

BRAIN WAVES

Volume 4, Issue 1
February 14, 2006

STATE OF THE DEPARTMENT

I am pleased to report that the State of the Department is outstanding. Our strength lies in the intellect, expertise, integrity and commitment of our people. And through the efforts of our faculty, staff and students, our accomplishments over the past year place us solidly in the top 20 Anatomy Departments in Public Institutions. While statistics and numbers tell only part of the story, they do document achievements of which we can all be proud.

2006 DEPARTMENT ACCOMPLISHMENTS

1. Successively recruited two outstanding new faculty members: Drs. Hans Büeler and Luke Bradley.
2. Successfully recruited a new Department Business Administrator: Julie Poole, MBA
3. Successfully recruited a new Administrative Research Assistant Senior: Gianna Farley
4. Anatomy ranked 3rd nationally in productivity among Public Universities as reported in the Chronicle of Higher Education.
5. Teaching faculty received COM Silver Pointer Award (best first-year instructor, Jennifer Brueckner)
6. COM Silver Podium Award (best first-year course), for Gross Anatomy, Bruce Maley: Course Director
7. Maintained balanced research funding, with yearly research funding from NIH, NSF, Biotechnology Industry, and Foundations totaling \$6,773, 542 (FY ending 6/30/06).
8. Five graduate students successfully defended their theses, and received their PhD. One graduate student successfully defended and received a MS.
9. Three patent applications were submitted by faculty members.

2007 DEPARTMENT GOALS

1. Recruit four outstanding new faculty members, two in the Regular Title Series and two in the Special Title Series
2. Maintain a fiscally sound department with a 8% growth in research funding. The growth is expected to come in Research Contracts with Pharmaceutical Companies like Medtronic, Johnson & Johnson and Eli Lilly.
3. Establish the ability to conduct GLP studies on nonhuman primates. Initiate efforts to conduct GLP studies on rats and mice.
4. Update the Medical Neuroscience Course MD 817, lecture and laboratory sections. Create an outstanding course for medical training in the neurosciences.

2007 CONCERNS

1. Space for growing research programs and recruitment
2. Continued drain of the Body Donor Program on Department finances: (~\$85,000 in 2006)

~ Dr. Don Gash



DON M. GASH, PH.D.
CHAIR, ANATOMY & NEUROBIOLOGY

2006 VITAL STATISTICS

FACULTY MEMBERS	31
GRADUATE STUDENTS	24
POSTDOCTORAL STUDENTS	10
STAFF	60
PEER REVIEWED PAPERS	187
NIH STUDY SECTION MEMBERS	21
NATIONAL AND INTERNATIONAL PRESENTATIONS	75

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SPECIAL POINTS OF INTEREST:

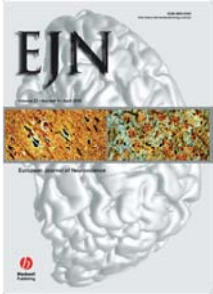
- The next Faculty Meeting is scheduled for Friday, February 16 at Noon in MN 136.
- We need your nominations for Employee of the Quarter. See Page 6.

HAPPY NEW YEAR POTLUCK



Professional Announcements

Publications



Shin, EJ., Nah, SY., Chae, JS., **Bing, G.**, Shin, SW., Yen, TP., Baek, IH., Kim, WK., Maurice, T., Nabeshima, T., Kim, HC. (2007) Dextromethorphan attenuates trimethyltin-induced neurotoxicity via σ_1 receptor activation in rats. *Neurochemistry International*, in press.

Shin, EJ., Chae, JS., Jung, ME., **Bing, G.**, Koc, KH., Wie, MB., Cheon, MA., Nah, SY., Kim, HC (2007) Repeated intracerebroventricular infusion of nicotine prevents kainite-induced neurotoxicity by activating the α_7 nicotinic acetylcholine receptor. *Epilepsy Research*, in press.

Hunter, RL., and **Bing, G.**, (2007) Agonism of peroxisome proliferator receptor- γ may have therapeutic potential for neuroinflammation and Parkinson's disease. *Current Neuropharmacology*, Invited Review: in press

Dimayuga, FO., **C Wang, JM Clark, ER Dimayuga, VM Dimayuga, and AJ Bruce-Keller.** (January 2007) SOD1 Overexpression alters ROS production and reduces neurotoxic inflammatory signalling in microglial cells. *Journal of Neuroimmunology*, 182:89-99.

Duncan, M.J. and K. M. Franklin (2007) 5-HT₇ receptor mRNA expression in hamster brain: Effect of aging and association with calbindin-D28K mRNA expression. *Brain Research*, in press.

Lifshitz, J, BM Witgen, MS Grady. Acute Cognitive Impairment After Lateral Fluid Percussion Brain Injury Recovers by One Month: Evaluation by Conditioned Fear. *Behav. Brain Res.* 177: 347-357.

Albuquerque RJ, de Leeuw R, Carlson CR, Okeson JP, Miller CS, **Andersen AH.** Response to Dr. Guzzi, et al. *Pain.* 2007 Jan 8.

Smith MP, **Cass WA.** Oxidative stress and dopamine depletion in an intrastriatal 6-hydroxydopamine model of Parkinson's disease. *Neuroscience.* 2007 Feb 9;144(3):1057-66. Epub 2006 Nov 15.

Dimayuga FO, Wang C, **Clark JM,** Dimayuga ER, **Dimayuga VM, Bruce-Keller AJ.** SOD1 overexpression alters ROS produc-

Publications

tion and reduces neurotoxic inflammatory signaling in microglial cells. *J Neuroimmunol.* 2007 Jan;182(1-2):89-99. Epub 2006 Nov 13.

Bruce-Keller AJ, Dimayuga FO, Reed JL, Wang C, Angers R, Wilson ME, **Dimayuga VM, Scheff SW.** Gender and estrogen manipulation do not affect traumatic brain injury in mice. *J Neurotrauma.* 2007 Jan;24(1):203-15.

Fee DB, Swartz KR, Joy KM, Roberts KN, Scheff NN, **Scheff SW.** Effects of progesterone on experimental spinal cord injury. *Brain Res.* 2007 Jan 2; [Epub ahead of print]

Maalouf M, **Sullivan PG, Davis L,** Kim DY, Rho JM. Ketones inhibit mitochondrial production of reactive oxygen species production following glutamate excitotoxicity by increasing NADH oxidation. *Neuroscience.* 2007 Jan 17; [Epub ahead of print]

Rockabrand E, Slepko N, Pantalone A, **Nukala VN,** Kazantsev A, Marsh JL, **Sullivan PG,** Steffan JS, Sensi SL, Thompson LM. The first 17 amino acids of Huntingtin modulate its sub-cellular localization, aggregation and effects on calcium homeostasis. *Hum Mol Genet.* 2007 Jan 1;16(1):61-77. Epub 2006 Nov 29.

Xiong Y, Rabchevsky AG, **Hall ED.** Role of peroxynitrite in secondary oxidative damage after spinal cord injury. *J Neurochem.* 2007 Jan;100(3):639-49. Epub 2006 Dec 1.

Hauser KF, El-Hage N, Stiene-Martin A, Maragos WF, Nath A, Persidsky Y, Volsky DJ, **Knapp PE.** HIV-1 neuropathogenesis: glial mechanisms revealed through substance abuse. *J Neurochem.* 2007 Jan;100(3):567-86. Epub 2006 Dec 1.

Zhao TY, Zou SP, Knapp PE. Exposure to cell phone radiation up-regulates apoptosis genes in primary cultures of neurons and astrocytes. *Neurosci Lett.* 2007 Jan 22;412(1):34-8. Epub 2006 Dec 21.

Smith MP, **Cass WA.** GDNF reduces oxidative stress in a 6-hydroxydopamine model of Parkinson's disease. *Neurosci Lett.* 2007 Feb 2;412(3):259-63. Epub 2006 Nov 27.

Rutherford EC, Pomerleau F, Huettl P, Strömberg I, and **GA Gerhardt** (2007) Chronic Second-By-Second Measures of L-Glutamate in the CNS of Freely Moving Rats. (accepted by *Journal of Neurochemistry*).

Publications

Ding Q, Cecarini V, Keller JN. Interplay between protein synthesis and degradation in the CNS: physiological and pathological implications. *Trends Neurosci.* 2007 Jan;30(1):31-6. Epub 2006 Nov 28.

RL Hunter, N Dragicevic, K Seifert,***DY Choi, M Liu,** H-C Kim, **WA Cass, PG Sullivan,** and **G Bing.** Inflammation induces mitochondrial dysfunction and dopaminergic neurodegeneration in the nigrostriatal system. *Journal of Neurochemistry,* 2007, 100, 1375–1386.

Announcements

Dr. Jennifer Brueckner has been appointed Chair elect of Faculty council for UK College of Medicine.

Presentations

Dr. Jennifer Brueckner was an Invited Speaker at North Eastern Ohio University College of Medicine: "From Online Mastery Quizzes to Podcasting: Multimedia applications in health professions education," January 11, 2007.

Peter Huettl from Dr. Greg Gerhardt's lab presented the following poster at the 40th Annual Winter Conference on Brain Research in Snowmass CO January 29-February 2, 2007:

"Pharmacological Studies of mGlu2/3 Drugs on Glutamate Release Utilizing Ceramic-Based Microelectrode Arrays" Peter Huettl^{1*}, George E. Quintero¹, Erin Rutherford¹, Francois Pomerleau¹, Kirk Johnson², Darryle D. Schoepp² and Greg. A. Gerhardt¹

¹Center for Sensor Technology, Morris K. Udall Parkinson's Disease Research Center of Excellence, Department of Anatomy and Neurobiology, University of Kentucky, Lexington, KY. ²Eli Lilly and Co., Indianapolis, IN

WE WILL OPEN THE BOOK.
ITS PAGES ARE BLANK. WE ARE
GOING TO PUT WORDS ON
THEM OURSELVES. THE BOOK
IS CALLED OPPORTUNITY AND
ITS FIRST CHAPTER IS
NEW YEAR'S DAY.

~ EDITH LOVEJOY PIERCE ~

TECH TRICKS : SAVED BY THE SERVER



Imagine working for weeks, months or years gathering data for a research project and then losing everything in the blink of an eye. What would you do?

Dr. Jeremiah Gates recently faced a situation like this when his laptop was stolen. All the research data on his laptop was gone, and it's unlikely that the laptop will ever be recovered. Just when Dr. Gates was thinking the worst, he remembered that he backed up all his files to the department server a few weeks earlier with the help of Joey Rose, the department Computer Support

Specialist. With just a few short clicks Dr. Gates copied his files from the server to his new computer and all was well again.

This kind of situation can happen to anyone for a variety of reasons. Theft of a computer isn't the only way to lose saved computer files. Hard disk drives can fail leaving you unable to start up your computer and retrieve files. In this case the hard disk drive usually must be sent to a data recovery specialist. In rare instances certain viruses can delete computer files and even render your computer unable to start up. Data recovery is sometimes possible after a hard disk failure or virus attack, but it's expensive and time consuming. Restoring from a backup is a lot easier and cheaper.

Save yourself the headache and worry, contact [Joey \(joey@uky.edu\)](mailto:joey@uky.edu) and ask him to help you back up your priceless data files!



JANUARY FACULTY MEETING HIGHLIGHTS

- Special Title Series candidates have been scheduled for interviews and seminars/lectures. Two hires will be made— one senior faculty member and one junior faculty member.
- Electronic submission for NIH grants begins in February. Please be sure to turn in your grants of OSPA at least 3-5 days before the grant is due. Also contact OSPA to make sure your eRA Commons username is active. Members of study sections may have a duplicate username that needs to be removed. You may also contact Joey Rose if you need assistance downloading the PureEdge Viewer required to submit the grant. Currently, MAC's are not supported so you will need to submit the grant on a PC.
- Please be sure that graduate students hold their annual committee meetings. Minutes will be sent to the graduate school.
- The Graduate Center for Nutritional Sciences wants to be incorporated in to the College of Medicine. If you have concerns about this integration, the financial impact and the appropriateness, please email Dr. Gash at don-gash@email.uky.edu so he can take your comments to the Council of Chairs.
- Fire Safety materials have been sent to the faculty. Please share these materials with students and staff as we want to make sure that our department does not have any violations.
- The account balances for the department are being completed. We should be on schedule soon as we have a new financial team member joining us.

KROGER CARD NOTICE

MEMORANDUM

To: All Departments with Kroger Charge Cards

From: Bill Harris
Director of Purchasing
Purchasing Division
322 Peterson Service Building
Lexington, KY 40506-0005
Phone: (859) 257-9100
Fax: (859) 257-1951

Subject: Kroger Charge Cards

Date: December 20, 2006

Prior to the implementation of the University's procurement card program, selected departments were authorized by Purchasing to obtain a Kroger charge card. The cards were issued for use in lieu of a Departmental Authorization Voucher (DAV) to obtain food products. Authorization of the cards was limited to departments that require food products for classroom use or in the course of conducting university related business.

Now that the University has a successful procurement card program, it makes sense to discontinue the use of the Kroger charge cards. The number of transactions with Kroger's has steadily increased to the point where the processing is inefficient and a significant administrative burden on all parties. Last year, Accounts Payable processed nearly 2,000 DAV's to Kroger's for purchases on the Kroger charge card.

As a result, Kroger's will be notified to cancel all University of Kentucky Kroger charge cards effective February 12, 2007.

Effective on the same date, University departments will be authorized to use the procurement card to make purchases at Kroger's. Departments with delegated authority to use the procurement card are also delegated the responsibility to adhere to the University's requirements for appropriate documentation, funding and approval. Departments will be required to maintain this information for audit purposes in the same manner as other procurement card purchases.

Departments that do not already have a procurement card to make these purchases should apply for one immediately. To do so please see the Accounts Payable home page at <http://www.uky.edu/EVPFA/Controller/aphome/procard/welcome.html>.

****PLEASE NOTE YOU WILL STILL HAVE TO GIVE YOUR RECEIPTS TO KIM****

Departmental Birthdays

Employee of the Quarter



February

- Betty Sisken ~ 2/1
- Dr. Wil Maragos ~ 2/2
- Josh Fuqua ~ 2/4
- Dr. Xun Liu ~ 2/4
- Stewart Surgener ~ 2/5
- Kim Wilkison ~ 2/6
- Dr. Brian Gold ~ 2/11
- Dr. Guoying Bing ~ 2/13
- Kathy Franklin ~ 2/14
- Dr. Guanghan Wu ~ 2/14
- Dalene Rice ~ 2/25

Joey Rose ~ 2/19

Julie Quinn ~ 2/26

Comings and Goings

Congratulations to **Dr. Pat Sullivan** and **Laurie Davis** who won the Karaoke Contest at the Holiday Party 2006 for the Sullivan Lab! A departmental laboratory/group vote decided the results. Way to sing!



Please be sure to introduce yourself to **Dr. Jonathan Lifshitz**, our new faculty member. Jonny joins us and the Spinal Cord & Brain Injury Research Center (SCoBIRC) from Virginia Commonwealth University. His office and lab are in BBSRB, where he is preparing his talk for February 26th on "Somatosensory Circuit Disruption after Diffuse Traumatic Brain Injury." Feel free to be a welcomed distraction by stopping to say hello.



We would like for everyone to give a warm welcome to **Gianna Farley**, our new Administrative Research Assistant Senior. Gianna will be working with the department finances and will serve as support for Julie Poole, our department administrator. She comes to us from the University of California, San Francisco where she worked in various administrative positions for over 20 years. She is very excited to be joining our department and is looking forward to living in Lexington. We are so glad you have joined our team, Gianna!

We would like to offer our congratulations to our **third** and **fourth** Employee of the Quarter winners: **Gary Ginn** and **Naomi Carter**!!

Gary has admirably served the community and our department in the face of many trying circumstances this past fall. And he has done so with dignity and a positive attitude. He was recently profiled in the Herald-Leader in a truly touching and interesting article. It showed the side of Gary that we only see in passing as he balances his time between UK and the Coroner's office.



Naomi is a truly dedicated Research Analyst in Dr. Gash's lab with a helpful and positive outlook. She has always willing to assist her co-workers and the members of other labs in our department. A number of our graduate students have had histology training with her.

We would also like to congratulate **Julie Poole, the Employee of the Year for 2006!**



GREAT JOB,
YOU GUYS!

FANTASTIC
WORK!

As one of her nominators said "she has earned her masters, had a baby, helped us tremendously and has taken over as office manager for the department without any noticeable gaps through the transition." We are very proud of you Julie!

THE EMPLOYEE OF THE QUARTER COMMITTEE NEEDS YOU!

We are currently looking for
two graduate students,
two faculty members,
and
two laboratory staff members
to be a part of the award committee.

JOIN US!

It is a **TINY** time commitment to help the department honor our hardworking staff!

To volunteer contact **Kim Wilkison**
(kdwilk1@email.uky.edu or 3-6926)

Employee of the Quarter Nomination Form

The Quarterly Employee Awards are will be announced at the Departmental Bashes - May (for nominations submitted January through March); August (April through June); October (July through September) and December (October through December). The Employee of the Year Award will be selected from the winners throughout the year and will be announced annually at the Annual Holiday Potluck. **Due to Joey Rose or Kim Wilkirson ASAP.**

When considering someone for the award, think of the individual who has made your job easier or assisted you in performing your job. To complete the nominations please complete the following questions. Use additional paper or the back of this if necessary.

Date: _____ Candidate: _____

Nominator: _____

Is this individual a regular full-time employee in the Department of Anatomy & Neurobiology? _____ Yes _____ No

1. What attributes or actions make this individual worthy of your nomination? Give examples.

2. How is this individual an asset to the Department of Anatomy & Neurobiology? Give examples.

3. How have you seen this individual contribute to the UK and/or greater community? Give examples.

4. With 1 = average and 5 = outstanding, please rank the nominee in the following areas:

Quality of work: 1 2 3 4 5

Attitude toward performing job duties: 1 2 3 4 5

Problem solving skills: 1 2 3 4 5

Willingness to help others: 1 2 3 4 5

Service to the department/university: 1 2 3 4 5

Submit to Avalon Sandoval in 305 Whitney-Hendrickson, 0098 Phone: 257-5036

ANATOMY & NEUROBIOLOGY

MN 225 Medical Sciences Building
Lexington, KY 40536-0298
Phone: 859-323-5155
Fax: 859-257-6700

<http://www.mc.uky.edu/neurobiology/>

Please send comments & submissions to Avalon Sandoval at asand1@email.uky.edu or call 859-257-5036.

The Next Deadline is January 22, 2006

Available Training

Training for the Labs

The University requires safety training classes to be completed before beginning certain types of work. The requirements apply to all individuals involved in the covered work, including faculty, staff, students, postdocs, visiting researchers and volunteers. To find out what classes you need to take, consult the [Training Checklist](#).

NOTE: Anyone who works with chemicals in a laboratory **must** complete the following three classes: Chemical Hygiene Plan/Laboratory Safety, Hazardous Waste, and Fire Extinguisher Use.

Chemical Hygiene Plan/Lab Safety

This class is available [online](#).

Bloodborne Pathogens This class is available upon request and [online](#).

Hazardous Waste This class is available [online](#).

Initial Radiation Safety: Initial Radiation Safety (~ 15 minutes total) is offered every day at 1:30 pm at the Radiation Safety Office, 102 Animal Pathology Building (other times can be arranged). You must bring two completed forms with you: On-Site Radiation Safety Training Form and Radiation Worker Registration Form, both signed by your Authorized User or unit supervisor. If you have questions, contact Tracy Cayson at 323-6777.

Basic Radiation Safety

Feb 23 1-4p Rm. NURS214

Mar 22 9a-12p Rm. NURS214

Advanced Radiation Safety is only

available [online](#).

Fire Extinguisher Use is available [online](#).

NOTE: *Online courses can only be taken using a UK computer.*

Corporate Compliance Training is a **MANDATORY** training for all individuals who receive a paycheck from the UK Medical Center. It is only offered from 3:00–3:30 p.m. during the UK Hospital Orientation. Ignoring this requirement can result in dismissal from employment at the University of Kentucky.

Preventing Sexual Harassment is also a **MANDATORY** training. This training can be done online at (<http://training.newmedialearning.com/psh/ukentucky/index.htm>). Remember to print your certificate when complete; sign it and turn it in to Dalene to be placed in your personnel file.

Ignoring these MANDATORY trainings can result in dismissal from employment at the University of Kentucky

Human Resources

Development course offerings

<http://hr.uky.edu/TandD/welcome.php>

- 2-19 ~ Communicating Across Cultures
- 2-20 ~ Gender Styles in Communication
- 2-21 ~ Resolving Workplace Conflict
- 2-23 ~ Basics of leadership
- 2-27 ~ Personality Differences
- 2-28 ~ Presenting Effectively Day 1

3-2 ~ Group Problem Solving

3-5 ~ Principles of Effective Writing

3-6 ~ Building a Climate of Trust

3-6 ~ Developing a Winning Image

3-7 ~ Presenting Effectively Day 2

3-15 ~ Travel Program

3-15 ~ Trip Manager

3-22 ~ Perceptions: Is Seeing Believing?

3-23 ~ Thinking Critically

3-26 ~ Communicating with Success

3-29 ~ Providing Exceptional Customer Service

4-5 ~ Personality Differences

4-6 ~ Leading Effective Teams

4-9 ~ Managing Staff Conflict



All the world is a laboratory to the inquiring mind.

~ Martin H. Fischer