

Friends and colleagues remember former NIEHS geneticist de Serres

By Eddy Ball

The field of environmental mutagenesis lost one of its leading figures with the death Dec. 21, 2014 of Frederick de Serres, Ph.D., at age 85 in Chapel Hill, North Carolina. His death resulted from complications of the genetic condition alpha-1 anti-trypsin deficiency and a muscle-wasting disorder.

In the final phase of his life, de Serres combined the rigor of his intellect as a scientist with his personal health concerns, to become an expert on the disease that led to his death. He was a tireless advocate for the millions of people worldwide, far too many of them never diagnosed, whose health is compromised by alpha-1 anti-trypsin deficiency ([see related story](#)). The deficiency typically leads to severe chronic respiratory disease that is worsened by environmental exposures.

“Dr. de Serres was leaving NIEHS about the time I came here as a senior fellow,” said NIEHS and National Toxicology Program (NTP) Director Linda Birnbaum, Ph.D. “But he was a pioneer in the field of environmental health science, and our paths crossed many times over the past 35 years. His death is clearly a real loss for the community.”

Among the many friends and colleagues who offered [online condolences](#) (<http://www.legacy.com/guestbooks/newsobserver/frederick-joseph-de-serres-condolences/173615619?#sthash.gQhq5nyB.dpbs>) to the de Serres family were retired NTP toxicologists Jack Bishop, Ph.D., John (Jef) French, Ph.D., and Mike Shelby, Ph.D., commenting on de Serres' important contributions to their careers and to the development of the field of environmental mutagenesis.

“For three decades Fred de Serres was the single biggest influence in my professional career,” wrote Shelby. “He hired me as technician in his laboratory, introduced me to scientific research, encouraged me to return to graduate school, served on my graduate committee, hired me at NIEHS, and involved me in multiple international scientific activities.”

A career devoted to studying gene-environment interactions

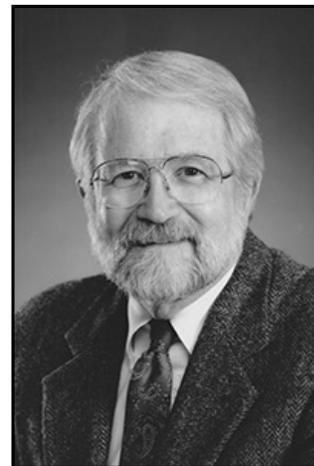
In several aspects, de Serres' career paralleled the development of the field of environmental mutagenesis, beginning with positions as a biologist with the Oak Ridge National Laboratory, where he served as coordinator of the Environmental Mutagenesis Program 1969-1972, and the National Aeronautics and Space Administration 1964-1968.

de Serres was a resident of Chapel Hill and an adjunct professor at the University of North Carolina at Chapel Hill since 1972, when he accepted an appointment as the head of the NIEHS Laboratory of Environmental Mutagenesis. He served as NIEHS associate director for genetics for 10 years beginning in 1976. In addition to his genetics research, de Serres was the U.S. and NIEHS representative for a number of international projects related to mutagenesis and carcinogenesis.

In 1986, he joined Research Triangle Institute, predecessor of RTI International, as director of the Center for Life Sciences and Toxicology. Following his retirement in 1995, de Serres was a consultant before rejoining the institute as a guest researcher. A man of many interests, he was also president of a publishing company specializing in children's literature ([see related story](#)), during his years of semi-retirement.

The author of nearly 500 scientific publications, de Serres was a member of a long list of professional societies, editorial boards, committees, panels, and foundations. He received a number of honors during his career, beginning in 1955 with recognition from the Sigma Xi chapter at his alma mater, Yale University.

After becoming active in alpha-1 research and patient advocacy following his diagnosis in 1997, he was honored by the Alpha-1 Foundation and Alpha-1 Association. The title of his 2003 article in *Environmental Health Perspectives* summed up his attitude toward the disease, “Alpha-1 anti-trypsin deficiency is not a rare disease, but a disease that is rarely diagnosed.”



de Serres' ties to the National Institutes of Health date back to 1952-1954, when he was a predoctoral fellow at the National Cancer Institute, prior to beginning his doctoral program at Yale. (Photo courtesy of Mark de Serres)

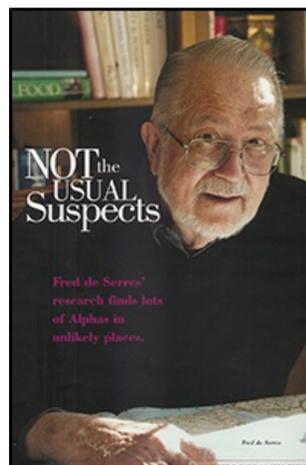


de Serres is shown in 1979 next to a poster of the US-USSR program he coordinated during the 1970s. By that time he was on the leadership team of then Director David Rall, M.D., Ph.D. (Archive photo courtesy of Steve McCaw and Image Associates)

de Serres is survived by 4 children and their spouses, 9 grandchildren, and 4 great grandchildren. He was predeceased by his wife, Christine, and a son, Jonathan. He was buried Jan. 4 in a private ceremony. The family plans a memorial service later this spring.



de Serres' work as an editor and publisher displayed a different side of his varied interests and talents. As co-editor of "Dmitri," he combined his love of folklore and fairy tales with his practiced ear for conversational English to produce a far more readable version of these fairy tales by a Russian author. (Image courtesy of Frederick de Serres)



de Serres was featured in the Spring 2004 issue of Frontiers, a publication of the Alpha 1 Foundation. From his population studies, he estimated that in the U.S there could be as many as one carrier or deficiency allele combination phenotype for every 11.3 individuals. The rate varies from country to country and is as high as one in 4.5 among people from the Iberian Peninsula, which includes Spain, Portugal, and some parts of France. (Image courtesy of Frederick de Serres)

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