Science Societies

In memoriam

By Ole Wendroth, Klaus Reichardt, Jan W. Hopmans, Rien van Genuchten

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Don and Joanne Nielsen on the Iowa State University campus during the first Kirkham Conference in 2000.

Donald Rodney Nielsen

It is with great sadness to share with our members that our friend and colleague Donald R. Nielsen passed away on 24 July 2020. He is survived by his wife Joanne, their five children, 10 grandchildren, and three great-grandchildren.

Don has been an icon with huge impact on the development of the soil physics discipline and on people working in the soil sciences, agricultural sciences, and geosciences around the world. Born in Phoenix, AZ in 1931, he completed his B.S. degree in agricultural chemistry in 1953 at the University of Arizona where he also earned his M.S. degree in 1954. In 1958, he received his Ph.D. degree working with Don Kirkham at Iowa State University.

Don spent his extremely successful career at the University of California (UC)–Davis where he shaped the Department of Land, Air, and Water Resources into what it is today. Working together with Jim Biggar, his major contributions early on were on the theory and experimental aspects of solute miscible displacement in soils. Another main topic throughout his career was how we approach, analyze, and understand spatial variability of soils. Don worked on scaling issues and was first to introduce state-space analysis and filtering methods for signal processing to derive spatial process relationships in farmers' fields.

With his background growing up in a rural environment where his father managed a large vegetable farm, Don was always interested in the improvement of agricultural management and the development of technologies for sustainable land use. Even after his retirement, he remained active by continuously engaging with students and young scientists. One example was his long-term support of the International College of Agrophysics in Trieste, Italy where he and colleagues taught advanced technologies to

help people from all over the world improve food production, agricultural management, and related education in their home countries.

Don was a Fellow of SSSA, ASA, and AGU and served as president of SSSA in 1984 and of ASA in 1990. Because of his enormous contributions to the physics of water flow and solute transport in soils, he received the Robert Horton Medal from AGU in 2001 among many other awards. His list of service on local, national, and international scientific boards and committees, and in various professional societies, literally fills pages and can be found on the website of the International Union of Soil Science (IUSS).

Don was a creative scientist and an inspiring teacher. He published more than 300 papers and several books. He not only taught at UC-Davis but gave lectures and short courses on all continents. Those who attended some of these events can testify to his enthusiasm for science and being an inspiration to all. He thoroughly enjoyed participating in gatherings with colleagues and students. Many of us remember Don as being the one in the room asking the most challenging questions and not letting you off the hook easily. As such, he was always outspoken and never worried that some may not like this. On the other hand, Don—supported by his wife Joanne—cared for everyone in full measure. People were most important to both of them. He profoundly affected the work, careers, and lives of an enormous number of individuals around the globe.

In his message to us, posted in his career memories, Don points out the universal need to develop innovative technologies for us to better manage our globe's natural resources without soil exhaustion. To increase the awareness of the importance of soils, he even emphasized that children in primary and secondary education ought to learn about soils and their conservation.

Don Nielsen's life and legacy remain a huge incentive for us to continue the research and education ideals he worked on so ambitiously during his entire career and to reach out to and interact with colleagues to have an impact on the sustainable use of our resources in a peaceful world.

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