

NEUROCHEMICAL RESEARCH

Special Issue Dedicated to Dr. Nicolas G. Bazan



Dr. Nicolas G. Bazan

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See preface by Dr. Stuart Lipton, pages 549-550

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Preface

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It has been said that the father of neurochemistry was the 19th century scientist Thudicum, who reportedly was the first to extensively use the “grind and find” technique and discovered myelin lipids in brain tissue. Of equal importance to the evolution of modern neurochemistry in the 20th and 21st centuries is an approach integrating biochemical and molecular biological techniques. This approach has allowed Nicolas G. Bazan to study the relationship of lipids to neurotransmitter receptors and intracellular signaling pathways leading to gene activation. Nic has pioneered the integration of these eclectic techniques to rejuvenate the field of neurochemistry by incorporating also an understanding of brain functions and diseases. Nic is a phenomenon, the type of jovial, engaging, enchanting, and charismatic figure that comes along, like Thudicum, only once every century.

Perhaps I am too fond of Nic to be the guest editor writing this dedication because I can only find words of passion to describe Nic’s accomplishments. But I think that this bias may be shared by everyone who has come to know Nic. Born (in 1942), raised, and trained as a medical and graduate student in Tucuman, Argentina, Nic also conducted his thesis research at Harvard Medical School in the mid 1960s. He returned to Argentina to found the Department of Biology and Institute of Biochemical Research at the Argentine University of the South in Bahía Blanca in 1970, at only 28 years of age. Concurrently came the first of many important discoveries to neurochemistry—that arachidonic acid in the brain increases during ischemia and seizures due to phospholipase A₂ activity. The paper first describing this became a Science Citation Classic, and what has gone on to become known as the “Bazan effect” later led to a series of discoveries linking lipid signaling to excitotoxic (glutamate-mediated) damage in the brain. Another discovery by Nic in the 1970s and early 1980s was the importance of the essential fatty acid docosahexaenoic acid to the function of photoreceptors and its significance to blinding eye diseases.

A turning point in Nic’s career came in 1981 when he moved to Louisiana State University Medical

Center. This has been hailed by many as arguably the most important scientific event in Louisiana history, a state previously renowned for its political, culinary, and cultural events. Single-handedly and in a tireless effort utilizing all of his resources as a physician-scientist, industrialist/entrepreneur, politician, unequaled leader and organizer, Nic has built a premiere Neuroscience Center of Excellence at LSU. When I think of his vision and accomplishments in creating this Center in Louisiana, I equate it with Hannibal crossing the Alps with a herd of elephants, or perhaps Caesar conquering Gaul and then, upon his return from the wars, informing the Roman Senate in an understated manner “veni, vidi, vici” (I came, I saw, I conquered).

Not only has Nic’s Neuroscience Center fostered many young faculty members in an altruistic fashion, but Nic’s science has also flourished in New Orleans. His group’s discoveries are numerous and include: (i) the finding that activation of secretory phospholipase A₂ and the generation of platelet-activating factor (PAF) modulate long-term potentiation, and therefore potentially enhance memory and neuronal plasticity. Additionally, in excess, PAF is an endogenous mediator of excitotoxicity; PAF antagonists can be neuroprotective; (ii) PAF is involved in transcriptional regulation of several important genes, including inducible prostaglandin synthase (COX-2), a known mediator of inflammatory and ischemic damage; (iii) PAF participates in the activation of mitogen activated protein kinase (MAPK) pathways; and (iv) PAF can down-regulate inhibitory (GABA) neurotransmission in addition to facilitating excitatory neurotransmission (via glutamate release). These important discoveries concerning lipid mediators in the brain have led to novel therapeutic strategies and will no doubt result in new drug treatments for patients with neurodegenerative or age-related disease processes. Recent work has also led to the patentable discovery of novel analgesics using derivatives of N-acylated 4-hydroxyphenylamine. And the work goes on at an indefatigable pace.

Finally, no account of Nic would be complete without a glimpse into the cosmopolitan side of both

Nic and his long time scientific partner and wife, Haydee. There is the athletic Nic, who has been a rugby and rated tennis player. Not only is Nic well educated, knowledgeable about the arts, and a true Epicurean, but also he and Haydee are the consummate hosts. My wife and I call Nic “Dr. New Orleans,” with ties to all the major chefs and famous restaurants. Nic is in his element whether

- taking you to eat in the intimate Wine Room at Emeril’s with Emeril himself autographing his cookbook for you,
- whisking you off to the Chef’s Table in the kitchen at Commander’s Palace with the Chief Chefs cooking for you and the Brennans (the owners who trained at one time or another all of the famous New Orleans’ chefs), or
- arranging for your needs just because he knows you are in town and he genuinely wants you to have an enjoyable experience.

Nic has risen to Rex society, representing the New Orleans” olde guard” that organize charities, participate in Mardi Gras festivities, and, yes, even assume the cherished position of riding on floats in the Mardi Gras parade. How ironic that an Argentinean and world-class scientist has risen to the top of New Orleans society, but that is both the mystique and the cultural legacy of Nic Bazan. Not only a true scientific leader but also a cultural and political genius, Nic Bazan has reshaped science in Louisiana. He routinely advises decision-makers of major institutions about the importance of science, and his remarkable organizational skills are sought after far outside the state. Nic has received in 1989 the prestigious Jacob Javits Neuroscience Investigator Award from the National Institute of Neurological Disorders and Stroke from the

National Institute of Health. Nic has won many awards world-wide, is an Elected Fellow of the Medical Society of Ireland, a member of the Royal Academy of Medicine of Spain, and holds both the Merit Award and Caputto Gold Medal from his home country of Argentina. Among the latest honors is his election as President of the American Society for Neurochemistry, but certainly more accolades will follow as his career continues to develop in an unprecedented collage of scientific, cultural, and diplomatic accomplishments. Truly a renaissance man, Nic could have lived in Florence with the de Medicis of the 1300s and been the best friend of Michelangelo just as surely as he is the best of colleagues and friends to all of us who have been blessed to know him now. As Nic’s own faculty attest, the ultimate legacy of Nic’s development of “Neuroscience in the Bayou” will be the next generation of neuroscientists who will benefit from the infrastructure and intellectual environment built by Nic in New Orleans. Larger than life and more devoted to his family, scientific endeavors and friends than anyone I have ever met, Nic Bazan is truly a one of a kind neuroscientist.

February 29, 2000
Stuart A. Lipton
Guest Editor

The Burnham Institute, The Scripps Research Institute, The Salk Institute, and The University of California, San Diego (on leave of absence from Harvard Medical School)

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