



ABOVE • Adventure in Science offers fun learning experiences for children ages 8-11. Get details on the program, page 12.

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nih record

Speaker Probes Concept of Microbes as Weapons

By Rich McManus

It wasn't the kind of seminar where a terrorist might slip in with a tape recorder and furtively learn how to create biological mischief; they don't offer that sort of fare over the NIH videocast system after all. Rather, Dr. Arturo Casadevall of Albert Einstein College of Medicine offered a sweeping intellectual consideration of how we view risk in a July 14 talk in Bldg. 50 titled, "The Weapon Potential of a Microbe."

In an immune-compromised patient, for example, something as otherwise innocuous as brewer's yeast or yogurt (containing, respectively, *S. cerevisiae* and *L. acidophilus*) could be pathogenic, argued Casadevall, who also displayed a slide of his humble sedan alongside a caption, "The civilian car is the most effective weapon of war in Iraq." If cars, yogurt and yeast have "dual use" as

SEE MICROBES AS WEAPONS, PAGE 4



Dr. Arturo Casadevall of Albert Einstein College of Medicine



Dr. Yvonne Maddox (l) and Dr. Duane Alexander greet Claudette Diggs, wife of the late Dr. John W. Diggs.

'Transforming NIH'

In 10th Annual Diggs Lecture, Maddox Calls for Concerted Change

By Carla Garnett

NIH's past, present and future were significantly blended on July 21 as NICHD deputy director Dr. Yvonne Maddox challenged the agency to apply its historic intellect, consummate expertise and collective energies toward "Transforming NIH in an Age of Translational Sciences."

Introduced affectionately by NICHD director

SEE ANNUAL DIGGS LECTURE, PAGE 6

Don't Get Hooked!

Email Phishing Attacks at NIH Increase

By Cheryl A. Seaman

"Phishing attacks are on the rise at NIH and while we are taking measures to address the problem, our best defense is user awareness," says Jaren Doherty, chief information security officer for NIH. "Because phishing emails have become more sophisticated and can appear to be legitimate, users need to be extremely cautious about responding to any suspect emails."

How Phishing Works

Phishing is not so much a high-tech computer attack as it is an old-fashioned con game, played at electronic speed. The con uses deceit, guile and fear to make you willingly give up personal information that is then used to run up credit-card bills in your name, get bank loans and reach into your savings. They can file false tax reports, remove funds from your financial accounts, and even open a bank account in your name.

The goal of the con is to leave you little time to

SEE PHISHING SCAMS, PAGE 8



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briefs

NIH Jobs Web Site To Announce All Posts

Looking for employment at NIH? The NIH Jobs web site (<http://www.jobs.nih.gov/>) is where you will find links to all vacancies. Until recently, the NIH Office of Human Resources was using as many as three automated vacancy announcement systems—HHS Careers (also known as QuickHire), CareerHere and the Office of Personnel Management's USAJOBS system—to announce vacancies. HHS Careers was the corporate recruitment system and the idea was that NIH would transition out of using other systems. However, when QuickHire was taken down due to performance issues earlier this year, OHR began using USAJOBS to announce positions that would have been posted in HHS Careers while continuing to use CareerHere for other vacancy announcements.

Now more changes are on the horizon. NIH will stop using CareerHere at the end of this fiscal year, and the system will be shut down permanently. It is expected that the transition from CareerHere to USAJOBS will be an easy adjustment for program staff and applicants. OHR will continue to use USAJOBS to announce all NIH competitive vacancies until further notice. When the HHS Careers system becomes available again to NIH—perhaps as early as late September—it will be used for certain NIH jobs, and USAJOBS will announce all other NIH positions. Regardless of what system is being used, applicants can continue to go to <http://www.jobs.nih.gov/> to find all NIH vacancies advertised by OHR.

Get Ready for the Annual Relay

The 22nd NIH Institute Relay will take place on Thursday, Sept. 15. The event consists of 5-person teams. Each teammate runs a 1/2-mile loop around Bldg. 1. All institutes, centers, divisions and contractors are invited to enter as many teams as they wish. Each team must have men and women runners with at least two runners of the same sex on each team. There is a \$10 entry fee per team to cover expenses and ribbons. Pick out your teams and start training. Group leaders should email Randy Schools at schoolsr@ors.od.nih.gov with your group leader, team name and team participants. Volunteers will be needed; call the R&W office at 301-496-6061 if you would like to help.

Yoga Meditation Held Monthly

Sahaja yoga meditation class is held every Thursday at 7 p.m. on the third floor of the CRC,

Rm. 3-1608. Sahaja yoga seeks to awaken inner energy called kundalini, and is offered for free and without obligation. The class is sponsored by the recreation therapy section of the rehabilitation medicine department. For more information contact Jasmin Salloum, (301) 402-5630.



R&W Summer Events Yield Thousands for Several NIH Charities

The summer's events sponsored by the Recreation and Welfare Association at NIH have already yielded many thousands of dollars for such NIH charities as the Children's Inn, Camp Fantastic and Friends of the Clinical Center: The Camp Fantastic Barbecue, held June 14, raised more than \$2,100. The golf

tournament with GE has brought in over \$70,000, with more to come, and the golf tournament held by families of the camp raised in excess of \$20,000.



In addition the Camp Fantastic Barbecue in the bull pen (shown in photos) with the Baltimore Orioles sold out; more than 250 attended. The next event is the 9th annual free Outdoor Film Festival on the grounds of Strathmore Hall from Friday, Aug. 12 through Monday, Aug. 21. Check www.filmfestnih.org for feature titles.





Dr. Patricia Grady (r), director, National Institute of Nursing Research, receives honorary doctorate from Jefferson University in Philadelphia.

Thomas Jefferson University Honors Grady

"We are honored to have in our presence today a woman whose exceptional commitment and significant contributions to education, research and health care have gained her national and international recognition as a leader in her profession." Thus began the presentation of an honorary doctor of science by Brian G. Harrison, chairman, board of trustees, Thomas Jefferson University, Philadelphia, to Dr. Patricia Grady, director, National Institute of Nursing Research. Grady also gave the keynote address at commencement exercises for the graduating class of the health professions programs of the Jefferson College of Health Professions and Jefferson College of Graduate Studies.

Harrison noted that Grady "is a widely published and world-renowned scholar in research on stroke and hypertension, as well as a strong advocate for nursing research studies that focus on the full spectrum of life span issues, from low birth weight babies fighting for life to the frail elderly struggling to maintain the quality of lives extended by technology." He noted that "during her distinguished professional career, [Grady] has excelled as a nurse, an educator, a scholar, a research scientist and administrator. To her students, her colleagues and the countless numbers of patients, caregivers and practitioners in the health care arena who have benefited directly from her tireless work, she has provided direction, innovation and inspiration.

"Her extraordinary contributions to scientific understanding and leadership in directing and shaping nursing research have advanced the health and well-being not only of our nation, but that of the global community as well," Harrison concluded.

Grady took the opportunity to congratulate the class of 2005 on their accomplishments and to underscore the significance of their choice of careers in health care at a time when advances in technology, the unraveling of the human genome, and the graying of America "all point to the importance in this new century of the health professions. To make the most of our breakthroughs and to meet the challenges, we are going to need more and more people like you who have studied human health and are prepared to make careers in health care," she said. "You are going to see things in health that will astonish you—and make you proud to be a part of the enterprise." 🗨

NINDS Grantee Antonio Damasio Wins Prince of Asturias Award

Dr. Antonio Damasio, Maurice Van Allen professor and head of the department of neurology at the University of Iowa College of Medicine, recently received the 2005 Prince of Asturias Award for Scientific and Technical Research. The award acknowledges scientific, technical, cultural, social and humanitarian work of international scope. Damasio was chosen unanimously for the award by the 21-member jury from among 58 candidates from 23 countries.

A long-time NINDS grantee, Damasio is internationally known for his studies on the neurobiology of the mind. His research has led to a greater understanding of how the brain orchestrates higher-level cognitive functions such as language, memory, emotion and decision-making, and how damage to particular areas of the brain affects these functions. By providing important insights into the cerebral bases of language and memory, his work also has increased understanding of neurodegenerative disorders including Parkinson's and Alzheimer's diseases.

Past recipients of the Asturias prize—which will be presented in Oviedo, Spain, in October—include genome researchers Francis Collins and Craig Venter, AIDS researchers Robert Gallo and Luc Montagnier, and physicist Stephen Hawking. Damasio will leave the University of Iowa later this year to become director of the newly founded brain research institute at the University of Southern California. 🗨



NINDS grantee Dr. Antonio Damasio of the University of Iowa College of Medicine, recently received the 2005 Prince of Asturias Award for Scientific and Technical Research.

PHOTO: CHRISTIAN STEINER

MICROBES AS WEAPONS

CONTINUED FROM PAGE 1

potential weapons, what lines can modern society draw as to their availability?

In the good old days, a weapon was defined as a club, knife or gun. But biological weapons come in a staggering variety not subject to the usual restraints imposed by the laws of physics. It is naïve, Casadevall said, to pick and choose among the many thousands of microbes, labeling this one a danger and another harmless; after all, most organisms are only one “virulence factor” away from being pathogenic. (Using the metaphor of playing cards, he showed that most pathogens represent a

hand that is only one card—or virulence factor—short of becoming significantly more dangerous.)

Granted, the bugs on the government’s Select Agents and Toxins list and its various categories are undeniably

prime candidates for weaponization and should be guarded against, he said. But it makes more sense to craft a broader framework for evaluating risk, taking into account the intricacies of host-microbe interaction, including communicability, stability, inoculum (the actual material that transmits disease such as spore or bacteria) and symptoms.

Casadevall and his colleagues have constructed a simple formula to determine the virulence potential of a biological agent. The calculation yields numbers that, in themselves, are not especially meaningful, but enable one to rate relative danger. Time is a crucial variable in the math—a virus such as HIV might rate low on the communicability scale, but given many years to work its way through a given population can eventually claim cultures and continents, as is happening in Africa, Casadevall said.

Ironically, science’s successes in wiping out bio-

logical threats eventually serve to create new ones: “In 2020, measles and polio will have weapon potential (because vaccines eliminated them in earlier generations)—every public health success generates a new weapon.”

In summary, Casadevall noted that “all pathogenic microbes are potential weapons.” He argued that regulations inhibiting research on biological agents invariably leave society more vulnerable to them, and that the weapon potential of microbes changes over time. “The line that we draw in the sand [with respect to microbes] can’t be fixed,” he concluded.

Casadevall offered a postlude on the role of fungi as a cause of disease. There are some 1.5 million fungal species, but only about 10 are common pathogens; most can’t survive the 37 degree Celsius (body temperature) barrier. Fungi, he theorized, might have contributed to extinction of the dinosaurs in the following scenario: millions of years ago, at the Cretaceous-Tertiary Boundary, a global dusk set in, caused by Earth’s collision with an asteroid (Alvarez hypothesis) or by a spate of volcanic eruption. The event turned the planet into a compost heap, teeming with fungi. Any surviving animals would have been exposed to large numbers of spores, but those that developed higher core body temperatures (such as mammals and birds) might have been better able to survive fungal invasion via a process known as “endothermal exclusion.” Assuming that the dinosaurs did not enjoy high body heat, they could have succumbed over time to fungi. Mammals, on the other hand, flourished.

“We’re hot on the inside and this helps keep out fungi,” explained Casadevall. “Most caloric intake is used to maintain body temperature, not to yield the energy for walking around. That’s the reason we eat three times a day—to keep fungi away.”

The entire talk can be viewed at www.videocast.nih.gov. 

It is naïve to pick and choose among the many thousands of microbes, labeling this one a danger and another harmless; after all, most organisms are only one “virulence factor” away from being pathogenic.



Insights from Comparing Genomes

You can learn a lot by looking at a genome, the full set of genes in an organism. You can learn even more by looking at several at once—a field called comparative genomics. Among the more interesting work coming out in July were two NIH-funded comparative genomics studies, both published in *Science* a week apart. One compared 8 mammalian genomes; the other, those of 3 deadly protozoan parasites.

The mammalian study, funded in part by NHGRI and NCI, aimed to explore mammalian chromosome evolution by aligning and comparing the human, mouse, rat, cow, pig, dog, cat and horse genomes. In an impressive feat, the researchers reconstructed the genomes of long-extinct mammals and determined the rates of mammalian chromosome evolution. They found that rates dramatically accelerated around 65 million years ago, a period of mass extinction (most notably, of the dinosaurs) that marked the end of the age of reptiles and the arrival of the age of mammals. These results might be expected, given the rapid expansion of mammals into new ecological niches.

A more surprising finding was that chromosome rearrangements tended to occur in the same regions. Researchers had long thought that mammalian chromosomes evolved through random breaks, but this study found that nearly 20 percent of breakpoint regions were reused. These “hotspots” tend to have a high gene density. They also seem to be associated with the more frequent cancer-associated chromosome abnormalities. Rearrangements near these breakage hotspots might activate genes that trigger cancer or inactivate genes suppressing it. As more genomes become available, these relationships will become clearer.

The other research came in the form of a set of studies, partly supported by NIAID, that decoded the genomes of 3 trypanosomatids. These parasites, which cause leishmaniasis, Chagas’ disease and “sleeping sickness,” collectively cause disease and death in millions of people, primarily in developing countries. There are no vaccines for these diseases and no ideal drugs for dealing with them.

Although the 3 parasites share many general characteristics, each is transmitted by a dif-

ferent insect, targets different tissues, has distinct disease pathogenesis and uses different immune-evasion strategies. Nevertheless, comparative genome analysis revealed a core of about 6,200 common genes. A drug designed to target such conserved core processes could potentially be useful against all trypanosomatids. These studies also revealed a plethora of unique potential drug targets. This research will hopefully now spur the development of better diagnostics and therapeutics for these deadly diseases.—**Harrison Wein**



Join the NIH Paddling Club

Founded by members of the NIAID Dragon Boat Racing team, the NIH Paddling Club is dedicated to fostering health, fitness, environmental awareness and fun for federal workers, their families and the community. The club emphasizes hand-powered watercraft, and provides instruction in beginning canoeing and kayaking. It holds workshops on canoes, kayaks, outrigger canoes, rowing shells and dragon boats. In addition, the club’s dragon boat team, the Water Hazards, has participated in the D.C. Dragon Boat Festival for the last 2 years. This year, the adult and youth team’s combined winnings included one gold, two silver and two bronze medals. The club is committed to reach out to the community to encourage and support dragon boat racing for breast cancer survivors, military personnel and at-risk youth. Anyone interested in joining the club can contact David Winter at dwinter@niaid.nih.gov.





ANNUAL DIGGS LECTURE FEATURES MADDOX

CONTINUED FROM PAGE 1

Top:

At the annual lecture are (from l) Claudette Diggs, keynote speaker Dr. Yvonne Maddox, Black Scientists Association vice president Dr. Sharon Jackson of NIAID and president Dr. Janine Smith of NEI.

Below left:

Maddox called on NIH to launch “a concerted effort” to recruit and retain more black scientists here.

Below right:

NIAID’s Dr. John McGowan joined Maddox in paying tribute to Diggs’ memory and legacy at NIH.

PHOTOS: BILL BRANSON

Dr. Duane Alexander as “an excellent student in both high school and college, but also a top cheerleader,” Maddox delivered the 10th annual John W. Diggs Lecture as part-historian, part-conscience and part-preacher (as Alexander jokingly observed after her talk). Sponsored by the NIH Black Scientists Association, her lecture addressed the changing nature of science in the 21st century and what NIH must do to maintain its premier status and reinvigorate its nearly 120-year-old mission.

“We cannot talk about change without giving a little thought to the past,” she began. Recalling turning points in NIH history—from its original “bedside-to-bench” purpose in preventing infectious disease epidemics to its map of the human genome—she suggested that the agency cannot afford to wait for a “slow metamorphosis, in the medical sense” but must launch “a concerted effort to transform ourselves in a time in which change is necessary.”

Dr. John McGowan, director of NIAID’s Division of Extramural Activities, recalled one of NIH’s most beloved change agents, offering a personal tribute to NIH’s former deputy director of extramural science Diggs who died in 1995. “We value greatly his counsel,” McGowan said, noting that it was Diggs who encouraged

him to pursue his current post. “His legacy lives on in individuals like me.”

Maddox also recalled some personal experiences with the event’s honoree: “John Diggs was indeed a man of high integrity, someone you knew you could count on. And if you were a new administrator, as I was, coming into NIH nearly 20 years ago, you really needed someone like Dr. Diggs to give you advice and mentoring. I think John was known to many of us as our unofficial mentor. He had a lot on his plate and he certainly could not be official mentor to all of us, but he paid attention to us. Even if I didn’t see him for a couple of months, I always got the sense that he was looking out for me.”

It was in 1931, Maddox told the audience, that Sen. Joseph Ransdell of Louisiana articulated the nation’s hope for what would become the country’s premier medical investment. He wrote, “The definite objective of the National Institute of Health is to promote the health of beings, to improve their earning capacity, to reduce their living expenses, to increase their happiness, and prolong their lives. It serves unselfish interests, and its beneficent results will enter every home on Earth...A vast field lies before the National Institute of Health...”

That early mission statement has been refined



over the years, Maddox said, but its core message of inclusion still resonates. "It's amazing when photos of NIH's campus in the early days are compared to today's pictures," she noted, showing images depicting the "vast" acreage of the agency as it filled with labs and offices over the years. "We have seen a metamorphosis in terms of structure, in terms of the sciences, in terms of facilities and space—but maybe not in terms of the people."

More than 1,250 scientists at NIH hold tenured or tenure-track posts here, she said. Of that number, 14 are African American.

"We have been able to solve problems here at NIH when we wanted to," she said. "There's something that I call the 'NIH Principle.' It says, 'When an important area of research has too few researchers, then NIH takes action.'" She recalled efforts about a generation ago to attract more investigators to HIV/AIDS research and more recently to stem cell research. Several years ago, too, intramural NIH found that the number of female scientists was deemed too low. In each situation, Maddox said, NIH rallied around the recruitment/retention dilemma and attacked it on several fronts—position papers, grants funding, strategic hiring and other mechanisms.

"Why can't we make those types of decisions in times like these, in a period of translational sciences when we are transforming health care?" she asked. "These are good times for medical research. These should be good times for all of us."

Maddox also discussed recent NIH research breakthroughs in cancer (Gleevec, the new targeted anti-cancer drug), stroke (the drug tPA can limit brain damage if administered promptly) and HIV/AIDS (the drug nevirapine significantly reduces mother-to-child transmissions). Those ailments along with diabetes, asthma, obesity and infant mortality present challenges for now, she said, noting that all of the disorders also disproportionately affect people of color in the U.S.

"There is no reason why this campus—which has the most unique intramural program in the U.S., if not the world—can't have a better, stronger focus in reducing health disparities," she said. "This campus, the manpower, the brilliance, the expertise that is here should allow us to come closer to solving these problems."

Maddox said the NIH Roadmap offers exciting possibilities for expanding diversity among those who conduct research.

"We've learned in translational sciences that

we need a lot of specialists—radiologists, obstetrician/gynecologists, pediatric endocrinologists—but we also need for them to be of different genders and different colors," she said.

The team-science approach will allow NIH to bring more minorities as well as sensitive and culturally competent investigators to the field of health disparities research, she pointed out. In bringing the complexities of basic and clinical research together, she said "there is no reason why we cannot translate research to the people—people of all colors, all ethnicities and all economic circumstances."

In an era of developing "targeted therapies" and "individualized medicine," Maddox said the current enthusiasm for biomedical research emanates—as it historically has—from NIH. "We have the brainpower here. We can look at the metabolomics, the proteomics, the bioinformatics and nanotechnology...NIH has talked about [these and other advances] in conferences all over the country in the last 4 or 5 months: We say we want to create homes for clinical translational sciences in academic institutions. Why not start at NIH?"

Maddox said community involvement in science helps establish the research agenda by determining people's needs. Drawing diverse input into the process also enhances public trust, she stressed.

"NIH has always accomplished the things that it has put its collective mind behind," she concluded. "We worked very hard to get more women in our intramural program and we've been very successful. I'm asking all of you who have an opportunity to make changes to devote the same kind of effort to get more black scientists into NIH...Diversity is a critical resource for the future direction of medical research."

The association's annual awards were also presented during the program: the 2005 Friend of BSA Award was given to Dr. Beverly Alston-Smith of NIAID by BSA president Dr. Janine Smith, NEI deputy clinical director. After a tribute to the award's namesake by Dr. Michele Evans, NIA deputy scientific director, the Philip J. Browning Scientific Pioneer Awards were presented to Dr. Lauren Wood of NCI and Dr. William Coleman of NIDDK. Dr. Roland Owens, NIDDK senior investigator, announced the high school graduate recipients of the Cheryl Torrance Campbell Scholarships. ●



Top:

Smith (l) presents the Friend of BSA Award to Dr. Beverly Alston-Smith of NIAID.

Middle, above:

Dr. Michele Evans of NIA presents Philip J. Browning Scientific Pioneer Awards to Dr. William Coleman of NIDDK and Dr. Lauren Wood of NCI.

PHISHING SCAMS INCREASE AT NIH

CONTINUED FROM PAGE 1

think before responding. Phishing email appears to be urgent in nature. It often includes authentic-looking logos and links to “real” businesses such as AOL, PayPal, BestBuy, Earthlink and eBay. It may state that “for security purposes” you need to immediately update or validate your account information to keep your account active.

How to Avoid Taking the Bait

This dangerous attack has become the largest source of identity theft today. The number of reported phishing web sites grew 30 percent from October 2004 through May 2005. Because NIH email addresses are public, you can expect to be a target. Your best defense is vigilance.

- Be suspicious of any email with urgent requests for your financial information.
- Know that reputable businesses never send

email asking you to update their files via the web. If you receive such a request, call the company to verify it. However, do not use any phone numbers contained in the suspect email because they may be false and part of the scam.

- When you submit personal information over the web, be sure you are sending it to a secure site and that the web address starts with https:// (an “s” on the end), not http://.
- Beware of messages with poor spelling and grammar.
- Scammers will alter legitimate web site addresses (otherwise known as a url—universal resource locator), by substituting characters that look like others (using zero instead of the letter “O”). The longer the address, the easier it is to disguise the changes.

Would you respond to the email below?

Other than changing the name to “BankUTrust,” this is an actual phishing email that was recently received at NIH.

From: BankUTrust [mailto:server@bankustrust.com]

Sent: Monday, July 11, 2005 6:47 AM

Subject: Account Update

bankustrust.com/update <http://62.193.199.28/gerewjrewiprjewrewirjewrewjrewprjeworjewrjpdadiahdahdhjadhuorijrewrewjrrewewopodsadanewqeopkdaewjopkafasijdajdojewqeqkokewqeqkoeqw/update_card.htm>

Account Info Verification

Dear BankUTrust holder account,

As part of our security measures, we regularly screen activity in our BankUTrust network. We recently noticed the following issue on your account: A recent review of your account determined that we require some additional information from you in order to provide you with secure service. Case ID Number: PP-065-617-349. For your protection, we have limited access to your account until additional security measures can be completed. We apologize for any inconvenience this may cause. Please update your BankUTrust account to restore your access as soon as possible.

You must click the link below and fill in the form on the following page to complete the verification process.

Click here to update your account <http://62.193.199.28/gerewjrewiprjewrewirjewrewjrewprjeworjewrjpdadiahdahdhjadhuorijrewrewjrrewewopodsadanewqeopkdaewjopkafasijdajdojewqeqkokewqeqkoeqw/update_card.htm>

In accordance with BankUTrust User Agreement, your account access will remain limited until the issue has been resolved. Unfortunately, if access to your account remains limited for an extended period of time, it may result in further limitations or eventual account closure. We encourage you to update your BankUTrust account as soon as possible to help avoid this. We thank you for your prompt attention to this matter. Please understand that this is a security measure intended to help protect you and your account.

We apologize for any inconvenience.

Sincerely, BankUTrust Account Review Department

Please do not reply to this e-mail.

If You Think You've Been "Hooked"

• Immediately place fraud alerts with the three major credit reporting companies. This will protect your credit should your identity be stolen. You may contact them at:

• Equifax—<http://www.equifax.com/>, 1-800-685-1111

• Experian—<http://www.experian.com/>, 1-888-397-3742

• TransUnion—<http://www.transunion.com/>, 1-800-916-8800

• If you provided your bank account or credit-card number, call the institutions, report the fraud, cancel the account(s) and open a new account.

It's a good idea to regularly review your credit report at the three major credit bureaus. Identity theft can occur in many ways, not just from a "phishing" trip. If you have been victimized, "new" credit card accounts may appear.

If you receive a suspected phishing email at NIH, forward the email to the NIH Help Desk: ithelpdesk@nih.gov, <http://ithelpdesk.nih.gov>, phone (301) 496-4357, (866) 319-4357 (toll free) or (301) 496-8294 (TTY). Once notified, NIH IT staff will attempt to block these emails and malicious web sites. Visit http://securitynews.nih.gov/phishing_alert.doc for more advice on phishing. 📧



NIMH's Giedd Lectures on Teen Brain

By Sophia Glezos Voit

Contrary to what most parents have thought at least once, "teens really do have brains," quipped Dr. Jay Giedd, NIMH intramural scientist, in a lecture on the "Teen Brain Under Construction." His talk was the kick-off event for the recent NIH Parenting Festival.

Giedd said scientists have only recently learned more about the trajectories of brain growth. One of the findings he discussed showed the frontal cortex area—which governs judgment, decision-making and

impulse control—doesn't fully mature until around age 25.

"That really threw us," he said. "We used to joke about having to be 25 to rent a car, but there's tons of data from insurance reports [showing] that 24-year-olds are costing them more than 44-year-olds."

So why is that? "It must be behavior and impulse control," he said. "Whatever these changes are, the top 10 bad things that happen to teens involve emotion and behavior."

Physically, Giedd said, the teen years and early 20s represent an incredibly healthy time of life, in terms of cancer, heart disease and other serious illnesses. But with accidents as the leading cause of death in adolescents, and suicide following close behind, "this isn't a great time emotionally and psychologically. This is the great paradox of adolescence: right at the time you should be on the top of your game, you're not."

The next step in Giedd's research, he said, is to learn more about what influences brain growth, for good or bad. "Ultimately, we want to use these findings to treat illness and enhance development."

One of the things scientists have come to understand, though, is that parents do have something to do with their children's brain development.

"From imaging studies, one of the things that seems intriguing is this notion of modeling...that the brain is pretty adept at learning by example," he said. "As parents, we teach a lot when we don't even know we're teaching, just by showing how we treat our spouses, how we treat other people, what we talk about in the car on the way home...things that a parent says in the car can stick with them for years. They're listening even though it may appear they're not."

What can we do to change our kids? "Well, start with yourself in terms of what you show by example," Giedd concluded.

To borrow an audiotape of this lecture, call (301) 443-4533. 📞

CIT Computer Classes

All courses are given without charge. For more information call (301) 594-6248 or consult the training program's home page at <http://training.cit.nih.gov>.

Introduction to Statistics	8/15-16
nVision Technology Transfer	8/16
Introduction to Adobe Illustrator	8/16
Statistical Analysis of Microarray Data	8/16-17
Data Warehouse End-of-Year Processing	8/17, 24
Advanced CSS/XHTML	8/17
ImageJ Introduction	8/17
Data Warehouse: Budget and Finance	8/18
Statistical Analysis with R	8/18
NCBI's Structural Analysis Quick Start	8/18
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Filemaker 7 Basics	8/23
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Mac OS X 10.4 Tiger Server	9/1
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Partek Training: Visual and Statistical Analysis of Microarray Data	9/7
MacVector and DS Gene—Easy-to-Use Sequence Analysis Solutions	9/9

Principles of Clinical Pharmacology Course

The Principles of Clinical Pharmacology course, sponsored by the Clinical Center, will begin in Lipsett Amphitheater, Bldg. 10 on Sept. 1. The course will be held Thursday evenings from 6:30 to approximately 7:45 and will run through Apr. 27, 2006.

The course covers topics such as pharmacokinetics, drug metabolism and transport, assessment of drug effects, drug therapy in special populations and drug discovery and development. An outstanding faculty has been assembled to present the lectures. The faculty has also prepared a textbook, *Principles of Clinical Pharmacology*, which is available in the Foundation for Advanced Education in the Sciences, Inc. bookstore located in Bldg. 10. The textbook is also available from Amazon.com.

This is the eighth year that the course is being offered. Registration is open to all interested persons free of charge. Certificates will be awarded at the end of the course to students who attend 75 percent of the lectures. More information about the course, including online registration, is available at <http://www.cc.nih.gov/researchers/training/principles/shtml> or by calling (301) 435-6618.

Tae Kwon Do Beginner's Class

The NIH Tae Kwon Do School is offering a beginner's class for adults and mature teens starting Monday, Sept. 12.

Our curriculum combines traditional striking arts, forms and sparring, with particular emphasis on self-defense. No experience is necessary. The class will meet in the Thomas Malone Judo & Tae Kwon Do Center (Bldg. 31C, B4 level, next to the NIH Fitness Center) from 6–8 p.m. Mondays and Wednesdays, and will continue for approximately 2 months until participants can be integrated into the regular school training.

Registration costs \$40, which includes beginner's class for 10 weeks, first-quarter dues and equipment; a uniform is \$30. Interested persons are welcome to watch regular training sessions. For information, call Andrew Schwartz (301) 402-5197 or visit the web site at <http://www.recgov.org/r&w/nihtaekwondo.html>.

Principles of Clinical Research Class

Registration for the 2005-2006 "Introduction to the Principles and Practice of Clinical Research" began on Aug. 1. The course will run from Oct. 17 through Feb. 21, 2006. The deadline for registering is Oct. 5. Classes will be held on campus on Monday and Tuesday evenings from 5 to 6:30. There is no charge for the course, but purchase of a textbook is required. A certificate will be awarded upon successful completion of the course, including a final exam. For more information or to register, visit <http://www.cc.nih.gov/researchers/training/ippcr.shtml> or call (301) 496-9425.



Wisdom Teeth Removed for Free

The National Institute of Dental and Craniofacial Research is seeking volunteers in need of wisdom teeth (third molar) removal to participate in clinical studies evaluating medicines that control postoperative discomfort. Patients will have their wisdom teeth removed at no cost by a board-certified oral surgeon using local anesthesia and sedation. Patients will be required to make several visits to NIH and could be paid for their time if they complete all phases of the study. For more information go to clinicaltrials.gov or to make an appointment to be evaluated, call 301-594-1649.

Lyme Disease Study

Do you think you have Lyme disease? People with active Lyme disease are invited to participate in a study at NIH. Evaluation and treatment provided. For information call (301) 496-8412.

Healthy Volunteers Needed

We are seeking healthy male and female volunteers ages 18-50 for a research study to determine whether herbal supplements (echinacea, ginkgo or ginseng) alter the metabolism of lopinavir/ritonavir (an anti-viral medication). In order to participate, you must be a non-smoker in good health, not be HIV-infected and not be taking any chronic medications. Participants will be compensated for their time and inconvenience. For more information, contact Jocelyn Voell, (301) 435-7913 or Liz Formentini, (301) 594-9905.

Cancer Survivors, Controls Needed

A study needs volunteers who have been diagnosed and treated for brain or breast cancer, are between the ages of 20 and 70, and were working full time for at least 1 year prior to diagnosis. We also need healthy volunteers who have never been diagnosed with cancer and have no chronic illness, are between the ages of 20 and 70 and who have been working full time for at least the past year. You will be asked to complete a 1-hour questionnaire online with questions related to work and health. Participants will be compensated and receive a free Livestrong yellow wrist band. If interested, go to <http://cimo1.usuhs.mil/mps/jhansen/Inclusion.tp4> and enter any username and password you wish. Research is conducted by the Uniformed Services University of Health Sciences and American University.



NIAMS director Dr. Stephen Katz (r) and deputy director Dr. Steven Hausman (l) welcome new members to the institute's council. They are (from l) Dr. Lawrence Raisz, Dr. Gena Carter and Dr. Martin Kushmerick. Dr. Bevra Hahn was not present.

Four Appointed to NIAMS Council

Four new members were recently named to the National Arthritis and Musculoskeletal and Skin Diseases Advisory Council.

Dr. Gena Carter is a radiologist and patient advocate from Jamaica Plain, Mass. Among many professional accomplishments, she recently represented the American Cancer Society, New England Division, as an appointee to a special Senate commission investigating health care disparities.

Dr. Bevra Hahn is the chief of the division of rheumatology at the department of medicine, and professor of medicine at the University of California Los Angeles School of Medicine. She has made significant contributions to understanding the origins and development of systemic lupus erythematosus and to improving the treatment of patients with rheumatic diseases.

Dr. Martin Kushmerick is a professor in the department of radiology at the University of Washington, with joint appointments in physiology and bioengineering. He is internationally known for his research in muscle mechanics and physiology and the use of nuclear magnetic resonance spectroscopy and imaging in metabolic studies.

Dr. Lawrence Raisz of Farmington, Conn., is director of the University of Connecticut Health Center for Osteoporosis. He is an internationally renowned bone biology researcher, and one of the scientific editors for the *Surgeon General's Report on Bone Health and Osteoporosis*.

The new appointees will serve on the advisory council to NIAMS through September 2008.



AIS Plans 13th Year at NIH

Adventure in Science, a non-profit science education program for children, is planning its 13th year at NIH. The program, which meets on Saturday mornings October through March in Bldg. 10, is designed to show youngsters ages 8-11 the fun of science using hands-on activities, from building (and launching) model rockets to dissecting frogs. The teachers are mostly volunteers from the NIH staff, from post-docs to institute directors. A similar program for children ages 12-15 is available at the National Institutes of Standards and Technology in Gaithersburg.

If you are interested in volunteering to teach in the program, contact Peter Kellman (301) 496-2513, kellmanp@nhlbi.nih.gov or Ed Max (301) 827-1806, max@cber.fda.gov. To enroll your child, request forms from the 4H office at Montgomery County Cooperative Extension, (301) 590-9638. Return completed forms promptly, since the program is oversubscribed every year.

Top:
Stephen Carlton (l) and Vikash Sahu observe how temperature changes when salt is added to ice slush.

Middle (clockwise from l):
Sonia Max prepares to launch a model rocket she constructed.

Lizzie Bennett makes a discovery in the world of the small.

Antonio Caro (l) and Gordon Hu study the anatomy of a chicken leg.

Bottom:
Science adventurers absorb dinosaur facts through close examination of fossils.

