

Scholars Present Research at Berkeley McNair Symposium

The University of Nebraska–Lincoln’s McNair scholars capped off their intensive 2006 Summer Research Experience with a trip to California to present their research findings at the 14th Annual National McNair Research Symposium, Aug. 10-14 at the University of California–Berkeley.

Because a crucial element in advanced studies is conducting research, one of the primary goals of the McNair Scholars Program is to prepare students for the research component of graduate school. Through the McNair Scholars Summer Research Experience, which began last June, junior scholars had the opportunity to work on research projects for eight weeks under the direct supervision of University of Nebraska–Lincoln faculty mentors.

In addition to conducting intensive research, the scholars actively participated in seminars focusing on presentation skills, developing research posters, learning to write effective personal statements, vitas, and research papers, and preparing for the GRE. The summer research program concluded with the scholars writing research papers and traveling to the University of California, Berkeley to present their findings in oral and poster presentations.

Over 250 McNair scholars from colleges and universities around the country gathered at the Symposium to present the results of their research projects, celebrate their academic accomplishments, and meet with representatives from graduate programs to learn more about graduate school admissions.

Upon returning from California, McNair Scholar Joshua Avila noted that “Berkeley was a great chance to see what the program is doing on a national level. I was amazed by the diversity of the research projects.”



2006-2007 UNL McNair Senior Scholars

Scholar Amy Castro also enjoyed the cultural diversity of the McNair scholars she met at the symposium, as well as hearing other scholar presentations and participating in the group discussions that followed. Amy further commented that she realized the significance of actually being a McNair scholar and all of the opportunities for graduate school.

Jenna Valadez remarked, “Berkeley was a great insight to the university. Participating in this conference helped me focus on what I want in a graduate school experience as well as refine my personal goals.”

The summer research experience, with the assistance of invaluable faculty mentors, directed the McNair Scholars on new and exciting intellectual voyages that will eventually build a strong foundation for graduate school.

McNair by the Numbers

Funded by the Department of Education and housed in UNL’s Office of Research and Graduate Studies, the McNair Program prepares undergraduate students for doctoral studies through involvement in research and other scholarly activities. Participants are first-generation college students who demonstrate strong academic potential and who meet maximum financial guidelines or are members of groups underrepresented in graduate education.

Since the McNair Scholars Program began at UNL in 1995, it has served **166** students. Of those, **140** – or 84 percent – have earned bachelor’s degrees. **Forty-eight** of those have gone on to earn master’s degrees; **five** have already achieved doctoral degrees and an additional **four** have earned professional and other degrees. Currently **21** McNair Scholars are actively pursuing master’s degrees and **15** are enrolled in Ph.D. programs; **one** scholar is enrolled in a JD program.

Meet the 2006-2007 McNair Scholars

We are pleased to introduce our current class of McNair scholars. Each is identified here by name, major, mentor, and title of his or her most recent research project.

Amy Castro, Sociology

Mentors: Dr. Kellie Hagenewen & Dr. Kimberly Tyler

Gender differences: The relationship between extracurricular participation and self-esteem.

Andrea Lowe, Psychology/ Pre-Law

Mentors: Dr. Cynthia Willis-Esqueda & Dr. Richard Wiener

Prior bad acts information and biases against African Americans

Azure Wall, Women's Studies

Mentor: Dr. Barbara DiBernard

Whodunwhat? An examination of gender performance and same sex affection in the Trixie Belden mysteries

Jenna Valadez, History

Mentor: Dr. James Garza

Tejano identity and Mexican-American history in the high school classroom

Justine Buffalo Calf, Family Science

Mentor: Dr. Helen Moore

Self esteem and its relationships with enculturation, discipline, and coercive parenting in an American Indian adolescent

LaToya Benally, Sociology

Mentor: Dr. Kurt Johnson

Predictors of drug and alcohol abuse in Native American teens

Amanda Ponce, Political Science

Mentor: Dr. D'Andra Orey

Latino lawmakers as catalysts for progressive legislative agendas

Orlando Cariaga, Sociology

Mentor: Dr. Les Whitbeck

Impact of Native American and Canadian First Nation fathers on child outcomes

Todd Whitehill, Management

Mentor: Dr. Terry Sebor

The effect of entrepreneurial education on new venture creation

JC Avila, Textiles, Clothing, Design

Mentor: Dr. Yiqi Yang

Comparison of mechanical properties of cornhusk fibers before and after cross-linkages

Stephanie Matejka, Biosciences/ Biochemistry

Mentor: Dr. Zoya V. Avramova

Functional characterization of Myotubularin genes in *Arabidopsis thaliana*

Sarah Khalil, Biosciences

Mentor: Dr. Mark Wilson

Functional studies of the DJ-1 superfamily protein YDR533C from *Saccharomyces cerevisiae*

Phuoc Nguyen, Biosciences

Mentor: Dr. Anthony Zera

Microevolution of hormonal regulation in insects, specifically the cricket *Gryllus Firmus*

MinJeong Schneider, Chemical Engineering

Mentor: Dr. Anu Subramanian

Expression and purification of recombinant EPCR in *Pichia Pastoris*

Where Are They Now?

At UNL, we believe "once a McNair scholar, always a McNair scholar," and remain involved in the academic success of our scholars as they journey beyond their undergraduate years. We receive frequent notes from our scholars, who keep us posted about their academic progress toward their terminal degrees. Note: dates given indicate the year each person entered UNL's McNair Scholars Program.

Uyen B. Chu (2002) has just begun his second year as a Ph.D. student in the cellular and molecular pharmacology program at the University of Wisconsin-Madison. His thesis project is to design an irreversible inhibitor for the Sigma-1 receptor, as many studies have indicated that this protein is overabundant in tumors. Uyen also has received the Gates Millennium Scholarship as well as a UCARE research grant.

Lawrence Chatters (2001) is actively pursuing a Ph.D. in educational psychology at UNL.

Heather Flores (2002) is seeking a Ph.D. in molecular biology and genetics at Cornell University. Her current research entails using both population genetic inference and functional analysis to study the germ line stem cell differentiation pathway in *Drosophila melanogaster* and closely related species. Although the "decision" for a cell to

remain a stem cell or differentiate is a critical one, previous work Heather has completed in her lab has shown that the proteins underlying this pathway are rapidly evolving at the protein level. By characterizing the differentiation pathway in terms of which proteins are rapidly evolving and studying these specific proteins in greater detail, Heather plans to identify the biological force underlying the selection seen in this pathway. After receiving her Ph.D., Heather plans to research and teach at a university.

Darryle Todd (2002) is working on a Ph.D. in higher education leadership at the University of Nevada-Las Vegas.

Tricia Echtenkamp (2001) is pursuing a Ph.D. in the School of Chemical and Biomolecular Engineering at Cornell University. Her project involves studying the effect of the three-dimensional structure of the chromosome on gene transcription in bacteria.

Note to McNair Graduates:

Please keep us informed about your progress in graduate school. If you haven't sent us a recent update, please go to <http://www.unl.edu/mcnair/scholarupdate.shtml> and tell us about yourself.

UNL's McNair Team

McNair Faculty Mentors

Special thanks to these faculty who contribute their time and expertise to work with McNair scholar-researchers

Dr. Yiqi Yang, Textiles Clothing and Design
 Dr. Kurt Johnson, Bureau of Sociological Research
 Dr. Helen Moore, Sociology
 Dr. Les Whitbeck, Sociology
 Dr. Kellie Hagewen, Sociology
 Dr. Kimberly Tyler, Sociology
 Dr. Mark Wilson, Biological Sciences
 Dr. Cynthia Willis-Esqueda, Psychology
 Dr. Richard Wiener, Psychology

Dr. Zoya Avramova, Biochemistry/Biology
 Dr. Tony Zera, Biological Sciences
 Dr. D'Andra Orey, Political Science
 Dr. Anu Subramanian, Chemical Engineering
 Dr. James Hendrix, Chemical Engineering
 Dr. James Garza, History
 Dr. Barbara DiBernard, English/Women's Studies
 Dr. Terry Sebor, Management

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McNair Graduate Student Mentors

This fall, we are launching a graduate mentoring program that pairs undergraduate scholars with graduate student mentors, who will work with scholars to give them a glimpse of what graduate student life is like at a major university. Mentors and scholars will meet occasionally, engaging in a variety of activities ranging from chatting about graduate school over coffee to scholars accompanying grad students to one of their classes.

Cassandra LeClair-Underberg,
 Comm. Studies
 Michelle C. Vigeant, Arch.
 Engineering
 Jen Everson, Mathematics

Jake Weiss, Mathematics
 Alejandro Morales, Ed Psych
 Beth Moorhouse, Economics
 Kimberly Applequist, Ed
 Psych

Matt Giovanni, Wildlife
 Ecology
 Doug Long, Nutrition
 Raychelle Burks, Chemistry
 Sandi Potter, Ed Psych

Neal Bryan, Agronomy
 Christine DeVries, Chemistry
 Shannon Meyer, History
 Carmen McLean, Clinical
 Psychology

McNair Fall Event Calendar

Month	Junior Scholars	Senior Scholars
September	Applicant interviews and acceptance to program	Sept. 15 - 3:30-5 p.m., Seaton 10 Scholar Meeting: Applying to Graduate School
		Sept. 29 - 4:30-6 p.m. Social Event at Old Chicago: Meet graduate student McNair mentors
October	Oct. 7 Retreat at Wilderness Ridge. Learn about the McNair Program, graduate school, personal education plans, undergraduate research and the summer research experience; talk with senior McNair scholars about their experiences	Oct. 6 - 3:30- 5 p.m., Seaton 10 Scholar Meeting: Funding your Graduate School Education through Assistantships and Fellowships
		Oct. 7 - noon-2:30 p.m. (optional) Lunch and conversation with junior scholars at Wilderness Ridge
		Oct. 14-17 Cultural Excursion to Washington D.C.
November	date TBA Scholar Meeting: UCARE Proposal	Nov. 17 - 3:30-5:00 p.m. Scholar Meeting: Preparing for Campus Visits
December	date TBA Social Event!	date TBA Social Event!

Scholar Spotlight on MinJeong Schneider



MinJeong Schneider

MinJeong Schneider is originally from Kyongju, South Korea. When she moved to America with her husband, she began taking classes at Western Nebraska Community College. During that time, she discovered she enjoyed math and science classes immensely. A year and a half later, she applied to the chemical engineering program at the University of Nebraska-Lincoln. Currently, MinJeong is interested in studying biology as well as chemical engineering. Although MinJeong is far away from her South Korean home and family, she has the support of her husband and his family. Her schedule and classes keep her so busy, that she seldom has time to feel homesick.

Under the guidance of Drs. James Hendrix and Anu Subramanian, throughout the summer MinJeong had the opportunity to conduct research focusing on protein purification. During this experience, MinJeong discovered an interest in biomaterial engineering. She eventually would like to develop artificial tissue or organs to help prolong and improve the lives of others. On a personal note, after a severe auto accident, MinJeong received an artificial pelvic bone frame to reassemble her own shattered bones. Now, after a full recovery, MinJeong enjoys jogging three miles twice a week and lifting weights.

MinJeong plans to graduate from the University of Nebraska-Lincoln with a bachelor's degree in May 2008. She has been inspired by the challenges of learning complex information in a second language and would like to learn a third language. She also plans to continue her education, earn a Ph.D., and work overseas.

McNair Tip: Choosing the Right Graduate Program

According to Dave G. Mumby, author of *Graduate School: Winning Strategies for Getting in With or Without Excellent Grades*, programs that offer the same degree can be very different in terms of the types of training they offer and the types of specialists they are designed to create. Thus, before even determining if a program meets personal academic objectives, you should decide upon a career to pursue afterwards. Listed below are several suggestions to consider when choosing a graduate school that is right for you.

- Conduct a comprehensive search of different programs and what they have to offer.

- Use brochures, calendars, directories, and web pages to compile a list of potential programs that offer degrees that interest you.

- Seek guidance from professors in your department about your interests and goals.

- Talk with faculty members from various schools about fields and programs of study that may match your academic and career goals

- Visit programs that interest you to get a sense of the campus environment as well as what it is like to be a graduate student there. Visit with as many faculty and graduate students as you

can and ask a great deal of questions.

- If you are unable to visit programs, communicate over the phone or email with as many faculty and students as you can in order to determine if the school is a good fit.

Remember that McNair Program staff and faculty mentors also can help guide your search for a graduate program that fits your goals and needs.

Mumby, D.G. (1997). *Graduate school: Winning strategies for getting in with or without excellent grades*. Hudson, Quebec, Canada: Proto Press Publications.

Do You Know Someone Who Might Be McNair Material?

The McNair Scholars Program was founded by the Department of Education to honor the memory of Ronald E. McNair, the second African American to fly in space. McNair overcame the limits of his family's modest financial background to eventually earn a Ph.D. from MIT. Nationally recognized for his work in laser physics, he joined NASA in 1978. His promising career was cut short in 1986, when he and six other crew members perished in the explosion of the space shuttle Challenger.

The Ronald E. McNair Post Baccalaureate Achievement Program encourages individuals from financially disadvantaged backgrounds who are the first in their families to go to college and people from groups underrepresented in graduate education to pursue graduate degrees, earn top academic honors, and achieve professional advancement.

Any full-time UNL undergraduate who meets these criteria and is dedicated to pursuing a doctoral degree, has earned at least 60 credit hours, and has a cumulative G.P.A. of 3.0 or above is eligible to become a McNair scholar.

Applications for the two-year McNair Scholars Program are accepted each fall. For more information, contact:



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