

**IN MEMORIAM – DR. AURELIA BREZEANU,
A PIONEER OF *IN VITRO* CELL AND TISSUE
CULTURE RESEARCH (1940–2022)**

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In March this year, we said farewell to Dr. Brezeanu. She was an expert in fundamental research in plant biology as well as the founder of the *In Vitro* Plant Culture Laboratory, at the Institute of Biology, Bucharest. As her close collaborator since 1997, I have constantly noticed her hard and sustained work, which she carried out with passion and ambition. She was always surrounded by young people, revealing them the secrets of plant cell research. Dr. Brezeanu was a model leader who supported her collaborators permanently with tenderness and diplomacy, always offering suitable advice and sharing her detailed experience. She was endowed with patience and professionalism in professional relationships, with all members of the department and institute, being equally appreciated by everyone who asked her for help or support.



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Dr. A. Brezeanu was born on 11 August 1940, in Bucharest, in a family of intellectuals. She attended the Ion Creangă High School between 1953 and 1956, and the Biology Faculty of the University of Bucharest, 1957–1962. She later obtained her PhD in Biology under the supervision of Professor Tarnavschi, studying between 1967 and 1972. She started her research career in 1962, working on plant ecophysiology at the Traian Savulescu Institute of Biology. She then moved to working on plant cell biology, conducting in Romania, the first experimental cytodifferentiation and morphogenesis studies, and researching cell biology in plant cell and tissue culture. Plant biotechnology was another research interest area. She performed clonal micromultiplication, genetic engineering and electro-transfection, as well as further regarding interactions between plant cell-mycorrhizal fungi, apoptosis and the implications of this on cytodifferentiation and morphogenesis.

In 1974–1975, Dr. A. Brezeanu obtained a IREX scholarship in USA at the Metabolism and Radiation Research Laboratory (currently known as Biosciences Laboratory in Fargo – N. Dakota), at the Electron Microscopy Laboratory in Beltsville, Maryland and at the Cell Biology Department of Minneapolis-St. Paul, University of Minnesota Life Institute. There she studied the *in vitro* plant cell and tissue culture and plant biotechnology. In 1975 Dr. A. Brezeanu founded the Laboratory for Plant Morphogenesis and Genetic Engineering at the Institute of Biology, Bucharest at the proposal of Academy Member G. Zarnea.

In 1981 she attended an international lecture series on Tissue Culture in Plant Breeding and Propagation, organized by The British Council at the John Innes Institute in Norwich (England). Since 1990 she has been a Ph.D. and since 1996 MSc supervisor in Botany (focusing on plant cell biology and plant biotechnologies) whilst also holding the position of Associate Professor at the Faculty of Biology, University of Bucharest, where she taught a course on Tissue Culture and Plant Cells. Dr. A. Brezeanu was an official scientific assessor in Ph.D. examination committees at the Universities of Iași, Cluj, Bucharest, as well as at the Agronomy Universities in Bucharest and Timișoara. Throughout her professional career she received numerous awards and distinctions, such as:

- The Emil Racoviță Prize awarded by Romanian Academy in 1982 for the book: Anghel I., Brezeanu A., Toma N., 1981 – *Ultrastructura Celulei Vegetale – Atlas*
- The Prize of Academy of The Moldova Republic for the book *Carpiculture „in vitro” Nonmorphogenic Pathway*, authors Matienco B., Brezeanu A., Maximov E., Marinescu M., Cogalniceanu G.
- The Fritzphil Prize for a scientific documentary film, produced by Sahia Film Studio in 1985, directed by Mircea Popescu where she had the role of Scientific Consultant

In the last couple of years, Dr. A. Brezeanu focused on studies on biodiversity for long- and medium-term conservation of rare and endangered, or vulnerable species.

Dr. A. Brezeanu was a member of numerous national and international societies and organizations:

- The European Cell Biology Organisation,

- The International Association for Plant Tissue Culture
- The European Society for New Methods for Agriculture Research,
- The Romanian National Society of Cell Biology,
- The European Federation of Electron Microscopy

She was also the coordinator from the Romanian side of the cooperation programme with the Academy of the Moldavia Republic. She was author or coauthor to four books and hundreds of papers published nationally and abroad, actively participating to symposia and discussions. She was often the initiator of novel research lines, with multiple biotechnological applications. Dr. A. Brezeanu was a member of The Board Council of the Institute of Biology, of the Board of the *Revue Roumaine de Biologie (Biologie végétale)* Journal, and then of the *Romanian Journal of Biology – Plant Biology*.

I first met her in 1996 through a collaboration with Dr. Ana Rosu from Biotechnology Faculty of the University of Agronomic Sciences and Veterinary Medicine of Bucharest. I was admitted here as a Ph.D. student in the Doctoral School of the Romanian Academy. The next year I was employed directly in her department, as one of her youngest collaborators.

I learned from Dr. Brezeanu about the *in vitro* callus and tissue culture techniques in plant biology studies, as well as transmission electron microscopy which led to innovative lines of research. Many other young researcher colleagues and I were constantly supported by Dr. Brezeanu. During the 12 years I collaborated with Dr. Brezeanu who was the Head of Department and welded a formidable team. She was not only our academic counsellor but also kindly supported us in personal matters. The rigor and consistency that characterized her scientific activity compelled us as her collaborators, to approach the research in a similarly diligent manner. Dr. Brezeanu was close to all of her Ph.D. students, working hard in development of experiments for our doctoral theses, as well as offering advice for the preparation and drafting this laborious work which took several years of research. As a leader of research projects, she recruited each of the collaborators based on individual skills. She constantly urged and supported us to present scientific papers to national and international conferences to spread the ideas and studies developed in our laboratory, and also to launch new partnerships with researchers from Romania and abroad.

In these moments of sadness, it is hard for us to imagine that our mentor Dr. A. Brezeanu is not with us anymore. It will surely be impossible to forget her mark on our careers, her professionalism, and the breadth and depth of her scientific activity.

Requiescat in pace.

