

# Lois E.H. Smith, MD, PhD

Dr. Smith, of the Children's Hospital Boston, was awarded the Bressler Prize in Vision Science.

## 1. What is the Bressler Prize in Vision Science, and how was Lois E.H. Smith, MD, PhD chosen for this award?

The Jewish Guild for the Blind, a nonprofit vision health care agency servicing blind and visually impaired individuals, has awarded Dr. Smith the 2006 Alfred W. Bressler Prize in Vision Science. This award was introduced in 2001, and highlights a vision care professional with outstanding leadership, research and service accomplishments in the field of ophthalmology. These accomplishments are directly related to advancements in eye disease treatments and/or rehabilitation of people with vision loss.

The Bressler committee (a committee of ophthalmologists, optometrists and vision scientists from vision care agencies and universities) chose Dr. Smith because of her academic and clinical contributions to ophthalmology. She will receive \$30,000 during a ceremony in New York City this fall.

## 2. What is Dr. Smith's field of research?

Dr. Smith is an associate in ophthalmology at Children's Hospital Boston and associate professor of ophthalmology at Harvard Medical School. Her areas of expertise are retinopathy of prematurity (ROP), diabetic retinopathy, retinal development and stem cell research in retinopathy.

## 3. What are Dr. Smith's contributions to ophthalmology?

Dr. Smith's academic and clinical contributions to the field of ophthalmology include research in retinal angiogenesis and neovascularization. Her mouse model of proliferative retinopathy is commonly used to clarify the basic mechanisms of diabetic retinopathy, ROP and age-related macular degeneration.

She was involved in defining important aspects of ROP and identifying the association between ischemia induced proliferative retinopathy and vascular endothelial growth factor (VEGF) mRNA and protein expression.

Dr. Smith is also on the National Eye Institute's National Advisory Eye Council Roster and is conducting research sponsored by the National Institutes of Health.

This research is geared toward ROP as well as other vascular diseases.

In addition to being awarded the Bressler Prize in Vision Science, Dr. Smith also received the Research to Prevent Blindness (a New York-based voluntary health organization supporting eye research) Lew R. Wasserman Merit Award; she a grant for her research projects.

## 4. What is Dr. Smith's educational background?

Dr. Smith attended Boston University School of Medicine for her doctorate. She attended Boston's Beth Israel Hospital for her internship and completed her residency at Massachusetts Eye and Ear Infirmary. She completed her fellowship in pediatric ophthalmology at Children's Hospital, Harvard Medical School.

## 5. What are some of Dr. Smith's published research articles?

The list of published work from Dr. Smith is long. Among some of her publications are:

- Hellstrom A, Perruzzi C, Ju M, et al. Low IGF-I suppresses VEGF-survival signaling in retinal endothelial cells: direct correlation with clinical retinopathy of prematurity. *Proc Natl Acad Sci USA*. 2001;98:5804-5808. (This study showed that the level of serum insulin-like growth factor I [IGF-I] may predict ROP development in infants. In this study, Dr. Smith also helped to show that if IGF-I levels are restored to normal levels, retinopathy of prematurity may be prevented.)

- Smith LE, Shen W, Perruzzi C, et al. Regulation of vascular endothelial growth factor-dependent retinal neovascularization by insulin-like growth factor-1 receptor. *Nature Medicine*. 1999;5:1390-1395. (This study showed that IGF-I may be a new target for retinopathy control.)

- Robinson GS, Ju M, Shih SC, et al. Nonvascular role for VEGF: VEGFR-1, 2 activity is critical for neural retinal development. *Faseb J*. 2001;15:1215-1217. (As a result of this study, it was found that normal, mature vessels or mature neural retina are not affected by neovascularization inhibition in mature vascularized retina.) ■