

HONORING AN ACADEMIC LEGACY

By Joëlle Walls

The Kennesaw State University community gathered for a research symposium in late September to honor the memory of John C. Salerno, who was the Neel Distinguished Chair in Biotechnology prior to his death in 2015. The Office of Research organized the inaugural John C. Salerno Memorial Research Symposium, showcasing a cross-section of KSU faculty research.

Jonathan McMurry, associate vice president for research and professor in KSU's Department of Molecular and Cellular Biology, explained that this symposium was a celebration and a formal recognition of the growing research portfolio of KSU faculty.

"John's legacy at KSU is to be found not only in the discoveries he made and his contributions to building the research environment, but also to the mentoring of young faculty who have now come into their own as independent researchers," McMurry said.

"John's contribution towards elevating the research environment in KSU's College of Science and Mathematics cannot be overstated," added Donald McGarey, interim vice president for research. "John was not only a highly respected researcher, he had a passion for teaching and was a mentor to many students who worked on various research projects in his lab. This memorial symposium is yet one more way to celebrate John's life, his influence and important contributions."

The idea for the symposium came to fruition when McMurry, also Salerno's research colleague, and Natasha Williams, assistant director of preaward services in the Office of Research, were individually seeking ways to honor Salerno's memory, and promote KSU faculty research, respectively. They decided to combine efforts after realizing their common mission. McMurry also gained support from KSU researcher and Salerno's spouse, Susan M.E. Smith.



Office of Research hosted fall symposium in memory of pioneering researcher

“John gave so much to so many people, and he’s still giving even after he’s gone,” said Smith, professor of biology and Foundation Fellow. “The family is pleased to see his legacy of research and teaching honored by the university.”

The symposium, also sponsored by the Kennesaw State University Research and Service Foundation, began with welcoming remarks from KSU President Pamela Whitten. Then McMurry provided a brief remembrance of Salerno’s biophysics and enzymology career, also noting his interests in fiction writing and musical performance.

“It’s entirely appropriate that we celebrate research and scholarship from all across the spectrum of academic endeavors here,” McMurry said in his remarks. “I think he’d like that we are not only going to hear today from chemists and biologists and physicists too, but also a music theorist, demographer and an engineer.”

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For example, Benjamin Scafidi, professor of economics, discussed the joint research work he produced with colleague Aniruddha Bagchi, associate professor of economics in the Coles College of Business. They focused on whether the number of domestic terrorism incidents change with the level of a country’s human capital. Human capital was measured in various ways such as educational attainment of adults and by average test scores on international exams.

In another instance, Muhammad Salman, assistant professor of mechanical engineering in the Southern Polytechnic College of Engineering and Engineering Technology, presented his work on using surface-wave elastography (SURF-E) as a cost-effective noninvasive approach to quantify spatial variations of mechanical and structural properties of a tendon when assessing Achilles tendon injuries.

During the reception participants were recognized and cash prizes awarded for best research presentations. Attendees had the opportunity to select their favorite presenter for a “People’s Choice” Award. Prizes were supported through the John Salerno Memorial Fund, which was established in 2016 by the College of Science and Mathematics as a tribute to Salerno’s prolific

research contributions to his field and to support research at KSU.

Jeff Yunek, assistant professor of music theory, earned the John C. Salerno Prize for Research Achievement with a \$1,000 cash prize.

“It is truly humbling to receive this award,” he said. “My fellow scholars presented research that will save our environment, improve the health of children, and help defend our nation. Winning within the arts acknowledges that our university not only strives to provide research that prolongs our lives, but seeks out the beauty, creativity and wonder that makes our lives deeper, fuller and more meaningful.”

Through examining the music mashups of DJ Earworm, Yunek said that he wanted to challenge the idea that mashups are a derivative and subversive



Jonathan McMurry (left) congratulates Jeff Yunek (top right) and Jeremy Gulley (bottom right) who were individually recognized for best research presentations.

musical genre. A music mashup is a creative work, usually in the form of a song, by blending together two or more pre-recorded songs.

"I reveal how the composer's intricate splicing of the lyrics, music and video from an average of 25-50 sampled songs produced original narratives that captured the major cultural themes occurring when these songs were released," he said.

His presentation at this conference focused on DJ Earworm's mashup *No More Gas*, which conveyed national concerns regarding American over-reliance on gasoline needs during the gas crisis of 2008.

Jeremy Gulley, associate professor of physics, received the People's Choice Award for Best Presentation with a \$500 cash prize.

"At the symposium, half the presenters and much of the audience were not scientists. Winning the People's Choice Award suggests that I was able to reach most of them with my ideas and findings. That is very gratifying, and I hope Dr. Salerno would be pleased," said Gulley, who knew Salerno when he joined KSU in 2010, often seeking advice from him about his research.

Gulley's work focuses on laser light propagation and the interaction of laser light with matter. He presented the calculations he performed with Air Force Research Laboratory collaborators on what can be expected when state-of-the-art imaging-sensor components are struck with powerful laser pulses.

For almost 30 years, Gulley said that high-power lasers have been used to track satellites in orbit around the Earth. However, there is increasing concern that these same types of lasers could be used to temporarily blind or permanently damage the optoelectronic sensors of U.S. imaging (or, more familiarly, "spy") satellites.

The other presenters included Steven Gayle, Ph.D. candidate in international conflict management; Tom Leeper, assistant professor of biochemistry; Scott Nowak, associate professor of biology; and Altug Poyraz, assistant professor of chemistry. They each gave 15-minute talks followed by a question-and-answer segment with the audience.

Faculty from across all disciplines were invited to submit research abstracts last summer to the Office of Research to be considered for inclusion in the symposium. Final selection of presenters was determined by a committee of faculty peers headed by McMurry.

QUICK FACTS ON JOHN C. SALERNO

Having **published more than 200 scientific papers**, Salerno came to KSU in 2006 as professor of biology and chemistry. He previously served as professor and chair of the Biology Department at Rensselaer Polytechnic Institute in New York for 26 years.

Many of **Salerno's innovations were in enzymology**, particularly the properties and **activity of nitric oxide synthases**, a family of enzymes that produce nitric oxide. This important cell-signaling molecule is **beneficial to cardiovascular health** as it regulates blood vessel expansion in the body's circulatory system.

His **work also focused on spectroscopic methods** or approaches to study the interactions between various types of radiation with biological matter, thus allowing for the **investigation of complex macromolecules** in novel ways.

Through Salerno's association with McMurry as **co-founder of KSU's first incubator company, New Echota Biotechnology**, several patents have been filed on the potential uses of compounds and methods that would **help in the advancement of drug development and disease management**.

In addition to his research productivity, Salerno also was recognized with the University's prestigious **"Distinguished Professor" award in 2015**. The top faculty award, presented by the Kennesaw State University Foundation, was established to **acknowledge sustained excellence in and integration of teaching, research and creativity activity, and professional service**.