

Ronald E. McNair, Ph.D.

Ronald Erwin McNair was born October 21, 1950 in Lake City, South Carolina. In 1971 he attended North Carolina A&T State University and graduated *magna cum laude* with a B.S. degree in physics. In 1976 he attended Massachusetts Institute of Technology and graduated with a Ph.D. in laser physics.

His dissertation title was Energy Absorption and Vibrational Heating in Molecules Following Intense Laser Excitation.

McNair soon became a recognized expert in laser physics while working as a staff physicist with Hughes Research Laboratory. He was selected by NASA for the space shuttle program in 1978 and was a mission specialist aboard the 1984 flight of the Space Shuttle Challenger.

Besides his academic achievements, McNair received three honorary doctoral degrees and many fellowships and commendations.

These distinctions include:

- Presidential Scholar, 1967-71
- Ford Foundation Fellow, 1971-74
- National Fellowship Fund Fellow, 1974-75
- Omega Psi Phi Scholar of the Year, 1975
- Distinguished National Scientist by the National Society of Black Professional Engineers, 1979
- Friend of Freedom Award, 1981

McNair also held a fifth degree black belt in karate and was an accomplished jazz saxophonist. He was married and had a son and a daughter.

After his death in the *US Challenger* Space Shuttle accident in January 1986, members of Congress provided funding for the Ronald E. McNair Post baccalaureate Achievement Program to encourage income eligible and first generation college students, and students from groups historically underrepresented in graduate school to expand their educational opportunities and to pursue graduate studies.

This program is dedicated to the high standards of achievement inspired by Dr. McNair's life.

ISU McNair Program Mission

The McNair Achievement Program provides enriching scholastic experiences to prepare eligible scholars for doctoral education. This program is designed to increase the number of low-income, first-generation college students and underrepresented minority students in doctoral programs. The long-range mission is to help increase the diversity of college and university faculties.

Program Opportunities

Focusing on graduate school preparation, the McNair Scholars Program demystifies the graduate school application process and provides students with a simulated graduate school experience, including research. The program offers a scholarly environment whereby students receive academic, financial, and social support. McNair Scholars:

- **Engage in Research.** Participants conduct research under the guidance of a Faculty Mentor. Quality research projects provide a realistic picture of graduate school scholarship, while also preparing students for the doctoral school climate.
- **Participate in an Intense Summer Internship.** Students participate in an eight-week summer program during which they continue individual research projects, attend a graduate school seminar, and participate in a graduate school visitation program.
- **Develop & Deliver Professional Research Presentations.** Each student culminates his/her McNair Program experience by presenting his/her research at the McNair Summer Program Research Symposium. In addition, students have the opportunity to travel to additional McNair conferences nationwide and to network with graduate school representatives, as well as McNair Scholars from across the country.
- **Attend Graduate School Preparation Seminars and Workshops.** Students attend weekly graduate school seminars and/or workshops that focus on specific topics designed to demystify the graduate school application process, including how to identify the graduate programs that “fit” their needs and interests, preparation for the Graduate Record Examination (GRE), and how to excel in graduate school.
- **Visit Graduate Schools and Meet with Graduate Faculty Members.** Students travel to various graduate schools throughout the country to examine institutions and departments as possible graduate school destinations.

Program Benefits

- **McNair Stipend.** Students who conduct research will receive a competitive stipend. Summer housing and a food are the student's responsibility; however, we provide a monetary stipend to defray costs.
- **Mentoring.** Each student is matched with a faculty mentor who provides individual guidance and mentoring regarding the graduate school application process and the completion of undergraduate research projects. Mentors serve as role models and are an essential resource for their McNair Scholar.
- **Tutoring/Academic Counseling.** Individual academic counseling from both the program director and a faculty mentor enables students to maximize their undergraduate program and to prepare for graduate study.
- **Assistance in Securing Financial Aid.** Students receive support and guidance in securing undergraduate and graduate financial aid.
- **Supportive Scholarly, Social, and Cultural Environment.** Students engage in group dinners, and a variety of cultural events.

Time Commitment and Expectations of McNair Mentors

1. Mentor may wish to meet with the Director to answer any questions about the summer research experience.
2. Be present during your student's research presentation which will occur on July 2, times to be announced (TBA), during the McNair Research Symposium. You need only be present during your student's appointed presentation time, but you are welcome to attend the entire event.
3. Be on campus and available during the 8 week summer session (May 12 – July 2) to assist your Scholar with the research project. You should be available to meet with your Scholar at least twice a week to guide them in development. This research project should be doable within an 8 week time frame, be of high quality, and be ready for oral and poster presentation on July 2.
4. Provide the necessary support and guidance leading to the completion of the Scholar's project.
5. Inform the McNair staff of the resources necessary to complete the project.
6. Inform the McNair staff of any academic or project related problems.
7. Complete check-in forms at the second, third, and final week of the research project (evaluation of your scholar's work) and turn into McNair Office. See forms at back of manual.

Please note: Because McNair Scholars are often participating in research for the first time, it is essential that you are available to them throughout eight week summer research project as outlined above. If you are planning to be out of time for more than a few days at a time (especially during the summer) please consider inform the director directly and as early as possible.

Troubleshooting and Communication

Maintaining open lines of communication the McNair Office is essential. Mentor/Mentee relationships vary, just as people do and the entire McNair Staff is available to assist all Faculty Mentors with any issues or concerns that may arise.

If you experience any of the following please call the McNair office at 812-237-8315:

1. If after repeated efforts to contact the McNair Scholar, you are unsuccessful and the McNair Scholar remains unresponsive.
2. If conflicts between you and your McNair Scholar cannot be successfully resolved.
3. If unexpected circumstances impede your ability to continue as a mentor.
4. If you have concerns about the McNair Scholar's ability to complete the research on time or at all.

Faculty Mentor
Summer Research Expectations and Duties
Expectations of Faculty Mentors

- Serve as a positive role model for undergraduate McNair Scholar.
- Encourage students to persist through the bachelor's degree level and to begin graduate study immediately following graduation from ISU as undergraduates.
- Help students develop a broader view of life as a university faculty member and professional.
- Attend McNair programs with the scholar during the academic year.
- Attend Indiana State University Research Symposium on July 2nd.
- Alert McNair Program office of any difficulties (academic or personal) that the student may be encountering.
- Provide a proxy if the mentor will not be available to meet face to face during any week of the eight-week session. Please inform the director as soon as possible if you will be away for longer than a couple of days. Your scholars is doing this research project for the very first time and will need your expert guidance.

A Faculty Mentor must be willing to:

- Hold the student to high standards of academic performance.
- Invest time and resources in the academic and professional development of the student.
- Accept the student as a legitimate student who has the potential for academic success.
- Communicate with the student in an open and honest manner.
- Give sound, constructive, and critical review of the student's work, free of judgment or bias.

Duties of a Faculty Mentor:

- Meet with the McNair Scholar at least two times per week during eight-week summer research with three to four hours each week.
- Provide enough assignments that the scholar is engaging in research activities at least 30 hours per week during the research project.
- Turn in all three checkpoints, which includes the final evaluations *on time*, so that the student can be paid in a timely manner. Failure to do so will result in a delay for the dissemination of the student's stipend.
- Assist the student in publishing the completed research project in the appropriate publication of his/her academic field or guiding student through such a process.
- Oversee the completion of a research paper/project at the conclusion of the 8-week summer research activity appropriate to the student's discipline. For most fields this would include an introduction, literature review, methods, and results/discussion sections. Most papers will be at least 20 pages in length.

BUILDING A MENTORING RELATIONSHIP

Some Practical Suggestions for Research Mentors

- **Lay out expectations clearly and early.** Set regular meeting times with scholar. For example: provide a framework for a successful mentoring alliance. Do not expect the scholar to adhere to *unspoken* or *unwritten* rules even though they may seem like “common sense” to more experienced researchers. Common sense can only develop through familiarity.
- **Clarify expectations** about how much time and effort is necessary to complete the research.
- **Meeting in person** is so much more beneficial; e-mailing is messaging, not mentoring! For example, be an active advisor. Talk about your graduate school, career and research experiences because this can open lines of communication between you and your mentee.
- Be aware of resources for referrals, and know how and when to make them.
- **McNair scholars are interested in doctoral study** so please introduce your mentee to other faculty members and more advanced students. Let them know that the. For example, this helps the scholar feel welcome in the research milieu. Make it clear through your manner that the scholar is qualified to be there. This is especially important for members of traditionally underrepresented groups.
- **Suggest readings** you think will be of interest to the scholar and discuss them with him/her.
- Contact potential graduate schools and former colleagues and tell them about your mentee.
- Assist your mentee define and articulate goals in preparation for writing the personal statement for graduate school applications.
- Without sacrificing research standards, show some flexibility in regard to dealing with special problems that the low-income student may have in carrying out the research.
- Have lunch informally to discuss research or graduate school plans (optional)

Some Practical Suggestions for Scholars

- **Keep your appointments** with your mentors.
- Ask your mentor about opportunities in his/her field (i.e., internships, assistantships, grants, fellowships).
- **Ask your mentor about graduate school.** Where to apply? What will be expected of you? What should you be doing *now* to ensure admission to graduate level education?
- Seek advice on how to approach potential graduate schools, how to find out about research being done, and what questions to ask.
- Encourage your mentor to relate personal experiences from his/her educational history.
- Talk to your mentor about your professional goals.
- **Let your attitude exhibit interest and curiosity!** These qualities are absolutely essential to achieving a genuine mentoring relationship.

Success in the Research Process for Scholars

- **Be a hard worker.** Accept routine and arduous tasks. Your attitude should confirm the fact that you are there to learn. Be willing to go the extra mile.
- **Communicate!** Avoid misunderstandings by letting your research mentor know what you are doing and by asking for information when you are uncertain about procedures.
- **Look, listen and learn!** Observe those around you. Seek out people with skills and experience you want to obtain and ask them questions. Learn and observe laboratory protocols. Follow procedures for the use and maintenance of equipment and data with precision.
- **Build relationships** with your fellow McNair scholars. The research milieu offers a chance for you to expand your knowledge base. Discuss career and advanced study opportunities with them.
- **Accept constructive criticism** and resolve to act on it. Training a researcher is a difficult job that becomes almost impossible when the trainee takes criticism personally.
- **Organize your schedule so that excuses are not necessary.** Absence, tardiness, failure to complete assigned tasks, and excuses, no matter how valid, do not signify professional behavior.