Professor Oscar Santiago Giordano

A Tribute

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Professor Oscar Santiago Giordano (OSG) was born in San Rafael, Mendoza Province, Argentina on May 1st 1937. He graduated in Pharmacy and then in Biochemistry at the Universidad Nacional de Cuyo. He obtained his PhD on the isolation of steroidal sapogenins from the *Agave americana* var. *marginata* Hort in 1969. At that time, he was working with a small group of researchers on plant products of the central-west region of Argentina under the direction of Professor Antonio Tomás D´Arcángelo of the School of Sciences of Universidad Nacional de Cuyo.

From 1965 to 1967, with the financial support of Instituto de Cultura Hispánica (Institute of Spanish Culture), he completed his postdoctoral studies in the Universidad de La Laguna (Tenerife, Spain). In Tenerife he lived with his wife Marta and his baby daughter Laura, and worked with Professor Antonio González González on the isolation of steroidal sapogenins. Due to the strong impact that Professor González González's personality and attitude towards research had on OSG, when he was back in Argentina, he worked hard to create new research lines besides the existing ones on alkaloids from cacti and flavonoids from regional plant species.

In 1972, Professor Jesús Romo Armería, director of the Instituto de Química (Chemistry Institute) of the Universidad Autónoma de México (UNAM) was invited by Professor D´Arcángelo to come to San Luis to study the regional flora and to give a lecture about his research work on plant products. The audience consisted of a small group of young researchers of the School of Sciences. During his visit, Professor Romo Armería highlighted that the abundance of *Compositae* species present in this region of Argentina was a potentially rich field of research. Therefore, he invited OSG to spend a six month period in Mexico City and there they started the systematic study of the *Baccharis* genus. For a long time, this topic was studied by Organic Chemistry researchers of Universidad Nacional de San Luis (UNSL) under the supervision of OSG. In 1983, he entered the

Consejo Nacional de Investigaciones Científicas y Técnicas, CONICET (Argentine National Research Council) and started his career as Scientific Researcher in the Instituto de Investigaciones en Tecnología Química, INTEQUI (Institute of Chemical Technology Research).

With the professional growth of his research team and thanks to the financial support of UNSL and CONICET, OSG's laboratory acquired the first 60 MHz NMR equipment in 1977 and the first mass spectrometer in 1980. At that time, a great advance took place in phytochemical studies of the regional flora, consisting in the isolation of hundreds of secondary metabolites from *Baccharis*, *Tessaria*, *Flourensia*, *Senecio*, *Grindelia*, *Gnaphalium*, *Zuccagnia*, *Jaborosa*, *Heliotropium*, *Artemisia*, *Teucrium*, *Heterothalamus*, *Haplopappus*, and *Cunninghamella* genuses.

OSG's work in the laboratory resulted in the isolation and structural elucidation of many novel secondary metabolites such as clerodane, labdane, abietane and icetexane diterpenes; pyrrolyzidine alkaloids and sesquiterpene lactones.

Together with Professors Ramón Piezzi and Jorge Guzmán, OSG started a productive joint research on the bioactivity of the sesquiterpene lactone dehydroleucodine. With members of the Instituto de Histología y Embriología (Institute of Histology and Embriology) of the School of Medical Sciences of Universidad Nacional de Cuyo, he studied the determination of trypanomicide and allelopatic activities.

Dehydroleucodine and derivatives were the compounds that were more intensively studied by OSG in his interdisciplinary work, attracting high recognition of the scientific community. In 1983, the Konex Foundation granted him the "Merit Diploma" in Organic Chemistry. In 2000, he received the award "Dr. Venancio Deloufeu" granted by the Academia Nacional de Ciencias Exactas, Físicas y Naturales (National Academy of Exact, Physical and Natural Sciences). In 2007, he received the Annual Award in Pharmacology "Dr. Bernardo A. Houssay" by CEDIQUIFA (Research Center for Chemical and Pharmaceutical Industry).

Throughout his long academic career, OSG established new research lines focused on natural products from plants through which he was able to guide and support young researchers under his supervision. His group was one of the first to incorporate new biotechnological aspects to the chemistry of natural products. Thus, the laboratory has today a productive line focused on biotransformations mediated by several organisms and enzymes. The interest in creating new derivatives of plant secondary metabolites led to work on stereocontrolled chemical transformations and on the preparation of synthons associated to pharmacophores.

This modern perspective of phytochemistry has generated interesting contributions in areas of applied entomology and molecular biology. The search for compounds with potential antitumor activity and natural pesticides are the subject of constant study in the Laboratorio de Química Orgánica (Laboratory of Organic Chemistry) of INTEQUI (Institute of Chemical Technology Research).

OSG's research team has become a national reference laboratory in the chemistry of natural products participating in many international research projects.

His whole teaching career took place in the UNSL area of Organic Chemistry, showing special didactic abilities until his retirement some years ago. He has supervised 17 students in

different graduate programs, most of them becoming high-grade professionals who are now scientific researchers or niversity professors.

Since his initial position as research assistant, OSG has produced 124 original scientific publications, mostly on plant products and their potential applications. He has served on numerous CONICET evaluation committees and has been Director of INTEQUI and the Department of Chemistry.

OSG's commitment to work, special abilities and professionalism as well as his easygoing character, usual good temper and enthusiasm for new endeavors, and above all his intellectual honesty have left deep marks in the Laboratorio de Química Orgánica of INTEQUI, making him unforgettable.

With respect to his personal life, OSG and Marta are a lifetime couple who have built a strong family made up of three daughters: Laura (Physician), Silvia (Lawyer) and Marta (Physician) and four grandchildren: Lucas, Ignacio, Matías and Manuel. As OSG is very fond of gardening, he spends most of his spare time growing plants and vegetables. He loves to drink mate and he is a fan of the Boca Juniors (Argentina´s most popular football team).

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