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SUMMER 2007

A quarterly publication of the **CENTER FOR BEHAVIORAL NEUROSCIENCE**

CBN Promotes Behavioral Neuroscience on Capitol Hill

CBN Director Elliott Albers, Ph.D., recently accepted an invitation from the Federation of Behavioral, Psychological, and Cognitive Sciences to take part in the prestigious 13th Annual Capitol Hill Exhibition and Reception on June 26.

The Exhibition, hosted by the Coalition for National Science Funding, is an important and popular annual event in Washington that attracts members of the U.S. Congress, Congressional staff, and leading figures from the National Science Foundation, giving them the opportunity to learn more about the work of a select group of scientists and the significance of their research within the United States.



CBN Director Elliott Albers talks neuroscience with North Carolina Congressman Bobby Etheridge during the 13th Annual Coalition for National Science Funding's Capitol Hill Reception and Exhibition.

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Editor: Martha Barker

Mother Mice More Attuned to Pups' Sounds Than Others

Study could lead to development of therapeutic speech strategies for children and adults.

Researchers have shown for the first time that the behavioral context in which communication sounds are heard affects the brain's ability to detect, discriminate, and ultimately respond to them. Specifically, the researchers found that the auditory neurons of female mice that had given birth were better at detecting and discriminating vocalizations from mouse pups than auditory neurons in virgin females.

"Although there have been many studies on communication and neurons in animals, such as in primates, birds, and bats, those studies have focused on how neurons respond to sounds that were already behaviorally relevant to the animals," says Center for Behavioral Neuroscience member Robert Liu, Ph.D., an Emory University assistant professor of biology and lead author of the study.

The study supported by the Center for Behavioral Neuroscience, a Sloan and Swartz Foundation fellowship, and the National Institutes of Health, was published in the June 12, 2007 issue of *PLoS Biology*.

"What's different about this study is that we used natural vocalizations –



Researchers found that the auditory neurons of female mice that had given birth were better at detecting vocalizations from mouse pups than virgin females.

a range of pup calls – to see how well neurons in mother mice and virgin, or pup-naïve mice, detect, discriminate, and act on this behaviorally important sound," says Dr. Liu. Ultrasonic calls

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CBN Summer Programs: Educating Future Scientists



This summer was packed with educational programs including BRAIN for undergraduates, ION for high school students, Brain Camp for Kids for middle schoolers and a teacher workshop for K-12 science teachers. These educational programs allow high school and undergraduate students to work in CBN laboratories, teachers to experience life behind-the-scenes at Zoo Atlanta, and middle school students to experience the excitement of science with fun hands-on activities.

Photo highlights on page 4

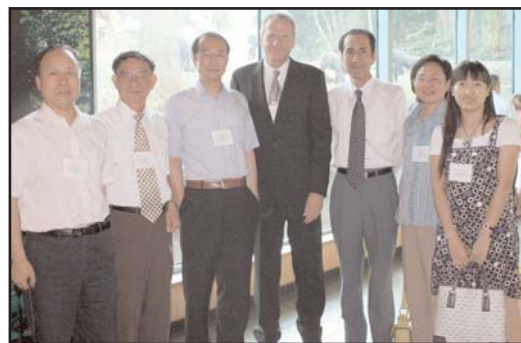
CBN's Growing National and International Reputation

The CBN was recently invited to take part in two opportunities to showcase the innovative and collaborative efforts of the Center and its researchers on both a national and international level during a meeting on Capitol Hill and via a visit to Atlanta from delegates of the Natural National Science Foundation of China.

In June, the CBN was one of only two National Science Foundation Science and Technology Centers asked to host a delegation of scientists from the Natural National Science Foundation of China. After meeting with Arden Bement, Jr., Ph.D., Director of the U.S. National Science Foundation, and Elias Zerhouni, M.D., Director of the National Institutes of Health in Washington, D.C., the group traveled to Atlanta to learn more about the CBN. We are excited about the possibility of exploring more international collaborations between the CBN and Chinese neuroscientists.

Also, in June, I was invited by the Federation of Behavioral, Psychological, and Cognitive Sciences to represent the CBN during the 13th Annual Capitol Hill Exhibition and Reception. The purpose of the event was to educate legislators about behavioral neuroscience research and its potential effects on a global and national scale. While there, I had the opportunity to speak with several members of Congress, and Congressional staff to promote behavioral neuroscience (*see story on page 1*).

I was both impressed and encouraged with the level of interest, in our Center, shown by both the Chinese delegation and Congressional members. Such recognition is crucial not only to the CBN's success, but also to securing federal dollars for national research in general. ■



A reception at Zoo Atlanta's Willie B. Conservation Center allows the delegation an opportunity to learn more about the CBN's collaborative efforts with its community partners.

Photo (from left): Chai Yucheng (NSFC), Phang C. Tai (GSU Chair Biology), Yi Pan (GSU Chair Computer Science), Elliott Albers (GSU Regents Professor of Biology and CBN Director), Chen Yiyu (President NSFC), Bai Ge (NSFC), and Liu Xiuping (NSFC).

CBN on Capitol Hill

Continued from page 1

"The Exhibition was a special opportunity to educate national leaders on the caliber of behavioral research taking place within the CBN and its implications to industry and the economy," Dr. Albers said.

"Opportunities such as the Exhibition are also a key step toward securing much needed federal research funding."

As part of the Federation's Exhibition, Dr. Albers (in partnership with Virtually Better) presented a Virtual Iraq demonstration. Virtual Iraq, the result of a collaborative effort among CBN, Georgia State University, and Emory University researchers, is a groundbreaking approach to the treatment of Post-Traumatic Stress Disorder through the use of virtual reality exposure treatments.



Congressman Brian Baird takes Virtual Iraq for a test run.

During the event, several members of Congress and key members of the National Science Foundation visited Dr. Albers' booth to experience Virtual Iraq and learn more about the CBN. Visitors included: Congressman Brian Baird, Ph.D. (D-Wa), Congressman Bobby Etheridge (D-NC), Congressman Joe Wilson (R-SC), Arden Bement, Ph.D., (Director, National

Science Foundation), Felice Levine, Ph.D. (Executive Director, American Educational Institute of Mental Health), Thomas Insel, M.D., Ph.D. (Director, National Institute of Mental Health), Gerald Sroufe, Ph.D. (Director, Government Relations, American Educational Research Association) and more.

Dr. Albers and Federation staff also

met with Capitol Hill staff from the House Science Committee, as well as Congressman David Wu, the Chairman of the House Subcommittee on Technology and Innovation.

The Coalition is an alliance of more than 115 organizations united by a concern for the future vitality of the national science, mathematics, and engineering enterprise.

The Federation is a dues-supported coalition representing the interests of scientists who conduct research in the areas of behavioral, psychological, and cognitive sciences by focusing its efforts on legislative advocacy, education, and the communication of information to scientists.

For additional information and to view a photo gallery, log on to: http://www.thefederationonline.org/event/s/Other/2007_CNSF.php ■

Photos and text courtesy of the Federation of Behavioral, Psychological, and Cognitive Sciences.

Mother Mice More Attuned to Pups

Continued from page 1

emitted by mouse pups communicate distress and elicit a search and retrieval response from mothers.

“Our current work demonstrates that the neural code for communication sounds in adult mammals can change, either because of experience or because of hormonal mechanisms, as the significance of the signal is acquired. This means that the brain can improve information processing for specific communicative functions,” says Liu.

Liu began the work as a post-doctoral fellow in the lab of senior author Christoph Schreiner, Ph.D., M.D., professor and vice chair of otolaryngology, head and neck surgery and a member of the W.M. Keck Foundation Center for Integrative Neuroscience at the University of California, San Francisco.

In the study, the researchers determined that the neurons in the mothers’ auditory cortex, an area of the brain that processes sounds, showed larger and earlier electrical spiking, or signal-

ing, than in virgin mice, says Dr. Schreiner.

This shows, says Dr. Liu, that “the timing plays an important role in the neural code of sounds. The idea that spike timing is important in brain processes has been around for a long time, but we’re looking at it specifically in the context of natural communication. And we found that the big difference in encoding is the behavioral relevance of these sounds.”

Although the pups’ vocalizations vary quite a bit, Dr. Liu says the mothers can still detect the calls, understand them, and take action.

“What is really intriguing is that behavioral studies have shown that, if you look at vocalizations made by male adult mice, they also make very high-frequency vocalizations as do pups, but the mothers don’t react to them as they do to the pup calls,” says Dr. Liu.

More research is needed to determine whether mothers recognize pup sounds immediately after they become

pregnant, meaning a hormonal switch has been thrown, or after they give birth, says Dr. Schreiner.

Dr. Schreiner likens the improved ability of mother mice to distinguish sounds to what adult humans experience when initially learning a foreign language.

“We go to a foreign country, hear what people are saying, but we can’t make subtle discriminations of syllables in order to establish the border between words. With time and experience the brain is adjusting to this, our neurons becoming more discriminative, and we can distinguish words in what initially just appeared to us as an unbroken stream of sound.”

According to the authors, this study helps demonstrate how important sounds are encoded in the normal brain, and also has implications for developing therapeutic strategies in children and adults who suffer from speech-perception deficits. ■

Story Courtesy: Robin Tricoles, Emory University

CBN Hosts Undergraduate Research Colloquium at Zoo Atlanta



Above: Students discuss one of 25 posters presented during the CBN’s Annual Research Colloquium at Zoo Atlanta in April.



Left: Colloquium Organizer Erin Keene-Rhinehart, introduces special guest speaker, Dr. Duane Jackson, a CBN Undergraduate Education Committee Chair and faculty member in the Department of Psychology at Morehouse College.

More than 75 students, faculty and post-docs, representing all CBN partner institutions, recently attended the CBN’s Annual Research Colloquium on April 25, 2007 in the Education and Conservation Center at Zoo Atlanta.

“Events such as the colloquium help to provide a sense of community for undergraduates already involved in the CBN and lets other undergraduates know about the resources that are available through potential interactions with the Center,” said Erin Keene-Rhinehart, colloquium organizer.

The CBN Undergraduate Fellowship (CBNuf) Program provided six undergraduate students from the AUC with a first-class year-long research experience in a variety of subfields within behavioral neuroscience. The experience included effective mentoring relationships with CBN faculty members, graduate students, and post-doctoral fellows; stimulating in-class instruction to develop and enhance knowledge of neuroscience, communication, research and quantitative skills; innovative workshops to promote the necessary “survival skills” for success in graduate studies, as well as careers in science-related disciplines.



Left: Zoo curators take workshop participants on mini-tours of the grounds to learn lots of interesting facts about the animals.

Below: The Build-A-Brain activity is just one of many new lessons teachers learn during the week-long workshop.



Above: CBN Lending Library brain models used during the workshop are available year-round for teachers to check-out and use in their home classrooms.

Left: Behind-the-scenes tours give teachers the opportunity to work one-on-one with Zoo Atlanta's animals and curators.



For more information and additional photos log on to: <http://www.cbn-atl.org/education/animalbehavior.shtml>

Teacher Workshop

Behavioral Research Advancements in Neuroscience

70%

Percentage of 2007 fellows who said they were more likely to pursue an advanced science degree because of their participation in BRAIN.



2007 BRAIN Participants



Poster sessions at Emory University gives BRAIN fellows the opportunity to share their laboratory research discoveries with fellow students and faculty members.



Making new friends is one important aspect of the BRAIN Program. During the summer, students from across the country come together as strangers, but leave as friends and possibly future research collaborators.



For more information and additional photos log on to: <http://www.cbn-atl.org/education/brain.shtml>



Spending the summer in research laboratories allows ION students to learn about neuroscience through hands-on research and activities directed by faculty members, post-doctoral researchers, undergraduate, and graduate students from CBN member institutions.



2007 ION Participants

For more information and additional photos log on to: <http://www.cbn-atl.org/education/ion.shtml>



Institute On Neuroscience Brain Camp for Kids

For more information and additional photos log on to: <http://www.cbn-atl.org/education/braincamps.shtml>



Students enjoy teaching parents all the cool things they learned during a week at Brain Camp, including sensory recognition from taste tests.

Above left: Students enjoy using a variety of colorful beads to build “beady” neurons such as the one pictured above.



Sheeps brain dissection teaches students to identify different sections of the brains.



Parents enjoy participating in the Brain Camp Open House.

Right: Trying to shoot hoops while wearing the “Drunk” goggles helps students to understand the dangerous effects alcohol abuse can have on the brain.



Everything!
Student's response when asked what they liked most about Brain Camp for Kids.

- Anderson, P.**, Zimand, E., Schmertz, S. K., & Ferrer, M. Usability and utility of a computerized cognitive behavioral self-help program for public speaking anxiety. *Cognitive and Behavioral Practice* 14:198-207, 2007.
- Been, L.**, and **Petrulis, A.** The neurobiology of sexual solicitation: Vaginal marking in female Syrian hamsters (*Mesocricetus auratus*). In: J. Hurst, R.J. Beynon, S.C. Roberts & T. Wyatt (Eds.), *Chemical Signals in Vertebrates*, Vol. 11. In press.
- Beran, M. J., **Washburn, D. A.**, & Rumbaugh, D. M. A Stroop-like effect in color-naming of color-word lexigrams by a chimpanzee (*Pan troglodytes*). *Journal of General Psychology* 134:217-228, 2007.
- Calin-Jageman, R.J., C. Yie, Y. Pan, A. Vandenberg and **P.S. Katz.** NEURONgrid: A toolkit for generating parameter-space maps using NEURON in the grid environment. In: *LNCS Lecture Notes in Bioinformatics*, Vol. 4463. I. Mandoiu and A. Zelikovsky (Eds.), pp. 182-191, 2007.
- Chu, J.**, and **Wilczynski, W.** Apomorphine effects on frog locomotor behavior. *Physiol. Behav.* 91:71-76, 2007.
- Cooper, M.A., **Huhman, K.L.** Corticotropin-releasing factor receptors in the dorsal raphe nucleus modulate social behavior in Syrian hamsters. *Psychopharmacology*. In press.
- Davis M, Myers KM.** Emotional learning: Pharmacology of fear extinction. In L. Squire et al. (Eds.), *The New Encyclopedia of Neuroscience*. In press.
- Derby, C.D.** Why have neurogenesis in adult olfactory systems? *Chemical Senses* 32:361-363, 2007.
- Derby, C.D.**, C.E. Kicklighter, P.M. Johnson and X. Zhang. Chemical composition of inks of diverse marine molluscs suggests convergent chemical defenses. *J. Chem Ecol.* 33:1105-1113, 2007.
- Duncan, KA** and **LL Carruth.** Sexually Dimorphic Expression of L7/SPA, an estrogen receptor coactivator, in the developing zebra finch brain. *Devel. Neurobiol.* In press.
- Edwards, D. A.**, Weiss, A. Intercollegiate softball: Saliva cortisol and testosterone are elevated during competition and testosterone is related to status and social connectedness to teammates. *Physiol Behav.* 87: 135-143, 2006.
- Eidsen, L., **Maras, P.**, Epperson, E., and **Petrulis, A.** Female hamster preference for odors is not regulated by gonadal hormones. *Physiol. Behav.* 91:134-141, 2007.
- Fang, H.; Kaur, G.; **Wang, B.** "Functional Group Approaches to Prodrugs: Functional Groups in Peptides," In: *Prodrugs: Challenges and Rewards*, Editors: V.J. Stella, R.T. Borchardt, M.J. Hageman, R. Oliyai, and J. Tilley, Vol 4 in "Biotechnology: Pharmaceutical Aspects," Series Editors: R. T. Borchardt and C. R. Middaugh AAPS Press. In press.
- Farrell, W.J., and **W. Wilczynski.** Aggressive experience alters place preference in green anole lizards (*Anolis carolinensis*). *Animal Behavior* 71:1155-1164, 2006.
- Flemming, T. M., Beran, M. J., & **Washburn, D. A.** Disconnect in concept learning by rhesus monkeys: Judgment of relations and relations-between-relations. *Journal of Experimental Psychology: Animal Behavior Processes* 33:55-63, 2007.
- Frantz, K.J.**, O'Dell, L.E., and Parsons, L.H. Behavioral and neurochemical responses to cocaine in periadolescent and adult rats. *Neuropsychopharmacology* 21:1-12, 2006.
- Haak LL, **Albers HE**, Mintz EM. Modulation of photic response by the metabotropic glutamate receptor agonist t-ACPD. *Brain Research Bulletin* 71(1-3): 97-100, 2006.
- Hammock EAD, and **LJ Young.** Neurochemistry, neuroendocrinology and molecular neurobiology of affiliative behaviors, in Behavioral Neurochemistry, Neuroendocrinology and Molecular Neurobiology (Jeffrey D. Blaustein, Volume Editor); *Handbook of Neurochemistry and Molecular Biology* (Abel Lajtha, Senior Editor). In press.
- Harris, E. H., Beran, M. J., & **Washburn, D. A.** Ordinal list integration for symbolic, arbitrary, and analog stimuli by rhesus macaques (*Macaca mulatta*). *Journal of General Psychology* 134:183-197, 2007.
- Harris, E. H., **Washburn, D. A.**, Beran, M. J., & Sevcik, R. A. Rhesus monkeys (*Macaca mulatta*) select Arabic numerals or visible quantities corresponding to a number of sequentially completed maze trials. *Learning and Motivation*. In press.
- Huddleston, G. G., **Song, C. K.**, Paisley, J. C, **Bartness, T. J.** and **Clancy, A. N.** Neuronal colocalization of gonadal steroid hormone receptors and pseudorabies virus following injection of the rat prostate gland. *American Journal of Physiology*. In press.
- Jazbec, S., Hardin, M.G., Schroth, E., **McClure, E.B.**, Pine, D.S., Ernst, M. Age-related influence of contingencies on a saccade task. *Experimental Brain Research* 174:754-762, 2006.
- Jin, B. Zhang, Y.; **Wang, B.** "Granular Kernel Trees with Parallel Genetic Algorithms for Drug Activity Comparisons" *Int. J. Data Mining Bioinform.* In press.
- Kaur, G.; Fang, H.; Gao, X.; Li, H.; **Wang, B.** "Diboronic Glucose Sensors" *Tetrahedron* 62:2583-2589, 2006.
- Kaur, G.; Lin, N.; Fang, H.; **Wang, B.** "Boronic Acid-based Glucose Sensors" in *Topics in Fluorescence Spectroscopy*, vol. 11, "Glucose Sensing," Geddes, C.D. and Lakowicz, J.R., Editors, Springer Press, pp. 377-397, 2006.
- Kleinman, J.M., Ventola, P.E., Pandey, J., Verbalis, A.D., Barton, M., Hodgson, S., Green, J., Dumont-Mathieu, T., **Robins, D.L.**, & Fein, D. Diagnostic stability in very young children with autism. *J. Autism and Devel. Disorders.* In press.
- Krebs-Kraft, D. L., **Frantz, K. J.**, & **Parent, M. B.** In vivo microdialysis: A method for sampling extracellular fluid in discrete brain regions. In: Lajtha, A. (Ed.), *Handbook of Neurochemistry and Molecular Neurobiology*, Baker, G., Dunn, S., Holt, A. (Eds.), *Practical Neurochemistry (Methods)* Vol. 18. Plenum Publishing Corporation, NY, pp. 221-256, 2007.
- Li, M.; **Wang, B.** "Computational Studies of H5N1 Hemagglutinin Binding with SA-2, 3-Gal and SA-2, 6-Gal" *Biochem. Biophys. Res. Commun.* 347:662-668, 2006.
- Lin, N.; Yan, J.; Huang, Z.; Altier, C.; Yan, J. Carrasco, N.; Suyemoto, M.; Johnson, L.; Fang, H.; Wang, Q.; Wang, S.; **Wang, B.** "Design and synthesis of boronic acid-modified thymidine triphosphate for incorporation into DNA" *Nucl. Acid Res.* 35:1222-1229, 2007.

Loyd, D.R., Morgan, M.M., and **Murphy, A.Z.** Morphine preferentially activates the periaqueductal gray-rostral ventromedial medullary pathway in the male rat. *Neuroscience*. In press.

Maniccia, Anna Wilkins, Wei Yang, Shunyi Li, Julian A. Johnson and **Jenny J. Yang**. Using Protein Design to Dissect the Effect of Charge Residues on Metal Binding and Protein Stability. *Biochemistry* 45(18):5848-56, 2006.

Nemeroff, C.B., **Mayberg, H.S.**, Krahl, S.E., McNamara, J., Frazer, A., Henry, T.R., George, M.S., Charney, D.S., Brannan, S.K. VNS therapy in treatment-resistant depression: Clinical evidence and putative neurobiological mechanisms. *Neuropsychopharm.* 31(7): 1345-1355, 2006.

Novak CM, Ehlen, JC, **Albers, HE**. Photic and nonphotic inputs to the diurnal circadian clock. *Biological Rhythms Research*. In Press.

Pallas, S.L., P. Wenner, C. Gonzalez-Islas, M. Fagiolioli, K. Razak, G. Kim, D. Sanes and B. Roerig. Developmental plasticity of inhibitory circuitry. *J. Neuroscience* 26(41):10358-10361, 2006.

Price, M. & **Anderson, P.** The role of presence in virtual reality exposure therapy. *Journal of Anxiety Disorders* 21:742-751, 2007.

Razak, K.A., **S.L. Pallas**. Plasticity of surround inhibition contributes to maintenance of velocity tuning following chronic NMDA receptor blockade in the superior colliculus. *J. Neuroscience*. In press.

Rodgers ER, Earley RL, & **Grober MS**. Social status determines sexual phenotype in the bi-directional sex changing Bluebanded goby (*Lythrypnus dalli*). *Journal of Fish Biology* 1660-1668, 2007.

Ross, Heather E, and **Larry J Young**. Genetic regulation of complex social behavior in a monogamous rodent. In *Beyond Nature & Nurture in Psychiatry: Genes, Environment and Their Interplay*, pp.57-65, 2006.

Spetch, M.L., and **Parent, M.B.** Age and sex differences in children's spatial search strategies. *Psychonomic Bulletin and Review* 13(5):807-812, 2006.

Sutera, S., Pandey, J., Esser, E.L., Rosenthal, M.A., Wilson, L.B., Barton, M., Green, J., Hodgson, S., **Robins, D.L.**, Dumont-Mathieu, T., and Fein, D. Predictors of optimal outcome in toddlers

diagnosed with autism spectrum disorder. *J. Autism and Devel. Disorders* 38(1):98-107, 2007.

Tian, H., Sunderraman, R., Calin-Jageman, R., Yang, H., Zhu, Y., and **P.S. Katz**. NeuroQL: A domainspecific query language for neuroscience data. *Current Trends in Database Technology - EDBT*, Series: Lecture Notes in Computer Science 4254:613-634, 2006.

Wang, J.; Jin, S.; Akay, S.; **Wang, B.** Design and synthesis of a long-wavelength fluorescent boronic acid reporter compound. *Eur. J. Org. Chem.* 2091-2099, 2007.

Wiggins, L.D., Bakeman, R., Adamson, L.B., and **Robins, D.L.** The utility of the social communication questionnaire in screening for autism in children referred for early intervention. *Focus on Autism and Devel. Disorders* 22(1):33-38, 2007.

Zhang, Y.; Ballard, C.E.; Zheng, S.; Gao, X.; Ko, K.C.; Yang, H.; Brandt, G.; Lou, X.; Tai, P.C.; Lu, C-D.; **Wang, B.** "Design, synthesis and evaluation of efflux substrate-metal chelator conjugates as potential antimicrobial agents" *Bioorg. Med. Chem. Lett.* 17:707-711, 2007.

Zhang, Y.; Li, M.; Chandrasekaran, S.; Gao, X.; Fang, X. Lee, H-W.; Hardcastle, K.; Yang, J.; **Wang, B.** "A unique quino-lineboronic acid-based supramolecular structure that relies on double intermolecular B-N bonds for self-assembly in solid state and in solution" *Tetrahedron* 63:3287-3292, 2007.

Zheng, S.; Lin, N.; Reid, S. **Wang, B.** "Effect of extended conjugation with a phenylethynyl group on the fluorescent properties of water-soluble arylboronic acids" *Tetrahedron* 63:5427-5436, 2007.

Zheng, S.; Reid, S.; Lin, N.; **Wang, B.** Microwave-assisted Synthesis of Ethynylarylboronates for the Construction of Boronic acid-based Fluorescent Sensors for Carbohydrates. *Tetrahedron Lett.* 47:2331-2335, 2006.

Zheng, S.; **Wang, B.** "Iodomethyl Methyl Ether 13057-19-7" *Encycl. Reagen. Org. Syn.* In press.

CBN Leaders Named to Local Committees

CBN Director **Elliott Albers**, Ph.D., was recently named to the Georgia Bio Board of Directors. Georgia Bio represents more than 290 companies, universities, research institutes, government groups and other business organizations, and has implemented many new programs, and activities to serve the interests of members. Primary among these activities is advocacy at the State Capitol and Governor's office.

Dr. Albers and CBN Co-Director for Knowledge Transfer **Stuart Zola**, Ph.D., of Emory University, were named to Zoo Atlanta's Science and Technology Committee.

New Venture Grants

Neural substrates of cross-model integration of socio-emotional cues: a PET imaging study in nonhuman primates

This project will combine eye-tracking and PET imaging techniques with a preferential looking task to investigate in rhesus macaques the neural network mediating cross-modal integration of socially salient cues, a cognitive process critical in self-regulation of social behavior.

Molecular Mechanisms for Status Memory

This project will test the role of BDNF and its receptor tyrosine kinase receptor B (TrkB) in the memory of social status in *Anolis carolinensis* (green anole lizards) and expand techniques used in mammalian molecular biology to comparative systems.

Development of a Method for Selectively Lesioning Discrete Nuclei Within the Central Nucleus of the Amygdala

This project will develop procedures that can be used to selectively lesion the medial, but not lateral nucleus of the amygdala, and vice versa. Furthermore, the project will use these procedures to test the hypothesis that phasic fear responses are mediated by the CeAM and sustained fear responses involve the CeAL.

Impact of Early Adversity on the CNS Oxytocin System: Relevance for Psychopathology

This project will (a) validate intranasal oxytocin challenge as a method to access the human brain and (b) develop functional neuroimaging paradigms aimed at social cognition that uncover deficits after early adversity.

The Role of Genetic Sex and Prolactin in Organizing Sleep Responses to Stress

Using a unique and powerful mouse model in which the hormonal and genetic profiles are discordant, this project will examine the genetic influence that PRL plays in influencing sleep and its effects on acute stress on the sleep-wake cycle.

CBN Website Contains a Wealth of Resources

If you haven't already done so, now is the time to make the Center for Behavioral Neuroscience your homepage so that a wealth of resources are always at your fingertips.

The CBN Website contains something for everyone, whether you are a school teacher, K-12 student, college student, faculty member looking for specific research opportunities or programs, or just someone wanting to learn more about the Center, the information is just a click away. A few resources include the:



BULLETIN BOARD - Here, you'll find information regarding faculty, postdoctoral, and laboratory technician positions available at CBN's partner institutions. Browse the page for job openings, or to find out how to submit a resume and cover letter.

PHOTO GALLERIES - View and download photos from all the CBN's educational and community activities.

EDUCATION PROGRAM LISTINGS - The education section of the website contains information for all interested in participating in CBN programs from K-12 students and teachers, undergraduate and postdoctoral students, to members of the community, there is a program for everyone.

CALENDAR - It is easy to keep up with all the Center's upcoming events. By clicking on "Upcoming Events" on the homepage, visitors can browse monthly calendars for educational programs, symposia, and more.

UPCOMING EVENTS

CBN GRADUATE STUDENT RETREAT

Date:
September 21-23

Location:
**Horn's Creek NOC Resort
Ocoee, TN**

More Information:
<http://www.cbn-atl.org/education/graduateretreat.shtml>

CBN FALL SYMPOSIUM

Date and Time:
**Saturday, Nov. 17
8:30 a.m. - 3:45 p.m.**

Title:
"Genes and Behavior"

Location:
**White Hall 208
Emory University**

Web address:
<http://www.cbn-atl.org/research/fallsymposium.shtml>

Fall Fernbank Lecture and Film Screening to Focus on Schizophrenia

The Reality of Schizophrenia

Lecture and film screening of *A Beautiful Mind*

Elaine Walker, Ph.D., an Emory University Professor of Psychology and Neuroscience, and a leading researcher funded by the National Institutes of Mental Health to study mental illness, will use the award-winning movie *A Beautiful Mind* to illustrate what neuroscience has learned about this often misunderstood mental illness. The 2001 film, directed by Ron Howard, was adapted from Sylvia Nasar's 1998 biography of a genius mathematician, John Forbes Nash, Jr. (portrayed by Russell Crowe) who at the brink of international acclaim, found himself on a painful and harrowing journey of self-discovery once he was diagnosed with schizophrenia. He would eventually triumph over the illness and go on to receive the Nobel Prize.

Tuesday, October 9, 2007

6:45 p.m. - 10 p.m.

Fernbank Museum of Natural History

Admission is FREE, but seating is limited and advanced reservations are required.

To reserve, call 404.929.6400

