

## Introducing Joshua L. Dunaief, the 2006 Recipient of the Cogan Award

It is a pleasure to introduce Josh Dunaief, the recipient of this year's Cogan Award.

Like many senior colleagues who have been accorded the honor of introducing the Cogan Lecturer, I had the good fortune of knowing Dr. Cogan and of being enlightened by several of his published manuscripts as well as by his classic treatises, *Neurology of the Ocular Muscles* and *Neurology of the Visual System*, textbooks that helped to crystallize my own interest in ophthalmology as an intellectual discipline. I also had the pleasure of attending a symposium at the Washington Hospital Center in celebration of Dr. Cogan's 70th birthday, where I witnessed his generosity of spirit and his unfailing good humor. I know that he would be delighted that this year's Cogan Lecturer is a physician-scientist of great intellect, commitment, curiosity, and integrity—in other words, an ophthalmologist and humanitarian cast in the mold of David Cogan.

Dr. Dunaief's first exposure to ophthalmology was a look through his father's slit lamp when he was approximately 10 years old. He is not sure whether he was hooked by the slit lamp or the motorized examination chair, but he was determined to pursue a career in ophthalmology at that point.

At Harvard College, Josh's Lowell House pre-med advisor was Daniel Albert, who, with Ted Dryja and Robert Weinberg, had recently discovered the retinoblastoma gene. Josh worked with Dan on Rb, then completed his PhD on the molecular biology of retinoblastoma with Dr. Stephen Goff at Columbia. Some of this work was published in *Cell*, and subsequently has been cited on hundreds of occasions. At his graduation from Columbia's MD/PhD program, he received the "most outstanding PhD award."

Josh completed his residency at Johns Hopkins, where he continued his work on retinoblastoma with Donald Zack. While at Hopkins, he received both the Arnall Patz Research Award and the Association of University Professors in Ophthalmology Prize for Best Presentation during the annual AUPO/RPB Resident and Fellow Research Forum.

During his third year of residency, Josh wrote a K08 application focused on the mechanisms of cell death in photoreceptors. The grant was funded by the NEI on the same day that Josh joined us at the Scheie Eye Institute at Penn. The initial work, with mentors Craig Thompson and Jean Bennett, showed that Bax and Bak are essential for developmental and pathologic photoreceptor death. One of the publications was featured on the covers of both *IOVS* and last year's ARVO abstract book.

Seeking upstream, potentially modifiable factors leading to AMD, Josh's laboratory began to focus on oxidative stress. Microarray studies pointed to a protective antioxidant role for the ferroxidase ceruloplasmin. Continuing investigations showed that in a ceruloplasmin knockout mouse retinal iron overload developed along with age-dependent degeneration resembling AMD.

Studying The Foundation Fighting Blindness's collection of postmortem AMD retinas with Ann Milam and Paul Hahn, an MD/PhD student in Josh' laboratory and soon to be a Scheie ophthalmology resident, Josh found elevated iron levels in AMD retinas. This work is the topic of Josh's first NEI R01 and was recently published in *Proceedings of the National Academy of Science (PNAS)*.

I have enjoyed mentoring Josh during his medical retina fellowship at Scheie. As a clinician-scientist trained in the intricacies of both AMD and molecular biology, Josh is poised to improve the understanding of AMD and to develop new treatments and prevention strategies. His talk is entitled, "Iron-Induced Oxidative Damage as a Potential Factor in AMD."

Stuart L. Fine