

IN MEMORIAM

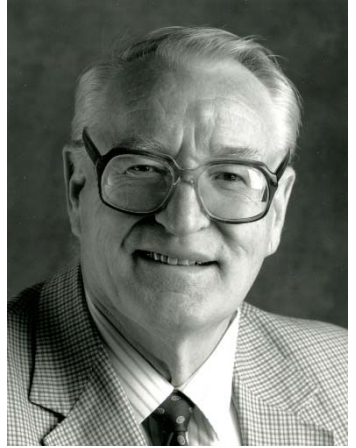
Thomas Richardson

Professor Emeritus, Peter J. Shields Chair in Dairy Food Science

Department of Food Science and Technology

*UC Davis*

1931 – 2010



Thomas Richardson, Peter J. Shields Chair in Dairy Food Science Professor *Emeritus* died October 9, 2010 in Berthoud, Colorado. He was the first to hold this endowed chair established in 1983 from grants contributed by the California Milk Advisory Board and the California Manufacturing Advisory Board. The initial Shields endowment (1983) totaled \$550,000.

One of the first endowed chairs at UC Davis, the chair was named for Judge Peter Shields to honor Judge Shield's critical role in writing the legislation that funded the purchase of the UC Berkeley University Farm in Davis, California (1906). At first, it was known as the Farm, and later became the independent UC Davis. Richardson's inaugural appointment to the Peter J. Shields Chair in Dairy Food Science was on July 1, 1984, a position he held until his retirement in 1991.

Professor Richardson was born December 4, 1931 in Fort Lupton, Colorado. He received his undergraduate training in pharmacy at the University of Colorado, Boulder. He then went on to the University of Wisconsin, Madison, and received an MS degree in veterinary medicine and a PhD in biochemistry. Afterwards, he accepted a postdoctoral fellow in food chemistry at the University of California, Davis, where he worked (1959-1961) in the Food Science and Department working under Professor Al L. Tappel. With Professor Tappel, Tom worked on the effect of various types of fatty acids on mitochondria in plants and in animals.

Professor Richardson had a varied lipid-based research program at the University of Wisconsin and University of California, Davis. He started to focus his research at Wisconsin and later at UC Davis on the chemistry of milks and milk-based foods. His research brought more comprehensive understanding of how milk and milk products were affected by formulation, and processing, leading to a more comprehensive understanding of processing using milk and milk products.

He was frequently contacted by the California and national dairy food processing industry for help with quality and safety and processing issues with milk and milk products.

He organized and coordinated *ad hoc* research to address issues brought to him by the California dairy production and processing industries. For example, when the bacterial disease listeriosis occurred in Hispanic cheeses in Southern California in June 1985, Tom coordinated and directed efforts to identify the issues that led to this outbreak that resulted in 142 cases of listeriosis, including 52 fatalities. Indeed, his research on this single outbreak led to increased rigor in dairy sanitation regulations and in the dairy farm and processing industries. Significant increases in the sanitary protocols from dairy farm to retail allowed the manufacture of cheeses and milks and milk products safer worldwide.

During his tenure at UC Davis, Tom also assisted in research efforts by non-California based agencies. He coordinated a Cornell-based research program to demonstrate that the concentration of raw milk at the dairy farm was economical to the dairy producer and to the cheese manufacturer. In this process, the dairy producer would concentrate the milk solids in raw milk on farm using a membrane process. This saved the producer money since the milk solids were transported to the processor and not the water. Further, for the milk processors, the amount of cheese yielded from this concentrated raw farm milk also increased yields of cheese, because the milk protein was more concentrated. Today, rather than concentrating the raw milk on farm, the industry has adopted the practice of concentrating the raw milk as it is received by the processing plant. These large scale concentrating activities are very economical for the dairy farmer and processor. Concentrating raw produce a milk by membrane processes is done now in processing plants in several key dairy states in the US and in international facilities.

Professor Richardson mentored many graduate students during his tenure in the Food Science and Technology Department at UC Davis. He was an excellent undergraduate and graduate teacher, both in the classroom and in his laboratory. He was very compassionate and worked with undergraduate and his graduate students making sure they would have a fulfilling “academic career”. Alumni from his lab always found excellent positions in the dairy and food industries, and in national and international research universities. Simply put, students from Professor Tom Richardson’s program were widely sought after.

Tom also worked on procedures to remove contaminating penicillin in raw farm milk. This work was done before rigorous industry and regulatory scrutiny of farm antibiotic use all but eliminated antibiotics as a contaminant in raw farm milk. Nevertheless, he and his collaborators were successful in patenting the process. While the process was successful in decontaminating farm raw milk, the national and state regulatory agencies would not accept/approve the process for removing penicillin. To the regulatory agencies, the contaminated raw milk was still considered “adulterated”. Therefore, while of practical value, the process was not approved/accepted by regulatory agencies and the industry.

Overall, Dr. Richardson and his students generated a very impressive portfolio of research. He had over 200 peer-reviewed publications on a variety of practical and fundamental topics important to the dairy and foods industries and over a wide variety of research topics. He authored numerous technical reports, was editor or co-editor of several science books and published hundreds of abstracts. In addition to his publications, Tom and the students gave many presentations at scientific meetings; many of the reported research findings were considered “cutting-edge”, but a number were also on the practical use of science in the dairy foods industry.

Following his retirement from UC Davis in 1991, Tom and his wife Maxine (Maxine Ruth Clark 1922-2003) moved to Berthoud, Colorado. It was important to Tom to remain close to his Colorado “roots”. They always enjoyed the mountains and in particular visiting family and friends at their mountain cabin in Allenspark, Colorado. His wife preceded him in death in 2003. He is survived by daughters Jennifer and Barbara and granddaughter Lindsey.

John Bruhn

David Mills

Joseph O'Donnell

Rafael Jimenez-Flores

Zann Gates

Christine Bruhn