NeuroNews!

July 15, 2008

A Message From Our Chairs...

We welcome you to the first edition of the Neurosciences Newsletter. In this newsletter, we will highlight recent advances in neurosciences research and clinical care as they emerge in the department or in collaboration with other departments at MUSC and other institutions. We are in our 4th year since the departments of Physiology/Neuroscience, Neurology and Neurosurgery were consolidated into a single department of Neurosciences. Over that time we have grown from a combined total of less than 35 faculty to over 60 faculty. Our clinical revenues have grown by approximately 30%, our research expenditures have grown by more than 60%, and our ranking amongst the 36 Neuroscience departments nationally is #5 in NIH funding. The Department of Neurosciences strongly aligns its Excellence pillar goals with its core tripartite mission of teaching, translating discoveries, and healing. We look forward to your feedback and ideas for future issues of the newsletter.

Why Combine Three Separate Departments into One?

In November of 2004, the Departments of Neurology, Neurosurgery, and Physiology/Neuroscience were combined to create the Department of Neurosciences. It was decided that the best way to promote human health in diseases and injuries involving the nervous system was to combine two clinical departments with one basic research department. According to the National Institutes of Health, there is a deficit in the current training of research clinicians and the application of research discoveries to patient care. MUSC’s Department of Neurosciences directly addresses this deficiency by merging its previously separate departments into one.
EXCITING EVENTS AND ACTIVITIES IN NEUROSCIENCES!

BRAIN TUMOR ACTION WEEK:
The Department of Neurosciences is excited to announce its first year of participation in Brain Tumor Action Week! This year, Brain Tumor Action Week took place from May 4 – 10, 2008. Action Week was created by the North American Brain Tumor Coalition, which was formed in 1993 by a network of nonprofit organizations in the United States and Canada to create a strong public policy voice in support of adults and children with brain tumors.

The goal of Action Week is to raise awareness and advance the fight for a stronger brain tumor research program. The American Brain Tumor Association (ABTA) offered their support to Action Week by giving free ABTA informational materials to anyone who wanted to set up a display in their community during Brain Tumor Action Week. The Neuro-Oncology team at MUSC decided to utilize this opportunity by setting up a display in the Hollings 2nd floor clinic from May 5 - 9. Three of our extraordinary brain tumor patients as well as a few Hollings volunteers donated their time to sit at our display table and talk to new patients and their friends and family members who stopped by the display. There was also a raffle, themed “We’re Bananas for Brain Tumor Action Week!,” for those who visited the display, in which whoever guessed the closest and second closest to the number of bananas in a jar of Runts Candy won a $30 gift certificate to either Gilligan’s Steamer and Raw Bar or The Kickin’ Chicken! Both restaurants generously donated these gift certificates in support of Brain Tumor Action Week.

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BRAIN TUMOR SUPPORT GROUP:
About a year ago, Christa Lizzi, R.N., organized a support group to bring together brain tumor patients and their friends and families. This support group gives everyone affected by this illness the opportunity to meet with others to express their concerns about their illness, to share information, gain insights, and develop new relationships. These meetings also provide a place for them to learn about different resources, new techniques, and how to cope with difficult situations. Upon requests from the support group attendees, there are often speakers that are brought in to discuss various topics of concern.

Meetings are held: 2nd Wednesday of Every Month
Where: MUSC – Clinical Sciences Building in Rm. 429

For More Information & to RSVP:
Christa Lizzi (843)792-7530

“The art of patient care is simply caring for the patient. When we care for the patient, then healing, discovering, and teaching becomes a part of our lives like breathing. It is not just a job.”
-Dr. Sunil Patel
SEMINARS AND EVENTS:
The Department of Neurosciences offers many different seminars and events on nearly everything involving the nervous system, i.e. brain/spine surgery, brain/spine tumors, epilepsy, strokes, neuropathy, etc.
If you would like more information on the different seminars and events that are scheduled for the Department of Neurosciences, you can find them through the following link: http://neurosciences.musc.edu/new/new.html

We Would Like to Welcome All of Our New Employees to MUSC’s Department of Neurosciences!

Our new additions in Neuroscience Research are:

Post Docs:
- Travis Turner
- Marcello Reyes
- Pad Mannangatti
- Zhongyang Lu
- Zhiming Shen
- Anusaya Muthuswamy
- Amanda Gabriele

Graduate Assistants:
- Jonathan Butler
- Aram Parsegian

Research Spec. 1 Coordinator:
- Arthur Williams

Research Specialists 1:
- Rebecca Fallon
- Yasodha Krishnasamy
- Sarah Deptula
- Adrian Gomez
- Phelipe Hurt
- Phong Do

Research Assistant Professors:
- Tanya Turan
- Art Riegel
- Prakash Annamalai, Ph.D.
- Arabinda Das, Ph.D.

Grants Administrator II:
- Rie Calcaterra

Professor w/ tenure:
- Marc Chimowitz

NIDA Invest Fellow:
- Sheng Liu

Student Employees:
- Daniel Ravenel
- Natasha New
- Misty McDowell
- Cameron Gibson
- Gabriel Fitton

Lab Specialists:
- Abby Meyer
- Alex Woodell
- Student Administrative Specialist:
- Katie Koval

Administrative Assistant:
- Alyssa Barnes

Administrative Specialist II:
- Marcia Murphy

Volunteer:
- Stephen Herden

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Our new Physician’s Assistants and Registered Nurses are:

Division of Neurology:
- Jennifer Teeters, ARNP

Division of Neurosurgery:
- Christa Lizzi, RN
- Elizabeth Hapke, PA-C
- Jennifer Marshall, PA-C
- Patricia Mathias, PA-C

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Our new clinical administrative additions are:

Administrative Assistant
- Clinical Chair, Neuroscience:
  - Amanda Reasoner

Administrative Specialist
- Neuro-Oncology:
  - Rachel Beard

Administrative Specialist
- Neurosurgery:
  - Shani Hamilton

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Our new clinical administrative additions are:

Administrative Assistant
- Neuroscience Scheduling:
  - Channon Jackson

Administrative Specialist
- Adult Neurology:
  - Andrea Clarkson

MARK YOUR CALENDARS!!

’Tis not quite the season, but you won’t want to miss this year’s Department of Neurosciences Holiday Party!

What: Oyster Roast!
Where: James Island County Park
When: December 7, 2008
*More details to be provided as they become available.*

WELCOME NEW DOCTORS!!!

Division of Neurosurgery
* Dilantha Ellegala, MD
  - Cerebrovascular disease
  - Surgical Therapies
  - AVMs

Division of Neurology
* Christos Lazaridis, MD
  - Neuro Critical Care
  - Acute stroke management

* Kenkichi Nozaki, MD
  - ALS/Neuromuscular diseases
  - EMG/NCV services
  - Muscle pathology

* Nada Abou-Fayssal, MD
  - Multiple sclerosis
  - General adult neurology

* Marc Chimowitz, MD
  - Acute stroke management
  - Outpatient stroke consultation
  - Stroke research/clinical trials

* Tanya Turan, MD
  - Acute stroke management
  - Outpatient stroke consultation

Welcome New Doctors!!!
Imagine being presented with a big juicy cheeseburger after a long hard day of work where you had to skip lunch because you were so busy. Now imagine being presented with the same cheeseburger, but this time it is right after gorging yourself at an all-you-can-eat buffet to the point where you have had to loosen your belt several notches. As the above example demonstrates, the value we place on something is not fixed, but rather depends on a complex mix of factors. Work in several labs has pointed to the orbital cortex (OFC - a region on the ventral surface of the brain, immediately above the eyes) as being a critical component of the circuitry that the brain uses to represent the changing reward value of stimuli in the environment and utilize that information to guide decision making.

Recent work by Trevor Robbins and colleagues at Oxford University has shown that serotonin-containing projections play a critical role in the ability of the OFC to maintain flexibility in processing the reward value of stimuli. In a study published in *Science*, the researchers trained monkeys to respond to stimuli that predicted the delivery of a juice reward. Following the injection into the OFC of a neurotoxin that selectively destroys serotonin axons, animals were able to re-learn the task easily. However, if the contingencies of the task were switched, such that the previously unrewarded stimulus was now rewarded and vice versa, serotonin lesioned animals were unable to change their responses. Instead, they persisted in responding to the previously rewarded stimulus even though it was no longer rewarded. Loss of OFC serotonin innervation produced impairments as severe as those seen following surgical ablation of this cortical area, indicating that serotonin plays a vital role in OFC function.

How is serotonin performing its vital role within the OFC? In addition to being expressed on the excitatory projection neurons of the cortex, serotonin receptors are also densely expressed on GABA-containing inhibitory local circuit neurons. Local circuit neurons are a heterogeneous population of cells that differ in their electrical properties, post-synaptic targets and expression chemical markers. Because of these distinctions, it is thought that these different populations of inhibitory neurons mediate very distinct roles in regulating the overall activity of cortical networks. Recently, Dr. David Carr received a R21 award from the National Institute of Mental Health to study how serotonin affects these different populations of neurons. Using a genetically modified mouse, which expressed green fluorescent protein (GFP) in GABA containing neurons, Dr. Carr’s lab plans on utilizing both molecular and electrophysiological methods to determine (1) what serotonin receptor subtypes are expressed in different populations of GABA neurons within the OFC and (2) how the electrical properties of these different populations of cells change in response to serotonin. Given the observations that OFC dysfunction is found in several neuron-psychiatric conditions such as schizophrenia, depression and OCD, it is hoped that these studies may provide new insights that will lead to novel therapeutic targets for treating these disorders.

Our New Office: MUSC’s Neuroscience and Orthopedic Associates in Mt. Pleasant!

The MUSC Neuroscience and Orthopedic Associates opened on September 10th, 2007. This office is located at 900 Bowman Rd., Suite 300 in Mt. Pleasant. Our physicians in the Neuroscience division specialize in Spinal Disorders, Epilepsy, Cerebrovascular Surgery, Brain Tumors, Movement Disorders, and Stroke. Our physicians in the Orthopedic division specialize in Sports Injuries, Total Joints, General Orthopedics, and Pediatrics. We also offer full service X-Ray. This office sees patients Monday through Friday from 8:30am – 5:00pm. You can reach the office at (843)216-8005.

The Department of Neurodiagnostics, which is also in our Mt. Pleasant office, opened on May 5th, 2008. Here, we are able to provide patients with Video Electroencephalography (EEG), Electromyography (EMG) and Evoked Potentials (EP). We see patients Monday through Friday by appointment only. To schedule an appointment, patients can call (843)792-3641.

*What’s New In Research?*  
*Provided by: Dr. David Carr*
CONGRATULATIONS!!

Dr. Peter Kalivas:
Dr. Kalivas has received the Foundation Ipsen 2008 Neuronal Plasticity prize for research in the Molecular Targets of Drug Abuse. The Foundation was created in 1983 and its mission is to contribute to the development and dissemination of scientific knowledge. The Foundation awards prizes for the works of pioneers in four fields of research: Neurosciences, Neuropsychology, Longevity and Endocrinology. The winners are chosen by an international jury chaired by Wolf Singer. This 60,000 euro prize is to be shared by Drs. Kalivas, Eric Nestler, and Jean-Pierre Changeux. Dr. Kalivas was presented with his award on Monday, July 14th at the Federation of European Neuroscience Society (FENS) meeting in Geneva. He will also be giving a presentation during the meeting titled: Neuroplasticity Excitatory Synapses: A New Window in Treating Addiction.

Dr. Bärbel Rohrer:
Dr. Rohrer received the Hope for Vision 2007 Award this past January. This award is given to junior to mid-level scientists for their achievements in the field of retinal degeneration. Dr. Rohrer received this award in particular for her work on the role of retinoids in cone development and function. It was shown that there is a window of opportunity to restore cone-based vision with chromophore treatment in a mouse model of Leber congenital amaurosis (LCA is an autosomal recessive retinal dystrophy, which is characterized by moderate to severe visual impairment identified at or within a few months of birth). The Hope for Vision award was given to Dr. Rohrer in the form of $25,000 to be used in the lab.

Is There Someone You Work With Who Deserves A Little Praise for a Job Well Done???

Well here’s your chance to show them how much they are Appreciated!

The Department of Neurosciences is now taking Nominations for our FIRST EVER Employee of the Quarter! Nominations must be submitted NO LATER THAN: September 30th, 2008

In the spirit of MUSC Excellence, the department has developed a Rewards and Recognition Program for the support staff employees. Nominations will be limited to the administrative, clinical, research, financial and scheduling support staff in Physiology, Neurology, and Neurosurgery. There will be an Employee of the Quarter and an Employee of the Year selected. The first quarterly reward will be for the 3rd quarter ending September 2008. The first “Employee of the Year” and the 4th quarter winner will be announced in January 2009. All support staff employees are eligible to be nominated for “Employee of the Year”. See schedule for nominations on the nomination form. You can submit a nomination by going to the following link: Nomination Form

Nomination Criteria.
The department encourages nominations based on a thorough description of an employee’s outstanding work-related behavior or activities. Criteria for nominating an employee of the quarter and employee of the year will be based on the following: Accountability, Respect, Excellence, Adaptability. These criteria are explained more thoroughly on the nomination form.

Submission Process and Eligibility
Nominations may be submitted by anyone in the Neurosciences Department or employees of MUSC, UMA or by patients. However, it is critical that nominations provide explicit detail regarding the employee’s accomplishments.

Eligible Employees: Initially, nominations will be limited to the following support staff in Physiology, Neurology and Neurosurgery: administrative, clinical, research, financial and schedulers.

Review and Selection of Nominees
After the cutoff date, nominations will be reviewed by an internal Neurosciences Department panel. Winners will be announced in the newsletter, via email and on the bulletin boards.

*If you have information you would like to include in our 2nd quarterly newsletter, please contact Rachel Beard at beardr@musc.edu.

**Please have your requests for inclusion sent in by Monday, September 22nd.**

http://neurosciences.musc.edu