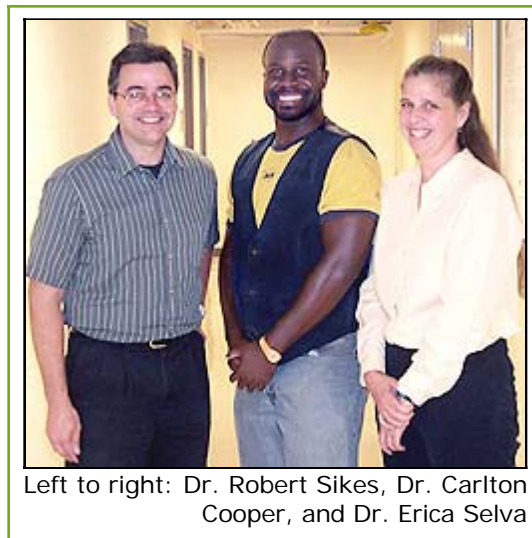


In The Spotlight: New Faculty Members

September 2002 -- As with the beginning of any school year, thousands of people have come to the University of Delaware campus in a new role, and the 2002-2003 school year is no exception. While the vast majority of them are discovering what life is like as a UD freshman, others have arrived to be the students' counterparts in the classrooms and laboratories. This summer, the Department of Biological Sciences welcomed three new faculty members to their ranks: Dr. Carlton Cooper, Dr. Erica Selva, and Dr. Robert Sikes. "Drs. Cooper and Sikes will expand the department's expertise in cancer cell biology while Dr. Selva will add breadth in the field of developmental biology and genetics," explains Dr. Daniel Carson, Chairperson of the Department of Biological Sciences. "All three new investigators bring exciting research programs that will attract graduate and undergraduate students as well as post-doctoral researchers."



Left to right: Dr. Robert Sikes, Dr. Carlton Cooper, and Dr. Erica Selva

Carlton Cooper, Ph.D.

Dr. Cooper comes to UD from his previous position as a Senior Research Fellow of the Comprehensive Cancer Center at the University of Michigan. He says he was attracted to the Department of Biological Sciences because of its, "strong commitment to research excellence," and that this commitment can only lead to success in his investigations into prostate cancer. Here's how Dr. Cooper describes his work -

"When a cancer cell spreads from its point of origin (in this case the prostate) to another site (the bone), it must bind to cells called endothelial cells that make up the blood vessel feeding the organ. One way to reduce, or possibly eliminate, the spreading of cancer cells, is to know what proteins, typically called cell adhesion molecules (CAMs), are being used by the cancer cell and the bone marrow endothelial cell to facilitate their interaction. These CAMs can be targeted in early-stage prostate cancer to prevent it from spreading to bone, where it can cause intense pain, spinal cord compression, which can lead to paralysis, and bone fracture."



In his free time, Dr. Cooper enjoys singing (especially in a church choir) and playing piano. He keeps active by jogging, power walking, weightlifting, and participating in a wide variety of sports. "At 34, I can still hold my own on the dance floor with the younger generation," says Dr. Cooper, who has won two dance contests throughout his life (one in high school and the other

while he was a Ph.D. graduate student). He's also interested in issues of science and faith, and hopes to write a book about it someday. Many of these interests will have to be put on hold for a while, however: he and his fiancée are currently making the final preparations for their wedding in October.

Erica Selva, Ph.D.

Formerly a Postdoctoral Fellow at Harvard Medical School, [Dr. Selva](#) decided to come to UD because of how impressive she found the future prospects of the Department of Biological Sciences to be. Not only does she like what's happening within the department, she plans to work with other departments as well. "The university also has... strong Chemistry and Biochemistry departments with a willingness to collaborate outside their departments," she explains. "[It's] a resource I hope to take advantage of in the future." Dr. Selva describes the nature of her research by stating that -



"Studies of signal transduction have yielded a wealth of information about the molecules required to transmit signals from the cell surface to the nucleus. Yet it still remains unknown how a signaling pathway can be differentially modulated to yield unique outcomes from similar cellular contexts. Recently, it has become clear that processing of proteins after they are synthesized plays a crucial role in the temporal and spatial regulation of signal transmission by altering the cells ability to respond to extracellular signals. The objective of my research is to use *Drosophila* as a model system to study the function of protein processing during developmentally critical signaling events. My research goals are to identify new components involved the processing of extracellular signaling molecules as well as to elucidate the function of these molecular changes. Ultimately, I believe this work will cast light on mechanisms by which the extracellular environment might be modified to modulate aberrant signaling activities associated with human diseases."

Dr. Selva is looking forward to spending a little more time with her family now that she no longer has to spend four hours a day commuting as she did in her previous position. She's been married for seven years and has two children, the youngest of which is 17 months old. Aside from being with her family, Dr. Selva also enjoys exercising and working in her garden.

Robert Sikes, Ph.D.

Previously with the University of Virginia Health System as an Assistant Professor of Urology, [Dr. Sikes](#) was drawn to the Department of Biological Sciences by its ability to, as he describes, "demonstrate remarkable growth while maintaining strong academic standards." He says he's excited to be involved in an environment that is rich with students. "The fact that [the department] had managed to capture a Howard Hughes Undergraduate Training program indicated a very high level of commitment to generating high quality graduate students." The strength of the extracellular matrix and developmental biology groups here also appealed to him. He fully expects to be able to capitalize on these strengths because it's the merging of these two interests that make up the focus of his research on prostate cancer. As he explains -



"There are two burning questions in prostate cancer biology. First, which prostate cancer will become aggressive and spread to the bone and how can you tell this one from one that will just sit there for the next twenty years? Second, can we find some novel compounds that will inhibit prostate cancer growth and/or its progression to a more aggressive form? To answer the first question we are looking at prostate development to see if we can identify specific cell types in

the gland. Once this is done we will see if these cell types are represented in the cancer. This will give us an idea of the cellular origin of prostate cancer. Knowing which cell types are involved will then assist in the design of new therapies or new diagnostic tests to identify the indolent from aggressive prostate cancers. For the second approach my laboratory interacts with gifted chemists, currently Dr. Milton L. Brown of UVA, that design small molecules (drugs) to target specific proteins in cancer cells. Some of the targets are chosen by us and some by the chemists. This approach results in a dynamic interface between biology and chemistry. Two of our current targets are ion channels and new blood vessel formation."

Outside of work, Dr. Sikes says he still likes spending time watching cartoons with his kids. He and his wife of 16 years have two children, and are expecting their third in October. Other activities he enjoys are golf, woodworking, gardening, and reading the occasional horror novel. He also still gets a kick out of playing video games and watching old Star Trek reruns.

Spotlight Followup: Joshua Idjadi, M.S.

Earlier this year we featured graduate student Joshua Idjadi and his experience with performing research in Aquarius, and underwater laboratory. The Science Channel will be broadcasting a one hour special featuring the Aquarius team that Josh was a member of. Some of the footage will include the preparation for the mission and their research being conducted underwater.

The special will air a total of six times: Saturday, December 14, at 8pm and 11pm EST, and Sunday, December 15, at 4am, 7am, 12pm, and 3pm EST. Check your local listings for regional air times and the channel number on your cable network.

More information about this special is available from The Science Channel web site.

