

NIEHS postdocs awarded NIH K99 grants

By Robin Arnette

The goal of the National Institutes of Health [Pathway to Independence \(PI\) Award](http://www.nhlbi.nih.gov/funding/training/redbook/phdk99roo.htm), (<http://www.nhlbi.nih.gov/funding/training/redbook/phdk99roo.htm>), also known as the K99/ROO program, is to increase the number of independent, NIH-supported researchers in the United States. For postdoctoral fellows interested in running their own labs one day, the program offers just the blend of mentoring and training they'll need to be successful.

NIEHS has two K99 winners this year in Natalie Gassman, Ph.D., a member of the DNA Repair and Nucleic Acid Enzymology Group, headed by Samuel Wilson, M.D., and Shannon Whirlledge, Ph.D., a member of the Molecular Endocrinology Group, led by John Cidlowski, Ph.D.

During the K99 phase, which corresponds to 1-2 years of mentored research, Gassman and Whirlledge will receive competitive salaries and funds that cover research supplies and attendance at national meetings. After completing the K99 portion, if they land tenure-track positions at academic institutions, they may apply for an independent ROO that lasts up to 3 years and increases their salary and research support.

DNA repair and BPA

Since Gassman works in a DNA repair group, she wanted to combine DNA repair analysis with one of the Institute's traditional research priorities, bisphenol A (BPA). She said a literature search yielded many instances of BPA exposure linked to DNA damage, but not many investigators specifically examined repair mechanisms.

"I thought it was a nice opportunity to take the DNA repair expertise of the lab and have it look at this environmental toxicant that's of great interest," Gassman said. "I plan to have my own research angle that I can, hopefully, take with me to a new position at a research university."

Wilson said that Gassman's project falls right in the middle of a long-standing interest of his group - studying how cells experiencing oxidative stress adjust their repair mechanisms in response to BPA. So far, Gassman's K99 work is off to a good start. Her preliminary results have uncovered a striking BPA cellular phenotype.

Glucocorticoid receptors and genistein

When Whirlledge joined Cidlowski's group in 2009, she began working on a project that examined the interplay between glucocorticoid receptors and stress signaling in the uterus. To understand the interaction, she and her colleagues developed a tissue-specific knockout mouse line, in which the rodent uterus lacked glucocorticoid receptors.

She wondered whether receptors for glucocorticoid and those for the well-known sex hormone estrogen played a role in reproductive functions. For her K99 research, she intends to take that project one step further.

"I want to look at the interaction between estrogens and glucocorticoids in the uterus using genistein," Whirlledge said. "If estrogen and glucocorticoid receptors diminish each other's effect in the uterus, I'll be able to determine that by using a molecule that has environmental importance." Genistein is structurally similar to estrogen and occurs naturally in soy.

As Whirlledge's mentor, Cidlowski said he's certain she will be able to make the transition from postdoc to lead researcher because she is independent and has the drive to go after hard scientific questions.

Helping the transition

Since its inception in 2006, the K99/ROO program has provided a bridge for many young scientists transitioning from trainee to experienced researcher. Gassman and Whirlledge can now add their names to this list and feel confident their new careers as principal investigators will get a boost from this funding.



Before coming to NIEHS to study DNA repair, Gassman focused on cancer research at the Comprehensive Cancer Center of Wake Forest University, Winston-Salem, N.C. (Photo courtesy of Steve McCaw)



Whirlledge won best oral presentation March 8 at the North Carolina Triangle Consortium for Reproductive Biology. [Story] (Photo courtesy of Steve McCaw)

"The support researchers receive during the early years of their careers really gives them a leg up on their competition," said NIEHS Scientific Director Darryl Zeldin, M.D. "I encourage all NIEHS postdocs to write K99 proposals."

The Environmental Factor is produced monthly by the [National Institute of Environmental Health Sciences \(NIEHS\)](http://www.niehs.nih.gov/)

(<http://www.niehs.nih.gov/>)

, Office of Communications and Public Liaison. The content is not copyrighted, and it can be reprinted without permission. If you use parts of Environmental Factor in your publication, we ask that you provide us with a copy for our records. We welcome your [comments and suggestions](#).
(bruskec@niehs.nih.gov)

This page URL: NIEHS website: <http://www.niehs.nih.gov/>

Email the Web Manager at webmanager@niehs.nih.gov