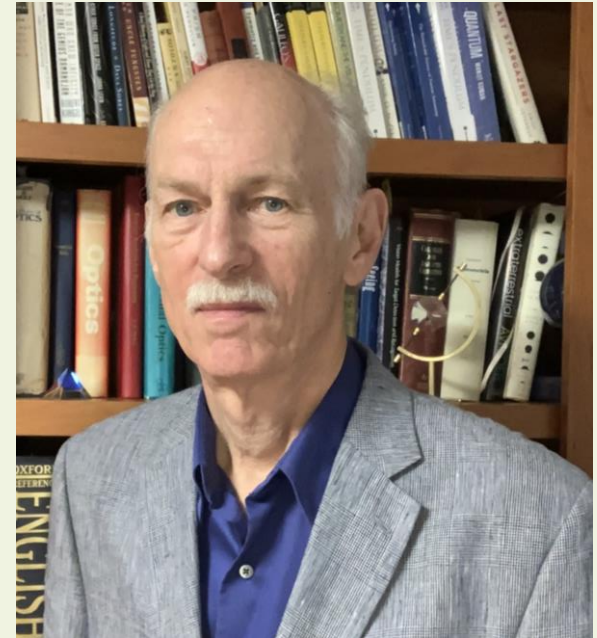


## Resume:

Larry N. Thibos was educated at the University of Michigan, where he earned B.S. (1970) and M.S. (1972) degrees in Electrical Engineering, and at the University of California, Berkeley, where he received a Ph.D. degree in Physiological Optics (1975).

During the period 1975–1983, he was a Research Fellow at the John Curtin School of Medical Research at the Australian National University in Canberra, Australia, where he investigated the neurophysiology of retinal information processing. In 1983, he joined Indiana University School of Optometry faculty



(Bloomington, IN) where he is currently Prof. Emeritus. His research interests include the effects of optical aberrations of the eye on visual performance, the limits to spatial vision imposed by retinal architecture, and the characterization of vision in the peripheral field.



7 de octubre de 2024 a las 19:00h  
Sala Meet: <https://meet.google.com/jex-wtko-ugj>

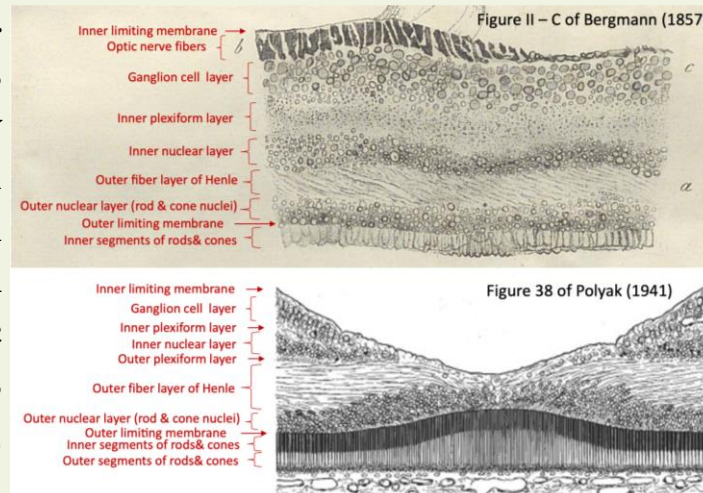


## WHO DISCOVERED THAT RODS AND CONES ARE THE EYE'S PHOTORECEPTORS?

**Speaker:** Larry N. Thibos

**Abstract:** A preeminent quest of nineteenth-century visual neuroscience was to identify the anatomical elements of the retina that respond to light. A major breakthrough came in 1854, when Carl Bergmann discovered through direct observation that the human fovea contains only rods and cones. On this basis, he argued that these must necessarily be the light-sensitive elements (i.e., photoreceptors) that initiate vision.

Bergmann also argued that Henle's fibers form part of the necessary anatomical link between the distal rods and cones and the proximal ganglion cells that transmit visual signals to the brain via the optic nerve. However, despite his achievement, it is Heinrich Müller, not Bergmann, who is remembered



as the discoverer of human photoreceptors in the literature. The aim of this lecture is to correct the historical record by situating Bergmann's work alongside that of his contemporaries. I will review his observations and arguments and the critique he received while making this history accessible for current readers by comparing what was said to what we know now. I will conclude that Bergmann's arguments are at least as compelling as those of Müller, and therefore he should be recognized as a co-discoverer of the anatomic site in the retina where vision is initiated.

# WHO DISCOVERED THAT RODS AND CONES ARE THE EYE'S PHOTORECEPTORS?



IV CICLO DE CONFERENCIAS  
SOBRE HISTORIA DE LA ÓPTICA

## Larry N. Thibos

PhD in Physiological Optics, Emeritus Professor at the  
School of Optometry of the Indiana University  
(Bloomington, IN, USA).



Lunes 07 de octubre de 2024 a las 19:00h  
Sala Meet: <https://meet.google.com/jex-wtko-ugj>

