

March 14-15, 2024

**ITEM 211-2011-R0324**

**Request for Authorization to Confer the Title of Professor Emeritus of Chemistry and Biochemistry upon Dr. Edward Dratz; Montana State University**

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**THAT**

Upon the occasion of the retirement of Professor Edward Dratz from Montana State University, the Board of Regents wishes to express its appreciation for his service to the University, the Montana University System and the people of the State of Montana.

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**EXPLANATION**

Professor Dratz's record since arriving at MSU in 1986 as a Professor (Full) of Chemistry and Biochemistry shows that he has admirably served the university for 37 years until his recent retirement in 2023. During his career, his teaching, scholarship, service, and administrative duties were carried out in a professional manner, resulting in an academic career that clearly demonstrated *substantial and sustained contributions to his discipline and the university*.

Professor Dratz's research program has spanned multiple areas, initially including G-protein coupled receptors and nutritional factors that help maintain the retina. He moved in to other directions with work to develop tools to better understand biochemical mechanisms in health and disease. In collaboration with Professor Paul Grieco, he designed, produced, tested, and applied new multicolor fluorescent dyes, which were able to determine which proteins were changed in health and disease, by using fluorescent scanning of 2D gels which allowed sensitive detection of proteins that differed in disease states. This research program led to substantial funding as well as three patents. He obtained a grant from the NIH that allowed him to use the newly developed dyes to identify several proteins that were very significantly different in Type 2 diabetes vs. normal patients, which provided interesting leads for potential early diagnosis as well as mechanistic leads. They discovered a new type of lipid, bound to serum albumin in the blood, that changed over one hundred-fold in the diabetics, compared to controls. Professor Dratz has been struggling to determine the structure of this lipid and is now getting very close, in collaboration with Professor Blaine Roberts at Emory University. There are three papers in preparation on this work (that have been held back to avoid getting scooped, but now are being pushed forward). This work would be pursued and facilitated by an Emeritus appointment for Professor Dratz. The unusual lipid contains covalently bound glycine, and a group in Europe found that low glycine in the blood predicted the development of T2D seven years in the future in older people, with a p value of  $10^{-26}$ ! Glycine is a "conditionally essential" amino acid, since the body makes it, but does not make enough for the body's needs.

Professor Dratz has continued efforts analyzing the nutritional quality of new strains of food crops, selected by collaborators, for improved nutritional quality and a couple of companies are interested in pursuing this further. If the Emeritus is awarded, Professor Dratz would aim to raise funds to hire a technician to carry out the analytical work needed.

For these and other contributions, the Board of Regents of Higher Education is pleased to confer upon Dr. Edward Dratz the rank of Professor Emeritus of Chemistry and Biochemistry at Montana State University and wishes him well for many years into the future.

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**ATTACHMENTS**

None