

Food for the Twenty-First Century
Bioprocessing and Biosensing Center

Fall 2009 Seminar Series

PRESENTER: Dr. Kristina Narfstrom, Ruth M. Kraeuchi Endowed Professor
in Veterinary Ophthalmology
University of Missouri, Veterinary Medicine and Surgery

TITLE: Diagnostic methods and treatment modalities in feline retinal
degeneration, a model for human blinding disease

ABSTRACT:

Hereditary retinal degeneration is a common cause of blindness in human and animal populations. The Abyssinian cat has been used by the author for research into the early diagnosis of photoreceptor disease and for research of treatment modalities. Electrophysiologic methods for early diagnosis has been found very effective as well as molecular genetic studies. Treatment strategies include transplantation of neuroretinal tissue or neuronal progenitor cells into the retina of affected cats, as well as implantation of subretinal microchips and the delivery of growth preservative and stimulating factors into the eye. Another promising treatment modality currently planned for in affected cats is gene therapy, which previously has shown remarkable results in a dog model for retinal blinding disease and currently utilized for human patients.

BIOGRAPHICAL:

Dr. Kristina Narfstrom is the Ruth M. Kraeuchi Missouri Endowed Professor at the College of Veterinary Medicine, University of Missouri-Columbia, (MU), USA, since 2001. She obtained a DVM degree at the College of Veterinary Medicine in Stockholm, Sweden, 1973, and a PhD at the Department of Ophthalmology, University of Linköping, Sweden, 1985. She was appointed full Professor at the Faculty of Veterinary Medicine, Uppsala, Sweden, 1992, and became a Diplomat the same year of the European College of Veterinary Ophthalmologists. Dr. Narfstrom's research interests are mainly comparative hereditary retinal disease processes with emphasis on retinal electrophysiology, morphology and microsurgery. She is author or coauthor of 112 peer reviewed publications and of numerous book chapters. Dr. Narfstrom's most recent research projects concern treatment strategies for hereditary retinal diseases such as retinal microchip implantation, stem cell therapy and gene augmentation therapy using well defined animal models for human Leber's Congenital Amaurosis and Retinitis Pigmentosa.

DATE • TIME • LOCATION:

October 27, 2009, 4:00 PM, 105 Agricultural Engineering Building

The Food for the 21st Century (F21C) program at the University of Missouri (MU) was established in the mid-1980's through state funding. The overall goal of the program is to help Missouri food producers and processors maintain their competitive edge in the global marketplace by conducting cutting-edge research in a number of food-related areas. The program involves faculty researchers from multiple colleges including College of Agriculture, Food and Natural Resources; College of Arts and Sciences; College of Engineering; School of Medicine; College of Human Environmental Sciences; and College of Veterinary Medicine. Based on the research emphases, the researchers are grouped into four Clusters: Plant Biotechnology; Animal Reproduction; Bioprocessing and Biosensing Center; and Human Nutrition.

Bioprocessing and Biosensing Center was formed in 1986. The Center currently consists of 27 faculty members, plus collaborators, support staff, and graduate students from six departments in the College of Agriculture, Food and Natural Resources and College of Engineering. These departments include Biological Engineering; Food Science; Animal Sciences; Chemical Engineering; Electrical Engineering; and Mechanical and Aerospace Engineering. This seminar is one of the educational activities in the Bioprocessing and Biosensing Center.

Cluster Co-Leaders: Drs. Fu-hung Hsieh and Jinglu Tan

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