

Professor Julio César Podestá

A Tribute



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Professor Julio César Podestá was born in San Juan, Argentina, on November 15th 1941. He arrived in Bahía Blanca in July 1956 when his parents moved to this city because of his father's job as Manager of the National Bank. At that time, he was a high school student enjoying that special time in human life. He made a lot of friends, liked the way of life of the city, and when his parents left, he decided to stay and to start his university studies here. Since then, Bahía Blanca has been his place in the world.

Julio obtained his degree in Chemistry from the Universidad Nacional del Sur (UNS) in 1968. He finished his Doctor of Chemistry degree in the same university in 1971 with the highest qualifications. His thesis dealt with the synthesis of polycyclic aromatic hydrocarbons *via* double acylation of aromatic hydrocarbons. His thesis adviser was Prof. Dr. Aziz-Ur Rahman, a renowned scientist who arrived from India in 1959 and is considered the founder of scientific research in Organic Chemistry at the UNS.

In 1972, Julio was promoted to Assistant Professor at the Department of Chemistry and Chemical Engineering of the UNS.

In the meantime, Julio married Elba -a great woman behind a great man- and their daughters Paula (1970) and Mariana (1972) were born.

In 1973, Julio was awarded a fellowship from OAS/British Council to carry out postdoctoral research and the whole family moved to Lancaster (UK). At Lancaster University, he worked for

Dr. F. Gordon Thorpe carrying out studies on organometallic reaction mechanisms, especially exchange reactions with borane in THF.

By the end of 1974 the family returned to Bahía Blanca, and on march 1975 Julio undertook the adventure of starting his own Organometallic Chemistry research group without any funding. At that point, I joined Julio's group as a postdoctoral student. Our first target was the study of the radical hydrostannation of substituted activated olefinic systems. Because of the lack of funding, I remember, among other things, that in order to obtain the organotin hydrides needed for the studies we had first to obtain the alkyl halides from the corresponding alcohols. Then, from the halides we prepared the Grignard reagents needed for alkylating the tin tetrachloride which, in turn, was obtained by dehydration of $\text{SnCl}_4 \cdot 5\text{H}_2\text{O}$.

In 1978, Julio was awarded an Alexander von Humboldt-Foundation fellowship and joined Prof. Dr., Wilhelm P. Neumann's research group at Dortmund University (Germany). Professor Neumann's research team was at that time one of the more prestigious at international level in the field of group 14 elements organometallic chemistry.

In June 1979 he returned from Germany, appointed to a position at the National Research Council (CONICET), and started with his projects on organotin chemistry as usual: full of ideas and short of money and equipment. In 1982, the first graduate student -Liliana C. Koll- joined the group, and in 1983 the second one -Mónica Savini- both aiming to obtain academic degrees. In 1985 Mónica obtained the Master in Chemistry degree and Liliana got her Doctor in Chemistry degree in 1987. During this time, Julio's third daughter (Ana Clara) was born.

The first investigations of the group were devoted to the study of the stereochemistry of the addition of organotin hydrides -hydrostannation- to substituted olefins. The first publications in this field,^{1,2} have been considered as one of the earlier examples that demonstrated that radical reactions could be stereoselective (N.A. Porter, B. Giese, D.P. Curran, *Acc. Chem. Res.*, **1991**, *24*, 296). More recently, some papers of our group explained the possible origin of the stereoselectivity observed in these reactions.^{3,4}

Other studies established that the size of the organic ligands attached to the tin atom influence not only the stereoselectivity of the reactions of organotin compounds, but also the stability of the resulting organotin derivatives. Thus, we established that the reactions of organotin hydrides containing bulky organic ligands like neophyl, phenyldimethylsilylmethyl, (-)-menthyl, and tripticyl are slower than those carried out with the more common organotin hydrides (methyl, n-butyl, phenyl), and that the stereoselectivity achieved with the bulky hydrides is higher.⁵⁻¹⁰ We also demonstrated that hydrostannation of alkynes with bulky organotin hydrides is not only more stereoselective but the useful vinylstannanes obtained are much more stable than those obtained with the common organotin hydrides and the separation of organotin byproducts is quantitative.¹¹⁻¹³

We also developed a method for a three step synthesis from phenols of aryl- and heteroarylpolyboronic acids, useful substrates for polymer chemistry and Suzuki reactions.¹⁴⁻¹⁶

At present, he is mostly involved in the study of synthetic applications of organotin compounds. Thus, he has recently started studies on the synthesis of optically active macrolides

via a tandem radical cyclohydrostannation of unsaturated TADDOL diesters that proceeds with very high stereoselectivity.¹⁹ He is also interested in the development of more efficient and versatile protocols for carrying out synthesis *via* cross-coupling reactions.²⁰ The results obtained by Julio's research group until present have resulted in the publication of 70 research articles and have also been reported in numerous national and international meetings and symposia.

Julio has so far supervised eleven Doctor in Chemistry theses (two of them are currently in progress) and three Master theses; he has also been adviser of members of the research career of the National Research Council of Argentina (CONICET) and of many doctoral students. At present, most of the members of the Organic Chemistry teaching staff of the Chemistry Department have been or are still part of his research team. Currently, Julio is a member of CONICET's research career in the category of Principal Researcher.

Julio likes teaching very much, and has delivered till present more than 60 semesters of undergraduate courses and 15 graduate courses. He has also delivered lectures in scientific meetings and in universities of Argentina, England, Germany and Spain. He has been Visiting Lecturer at Lancaster University (UK) and Gastprofessor at the Universities of Dortmund and Cologne (Germany).

In addition to his scientific and teaching duties, Julio has been, and still is, member of the Chemistry Committee board of CONICET and of the Province of Buenos Aires Research Council (CIC-PBA). He has been the driving force for the creation of the Institute of Organic Chemistry (INIQUO, 1992-2007) and also of both the Chemistry Department at the UNS in 2001, and the Institute of Chemistry (UNS/CONICET) in 2009. He was elected Head of the Department of Chemistry in 2001 and re-elected in 2004. In 2007 he resigned in order to have more time for research. Since 2009 he has been Head of the Chemistry Institute and has frequently been invited to integrate evaluation Committees from universities and research centers.

Julio has been involved with the Argentine Organic Chemistry Association (SAIQO) since its creation in 1983. He was President of SAIQO during the period 1991/1993. For many years, he has also been involved in the improvement of the chemistry curriculum. In this respect, he has been the promoter of the current curriculum in the UNS which involved the introduction of especially important changes. Between 2007 and 2009, he was President of the Forum of Deans of Faculties of Chemistry (FODEQUI). The main efforts of FODEQUI in that period were directed at obtaining recognition of the status of public interest for a chemistry career from the Ministry of Education. This target was achieved in June 2009 after 13 years of petition.

In 2003, Julio received the Konex Award in Organic Chemistry in recognition for his academic work. Since 2007 he has been Professor Emeritus of the UNS. While Julio is still engaged in academic activities, Elba retired as Headmaster of a Teachers Training College, the elder daughters married, and the family grew. Now Elba and Julio enjoy their seven grand children, three of them in Argentina: Francisco (13), Santiago (10), and Martina (2 months), and four in Germany: Nicolas (10), Laura and Paula (twins, 6), and Ana Victoria (2 months).

Julio enjoys listening to classical, pop, and argentine folk music. He likes watching sports (rugby, basketball, tennis), plays regularly paddle-tennis, and has recently started to play golf. Julio is a fan of the Boca Juniors, the most popular soccer club in Argentina. He also enjoys barbecuing, especially at his cottage in Sierra de la Ventana, a beautiful place surrounded by hills at about 100 km north of Bahía Blanca. There, Elba and Julio enjoy making long walks, reading, and playing scrabble.

I have been really fortunate in having him first as supervisor and then in becoming his coworker, colleague and, in particular, friend. I feel highly honoured to contribute to this issue of Arkivoc dedicated to him.

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Selected Publications of Professor Julio César Podestá

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