

Carol L. Dieckmann



Current Position: Professor of Biochemistry at University of Arizona

Education: Ph.D. in Biology (1980) from University of California, San Diego

Non-scientific Interests: Reading, swimming, dancing

As an undergrad, I studied the symbiosis between hydra and green algae. As a grad student, I investigated the intersection of mitochondrial function and circadian rhythms in the fungus *Neurospora*. During my postdoc, I began a long-term research program investigating the regulation of mitochondrial gene expression in yeast. My research group is also investigating the rules for placement and assembly of the light-sensing eyespot in the alga *Chlamydomonas*.

We became interested in this area of research when a Ph.D. student in the lab, Melissa Schonauer, screened the haploid yeast deletion library for mutants defective in mitochondrial RNA processing events. She found two mutant strains that are defective in RNase P cleavage of the 5' leaders of mitochondrial pre-tRNAs. One mutation is in the gene coding for a fatty acid biosynthetic enzyme and the other is in the gene coding for an enzyme in lipoic acid biosynthesis. The mitochondrial fatty acid biosynthetic pathway provides the octanoic acid precursor for lipoic acid synthesis. We were very surprised to find this intersection of mitochondrial fatty acid—lipoic acid synthesis with RNA processing. Our hypothesis is that the concentration of acetyl-CoA in the cell regulates mitochondrial function via this intersection.

J. Kalervo Hiltunen



Current Position: Professor and Chair of Biochemistry in the Department of Biochemistry; Vice Director of Biocenter Oulu at University of Oulu in Finland

Education: Ph.D. in Medical Biochemistry (1977) from University of Oulu; M.D. (1974) from University of Oulu; Qualified specialist in the field of clinical chemistry (1984)

Non-scientific Interests: Orienteering, hiking cross country skiing

During medical school, I became interested in the chemistry of life. Consequently, I became a Ph.D. student in the group supervised by Professor Ilmo Hassinen at the Department of Medical Biochemistry at University of Oulu in Finland. This work focused on control of cell respiration using perfused rat heart as a model system. After working as postdoctoral fellow at Indiana University in Indianapolis and at Oslo University in Norway, I practiced medicine for several years. I got a booster back to research on intermediary metabolism and lipids while working as a visiting scientist at Norwegian College of Veterinary Medicine. Since then, my research interest has been in lipids and roles of peroxisomes and mitochondria in cellular lipid metabolism. The work has resulted in identification and characterization of a number of novel proteins of both degradation and synthesis of lipids. Special challenges have been structural biology and biochemistry of peroxisomal multifunctional enzymes.

Read Drs. Dieckmann and Hiltunen's article entitled: Mitochondrial Fatty Acid Synthesis Type II: More than Just Fatty Acids
<http://www.jbc.org/cgi/content/full/284/14/9011>