

PHYSIOLOGY & MEMBRANE BIOLOGY

SCHOOL OF MEDICINE
UNIVERSITY OF CALIFORNIA AT DAVIS



DISTINGUISHED SPEAKER SERIES

Edward N. Pugh, Jr., Ph.D.
Professor of Ophthalmology & Physiology
F.M. Kirby Center for Molecular Ophthalmology
University of Pennsylvania

“Recent Advances in Cone Photoreceptor Physiology”

Retinal cone photoreceptor cells subservise daytime vision, enabling the retina to generate signals in the presence of bright light. Though cones are the basis for most human vision, the mechanisms of phototransduction, photoreceptor physiology and of hereditary eye disease have been much more extensively investigated in rods. The bias toward rods arises in no small part from simple numerosity: rod photoreceptors outnumber cones by 20:1 and 30:1 in man and mouse respectively, making cones difficult to identify under physiological conditions or to purify. This talk will summarize three recent advances that have made it possible to investigate cones in mice with the molecular, biochemical and physiological methods long used for rods: (1) manipulation of cone-specific genes; (2) single-cell recordings from cones; (3) creation and characterization of an “all-cone” mouse. Special focus will be given to novel insights into the regulation of cone-specific opsins.

Friday, January 23, 2009

2:00 pm

GBSF Auditorium, Room 1005

Refreshments Will Be Served