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Men and Women View Sexual Photos Differently

CBN researcher, Kim Wallen and former CBN graduate student, Heather Rupp, recently completed a study analyzing the viewing patterns of men and women looking at sexual photographs, and the results were not what one typically might expect.

Surprisingly, they found men more likely than women to look at a woman's face before other parts of the body, and women focused longer on photographs of men performing sexual acts with women than did the males. These types of results could begin to help researchers to understand human sexual desires.

The finding, reported in *Hormones and Behavior*, confirmed the hypothesis of a previous study (Stephen Hamann and Kim Wallen, et al., 2004) that reported men and women showed different patterns of brain activity when viewing sexual stimuli. The present study examined sex differences in attention by employing eye-tracking technology that pinpoints individual attention to different elements of each picture such as the face or body parts.

"Men looked at the female face much more than women, and both looked at the genitals comparably," said lead author Heather Rupp, Ph.D., a fellow at The Kinsey Institute for Research in Sex, Gender and Reproduction at Indiana University, who conducted the study in partnership with Kim Wallen, Ph.D., a Dobbs Professor of Psychology and Behavioral Neuroendocrinology at Emory

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Synapse Winter/Spring 2007
Vol. 8, No. 1

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Editor: Martha Barker

Synapse

WINTER/SPRING 2007

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

Orangutan Learning Tree Opens at Zoo Atlanta

On April 12, 2007, in front of a line of news cameras and a crowd of curious visitors, Zoo Atlanta officially opened the much anticipated Orangutan Learning Tree made possible with funding from a Center for Behavioral Neuroscience venture grant, the IBM Corporation, and an anonymous donor. Already, news media from around the world, including the BBC and Good Morning America, have contacted the zoo to learn more about this exciting partnership endeavor.

Dr. Tara Stoinski, a CBN faculty member and scientist for Zoo Atlanta and the Dian Fossey Gorilla Fund, plans to use the tree to learn more about the orangutan's cognitive processes.

"Today there are only 37,000 orangutans in the wild, and understanding their cognitive processes will help us to understand what they need

to survive in the wild," Stoinski said.

The Orangutan Learning Tree houses a large touch-screen computer built to be flush with the tree's outer surface. The orangutans, which have already been trained to use the computers for cognitive tasks behind the



Photo courtesy Zoo Atlanta

Madu, a Sumatran orangutan at Zoo Atlanta, plays with the Orangutan Learning Tree's touch screen monitor.

scenes, will now be able to perform cognitive tasks on the computer screen out in the open where visitors to the zoo can watch, said Kelly Powell, CBN Associate Director.

During regular hours, the zoo will

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Neuroscience Expo "Wows" Zoo Atlanta Visitors



Touch-A-Brain, a crowd favorite, provides Brains Rule! Neuroscience Exposition visitors the opportunity to touch a real human brain while learning about the importance of the brain.

Wow! A real human brain! Let's go see it now," one kid exclaimed as his family entered Zoo Atlanta's main gates Saturday, April 14, and discovered the Brains Rule! Neuroscience Exposition had taken over.

The Expo, sponsored by the Center for Behavioral Neuroscience and the Dana Alliance for Brain Initiatives, attracted more than 3,000 visitors to Zoo Atlanta on April 13-14, making it the largest public education event of its

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Membership Participation and Community Partners

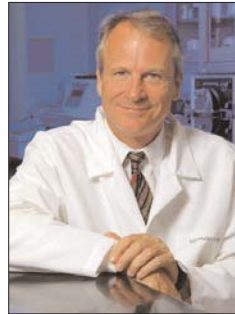
Vital to CBN Success

It is satisfying to see that our many education and research efforts are having impact here in Georgia and around the world. In the first four months of 2007, Governor Sonny Perdue proclaimed March "Brain Awareness Month" in Georgia, due in part to the outstanding efforts of the Atlanta Chapter for SFN in partnership with the CBN, who has sent more than 100 scientists to visit over 5,000 K-12 students in the Atlanta area; news of the CBN's partnership with Zoo Atlanta on a new orangutan cognitive research effort has been picked up by media sources around the world; and thousands turned out to learn more about the brain during our annual Brains Rule! Neuroscience Exposition at Zoo Atlanta.

At a time when U.S. competitiveness in science is eroding, it is promising to see such national, state, and local interest in our programs and efforts to raise neuroscience awareness. And, the best part is -- there is much more to come.

This summer will be packed with education programs including BRAIN for undergraduates, ION for high school students, Brain Camp for middle schoolers and Teachers Workshops for K-12 science teachers. In the fall, we will begin an exciting new endeavor with the Georgia Biomedical Partnership as we introduce a new undergraduate course -- Current Trends in the Biomedical Industry. This class, taught by biomedical industry executives, aims at introducing more science and business students to the growing life science industry in Georgia.

We know that the success of our educational programs would not be possible without the participation of you, our members, and the help of our community partners. On behalf of the Center, I would like to salute you all on your continued support of and participation in all our educational programs. ■

Albers

Be on the lookout for...



PAGE ANDERSON, PhD, Assistant Professor in the Department of Psychology at Georgia State University, conducts treatment outcome

research for anxiety disorders, with a particular interest in the use of virtual reality and other technology to better understand anxiety and better disseminate evidence-based treatments. Her program of research has been funded by NIMH since 1999.



CHRISTINE HEIM, PhD, Assistant Professor in the Department of Psychiatry and Behavioral Sciences at Emory University School of Medicine,

studies the neurobiology of early-life stress, depression and anxiety, as well as stress-related functional somatic disorders, such as chronic fatigue syndrome.



SUBHABRATA SANYAL, PhD, an Assistant Professor of Neurobiology in the Department of Cell Biology at Emory University, uses

Drosophila as a model system to investigate intra-cellular signaling networks that operate in neurons during development and long-term plasticity. Of particular interest is the study of signaling cross-talk and transcription factor activity and the identification and functional validation of target genes. The overall aim is to ascertain how these genes regulate nervous system development and contribute to learning and memory in intact organisms.

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CBN Congratulates Brain Bee Champ

Zane Blanton, a senior at Parkview High School in Gwinnett County, bested more than 37 of his peers on Feb. 3, 2007 to claim the 2007 Georgia Regional Brain Bee Competition, which took place at the Fernbank Museum of Natural History.

This year's judges included: Rayna Bauzo, CBN Graduate Scholar at Emory University; and Stephanie Gutzler and Kelli Duncan, both CBN Graduate Scholars at Georgia State University. ■



Congratulations to our winners! From left: Eric Oh of Chamblee High School, third place; Gowthami Tamilselvan of Chamblee High School, second place; and Zane Blanton of Parkview High School, first place.

Orangutans

Continued from page 1

feature live demonstrations of the orangutans using the touch-screen to complete various cognitive tasks including facial matching-to-sample. The orangutans are rewarded with food for successful completion of each trial. Some of the computer tasks were developed by CBN Graduate Scholar, Ben Basile, of Dr. Robert Hampton's lab (Yerkes National Primate Research Center, Emory University) who is already collaborating with Dr. Stoinski using the new Orangutan Learning Tree. Zoo visitors will be able to witness the orangutans performance on each task on a screen near the front of the habitat.

"Zoo visitors will also be able to compare their own cognitive abilities with the orangutans by completing the same cognitive tasks on another computer touch-screen station located in the observation area beside the orangutan exhibit." Dr. Powell said. This station will also provide visitors basic information about each of the orangutans in the zoo's collection, as well as information about the challenges this species face in the wild. ■

Chronic Jet-Lag Conditions Hastened Death in Aged Mice

In a report released in the Nov. 7, 2006 issue of the journal of *Current Biology*, CBN faculty member Alec Davidson, Ph.D., of Morehouse School of Medicine and his research partner Gene Block, Ph.D., of the University of Virginia, found that aged mice undergoing weekly light-cycle shifts, similar to those that humans experience with jet-lag or rotating shift work, experienced significantly higher death rates than did aged mice kept on a normal daylight schedule over the same eight-week period.

The findings provide new insight into how the disruption of circadian rhythms can impact well-being and physiology, and how those impacts might change with age.

In the study, researchers examined the mortality link by looking at how young mice and aged mice fared when subjected to two different types of light-cycle shifts. In one regimen, mice experienced a six-hour forward shift once a week, while in the other, mice experienced a six-hour backward shift. A "control" group of young and aged mice did not experience any schedule shifts.

The researchers found that the young mice generally survived well under the various conditions. In contrast, the light-cycle shifts had a marked effect on the survivorship of the aged mice. While 83% of aged mice survived under the normal schedule, 68% survived under the backward-shift regimen and 47% survived under the forward-shift regimen.

Notably, the researchers found that chronic stress—as measured by daily corticosterone levels—did not increase in the aged mice experiencing the light-cycle shifts. The underlying cause of the increased mortality is not yet clear, but could involve sleep deprivation or immune-system disruption. ■

Source: University of Virginia



Top: Matthew Laughlin of Buford, Ga., uses the visitor's kiosk to create his own orangutan art as his father, Michael looks on. **Above Bottom:** Visitors outside the orangutan exhibit watch a real-time monitor to see exactly what works of art the orangutans are creating.

Sex Differences Study

Continued from page 1

University and the Yerkes National Primate Research Center.

"The eye-tracking data suggested what women paid most attention to was dependent upon their hormonal state. Women using hormonal contraceptives looked more at the genitals, while women who were not using hormonal contraceptives paid more attention to contextual elements of the photographs," Rupp said.

Although it is commonly assumed males have more interest in visual sexual stimuli, researchers are working to figure out what characteristics are important to men and women in their evaluations of sexual stimuli.

The answer may lie within a small section of the brain called the amygdala, which is important in the processing of emotional information. In Dr. Hamann and Wallen's previous fMRI study, men showed more activation in the amygdala in response to sexual vs. neutral stimuli than did women. From the fMRI study alone, the cause of the increased activity was unclear, but Rupp and Wallen's study suggests the possibility that higher amygdala activation in men may be related to their increased attention to faces in sexual photographs. ■

Brains Rule! Neuroscience Exposition

Continued from page 1

kind in the country.

CBN Educator and Expo Director, Kyle Frantz, Ph.D., said both days of the event were busy and fulfilling for all involved.

On Friday, April 13, seventh-grade students from Renfroe Middle School, a Decatur City School, visited the Expo. Students learned about the brain and behavior through interactive booths on a range of topics from brain anatomy to learning and memory.

"Friday's event was our biggest-ever reverse science fair day of the Expo. The volunteer corps presented 12 different mini-lessons to more than 150 students and observations suggested that these seventh graders were the most attentive, engaged and interactive yet," Frantz said.

This year's public event on Saturday included 35 different education stations and entertaining jugglers who wandered throughout the zoo amazing visitors with their talents. Of the stations, 19 were new, including the Panda Cognition station based on authentic research conducted at Zoo Atlanta. The station's visitors used the same manipulandum as the pandas to respond to cognitive challenges in spatial memory tasks.

"Many people were attracted to the Panda Veranda by the new panda cub, and hundreds of children tested their own spatial cognition just like the pandas do in on-going zoo research," Frantz said.

Another popular booth was the new "Wired to Win" station based on an IMAX film now showing at the Fernbank Museum of Natural History in Atlanta. The film explores the role of the brain and nervous system in maintaining motivation, managing fear, inhibiting pain, and processing sensory stimuli during the Tour de France bicycle race. The station simulated a bike race, won by answering brain structure and function questions.

The Fernbank Museum donated 50 tickets for the IMAX film to the Expo prize wheel.

More than 335 visitors completed "sticker cards" after engaging in at least eight stations and earned an opportunity to spin the prize wheel.

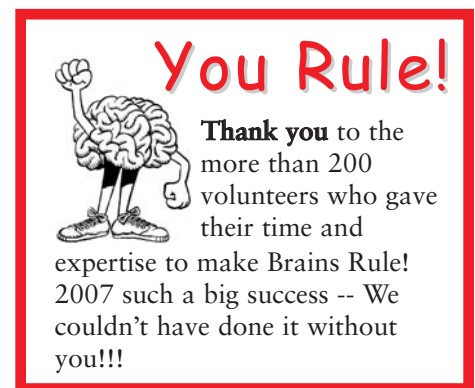
"One parent, at the prize wheel, was surprised (and excited) when her 10-year-old son filled out his Prize Questions Survey and stated his new career goal – to become a neuroscientist," Frantz said. "We hope he sticks with the CBN over the coming years

for our middle school Brain Camps, high school Institute On Neuroscience program, and then our undergraduate, graduate, and postdoctoral training opportunities."

Frantz credited this year's success to the 200 volunteers who gave their time and expertise.

"This year's Expo also benefited from the Georgia State University internship course in which 40 high school, undergraduate, and graduate students took the entire semester to learn about science education, Zoo Atlanta, and neuroscience, in preparation for the Expo," Frantz said.

For more information on the Center's education programs visit the CBN website at: <http://www.cbn-atl.org/education/index.shtml>. ■



Governor Proclaims March "Brain Awareness Month" in Georgia



Governor Sonny Perdue signs a proclamation officially declaring March "Brain Awareness Month" in Georgia. From left: Kerry Ressler and Rebecca Rosen of Emory University, CBN Director Elliott Albers of Georgia State University, Governor Perdue, and Kyle Frantz, Ann Murphy, Laura Carruth and Michael Black of Georgia State University. Not pictured: Kim Maguschak. Photo courtesy of Governor Sonny Perdue's Office.

Each year during Brain Awareness Month (March), the Atlanta Chapter of the Society for Neuroscience and the Center for Behavioral Neuroscience team with area scientists to visit local classrooms and share the importance of the brain with students and teachers.

On March 7, 2007, they received applause for their efforts when Governor Sonny Perdue made history as he proclaimed March "Brain Awareness Month" in Georgia, making it the first state to officially dedicate a month to brain awareness.

CBN members and BAM coordinators Kim Maguschak of Emory

University and Michael Black of Georgia State University, worked tirelessly to send volunteers to more than 140 classrooms in the Atlanta metro area to introduce neuroscience to more than 5,000 students.

"We want to thank all of our volunteers that made this year's visits such a success. We received the largest number of unsolicited positive feedback from teachers and continued our multi-year increase in the number of schools and students that we visited," Black said.

The 2007 BAM classroom visit program was so successful that volunteers have visits scheduled well into May. ■

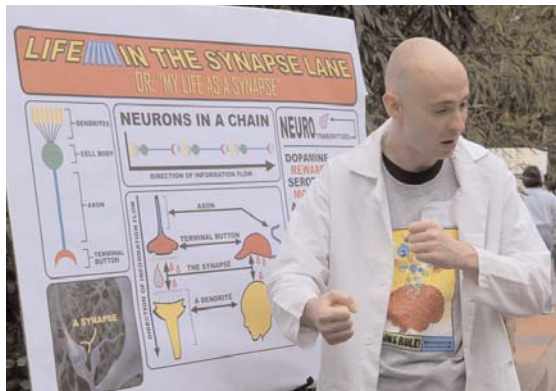
Brains Rule! Neuroscience Expo 2007 Highlights



Touch-A-Brain. One of the most popular areas of the Expo, this station allows visitors an opportunity to see and touch a real human brain while learning how the human brain compares to those of alligators, fish, sharks, and more.



The prize wheel is a popular spot at the EXPO, where brain and behavior prizes are awarded.



More than 200 volunteers work to make the Expo a successful event by giving their time and expertise in neuroscience and sharing the excitement of science with the public.



Brain Art is another popular area where kids can color and wear a brain hat they create. *Photo: Rob Poh*



Where else can a child become a doctor for a day? At the "Be an MD" station, children enjoyed dressing up as doctors as they learned to read real MRIs. *Photo: Rob Poh*



Balance is the name of the game at this station where visitors learn the importance of balance in their everyday lives. *Photo: Rob Poh*



The Expo gives families visiting the zoo an opportunity to learn about the brain together.



Special goggles help children to understand how alcohol affects the senses at the "Drinking Under the Influence" station.

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Be sure to check out the CBN Bulletin Board online at:

http://www.cbn-atl.org/research/bulletin_board.shtml

Here, you'll find information regarding faculty, postdoctoral and laboratory technician positions available at CBN's partner institutions. Also, post your resume or CV if you are seeking research employment.

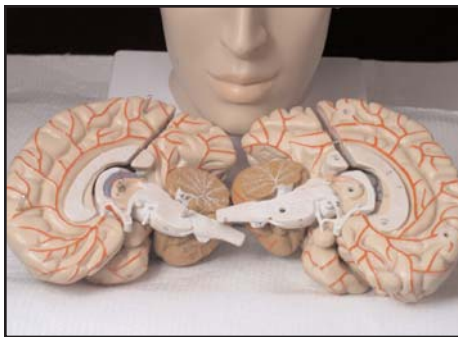
CBN Lending Library Now Online

The CBN has amassed a collection of resources available for use in K-12, undergraduate and graduate classrooms, as well as for special events, lectures or workshops. Educators can 'check out' any of these materials as one would check out any library book.

In an effort to make items within the CBN's popular Lending Library easier to view and check-out, the Center recently cataloged more than 40 items within the library and placed them on the CBN website. To view the Lending Library collection, log on to:

<http://www.cbn-atl.org/education/library.shtml>

All Lending Library requests must be made two weeks in advance and must be picked-up and dropped-off at Georgia State University. For more information about the Library and terms of use, contact Martha Barker at mbarker@gsu.edu.



The Human Brain with Arteries is one of more than 40 items available to area educators through the CBN's Lending Library.

A Portrait of Alzheimer's at the Fernbank Museum

On April 3, the CBN sponsored a screening of the movie, "Iris," at the Fernbank Museum of Natural History. The screening was followed by a brief lecture from Dr. Allen Levey, Ph.D., Director of Emory University's Neurodegenerative Disease and Alzheimer's Disease Centers and a CBN faculty member. Dr. Levey led the sold out audience in a discussion on what researchers have discovered about the neurological disorder.

"Iris" is the true story of a lifelong romance between novelist Iris Murdoch and her husband John Bayley from their college days through her battle with Alzheimer's Disease.



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DAVID WASHBURN, PhD, Chair of the Psychology Department at Georgia State University, studies individual and

species differences in cognition, principally attention and executive functioning. Humans, monkeys, and apes are tested on tasks designed to elucidate the interaction of executive attention, stimulus control, and conditioning or priming on behavior. Transcranial Doppler sonography and transcranial magnetic stimulation are used to identify brain regions that are associated with concentration, task-switching, planning, metacognition, and other cognitive operations.

Upcoming Summer Education Programs

BRAIN

(Behavioral Research Advancements in Neuroscience) for undergraduate students

May 29-July 27

Animal Behavior and the Brain Teacher Workshop

Held at Zoo Atlanta

June 4-8, 2007

ION

(Institute On Neuroscience) for high school students

June 11-August 3

Note: ION volunteers are still needed. For more information on becoming a volunteer, contact Kyle Frantz at kfrantz@gsu.edu

Brain Camp for Kids: Neuroscience in Action!!

Hands-on science camp for rising 5th-8th graders. Held at Renfroe Middle School
July 23-27

Log on to the CBN Website to find out more about the Center's upcoming events and public education programs:

<http://www.cbn-atl.org>

New Undergraduate Bioscience Business Course

To Be Offered Fall 2007

The CBN, in partnership with the Georgia Biomedical Partnership, Georgia State University, Georgia Tech, Morehouse, and Spelman Colleges, is sponsoring a new seminar course for undergraduate students in the fall of 2007. The course, entitled "Current Trends in the Biomedical Industry", will introduce upper level undergraduate science and business majors to the business side of science. The instructors will be senior executives of pharmaceutical, biotechnology, and medical device companies. The course will meet Wednesdays from 4:00-6:00 p.m. at a central location and via video-conferencing at each university. Interested undergraduates can get more details on registering for the course at <http://www.cbn-atl.org/education/bioscience.shtml>