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*Regeneration of Rod Photoreceptors in a Zebrafish Model
of Chronic Retinal Degeneration*

Dr. John O'Brien is a Professor of Vision Science at the University of Houston College of Optometry. He earned a B.A. in Biochemistry at Bowdoin College in Brunswick, Maine and a Ph.D. in Biochemistry at the University of California, San Diego. Dr. O'Brien has been engaged in vision research since the mid-1990's. His research program is focused on elucidating the molecular mechanisms of plasticity in retinal electrical synapses. Dr. O'Brien has recently begun to study regeneration of rod photoreceptors in a transgenic zebrafish model of Retinitis Pigmentosa developed in his lab. His group has applied single-cell transcriptomics to map out transcriptional pathways involved in the proliferation and differentiation of progenitor cells to form new rods and to study the role of microglia in retinal regeneration.