

Herman Jan Phaff, 1913–2001



Herman Jan Phaff, teacher, researcher, inspirator, mentor and friend to many, passed away on 24 August 2001, while on vacation in the Caribbean. Herman's professional life as a scientist spanned over 60 years, and was dominated by his passion for yeasts. This was a natural, infectious passion that carried over to many of his students, colleagues and collaborators, who have gone on to establish yeast research groups at numerous institutes throughout the world. Herman's first paper on yeasts was published in the early 1940s. He was still active as a yeast researcher and publishing papers until his death. Some of us will recall our last meeting with Herman at the 10th International Symposium on Yeasts, Papendal, The Netherlands (August 2000) where, at the age of 87, he continued to share his vast knowledge with the detail, clarity and questioning enthusiasm that were hallmarks of his scientific

career. We are fortunate that Herman had the opportunity to write about his life with yeasts, both before and during retirement (Phaff, 1986, 1995), and these articles provide an excellent chronology of his evolving interests, motivations and achievements.

Herman Phaff was born in Winschoten, The Netherlands, where his curiosity about yeasts started from interests in his family's winery. He obtained his BSc degree in Chemical Engineering in 1938 from the Technical University of Delft, and wrote his first thesis on the pectin-hydrolysing enzymes of fungi. Under the mentorship of A.J. Kluyver, at Delft, he was encouraged to pursue further studies in the USA. In 1939, he left The Netherlands to commence research with William Cruess, Emil Mrak, Maynard Joslyn and Horace Barker in the Division of Fruit Products (later to become the Department of Food

Technology) at the University of California, Berkeley, CA, USA. He completed his PhD in 1943, with the thesis 'Elaboration of pectic enzymes by *Penicillium chrysogenum*'. During these graduate years, he also worked as a research assistant with Mrak, isolating and studying the yeasts associated with figs and dates. According to Herman, this was his first 'foray in the area of yeast ecology and taxonomy'. The article 'Yeasts' in the 1948 Annual Reviews of Microbiology (Mrak and Phaff, 1948) was (and remains) a classic contribution on the ecology of these organisms. In 1943, he accepted a faculty position with the Department of Food Technology at UC Berkeley and remained with this Department throughout his entire career. The Department was transferred to the UC Davis campus in 1951.

Herman's early experiences with applied research in food science and technology laid the foundations for more fundamental studies on yeast biology that dominated his teaching and research career at Davis until his 'official' retirement in 1983. With students and colleagues, he expanded his studies on yeast ecology and taxonomy, isolating and characterising yeasts from many natural habitats throughout the world, and pioneering the application of molecular (DNA) methods to yeast taxonomy. His yeast ecological expeditions covered many locations including Japan, Hawaii, Alaska, Mexico, the Caribbean, as well as mainland USA. His fundamental studies on yeast hydrolytic enzymes, the composition and structure of yeast cell walls and yeast pigments also received international acclaim. He published extensively in major international journals (greater than 300 papers) and was frequently invited as an author of book chapters and reviews, as a speaker at national and international conferences, and as a member of the editorial boards of journals (Journal of Bacteriology 1963–1973; Canadian Journal of Microbiology 1984–1989; Yeast 1987–1992; Associate Editor, International Journal of Systematic Bacteriology). He was a major contributor to 'The Yeasts, a Taxonomic Study' 2nd edition 1970; 3rd edition 1984 and 4th edition 1998, and contributed several chapters to 'The Yeasts' (1st and 2nd editions), edited by A.H. Rose and J.S. Harrison. He served as editor of 'The Yeast Newsletter' (1953–1988) which he started with Mrak. It later (1966) became the official communication of the International Commission for Yeasts and is now distributed to several hundred laboratories throughout the world. A seminal publication with his colleagues Emil Mrak and Martin Miller was the book 'The Life of Yeasts' (1966 1st edition, 1978 2nd edition) by Harvard University Press. Written to give the non-specialist an introduction to yeast biology, it has served as the opening door for many who have taken up productive careers in yeast teaching and research.

His global vision for yeasts saw him build a massive collection of yeast cultures at his UC Davis Laboratory. This international treasure of microbial biodiversity has over 6000 yeast strains isolated from many locations

throughout the world. In a moving celebration that brought together many of his former students and research associates, it was dedicated in 1996 by UC Davis as the H.J. Phaff Culture Collection of Yeasts and Yeast-Like Organisms. His passion for yeasts and his vision for a global community of yeast researchers saw him as an active participant in international conferences, and a founding member (1966) of the International Commission for Yeasts. This Commission is now recognised within the International Union of Microbiological Societies, and attracted over 400 delegates to its recent symposium at Pampendal, The Netherlands (August 2000).

As a teacher and supervisor, Herman commanded the highest respect and admiration from his students. His authoritative knowledge, demand for detail, probing questions, intolerance of weak standards, ability to speak several languages and, above all, his good sense of fairness and objectivity, never failed to impress and daunt the new graduate. From 1952 to 1981, Herman directed nineteen PhD students, two Master's students and some twenty post-doctoral visitors from twelve countries. Many will still recall the humbling experience of his numerous corrections on that thesis or manuscript; critical but constructive – Herman was always right!! Another indelible image would be his towering frame, bent over a microscope, showing new students how to find yeast ascospores!! For many years, along with Marty Miller, he taught the UCD course, Bacteriology 250. Despite its name, this course was entirely devoted to yeasts and, for some students, it was the beginning of a life-long fascination, interest and career with these organisms. For numerous years, Herman was Chairman of the Graduate Group in Microbiology (UC Davis, Berkeley and San Francisco campuses) and, from 1970 to 1975, he served as Chair of the Department of Bacteriology, UCD.

In addition to his academic prowess, there was a 'human' side to Herman that touched his students and collaborators. His home at 'Parkside Drive' was infamous for drinks, excellent food and genuine warm hospitality, and friendship – hosted in conjunction with his former (deceased) wife, Marinka, and, more recently, with Diane. These occasions celebrated the arrival, success and departure of his graduate students and research visitors, but there was always special consideration for his international students at Thanksgiving and Christmas. And there were those memorable occasions at his Silver Lake cabin, secluded in the mountains of northern California.

Herman's distinguished achievements as a scientist, scholar and much-loved colleague have been recognised many times throughout his long career. In 1969, UC Davis recognised him as its 27th Faculty Research Lecturer. He received the Annual Lecturer award from the American Society for Enology and Viticulture in 1972 and the Mycological Society of America in 1976. The American Society for Microbiology bestowed upon him the J. Roger Potes Award in 1984 and he received the James F. Guy-

mon Award from the American Society for Enology and Viticulture in 1986. His former students organised the 'Phaff Symposium' at the 1980 International Symposium on Yeasts (Ontario, Canada) and a special issue of the *Journal of Industrial Microbiology* was dedicated to him in 1995 to celebrate his fifty years of active research. In 1996, at the age of 83, he ventured 'down under' to Sydney, Australia, where he presented a keynote lecture on 'Yeast ecology' at the Ninth International Symposium on Yeasts. He received the UC Davis 2001 Award of Distinction from the College of Agricultural and Environmental Science but, sadly, notification of this honour arrived two days after his death.

The 'story' of Herman is not complete without mention of his other life-long passions – music and arts. He was an accomplished and dedicated cellist and contributed enormously to the development of music and arts at UC Davis, being an honorary member of the Faculty of Music since the 1960s. For many years he chaired the UC Davis Committee for Arts and Lectures, and played in its symphony orchestra. To the newly arrived graduate, he mysteriously disappeared from his office and laboratory every Wednesday afternoon. They would soon learn that he regularly went to the Bay Area to play his cello.

Herman was active right up until the time of his death – working in the laboratory at UC Davis with his culture

collection, identifying new yeast species, writing manuscripts, travelling and attending conferences. Learning and the quest for discovery never stopped. He inspired and enriched the lives of so many.

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(on behalf of Herman's students and research associates)