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Editorial

Special Issue in Honor of Norman R. Farnsworth



Photograph by Andrew Campbell, courtesy of *UIC Magazine*.

We are pleased to be able to bring to our readers this special issue of the *Journal of Natural Products*, which is dedicated to Dr. Norman R. Farnsworth, Research Professor of Pharmacognosy and Distinguished University Professor, University of Illinois at Chicago, Chicago, Illinois. Professor Farnsworth is the quintessential renaissance man, who along with such distinguished colleagues as Arthur E. Schwarting, Varro E. Tyler, and Jack L.

Beal, among others, almost half a century ago, helped transform pharmacognosy from descriptive medical botany and mycology into the dynamic chemistry- and biology-based multidisciplinary science that it is today.

Dr. Farnsworth was one of the founding fathers of the American Society of Pharmacognosy (ASP), which was formed at the University of Illinois at Chicago, College of Pharmacy, in the

summer of 1959. While still a graduate student, he served as the first Vice President (1959–1961) and the second President (1961–1962) of the ASP. During his tenure as Vice President, he negotiated with the Lloyd Library and Museum in Cincinnati, Ohio, for the rights to co-publish *Lloydia*, the forerunner of the *Journal of Natural Products*, as the official publication of the ASP. Today, Professor Farnsworth stands as the lone Society founding member still actively engaged in educating graduate students and conducting natural product drug discovery and botanical dietary supplement research. Dr. Farnsworth is a (very) long-term member of the Editorial Advisory Board of the *Journal of Natural Products/Lloydia*, having served in this capacity continuously since 1961!

Professor Farnsworth's research and academic achievements are many and varied. He is an internationally recognized authority on natural product drug discovery research and an expert on traditional and herbal medicine and botanical dietary supplements. He has served on presidential commissions and research councils domestically and on expert panels and steering committees of the World Health Organization, among others. His research and academic achievements were recognized early and often. Dr. Farnsworth is an elected Fellow of the Academy of Pharmaceutical Sciences and of the Linnean Society of London and is a recipient of honorary doctoral degrees from the University of Paris V, Uppsala University, and the Massachusetts College of Pharmacy and Allied Health Sciences as well as Distinguished Alumnae awards from the Massachusetts College of Pharmacy and Allied Health Sciences and from the University of Pittsburgh. He has been named a Distinguished Economic Botanist of the Society for Economic Botany and an Honorary Member of the American Society of Pharmacognosy and was a recipient of the Research Achievement Award from the Academy of Pharmaceutical Sciences, the American Pharmaceutical Association, and most recently, the Research Achievement Award of the American Society of Pharmacognosy. The latter has been designated henceforth as the "American Society of Pharmacognosy Norman R. Farnsworth Research Achievement Award", in recognition of his innumerable and innovative contributions to pharmacognosy and natural products research.

We wish to recognize Professor Farnsworth, known as "Norm" to his many friends and colleagues, for his singular research achievements and for his contributions as a "change agent" in pharmacognosy education and natural products research. Among his proudest singular achievements was his conception of the need for a natural products database using the then emerging computer technology, which led to the establishment in 1975 of NAPRALERTSM, a third-form relational database on medicinal plants, ethnomedicine, natural products chemistry, and biological activity.

In Dr. Farnsworth's early academic career, professors and other scholars were expected to adhere to the norm of the day and be "independent" researchers. However, Norm recognized that mathematically $1 + 0 = 1$, and hence research progress and other achievements would be slow and fragmented employing that prevailing model. Based on the new math of $2 + 2 = 5$, he concluded correctly that a multidisciplinary research team composed of one or more taxonomic/medical botanists, natural products chemists, pharmacognosists, biochemists, pharmacologists, medicinal chemists, and spectroscopists, among others, would greatly expedite the process of natural products drug discovery research. His opportunity to test this theory came following his appointment as Head of the Department of Pharmacognosy and Pharmacology, College of Pharmacy, University of Illinois at Chicago, in 1970, where he assembled a multidisciplinary team of research faculty. For more than 25 years, he worked with a core group consisting of Harry H. S. Fong (pharmacognosist), Audrey S. Bingel (reproduc-



Caricature by Guntar Triadi.

ive pharmacologist), Geoffrey A. Cordell (organic and natural products chemist/pharmacognosist), D. Doel Soejarto (plant taxonomist/medical botanist), Donald A. Waller (toxicologist/pharmacologist), A. Douglas Kinghorn (pharmacognosist), and John M. Pezzuto (biochemist). For more than two decades, members of this group, in various lead or supporting roles, succeeded in acquiring funding for a number of multidisciplinary drug discovery research projects, including the search for fertility-regulating principles (World Health Organization), anticancer agents (NCI, NIH), cancer chemopreventives (NCI, NIH), and antimalarial, anti-HIV, anti-TB, and anticancer constituents (Fogarty International, NIH) from plants, with each project lasting at least 10 years. More recently, with the addition of Richard B. van Breemen (mass spectrometrist/analytical chemist), Judy L. Bolton (chemical toxicologist), Guido F. Pauli (pharmacognosist), Gail B. Mahady (clinical pharmacognosist), and a group of clinicians and biostatisticians to the team, Norm began a new paradigm of pharmacognostic research on botanical dietary supplements, sponsored by NCCAM/ODS, NIH, with emphasis on employing chemically and biologically standardized herbs for clinical evaluation. The collective accomplishments of this collaborating team are many and varied, and they have published in excess of 1000 original research papers and have been named as co-inventors on several U.S. and international patents, with several compounds having been subjected to preclinical studies. An unusual aspect of the Farnsworth team is that each member has established himself—or herself—as a leading research scientist or scholar in his or her own right, reflective of the philosophy of an academic leader who places great importance on the individual intellectual growth of team members.

This special issue of the *Journal of Natural Products* reflects the broad scientific interests of Dr. Farnsworth in the field of natural products. As editors, we have received a great deal of interest from present and past colleagues around the world, and from former graduate students and postdoctorals at the College of Pharmacy,

University of Illinois at Chicago (UIC). To these contributors to this special issue, as well as to the reviewers, we extend our heartfelt thanks. In addition to the formal photograph of Norman Farnsworth at the beginning of this editorial, we thought readers would enjoy the caricature provided by Dr. Leonardus B. S. Kardono, a former graduate student in the pharmacognosy program at UIC. Finally, for his pioneering academic and research contributions to pharmacognosy, we salute Professor Norman R. Farnsworth! We also wish to recognize Norm's charming wife, Priscilla, for the unsparing support she has provided him for so many years.

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