Remembering Dr. K.C. Donnelly

On December 3, 2009 in recognition of his exemplary contributions to the Texas A&M Health Science Center and to the people of Texas, the Board of Regents posthumously awarded the title of Regents Professor to Dr. K.C. Donnelly. This is a fitting recognition of K.C. who is fondly remembered by faculty and trainees of the Toxicology as the consummate colleague, collaborator, mentor, and friend. K.C. passed away on July 1, 2009 after a courageous battle with cancer.

Dr. Stephen Safe was an invited keynote speaker at the NIEHS Superfund Research Program annual meeting held November 2-5, 2009 at Columbia University in New York. He outlined Dr. Donnelly's scientific career, his achievements, his interest and concern for people and public health issues and his contributions to NIEHS and EPA initiatives.

K.C. received a BS in Microbiology from Texas A&M in 1974; between then and the time he earned his Ph.D. in Toxicology in 1988, he served as a Technician under Dr. Kirk Brown in the Department of Soil and Crop Sciences studying the toxicity, biodegradation and mobility of hazardous wastes from soil contaminated with industrial wastes. K.C. was well aware of the role of the environment in cancer as movingly stated in the dedication of his doctoral dissertation (see below).

As noted by Dr. Safe, K.C. loved Superfund Sites before the NIEHS - SBRP began in 1980. Following two years of postdoctoral training, he received a joint appointment in the Departments of Veterinary Anatomy & Public Health and Soil and Crop Sciences in 1991. In 1999, K.C. began serving as Professor and Head of the Environmental and Occupational Health Department in the School of Rural Public Health. He was a major contributor to the Texas A&M SBRP; he served as

“\n“This dissertation is dedicated to my father, Edward James Donnelly, my sister, Donna Kathleen Donnelly, and my brother-in-law, Frank Johnson Smith. These are the members of my immediate family who have died of cancer. It is my sincere hope that some day my research will serve to reduce the quantity of carcinogenic chemicals in our environment and perhaps also reduce the incidence of this tragic disease which has destroyed so many lives.”
- Dedication, Doctoral Dissertation, Kirby C. Donnelly, 1988

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the Associate Director, a Project Leader investigating genotoxicity of complex PAH mixtures, and director of the Field Services and Outreach Cores. He also made many contributions to the Texas A&M Center for Environmental and Rural Health, and greatly facilitated interactions with NIEHS and the EPA.

Despite his numerous administrative duties, K.C was rarely found in his office. He was an outstanding teacher of undergraduates and graduate students. His contributions to core graduate courses in the Toxicology curriculum including Basic Environmental Toxicology, Chemical Hazards Assessment, Biodegradation and Bioremediation, and Public Health Practices provided important foundations for Toxicology and Public Health students. He also taught undergraduates in honors sections of Food Toxicology and Safety and worked to improve the public health work force by implementing continuing education workshops in environmental health for public health professionals. On learning of his death, numerous current and former students communicated their love and respect for him: “I am fortunate to be one of his students ... Folks like him make the world a better place.” “KC was a great professor, a great guy, and fun to be around as well.” “I have always known him as a jovial, helpful and friendly person and was very fortunate to have him as a committee member.” “I enjoyed his humor, his kindness, his insight, his hard work and his care of others.”

His passion was field work and concern for economically disadvantaged populations exposed to environmental hazards. K.C, his trainees, and Texas A&M System collaborators carried out studies on environmental exposure and risk assessment, ecological and human population studies, and genotoxicity of complex chemical mixtures that raised awareness of environmental hazards disproportionately borne by disadvantaged populations. His actions influenced policy and the decision making processes for improving the environment in Texas,
the United States and abroad. His commitment to global issues in environmental health took him to places where the environmental health crisis contributes to increases in cancer and birth defects in Azerbaijan, the Czech Republic and the coal mining region in Shanxi, China. Research by K.C. and his colleagues has identified biomarkers for exposures to various industrial pollutants. He also conducted NIEHS- and EPA-sponsored field studies in numerous locations in the US as well as in the lower Rio Grande Valley in Texas. For more than 10 years, he carried out research on childhood exposures to pesticides and worked on intervention approaches to reduce these exposures in Texas colonias. He also collaborated with the Texas Department of State Health Services, the Webb County Health Department, and the Poison Control Center in San Antonio in the development of a “Physicians Handbook for Pesticide Exposures.” His outstanding reputation as a leader in global environmental health led NIEHS administrators to ask him to organize NIEHS/EPA-sponsored meetings in Eastern Europe which resulted in Central and Eastern Europe Conferences of Health and the Environment held in Prague, Czech Republic (2004), Bratislava, Slovakia (2006) and Cluj-Napoca, Romania (2008).

We all recognize when we encounter goodness and sincerity in a person. K.C. was a prototype for both and we miss him.
Awards and Honors
Dr. Larry Johnson received a 2009 Bush Excellence Award for Faculty in Public Service. This award recognizes “a sustained long-term application of a faculty member’s disciplinary expertise to the public or non-profit sector in local, statewide, national, or international arenas.” Dr. Johnson was recognized for his outstanding contributions to educational outreach through his PEER and other programs with public schools. The award was presented at the Consuls General Luncheon in March at the Annenberg Presidential Conference Center.

At the College of Veterinary Medicine and Biomedical Sciences Honors Convocation held on April 3, 2009, four toxicology students received awards. Natalie Johnson (Phillips Lab) and Gayathri Chadalapaka (Safe Lab) received George T. Edds Awards, and Nivedita Banerjee (Sayes Lab) and J. Michael Berg (Sayes Lab) received Fisher Institute Medical Research Awards.

Gayathri Chadalapaka (Safe Lab) was awarded a Graduate Student Research Grant by the TAMU Office of Graduate Studies on April 30, 2009.

Mike Berg (Sayes Lab), Natalie Johnson (Phillips Lab), Alicia Marroquin-Cardona (Phillips Lab), Amy Romoser (Sayes Lab), and John Taylor (Phillips Lab) each received $5,000 CVM Graduate Student Association scholarships in August 2009. The awards were based on GPA, publications, meeting attendance and need.

Indira Jutooru (Safe Lab) received an International Education Fee Scholarship for the Fall 2009 Term, and she received the Graduate Award at the Texas A&M Veterinary Faculty Auxiliary.

Natalie Johnson (Phillips Lab) was selected to receive a Philanthropic Educational Organization (P.E.O.) Scholar Award for the 2009-2010 academic year. It is a highly competitive merit-based scholarship given to US and Canadian women pursuing doctoral studies. Only 85 are given per year to recognize and encourage academic excellence and achievement in graduate women.

Indira Jutooru (Safe Lab) received the Ethel Ashworth-Tsutsui Memorial Award for Research by Women in Science and Engineering (WISE), Texas A&M University. She was selected from dozens of nominees which is a testament to the high quality of her research.

Meeting Attendance
Ying Xie (Tian) attended the SW P450 conference at Camp Allen, Texas on May 13, 2009 and presented “Epigenetic Mechanism For Potentiation (“Priming”) of Pregnane X Receptor-Regulated Gene Expression By Dimethyl Sulfoxide”.

Dr. Ivan Ivanov traveled to Minneapolis, Minnesota, to attend the 2009 International Workshop on Genomic Signal Processing and Statistics.

Dr. Timothy Phillips traveled to Amarillo, Texas, to attend the Dairy Nutritionists Workshop. He presented “Reducing aflatoxins in animals and humans.”

Drs. Yanan Tian and Stephen Safe attended a Continuing Education Committee Meeting for the Society of Toxicology in Reston, Virginia.

Alicia Marroquin-Cardona traveled to Monterrey, Mexico to attend a Symposium sponsored by Mexican Livestock Association intended for Farmers and participate in expert discussion panel. She presented “Mycotoxins and strategies of protection against aflatoxins by using enterosorbents.”

Dr. Christie Sayes traveled to Amherst, Massachusetts, to attend the conference on the Environmental Implications and Application of Nanotechnology.

Kelly Scribner, Elizabeth Wellberg, and their mentor Dr. Weston Porter traveled to Newport, Rhode Island to attend the Gordon Conference on Mammary Gland Development and Breast Cancer. Kelly presented “Differential Induction of Involution in MMTV-Singleminded-2s (Sim2s) Mice.” Elizabeth presented “The Role of Sim2s in the Regulation of Mammary Lactogenic Differentiation.” Dr. Porter chaired a session on carcinogenesis and cancer.

Dr. Les Dees traveled to San Diego, California to participate in the 2009 Research Society on Alcoholism Conference. He presented “Effects on
Chronic Alcohol Administration on KiSS-1 Gene Expression in the Reproductive Hypothalamus of Prepubertal Female Rats.”

Dr. John Stallone traveled to Queretaro, Mexico, to attend the Academy of Research in Reproductive Biology Annual Meeting. His seminar was entitled “Nongenomic Effects of Androgens on the Vascular Wall: Novel Steroid Mechanisms for Cardiovascular Regulation.”

Dr. E. Murl Bailey, Jr. traveled to Seattle, Washington, to attend the annual convention of the American Veterinary Medical Association and annual business meeting of the American Board of Veterinary Toxicology.

Amy Romoser and her mentor, Dr. Christie Sayes, trained in 2D gel and Mass Spectroscopy in Dr. Martin Philbert’s laboratory at the University of Michigan in Ann Arbor, Michigan.

Dr. Louise C. Abbott traveled to Corvallis, Oregon to attend the American Academy of Veterinary Acupuncture Meeting where she presented “Analysis of Hippocampal and Cerebellar Changes in Calcium on Channel Mutant Mice.”

Dr. Ivan Ivanov taught the summer course “Advanced Computational Biology,” at Sofia University with the Department of Mathematics and Informatics, Sofia, Bulgaria.

Dr. Robert Burghardt traveled to Pittsburgh, Pennsylvania to attend the 42nd Annual Meeting of the Society for the Study of Reproduction (SSR).

Gayathri Chadalapaka (Safe lab) received the John Quave Travel Fellowship Award for Young Investigators to attend the 4th Annual BCAN (Bladder Cancer Think Tank) Meeting in Wyoming. She presented “Epidermal Growth Factor Receptor is downregulated in Bladder Cancer Cells by Drugs that Repress Specificity Proteins.”

Charlotte Rambo (Pillai lab) attended the 4th Quantitative Microbial Risk Assessment Workshop (QMRA) at Michigan State University in East Lansing, Michigan.

Gayathri Chadalapaka and Indira Jutooru (Safe lab) received travel scholarships to attend the 18th Annual Short Course on Experimental Models of Human Cancer, The Jackson Laboratory, Maine. Gayathri presented “Epidermal Growth Factor Receptor is downregulated in Bladder Cancer Cells by Drugs that Repress Specificity Proteins.” Indira presented “Curcumin Decreases Sp Protein Expression and Pancreatic Cancer Cell Growth and Tumor Growth.”

Dr. George Stoica traveled to Florence, Italy, and Bucharest, Romania. He presented “Isolation of Cancer Stem Cells from Dog Glioblastoma multiforme,” at the 22nd European Congress of Pathology in Florence, and “Cancer Stem Cells in Solid Tumors,” at the Institute of Oncology and College of Veterinary Medicine in Bucharest.

Dr. Yanan Tian attended the Gordon Research Conference on Stem Cells and Cancer; Molecular Mechanisms Controlling Normal and Cancer Stem Cells in Les Diablerets, Switzerland.

Dr. Christie Sayes and graduate student Mike Berg traveled to Swansea, United Kingdom, to collaborate with scientists at Swansea University on research involving novel materials.

Kelly Scribner, KS (Porter Lab) attended the Baylor Trainee Retreat at Baylor College of Medicine in Houston, TX. She presented “Aberrant Involuting Pathways in MMTV-Sim2s (Sim2s) Mice.”

Dr. Les Dees traveled to Buenos Aires, Argentina to present “The Role of Insulin-Like Growth Factor-1 in the onset of Female Puberty” to the Latin-American Physiological Society in La Plata.

Matthew Kelly (McDonald lab) attended the Quality Assurance Conference in Dallas, Texas at the US Environmental Protection Agency Region 6 headquarters. He presented “QA/QC Issues in an Ecological Field Study at a Superfund Site.”

Dr. Christie Sayes traveled to Arlington, Virginia to attend an Environmental Protection Agency Scientific Advisory Panel Meeting.
US - China Relations Conference

Dr. Yanan Tian co-hosted a research roundtable in China in October 2009: “Environmental Pollution, Food Safety and Infections Diseases in Rural-Urban Continuum: New Emerging Challenges and Future Collaboration between the United States and China.” Chinese participants included Zhijun Zhou (Co-Host and Dean of School of Public Health Fudan University), GuoFeng Zhu (Professor, Chinese Academy of Medical Sciences, Beijing), Hu Wenzhong, (Professor of Dalian Nationalities University), and Yankun Peng (China Agriculture University). American participants included Dr. Jerry Heindel (Chief of Cellular, Organs and Systems Pathobiology Branch, NIEHS), Dr. Larry Johnson (TAMU Veterinary Integrative Biosciences and PEER), Dr. Beiyan Zhou (TAMU Veterinary Physiology & Pharmacology), Dr. Yanan Tian (TAMU Veterinary Physiology & Pharmacology), Dr. Yubin Lu (USDA-ARS, TAMU), and Texas A&M University graduate students Natalie Eagleton, Ying Xie and Rebecca Rowntree.

The 2009 Roundtable was a follow up to the China-US Conference held in Washington, DC in October 2007. Dr. Tian summarized the previous roundtable and resulting exchanges between Texas A&M University and Chinese research institutes and the plans for further exchanges and program establishment including dual degrees for graduate studies and/or certificate programs for short term training. Dr. Heidel discussed NIH initiatives on environmental related research programs and also collaborative research opportunities between Chinese and American research institutes. Dr. Larry Johnson presented the NSF-sponsored research and training program (PEER) that is ongoing at Texas A&M University. Prior to the conference, the TAMU group and Dr. Heindel visited Chinese universities and research institutes in Beijing, and Fudan University in Shanghai where they presented seminars and participated in a variety of educational talks.

One important outcome of the conference was the plan for a workshop on research issues and collaborations between Chinese and American institutes on the Environmental Pollution in Suzhou. This workshop will be co-sponsored by the NIH and the Chinese government in Fall 2010.
Gulf Coast Chapter, Society of Toxicology (GCSOT)

Twenty-four faculty, students and staff from the TAMU Toxicology Program attended the annual GCSOT regional meeting in Austin, Texas, November 12-13, 2009. This group presented the 16 abstracts listed below. Graduate student Ying Xie (Tian Lab) was awarded 1st Place for her poster presentation.

“Systematic approach to compare the differential inflammatory response of liver culture systems exposed to silver, copper, nickel and gold nanoparticles.” Banerjee, Nivedita, R Taylor, and CM Sayes.


“PXR regulates the mRNA turnover through direct interaction with the CCR4-NOT complex.” Eagleton, Navada, D Liu, S Ke, Y Xie, and Y Tian.

“Pregnane X Receptor (PXR) Protects Liver Cells Against DNA Damage: Evidence and Mechanisms.” Huang, Min and Y Tian.


“Arsenic Trioxide Downregulation of Specificity Protein (SP) Transcription Factor in Bladder Cancer Cells is Dependent on Reactive Oxygen Species (ROS).” Jutooru, Indira, GChadalapaka, SSreevalsan, PLei, RBarhoumi, RBurghardt and SHSafe.

“Effect of Sulindac Derivatives on Specificity Protein Transcription Factors in Colon Cancer Cells.” Li, Xi and SHSafe.

“Ascorbic Acid Inhibits Colon Cancer Cell Growth by Inducing ROS-Dependent Downregulation of Specificity Protein (Sp) Transcription Factors.” Pathi, Satya and SHSafe.

“Application of High Energy Beam and Chemical Oxidants to Destroy Estrogenic Activity in Wastewater Effluent Biosolids.” Rambo, Charlotte, X Li, P Srisawat, K Brady, P Jesudhasan, S Safe, R Reimers, and S Pillai.

“Understanding the Effects of Microencapsulation and Temporal Intracellular Response.” Romoser, Amy, D Ritter, RMajithia, M McShane, K Meissner and CM Sayes.

“MCF10DCIS.COM breast cancer cells are attenuated by expression of Singleminded-2s (Sim2s).” Scribner, Kelly and WW Porter.

“Cannabinoids Decrease Cancer Cell Growth and Inhibit Sp Transcription Factors.” Sreevalsan, Sandeep, NE Kaminski and SH Safe.


“Houston Air Toxins Biomarkers of Exposure Study (HATBES).” Tietze, Danielle, SWang, LYHe, GDZhou, TJMcDonald and KC Donnelly.

“Transcriptional Regulation of Pregnane X Receptor by Protein Arginine Methyltransferases and Its Epigenetic Implication.” Xie, Ying, X Gu, S Ke, M Bedford, WXie, and YTian.

PEER

Dr. Larry Johnson and others on the Partnership Environmental Education and Rural Health (PEER) team travel extensively around Texas and the nation making presentations to middle-school students, teachers and others. Dr. Johnson traveled to Dallas, Texas to visit Veterinary Clinics for the Science Education Partnership Award (SEPA) and presented “Veterinarians Promote Science in Public Schools.” He traveled to San Antonio, Texas, to attend and participate in the PEER Workshop. Dr. William Klemm also presented this lecture in Austin at teacher workshops. Drs. Johnson and Klemm traveled to St. Paul, Minnesota to attend the National Institutes of Health (NIH) – Science Education Partnership Award (SEPA) Annual Meeting. Dr. Johnson presented “Veterinarians Promote Science in Public Schools.” He traveled to Houston, Texas to visit Veterinary Clinics for Science Education Partnership Award (SEPA) and present PEER resources and tips on successful GK-12 Programs to the PEER Group at the University of Houston.
**Toxicology Forum**
The Toxicology Graduate Student Forum was held on August 5, 2009 at The Veranda in Bryan, TX. There were 23 posters and five oral presentations given by the students. We were honored to include the undergraduate students who participated in the Bioengineering & Bioinformatics Summer Institute (BBSI*). The following students received presentation awards:

**Platform Presentations:**
- John Taylor (Phillips Lab) – 1st Place
- Navada Eagleton (Tian Lab) – 2nd Place
- Gayathri Chadalapaka (Safe Lab) – Hon. Mention

**Poster Presentations:**
- Nivedita Banerjee (Sayes Lab) – 1st Place
- Natalie Johnson (Phillips Lab) – 2nd Place
- Indira Jutooru (Safe Lab) – 3rd Place
- Kelly Scribner (Porter Lab) – Honorable Mention
- Mike Berg (Sayes Lab) – Honorable Mention

Congratulations to all of the graduate and undergraduate participants for their high quality presentations!


“The Fate of TiO2 in Human Lung Epithelial Cells: Does Aggregation Influence Cellular Response?” J Michael Berg, RA Zebda, A Ellis, CM Sayes.


“Arsenic Trioxide Decreases Specificity Protein Expression in Bladder Cancer Cells and Tumors.” Gayathri Chadalapaka, I Jutooru, S Sreevalsan, P Lei, R Barhoumi, R Burghardt and S Safe.


“Pregnane X Receptor Regulates the mRNA Turnover Through Interaction with CCR4-NOT Complex.” Navada Eagleton, L Duan, K Sui and Y Tian.


“Curcumin Decreases Sp Protein Expression and Pancreatic Cancer Cell and Tumor Growth.” Indira Jutooru, G Chadalapaka, S Safe.

“Effect of Sulindac Derivatives on Specificity Protein Transcription Factors in Colon Cancer Cells.” Xi Li and S Safe.


“GT-094 Inhibits Colon Cancer Cell Growth by Inducing Ros-Dependent Down Regulation of Specificity Protein (Sp) Transcription Factors.” Satya Sreehari Pathi and S Safe.


“Linear Discriminate Analysis Classification of Metal Oxide Nanomaterials.” Chelsea Romero*, J Boutte*, CM Sayes, I Ivanov.


“Cannabinoids Decrease Cancer Cell Growth and Inhibit Sp Transcription Factors.” Sandeep Sreevalsan and S Safe.


“Epigenetic Mechanism For Potentiation (“Priming”) of Pregnane X Receptor-Regulated Gene Expression by Dimethyl Sulfoxide.” Ying Xie, S Ke, and Y Tian.


HOLIDAY SKATING PARTY
The IFT held the 2nd Annual Holiday Family Skating Party at the Arctic Wolf Ice Center on December 15. It was a fun evening of pizza and ice skating, with the experienced skaters helping the beginners.
IFT ELECTION
An election for the next IFT Chair as well as two Executive Committee members will be held in January 2010. IFT Faculty will receive ballots in the near future.

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