



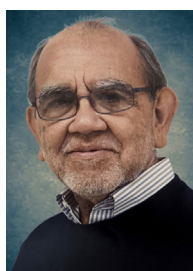
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In memoriam

## Dr. Rodolfo Quintero Ramírez (21/07/1947–08/12/2024)



Last December, Dr. Rodolfo Quintero, Chemical Engineer by the Universidad Nacional Autónoma de México (UNAM), M.Sc in Biochemical Engineering from the Massachusetts Institute of Technology (MIT) and Ph.D from the University of Manchester, passed away shortly after retirement from a life dedicated to science and technology. Early in his brilliant academic and professional career, Dr. Quintero became a reference in Mexican biotechnology and can be properly considered a pioneer in Latin America, being a key player in the consolidation of industrial biotechnology at the end of the past century and its transition into modern biotechnology.

Dr. Quintero influenced all aspects of science within society, mostly from academia where he developed most of his professional work. His participation in the establishment of policies in science and technology, the consolidation of industrial projects and in the creation and conduction of many lines of research are part of his extensive legacy.

In the context of academia, Dr. Quintero was a professor and researcher at the Universidad Nacional Autónoma de México (UNAM), first appointed in 1977 at the Instituto de Investigaciones Biomédicas, in México City, and later in Cuernavaca, Morelos, where, together with Dr. Francisco Bolívar, was one of the founders of the Research Center for Genetic Engineering and Biotechnology, now Institute of Biotechnology (IBt), one of the most prestigious biotechnology research centers in Latin America. Later he became member of the Universidad Autónoma del Estado de Morelos (UAEM), where he created a Research Center for Genetic Engineering and Biotechnology. In the last years of his academic life, Dr. Quintero became part of the biotechnology research group of the Universidad Autónoma Metropolitana (UAM), Unit Cuajimalpa, where in 2005 he became Director of the Division of Natural Sciences and Engineering, and later on, in 2016–2017, advisor of the Rector of this Unit. Finally, before retirement, he was General Coordinator of Institutional Information of the UAM Chancellor Office from 2017 to 2019.

Dr. Quintero was also visiting professor in high-ranked universities of USA, Europe and Latin America. Dr. Quintero's imprint in

Latin American biotechnology is reflected in his contribution to the creation of the Institute of Biotechnology (IBUN) at the Universidad Nacional de Colombia in 1987, and in his tight and long-lasting connection with the School of Biochemical Engineering of the Pontificia Universidad Católica de Valparaíso, Chile, where he was visiting professor in many occasions, significantly contributing to the formation of biochemical engineers. From 1986 to 1996 he was Head of the United Nations Biotechnology Program for Latin America and the Caribbean in which thirteen countries participated, and several biotechnology projects were conducted under his guidance, making a strong impact on the regional development of biotechnology.

In the private sector, he was founder and General Director of BIOFER, a consulting company in biotechnology, founder and Technical Director of GENIN S.A., a tech-based company created for the development of a process for producing intermediates of semi-synthetic penicillins, a technology that was sold to Colombia and Cuba. He was also consultant in many other companies, like IDETA, S.A. in bioprocess design, LABORATORIOS ZAPATA in the production of yeast for medical use, ENZYMÓLOGA, S.A. in the production of phenylalanine, SOSA TEXCOCO, S.A. in the production of *Spirulina*, and LABORATORIOS LEMERY in the production of recombinant molecules for pharmaceutical use. In the public sector, early in his carrier he was involved in the design of the Plant of Production of Biologicals and Reagents (vaccines) predecessor of BIRMEX (Laboratory of Biologicals and Reagents of Mexico). In 1999, he was in charge of implementing the Biotechnology Program of the Mexican Petroleum Institute.

Among the many awards received by Dr. Quintero it is worth mentioning the National Award in Food Science and Technology, the UNAM Award in Technological Innovation and Design, and the nomination of Honorary Doctor by the Universidad Autónoma de Nuevo León and the Universidad Autónoma del Estado de Morelos, as well as Honorary Professor by the Universidad Nacional de Colombia.

Dr. Quintero was a visionary, with an integrative perspective of the academic duty, where basic knowledge, applied engineering and social pertinence were intertwined within the vast field of biotechnology. His abilities to generate new ideas, to enroll the people capable of moving them forward, and to obtain the required funds were remarkable. Just to illustrate this, between 1981 and 1983, he was in charge of the Food Program in UNAM and, in coordination with the anthropologist Luis Vargas, he managed to gather a large number of academics to elaborate about the food of the future, based on the amazing advances of biotechnology and the wealth of Mexican food. The provocative results of this multi-disciplinary work were amply diffused throughout the society. Also, in 1984, Dr. Quintero gather 250 academics, mostly biotechnologists, undoubtedly a hard task, to evaluate the opportu-

nities for the development of biotechnology in Mexico. The result of this endeavor was an enlightening diagnostic about priorities in scientific policy materialized in the document *Prospectives for Biotechnology in Mexico*. In the preface, Dr. Antonio Alonso, quoting Longfellow, expressed: “act in a way that tomorrow finds us farther than today”. Dr. Quintero was, no doubt about it, a visionary but also a man of action that contributed to us being today farther and better than yesterday.

The footprint of Dr. Quintero as a teacher is reflected in his many disciples, whose impact in the academia, industry and government in Mexico and all-over Latin America can be clearly appreciated. His imprint as a teacher is reflected in a textbook, *Biochemical Engineering*, published by Alhambra, where many biotechnology students across Latin America learned the basic principles and potential of bioprocess engineering. This is also the case of the text *Food Biotechnology*, published by Limusa.

Dr. Quintero was indeed multifaceted: researcher, teacher, reviewer, consultant, lecturer, scientific lobbyist, creator and promoter of projects and institutions in Mexico and all-over Latin America. The affection and recognition of Dr. Quintero within the biotechnology community is the clearest evidence of his massive and fruitful work.

Rodolfo Quintero was above all, a generous man that shared his wisdom joyfully and without restriction, a remarkably good and faithful friend, passionate for life, for work and for his live-in partner, Dr. Rosa Luz González. In her own words, Rodolfo was intense, tireless, impossible to follow and extraordinarily empathic. Rodolfo and Rosa Luz were wisdom followers, which is reflected in an astonishing collection of owls that they gathered from all over the World.

Rodolfo Quintero has passed away but, big man as he was, he remains vividly present in the minds and hearts of many. In the words of its editors: a tribute to him in Electronic Journal of Biotechnology is inexcusable.

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