortunately, my and Nick's schedule didn't work out to where we could participate in a lot of events together. However, I was able to offer Nick a research assistant position in my lab to allow him to get more research experience

Nick: However, Skylar did attend the McNair graduate student mixer where, along with others, she answered questions pertaining to graduate school and the application process. Personally, the most memorable event that I was invited to was when Skylar asked me to sit in on a meeting she had with her lab's research team. This experience, where the lab discussed current projects and articles relevant to those projects, allowed me see firsthand what work in a lab would be like. It was a wonderful experience because the topics you find fascinating are rarely fascinating to people outside of your specialized area.

What advice would you give to incoming graduate students or undergraduates wanting to pursue graduate studies?

Skylar: Think about what your key interest is. What do you really want to spend the better part of a decade researching? Once you have that narrowed down, find professors that research that. Look at schools you know, read articles in your area of interest and look at the authors' labs, find students of people whose work you like to see if they have labs of their own. There really is no perfect formula for finding the right program for you, but you should cast a wide net and then narrow down your list by how related your interests are to each lab. Also think about your ultimate career goal. Do you want to be a therapist for married couples? Then a PhD in clinical psychology probably isn't for you. Do you want to be a professor at a big school where you can do research? You'll have to have more than a Master's degree. Answering these questions can help you narrow down your choices because some degree plans just won't be compatible with your ultimate goals. If you can't answer these questions, or you are unsure about the answers, don't just jump into a program. Take some time to figure out the answers. Your path to your graduate degree won't be as productive or fulfilling if you don't know what you are interested in or what your ultimate goals are. It's hard for a lot of students to (1) convince themselves that it is absolutely okay to take time off from school and (2) explain to their parents or family why it's necessary. As long as the time you take is spent gaining experiences that can help you narrow down your interests and options, it can only help you.

Continuing with the previous question: what advice would you give to an undergraduate student interested in pursuing a graduate degree in psychology or the (social) sciences in general?

Skylar: Find something you're passionate about. Find a professor, tell them what has interested in you in your classes or what you've observed in real life that fascinates you. They can point you in the direction of readings in that area, which will give you a sense of the current state of the field and what questions still need to be answered. Once you have decided what you are interested in, find a lab. To get into graduate school, you have to have research experience. Plus, joining a lab gives you a better sense of whether an advanced degree or research on a particular topic is right for you. Be proactive in your lab; volunteer to do extra tasks, as your advisors if you can gain extra experience, ask if you can do your own independent study and/or present at a conference. All of those things will help you stand out on your applications, as well as help you better understand your interests and career goals.

Nick, after being involved in the IE program with Skylar, what advice would you give to other students wanting to pursue graduate studies?

Having gone through this experience, there are at least three things that stand out as particularly important. First, absolutely make sure this is for you, meaning make sure your career goals require a PhD. So, first and foremost, think pragmatically about your long term goals. Second, start your application early. If a PhD is required for your career goals then the graduate application is the most important application you will ever compile. There will be–should be–many, many drafts. Finally, I think one of the things that helped me stand out as a candidate was my knowledge about the current research and researchers in my field. I am hardly an expert, but I do spend a lot of time reading current articles and about new directions in my field. This allowed conversations to be more of a two-way street, with me being able to add informed opinions to the mix–something expected of graduate students.

Would you participate in the Intellectual Entrepreneurship Program with the McNair Scholars Program again? Would you encourage other graduate students at UT to become involved?

Skylar: I would definitely participate again, and I would encourage others to do so, as well. This program is really rewarding, and it gives graduate students experience mentoring others, which helps prepare them for mentoring graduate students as a professor later on.

▲ McNair 2016 Summer Research Internship Cohort

Alumni Spotlight: Where Are They Now?

Many of our scholars are currently pursuing a graduate degree, and they are well on their way to earning a doctoral degree. The following is a brief list of some of our successful scholars.

SCHOLARS AWARDED DOCTORAL DEGREES:

Dahlia Campbell, PhD
Chemistry
Purdue University

Ilse Carrizales, PhD
Psychology
Okalahoma State University

GiNell Elliott, PhD
Computational and Systems Biology
Washington University at St. Louis

Monica Flores, PhD
Science Education
The University of Texas at Austin

Patricia Garcia, PhD,
Information Studies
University of California at Los Angeles

Daisy Izaguirre, PhD
Cancer Biology
University of Texas Health Science Center at Houston

Daniel Lyles, PhD
Science and Technology Studies
Rensselaer Polytechnic Institute

Trinidad Macias, PhD
Education
The University of Texas Graduate School of Biomedical Sciences at Houston

Brenda Torres, PhD
Immunology
Stanford University

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The U.S. Department of Education requires all McNair Programs to provide Annual Performance Reports and keep track of alumni until the attainment of a doctoral degree. Alumni can update their information by contacting Sonia Briseño at **sbriseno@stedwards.edu**—or visit us on Facebook and like our page, St. Edward's University McNair Scholars Program.

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