

Department of Biomedical Engineering Division of Biokinesiology and Physical Therapy

Engineering Neuroscience & Health Seminar Series Presents: Dr. James Weiland jweiland@usc.edu	Monday October 13, 2008 4:00 p.m. Refreshments will be served 3– 4 p.m.	Locations: <i>Seminar is simultaneously presented</i>
		UPC: HNB 100 – LIVE Hedco Neurosciences Building UPC Campus Map/Directions: http://www.usc.edu/about/visit/upc/ HSC: 147 – Video Conference Center for the Health Professional HSC Campus Map/Directions: http://www.usc.edu/about/visit/hsc/

Retinal Prosthesis for the Blind

Retinitis pigmentosa (RP) and age-related macula degeneration (AMD) lead to the degeneration of the light sensitive cells of the retina (photoreceptors), leading to blindness. Clinical trials are investigating the feasibility of replacing the function of the photoreceptors with an electronic device that will electrically stimulate the remaining cells of the retina to generate visual perceptions. Blind humans have used prototype retinal prostheses with a limited number of stimulating electrodes to distinguish basic shapes and to detect motion. Based on these encouraging results, the current focus is being shifted from feasibility studies to the development of a high-resolution retinal prosthesis which will be capable of stimulating the retina at thousands of individual points. Simulations of prosthetic vision predict that 1000 electrodes will be needed to restore visual function such as face recognition, reading, and mobility. Advances in microelectronics and packaging are required to enable such a device.

Web Cast

<http://capture.usc.edu/college/Catalog/?cid=af180d48-ceff-42b9-a35c-eb199daed320>

Information about all seminars can be found at

<http://www-clmc.usc.edu/~heiko/ENH>