

Hope for Vision organization recognizes biology professor for retinal research

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Biology professor Dana García sits quietly in a desk in the middle of a room at the Supplement Science Building. The faint glow of a slide presentation discussing the vertebrate eye casts the shadows of the empty chairs against the wall. García rests her chin on her palm with pen in hand, attentively studying the presentation being given by one of her students. She takes a moment to jot down some notes every few seconds.

This is but one scene out of García's weekly schedule when she corresponds with a student to monitor and discuss their research projects. Many of these

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—Nancy Mangini
associate biology professor,
Indiana University

projects discuss the anatomy of the eye and its cell functions. This is the same material that has driven García's scientific ventures for more than 13 years

and, just recently, has earned her \$15,000 by Hope for Vision to further her pursuits in vision research.

García received a letter in January notifying her that she had been chosen to receive a Hope for Vision award. According to the Web site, Hope for Vision is "an organization dedicated to raising awareness of retinal degenerative and other blinding diseases, [and] to provide information and community tools to help those coping with vision loss." The organization also works to raise funds for the scientific research in studying these same blinding conditions. As part of a yearly event, Hope

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for Vision awards grants to 14 individuals for their work in vision-related research. García was one of the 2006 recipients.

García's exploration into the retinal pigment epithelium is what invited the attention of the Hope for Vision organization. The retinal pigment epithelium is one part of the retina that responds to changes in light. Much of García's work revolves around these light responsive cells that communicate with others to help it know when it's day or night.

García received her reward after being nominated by one of her peers, Nancy Mangini, an associate professor of anatomy and cell biology at Indiana University. Mangini met García at a National Science Foundation function and realized that her specialized research deserved recognition and support.

"We had the opportunity to talk in a meeting and I was taken with some of the work that she talked about and some plans for experiments that I thought had a lot of potential," Mangini said. "So, on the basis of that new direction, I nominated her."

Mangini said acquiring funding for original research like García's can often be a difficult process.

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you're trying out new things, it's harder to get money because it hasn't been done before," she said.

Mangini said García is effective at conveying her own innovative ideas. Mangini explained that García's most recent publication concerning cell signaling in the retinal pigment epithelium serves as a good example of her ability to communicate the feasibility of her ongoing research.

García said her work in retinal research dates back to her years as a graduate student and her general interest in cell signaling, how cells communicate and respond to one another, began even earlier.

"I can probably date this interest back to high school when we first studied the endocrine system, which comprises the parts of the body that generate hormones," García said in an e-mail. "I wouldn't really say I was inspired to study the retina, but it is a very good tissue for studying cell signaling, especially in fish, because one can infer cellular communication from big changes in cell shape and cell movements."

In furthering her research as a professor at Texas State, García integrates her retinal studies into her curriculum and works closely with her students in related projects and experi-

mentation.

She conducts one-hour group meetings with her students once a week. She also meets individually with her students for an additional nine to 10 hours per week to discuss their research progress.

"My students design and carry out experiments with my guidance," García said. "In other words, they're fully involved, and without them, not much would happen in the lab."

García said how the integration between her specialized research and her teaching arena invites special rewards.

"There are several rewards associated with involving students in research," she said. "One is seeing them take ownership of their projects so that they're no longer working for me, but with me. Another is seeing them develop their skills in experimental design and coming up with their own ideas about where the project should go."

García, a native of Kingsville, has worked in the biology department since 1993. She received her bachelor's degree from Texas A&M and doctorate from the University of California at Berkeley. Aside from teaching, García serves as associate dean for research in the college of science and also maintains a grant-supported research program of ongoing retinal research.