



## "Can Dogs see Ghosts? (The Chemistry of Vision)"

by

Dr. Robert S.H. Liu  
Department of Chemistry  
University of Hawaii

Wednesday, September 20, 2006

7:30 PM Science Building, *Trytten Lecture Hall*. Room A121  
UW – Stevens Point

5:30 Mixer & Dinner, Michele's Restaurant



During his boyhood in Shanghai, China, R. Liu often heard the statement: "Dogs can see ghosts!" Now after more than three decades of research in Vitamin A and visual pigments, he asked himself whether there is scientific basis that "dogs can see ghosts". Preparing to answer this question in this presentation, he will first review the important development in the chemistry of vision in recent decades with particular emphasis on the work carried out at the University of Hawaii. Topics covered will be: stereospecificity of the binding site of rhodopsin, the probing of specific protein-substrate interactions (in rhodopsin) through F-NMR spectroscopy, the specific mode of photoreaction that triggers the visual process and the unusually high photosensitivity of rhodopsin. With these as background information, he shall then return to address the question: Can Dogs See Ghosts? This talk was initially presented to a group of businessmen in a luncheon gathering in downtown Honolulu in August 2004. Needless to say it was presented in a manner not assuming any prior knowledge in chemistry. However, it will not be difficult to re-direct the lecture to a more chemically oriented audience at a level tailored to the interest and background of that group of listeners.

### \*\*\*About the Speaker\*\*\*

Education: B.A., 1961, Howard Payne College Ph.D., 1965, California Institute of Technology

Associate Professor of Chemistry, 1968–72, Professor of Chemistry, 1972–2005, Professor emeritus, 2005–, University of Hawaii.

Photochemistry and photophysics of conjugated polyenes, new isomers of vitamin A and carotene, visual pigment analogs, bacteriorhodopsin, sensory rhodopsin and <sup>19</sup>F-NMR of membrane proteins.

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Prior to the meeting, a 5:30 PM mixer and dinner will be held at Michele's Restaurant, 513 Division St. (Business 51 North, adjacent to UWSP campus). *After dinner, drive three blocks east on Fourth Avenue to reach Parking Lot X on campus. The Science Building is adjacent to the lot and the Trytten Lecture Hall is just inside the main entrance. Reservations are made by contacting Robin Tanke at 715-346-4325 (or email rtanke@uwsp.edu) by 5 PM on Tuesday September 19.*

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