

Three Chosen for Sigma Pi Sigma's Newest Award

ΣΠΣ Outstanding Service Award

At the 2008 Meeting of the National Council of SPS and ΣΠΣ, a unanimous vote of the Council established the ΣΠΣ Outstanding Service Award for individuals who had performed meritorious service to the field of physics, to Sigma Pi Sigma, or to a local ΣΠΣ chapter. To date, three chapters have designated noticeably worthy Sigma Pi Sigma members for this award. *Note: The resolution characterizing the award appears on page 23.*

Charles Robertson—Rhodes College awarded the Sigma Pi Sigma Outstanding Service Award to Dr. Charles Robertson on April 16, 2010. A graduate of Rhodes and a charter member of the college's Sigma Pi Sigma chapter, Dr. Robertson has a passion for science and is an enthusiastic supporter of education in the sciences. He and his wife are the benefactors of the Jack H. Taylor Scholarship in Physics (<http://www.rhodes.edu/finaid/1413.asp>), which provides talented high school physics students the means to continue their investigations at the college level. His generosity also supports summer research students at Rhodes, SPS student activities and the college's acquisition of a Zeiss LSM 700 confocal microscope.

Charlie's visits to campus are always marked by wonderfully rich conversations with students and faculty.

Dr. Robertson completed his doctorate in physics at Florida State University and spent twenty-nine years as a systems engineer at DuPont Laboratories, where he collaborated on several breakthrough products. He is the founder of NanoDrop Technologies, LLC, a laboratory instrument business, now a part of Thermo Fisher Scientific. He served on the board of Habitat for Humanity of New Castle County, DE, for many years, receiving a lifetime achievement award in 2001. He currently serves on the board of Tri-State Bird Rescue and Research of Newark, DE, and the Rhodes College Board of Trustees. —Ann Viano reporting

Neal Schumacher—The University of Wisconsin at River Falls designated Dr. Neal Schumacher for the ΣΠΣ Outstanding Service Award. Neal Schumacher graduated from UW River Falls in 1988 with an applied physics major. He then successfully completed a master's degree and a PhD in mechanical engineering at Texas A&M. He began working for Banner Engineering right out of graduate school and has advanced to his current position of Vice President of Engineering. During his time at Banner, Neal has been

very supportive of our program. He has mentored several students in successful internships at Banner, and some of those interns went to work at Banner following graduation. Neal has also supported various projects in the department and has continued to offer us sound advice on preparing our graduates for work in industry.

—Earl Blodgett reporting



Past Society of Physics Students President Earl Blodgett (left) presents the ΣΠΣ Outstanding Service Award to Neal Schumacher (right).

Nancy Rhodes—Coe College recognized the outstanding service of alumna Nancy Rhodes. Her recognition was the highlight of a very special Sigma Pi Sigma induction weekend. Six students and Chapter Advisor Steve Feller went to the Iowa Braille School to present an outreach program on Saturday April 24th. At the banquet on April 25th, the



Nancy Rhodes reads her citation of service.

chapter bestowed a ΣΠΣ Outstanding Service Award to Ms. Nancy Rhodes, Coe Physics '94. Ms. Rhodes, a Native American, is a most deserving alumna who has given much back to our SPS and Sigma Pi Sigma chapters. Ms. Rhodes has worked behind the scenes at all sorts of events. She is the person behind the registration desk, handing out programs, attending SPS events, and always volunteering to help. She gave a short talk about how much this award meant to her, with her parents in attendance. Hardly an eye remained dry in the room. —Steve Feller reporting



Left to Right: Past ΣΠΣ President and Rhodes Chapter Advisor Ann Viano, Charles Robertson, and charter members of the Rhodes chapter, William Boyd and Jack Streete, professor emeritus.

ΣΠΣ's Newest Honorary Member: John Mather

By Thomas Olsen
Assistant Director of Sigma Pi Sigma

There was a buzz in the air. When the faculty and student leadership of the Society of Physics Students (SPS) and Sigma Pi Sigma gather each fall in Council, it's always exciting. Plans are generated, new friendships are struck, resolutions are debated, and decisions are made. But this was different; there was something more. Many friends of Sigma Pi Sigma from the various divisions of the American Institute of Physics (AIP) and the American Association of Physics Teachers joined the Council for its opening banquet. Nobel laureate John Mather, recognized for precision measurement of the radio spectrum associated with the three Kelvin temperature of the cosmic background radiation, would be the first keynote speaker in the history of the Council. Throughout the tinkling of silverware and the cacophony of conversation over dinner, expectancy grew. No one was disappointed.

Logan Hancock, representing the students on the Council, stood to announce the talk. AIP Executive Officer Fred Dylla admirably introduced a fellow child of New Jersey who had gone on to great things. John Mather rose to his full height and began to speak of his next project, the Webb Space Telescope, but in the moment, in light of his introduction and the points on the arcs of their careers where the young physicists on the Council sat, he paused. He realigned his thoughts and began to relate a life in science, the pursuit of an understanding of the very beginnings

of the universe. He spoke fondly of his undergraduate days at Swarthmore College, the PhD thesis research that didn't achieve all its aims as an atmosphere stood between him and the stars, and of the opportunity NASA gave him to repeat his thesis project in a successful manner: from a spacecraft in orbit, the Cosmic Background Explorer (COBE). He recounted the moment when he stood before a gathering of the American

are daunting. To peer through the dust of space to see the ancient artifacts of cosmic genesis, one must work in the infrared region of the electromagnetic spectrum, requiring a larger mirror for resolution and ultralow temperatures to avoid thermal noise. The mirror exceeds 6 meters diameter and its sunshield is the size of a tennis court, but both must fit in a booster vehicle of less than 5 meters diameter, each unfolding

perfectly on the first attempt beyond the Earth's atmosphere. To reach the necessary balance of great strength and minimal weight, new manufacturing techniques were developed to create a segmented mirror of beryllium. His pride showing like a father describing his child, Mather guided a tour through each of these instrumental milestones.

As he concluded his memoir of an ongoing life in science, the Council rose to a standing ovation. Students Logan Hancock and Travis Barnett (who served as an Inaugural AIP Mather Policy Intern, supported by the John and Jane Mather Foundation for Science and the Arts) rose to recognize Dr.

Mather on behalf of the Council and Sigma Pi Sigma. John Mather, of the Towson University chapter of ΣΠΣ, was received as an Honorary Member of Sigma Pi Sigma, its highest recognition for scientific achievement. His life in the service of advancing the frontiers of astrophysical knowledge and in service to humankind epitomizes the ideals of the Physics Honor Society. We heartily welcome the newest honorary member—John Mather!



From Top left: Logan Hancock introduces John Mather as the latest Honorary Member of ΣΠΣ. Mather Intern Travis Barnett presents John Mather with his certificate of honorary membership, as ΣΠΣ President Diane Jacobs presides. Below: The National Council of SPS and ΣΠΣ gather, together with AIP staff, with Dr. Mather at the close of a wonderful evening.

Astronomical Society, whose members, awaiting preliminary data, rose to their feet to applaud the most ideal thermal spectrum ever observed in nature.

He then returned to the Webb telescope, of which he is the senior project scientist. Audience members were entranced by his vision of the search for early galaxies and learning their evolution, as well as the quest to understand the dynamics of the development of planetary systems about stars. The technological challenges of the Webb telescope

Photos by Tracy Schwab, AIP