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Obituary

Jerry Buccafusco—1949–2010

Jerry Buccafusco's unexpected passing in March of 2010 deprived the field of nicotinic receptor research of one of its leading researchers, an individual equally at home in academia and in the applied research setting of industry. With his research in non-human primate pharmacology, Jerry became a key figure in translational research in the field of psychotropic medications especially those involving a neuronal nicotinic receptor (NNR)-based mechanism. Jerry's passion in seeking improved therapeutic agents led him to initiate his own efforts in drug discovery in 2008 by creating a clinical development partnership with Percept BioSciences. This was intended to advance small molecule therapeutics to treat the devastating cognitive and neurodegenerative consequences of disease states including attention deficit hyperactivity disorder (ADHD), schizophrenia, Parkinson's and Alzheimer's (AD) diseases.

Jerry was born in 1949 and following graduation from the Jersey City public school system, attended St. Peter's College, graduating with a degree in Chemistry in 1971. He received a Master's degree from Canisius College in Buffalo, NY, followed by his Ph.D. in Pharmacology from the University of Medicine and Dentistry of New Jersey in 1978. Following a postdoctoral period in Neurochemistry at the renown Roche Institute of Molecular Biology in Nutley, NJ, Jerry and his family moved to Georgia, where for over three decades he continued a long and distinguished career in the Department of Pharmacology at the Medical College of Georgia (MCG). This resulted in more than 200 peer-reviewed articles, four edited books and significant contributions to a variety of therapeutic areas that included hypertension, drug abuse and AD. Up until his untimely death, Jerry was an Associate Editor of the *Journal of Pharmacology and Experimental Therapeutics* and other scientific journals including *CNS Drug Reviews* and also served as chair of an NIH study section on drug development research.

Among the many awards received by Jerry were: New Investigator Award, National Institute on Drug Abuse (1980); Sandoz Distinguished Lecturer (1983); Distinguished Faculty Award for the Basic Sciences, MCG (Georgia Health Sciences University) (1988); Callaway Foundation of Georgia, Center Grant recipient (1989); Distinguished Alumnus Award, University of Medicine and Dentistry of New Jersey (1998); Pharmacia – ASPET Award in Experimental Therapeutics (2008); and VAMC Career Research Scientist of the Year (2008).

In his career at MCG, Jerry became Professor of Pharmacology and Toxicology, Professor of Psychiatry and Health Behavior, Director of the Alzheimer's Research Center (which he also founded); Director, Neuropharmacology Laboratory, VAMC and Director of the Animal Behavior Center. In 2009, he was appointed Regents' Professor of the University of Georgia System.

Jerry's lab was the first, in 1988, to report on the cognitive enhancing effects of low doses of nicotine in non-human primates. Since then he and his colleagues studied a variety of novel memory/attention enhancing agents from multiple target classes in young and aged Rhesus monkeys such that his lab became seminal in providing the context and comparators for new mechanistic approaches in this area. This in turn led to his non-human primate behavioral models, especially the delayed-match-to-sample (DMTS), being a major influence in selecting new chemical entities to advance to the clinic. In the drug abuse arena, Jerry's work focused on the role of central cholinergic neurons in the development of physical dependence of opioids, the expression of withdrawal symptoms and the return to drug-seeking behavior.

Our own interactions with Jerry began in the early 1990s when he tested two Abbott lead molecules, the NNR agonists, ABT-418 and ABT-089, in the non-human primate DMTS procedure [1–3]. These compounds had emerged from an AD-focused program that had been initiated in 1990 [4]. From the datasets generated by Jerry and his group (including Alvin Terry), we were able to convince the relevant decision makers at Abbott to prioritize these compounds for clinical trials in AD (ABT-418) and ADHD (ABT-089). The attentional/memory components highlighted by Jerry's foundational translation work was shown to be relevant for both compounds in their respective patient populations [5,6].

Jerry's scientific and entrepreneurial legacy in this therapeutic space continues with other NNRs remaining in late stage clinical development for ADHD, AD and cognitive impairments associated with schizophrenia (e.g., AZD-3480/TC-1734; AZD1446/TC-6683; TC-5619; RG3487; EVP-6124).

Working with Jerry and his group in evaluating compounds reflected a true collaboration, from the design and conduct of the

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studies, to frequent discussions of the data and the development of options for follow up studies, to joint authorship of papers in peer reviewed journals as a perusal of the reference list below list will attest.

Jerry's enthusiasms, scientific focus and knowledge in the nicotinic area were infectious and made working with him a delight. While his absence from the field is to be lamented, his research at MCG has aided significantly in setting the stage for future successes in the area of nicotinic therapeutics while his legacy continues to be actively built on by a broad group of researchers. His work constantly sought to build bridges between scientists in the academic, private and governmental sectors–all within the context of improving the lives of patients in need.

An engaging scientist, an outstanding pharmacologist, a fondly remembered colleague and now, an absent friend. We thank you Jerry.

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