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Neuroscientist and devoted mentor of diverse scientists

By **Rae Nishi¹**, **Byron D. Ford²**,
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James “Jim” Garfield Townsel, a neuroscientist who devoted his life to diversifying the field, died on 22 June. He was 84. Jim made valuable contributions to the field of neurotransmission through his research, but he is best known for his unwavering focus on eliminating racial health disparities by mentoring underrepresented trainees and supporting their scientific advancement.

Born on 9 September 1935 in Albemarle, North Carolina, Jim grew up in the inner city of Harrisburg, Pennsylvania. He graduated in 1958 with high honors from Virginia State University (VSU), where he majored in biology and participated in the Reserve Officers’ Training Corps. After working in the U.S. Army Medical Service Corps, he began graduate school, a transition made possible by Richard Dunn, a botanist at VSU who, as Jim put it, “rolled boulders out of my way and was committed to my success.”

After earning his Ph.D. in physiology at Purdue University in 1968, Jim was recruited immediately to the faculty of VSU. In 1971, he accepted a postdoctoral traineeship at Harvard Medical School in the laboratory of neurobiologist Edward Kravitz. Jim’s experience at Harvard galvanized his passion for neuroscience. In 1973, he accepted an assistant professorship at Meharry Medical College, a historically Black medical school in Nashville, Tennessee. He later moved to the University of Illinois at Chicago to administer its Urban Health Program. In 1984, he returned to Meharry, where he was a professor and chair of the physiology department until his retirement in 2010.

When he arrived at Meharry in 1973, Jim quickly secured research grants from the National Institutes of Health (NIH) and the National Science Foundation, but the lack of research culture at the college hindered his work. He would later recall that the summary statement of his first NIH research project grant application expressed admiration for him as an applicant but considered his chance of success in the school’s environment to be vanishingly small. Nonetheless, Jim persisted

and built a strong research program that made substantial contributions to the fields of neurotransmitter biochemistry and trafficking of proteins involved in neurotransmission. When he returned to Meharry as chair in 1984, he drew upon his early experiences to create a culture of research that benefited students. He hired two active neuroscientists, secured competitive federal funding for research, created a multidisciplinary graduate program that earned an NIH training grant, and developed an NIH-funded collaborative program with Vanderbilt University for pre-doctoral trainees.

Devoted to training his students to become effective scientists, Jim mentored with tough love. Each day, he would walk through the lab and grill his trainees about



their research. He expected productivity but also emphasized rigor and reproducibility, qualities that were not yet fully appreciated by the scientific community. He always demanded intellectual accountability. As his Ph.D. student, I (B.D.F.) understood that it was acceptable not to know something, but that I had best learn it before I was asked about it again. Jim’s view was that Black scientists had to be better than scientists from more commonly represented backgrounds in order to succeed in academia. He prepared these scientists well and continued to support them throughout their careers.

Jim collaborated with neuroscientists Joseph Martinez and James Jones to lead the Diversity Program in Neuroscience (DPN), a diversity-focused training program funded by the NIH and supported by the American Psychological Association. DPN began in 1988 and, in addition to providing

a training stipend, offered mentorship, annual monitoring, and enrichment activities. For 23 years, DPN supported almost 300 trainees from underrepresented groups. The enrichment program, codirected by Jim and Joseph Martinez, consisted of a monthlong experience encompassing professional development, lectures in neuroscience, mentoring, and networking at the Marine Biological Laboratory in Woods Hole, Massachusetts. Although DPN lost its funding, the enrichment component lives on as the Summer Program in Neuroscience, Excellence, and Success (SPINES).

All three of us worked closely with Jim as he spearheaded these diversity programs and saw firsthand his passion for furthering the careers of underrepresented trainees in neuroscience. He did not believe in giving handouts, and he sought to instill in all trainees the qualities necessary to succeed in science. He was truly frustrated to discover mentors who thought they were supporting their trainees of color by putting them on papers as honorary authors. For Jim, what mattered was an earned first authorship, because that would lead to advancement and research grants.

Jim was deeply disturbed by racial disparities in health. He recognized that diversifying the scientific workforce is essential to mitigating such disparities. It was therefore critically important to him that trainees of color stay in science, get research grants, and advance the field. He knew that to ensure this result, the students he trained would have to carry on in his footsteps, becoming mentors themselves and remaining lifelong supporters of their trainees, and that those trainees would have to become mentors in turn, bringing ever more diverse scientists into academia.

In DPN advisory committee meetings, Jim was always very serious, but when we worked with him at SPINES, he was friendly and supportive, often giving every participant a hug at the end of his teaching session. During a lively discussion with one of us (R.N.) last summer, he emphasized the long-term commitments that true mentorship requires and expressed disappointment that such emotional investment is often overlooked. He concluded, “There are many books about mentoring, but none of them tell you how to have a heart, which is what you need to succeed.”

Jim had that heart. Most of his trainees from the lab as well as hundreds from SPINES remain in research and are now faculty members at research universities. They serve as role models, carrying his legacy forward and continuing to fulfill his vision of a more equitable scientific landscape and world. ■

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