

## Professor Maria Susana Newton de Almeida Santos (1935-2025)



Professor Maria Susana Santos passed away on March 12<sup>th</sup>, 2025. She began her career in Nematology as a Teaching Assistant and was awarded the PhD degree in Nematology by London University, U.K., in 1970. Her doctoral research was conducted at Rothamsted Experimental Station under the guidance of Dr. Mary Franklin, and her thesis was entitled "Studies on the reproduction and sexual behaviour of some species of *Meloidogyne* Goeldi, 1887 (Nematoda: Heteroderidae). After receiving the PhD degree, she returned to the Faculty of Sciences and Technology, University of Coimbra, where she was appointed as Assistant Professor. She steadily advanced through the academic ranks, attaining full Professor status by 1982.

Her dedication to excellence and precision in her research and writing made her an outstanding mentor for graduate students, postdoctoral fellows and visiting scientists. She has directed M.Sc. and Ph.D. candidates including some who have later emerged as prominent nematologists. She chaired the committee that developed the inaugural M.Sc. program in Animal Ecology at the University of Coimbra, which featured a specialization in Nematology. She has organized several advanced courses across different fields of Nematology, for which scientists from various institutions and countries were invited to collaborate and give lectures, thereby sparking young scientists' interest in the topic. She has also organized workshops including the "Third Regional Conference on Root-Knot Nematode Research for Region VII, of the International Meloidogyne Project (IMP)" held at the University of Coimbra. She was co-founder of the Institute for Environment and Life, University of Coimbra, serving as the Director of the Biological Interactions Unit.

Maria Susana Santos's research interests have been diverse, ranging from taxonomy, biology, and ecology of root-knot nematodes (RKN), *Meloidogyne* spp., and to the development of reliable, sensitive and rapid methods for detection and identification of RKN and potato-cyst nematodes (PCN), *Globodera* spp., populations, using biochemical and molecular techniques; selection of PCN lines with stable levels of virulence resulting from controlled matings; plant-nematode interactions, biological control; and nematicidal potential of plant and algal extracts to RKN.

Maria Susana Santos authored or co-authored over 80 publications, including several chapters in books. She has described eight new nematode species, *Meloidogyne ardenensis*, *M. lusitanica*, *M. paranaensis*, *Trichodorus azorensis*, *T. beirensis*, *Paratrichodorus divergens*, *Xiphinema exile* and *X. diversum*. The species *X. santos* was named in her honour by Lamberti, Lemos, Agostinelli and D'Addabo. She was the first to recognize the presence of *Globodera pallida* in Portugal. She was a co-editor of the book "An Introduction to Virus Vector Nematodes and their Associated Viruses", which contained the proceedings of the workshop held at the University of Coimbra to introduce the subject of virus-vector nematodes and their associated viruses to young scientists. She also served as co-author of the book "Manual for Research on *Verticillium chlamydosporium*, a Potential Biological Control Agent for Root-Knot Nematodes", and held various editorial roles for multiple journals.

Maria Susana Santos served the European Society of Nematology (ESN) as a member of the governing board (1983-1986), as President-Elect (1988-1989) and as President (1990-1992). In 1992, she organized the 21st Symposium of the European Society of Nematologists, held in Albufeira, Algarve, Portugal. In 1999, she was invited to join the Task Force Group of the National Eradication Program for the Pinewood Nematode. She also played a key role in the foundation of the "Sociedade Portuguesa de Fitopatologia (SPF)". In 2004, she was awarded Fellowship of the ESN and, in 2007, Fellowship of SPF.

Her ability to construct and articulate concepts, to relate abstract principles to practical experience, to define research and academic problems, and to assist students and faculty colleagues has been invaluable to the advancement of Nematology, particularly at the University of Coimbra and in Portugal.

We will deeply miss her friendship, smile and sense of humor. She will be remembered and will live forever in our memories and through her family to whom we extend the deepest sympathy.

Isabel Abrantes and Colleagues at Portugal