

Christian R. Raetz (1946–2011)

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My laboratory was adjacent to that of Chris Raetz during my tenure as a faculty member in Biochemistry at the University of Wisconsin in Madison. That fortunate juxtaposition has made “all the difference” in my career. We became good friends bonded by our passion for science. Proximity to Chris’s lab led to frequent scientific interactions that led in turn to my eyes being opened to the power of genetics and the then new field of molecular biology. During that period, his family provided me with a semblance of normalcy in my life. I was a part of his family, for which I am forever grateful.



Figure 1. Raetz received many pies due to all the bets he lost with me.



Figure 2. From the Madison days, where Chris gave me a pie in the face in front of a large introductory class in Biochemistry.

It has been two months since the passing of Chris Raetz. While I accepted a number of requests to write about the Raetz as I knew him so well, I have found putting my thoughts into words difficult. I have frequently found myself experiencing emotions from being teary eyed to chuckling, related to some observation that has made me think about him. I will be brief in

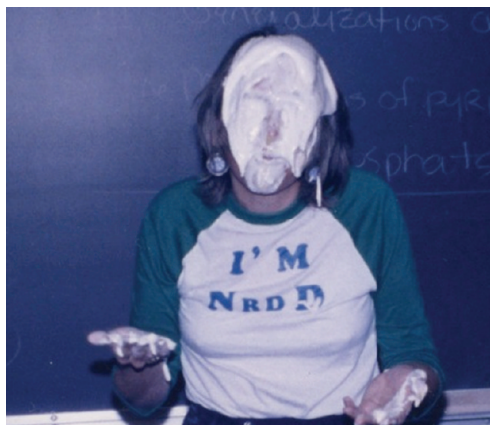


Figure 3. Chris gave me the t-shirt that said “I am NrdD” (nucleotide reductase D). Little did he know that the anaerobic ribonucleotide reductase would be shortly discovered and be named NrdD.



Figure 4. The car that Chris bought, a requirement for his success in the sports car bet. Note the license plate.

my task and try to introduce you to the Raetz I knew and loved as a dear colleague.

Raetz was an only child and to all who knew him well, he exhibited all the expected characteristics. Both of his parents were industrial chemists and moved from East Berlin in the 1950s, eventually ending up in New Haven, Connecticut where they successfully conveyed to their son the wonders of science and the importance of education. Raetz was an undergraduate at Yale University, where he experienced a transformative course in organic chemistry taught by William Doering. This experience, which he often discussed, had an influence that continued throughout his career. Teachers do make a difference! Chris’ educational path continued at Harvard

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Figure 5. Raetz with two Wisconsin colleagues that had important influences in Raetz science: Anderson, a carbohydrate chemist and Cleland an enzymologist, both on the faculty in Biochemistry at Madison. Photos courtesy of Laura Kiessling.

Medical School and after much soul searching, he received an M.D. and a Ph.D. working in Eugene Kennedy's lab. That experience and the members of the Kennedy mafia also forever changed his life. I was lucky to have met many members of this clan—all passionate about “fat” biochemistry.

Raetz's training with Kennedy and his appreciation for organic chemistry allowed him to unravel over the course of his career the complex biosynthetic pathway of Lipid A, the lipopolysaccharide that is housed on the outer surface of Gram-negative bacteria and is responsible for toxicity-associated infections. His knowledge of genetics, biochemistry, chemistry, pharmacology, and clinical medicine allowed his laboratory to unravel the entire pathway and use the information about the enzymes involved, both structure and function, to make translationally important discoveries. Both the breadth and depth of his knowledge were refreshing and unique.

Besides the intensity of science, my interaction with Raetz will be best remembered for our pie in the face bets (Figure 1). I won all but one bet, and that bet, as briefly described, cost him dearly. When I met Raetz, he did not drive and either took the bus to work or was chauffeured by his wife Madeline. I bet him, in a pie in the face challenge, that he would not learn how to drive and buy a sports car. I figured while he might be successful at the former, Madeline would never allow him to

buy a sports car. I was wrong, and the pie was delivered to me in front of a large class in Biochemistry (Figures 2, 3, and 4.) At least I got good teaching reviews that semester.

Despite all the fun and success Raetz had at Wisconsin, he decided to move to Merck in the mid-1980s where he eventually became a Vice President of Biochemistry and Microbiology. Throughout that period he maintained a small lab at Merck focused on his passion. I was not surprised when he decided to return to academics to become Chair of the Department of Biochemistry at Duke University Medical School. His continued focus on basic biochemistry at Merck and his very successful transition back to academia are illustrative of Raetz himself. Few academics are successful in both worlds.

Throughout the 25 years that I have known Raetz, there have been three constants: his friendship, his family's kindness to me, and his passion for science. Over the years we spent much time on the phone and after 2 min of the latest gossip, he was always telling me about his laboratories' newest discoveries. Raetz was a real friend, one with whom I shared the good as well as the bad. He actually read my papers. He pulled me away from the scientific details and helped me focus on the big picture. His science was spectacular from the discovery of new pathways with the chemical and mechanistic details, to defining targets for new therapeutics. While this tribute is personal, I speak for the biochemistry and enzymology communities when I say that Chris is very much missed.

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