



Karoly Mirnics in his lab, where he studies gene expression in autism, schizophrenia, and other disorders.

Neuroimmune Changes in Autism BY JAN ROSEMERGY

The old debate was whether nature or nurture—genetics *or* environment—played the larger role in human development. Modern neuroscience has made it clear that it's genetics *and* environment, and that environment, especially early, even prenatal environment, regulates genes with enduring effects on an individual's brain development. Nowhere is this interplay more apparent than in the national quest to understand the causes of autism spectrum disorders as a pathway to amelioration or prevention.

Autism is one of several brain-based disorders investigated in the laboratory of Karoly Mirnics, M.D., Ph.D., James G. Blakemore Chair, professor of Psychiatry, vice chair for Basic Science Research in Psychiatry, and VKC associate director. The Mirnics lab focuses on gene expression profiles, including neuroimmune and synaptic changes, using mouse models and studying human postmortem brain tissue.

Modeling Development

All individuals are born with a genetic make-up that is susceptible to environmental insults over the course of prenatal or postnatal development. (See figure p. 2.) Environmental insults include poor nutrition, infections, and chemical exposures. Environmental insults interact with genetic susceptibility to produce impairments in gene expression. Gene expression regulates neurochemical and metabolic processes that control the connectivity among brain neurons. When neuron connectivity is atypical, information processing is impaired, which leads to alterations in behavior, cognition, and emotion.

"Genetics is not diagnosis," Mirnics said. "Genes alone do not determine ultimate outcomes."

Immune-Related Genes in ASD

In 2008, the Mirnics lab conducted a study in which they found a profound dysregulation of immune system genes in the post-mortem brains of individuals with autism. The research team did gene expression microarrays—looking at the whole genome—in 6 subjects with an ASD diagnosis and matched control subjects. Out of roughly 40,000 genes in the human genome, only 110 genes separated the ASD subjects from the controls, providing a clear autism "signature" in the brain. Of the 110 genes, some were under- and others over-expressed.

Continued on page 2

Eye-Opening Results BY BILL SNYDER

The pulvinar, a mysterious structure buried in the center of our brains, determines how we see the world—and whether we see at all. That's the dogma-shattering conclusion reached by Vanderbilt University neuroscientists in a report published online in May in the journal *Nature Neuroscience*.

The pulvinar sits at the back of the thalamus, a walnut-sized structure that relays sensory and motor signals to the cerebral cortex, the outer, "thinking" part of our brains, and which also regulates sleep and alertness.

The classical view of vision is that signals from the retina are sent to a tiny relay station in the thalamus called the lateral geniculate nucleus. It, in turn, sends the information on to the primary visual cortex at the back of the brain.

But when the Vanderbilt researchers inactivated the pulvinar, they discovered something extraordinary—the primary visual cortex stopped responding to visual stimulation. The pulvinar, in essence, is a switch so powerful that when it is turned off, it can overrule the visual input and prevent the brain from seeing.

This result "was stunning and suggests that we don't really understand how this system works, that we need to revise the way we look at how the thalamus operates," said senior author Vivien Casagrande, Ph.D., professor of Cell & Developmental Biology, Ophthalmology & Visual Sciences, and Psychology, and a VKC investigator.

Schizophrenia, attention deficit hyperactivity disorder (ADHD), and "mad cow disease" all are associated with damage to the pulvinar, which is suspected to regulate visual attention among many other yet-to-be defined functions.

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Music camper Seth Link with Elisabeth Dykens

Director's Message Summer Joy

I'm a proponent of positive psychology, a branch of psychology that focuses on how people experience well-being. One finding is that work is important to well-being, especially when people have work that is meaningful. Another finding is that while happiness is influenced by genetics, people can learn to be happier by developing optimism, gratitude, and altruism.

I am grateful for the work that VKC researchers, clinicians, students, and staff are doing this summer. This work is purposeful and joyful. We salute that work with a photo gallery (pp. 4-5) showing joy within our service, research, and training.

SENSE Theatre is a "stage of hope" for children with autism working with peer actors as a research intervention to promote communication and social skills and to reduce stress and anxiety. Data will be analyzed and published. But in the performance of *Circus del Se'* (a journey of self-discovery), a teen with autism stopped mid-stage and circled a hula hoop to a round of applause. Bravery.

In June, 28 campers with Williams syndrome and other developmental disabilities from 14 states and Canada were here in Music City for a week of music enrichment, thanks to ACM Lifting Lives, the charitable arm of the Academy of Country Music. Photos show campers with generous ACM stars who made their week so memorable. Not shown are skills gained by graduate student staff or the research studies accomplished.

These are but two examples of a summer of purposeful work.

Our founding director Nicholas Hobbs was respected on many counts but especially for Project Re-ED serving children with emotional disorders. The final Re-ED principle was, "A child should know some joy in each day and look forward to some joyous event for the morrow." We wish you moments of Summer Joy. ■

EYE-OPENING RESULTS *from page 1*

"Our finding offers hope for better understanding of the neural circuits underlying the symptoms of these disorders," she said.

Casagrande is known internationally for her contributions to evolutionary, developmental, and

sensory systems neuroscience. Her co-authors on this paper were postdoctoral research fellow Gopathy Purushothaman, Ph.D., the first author, and graduate students Roan Marion and Keji Li. The study was supported by the National Institutes of Health. ■

NEUROIMMUNE CHANGES IN AUTISM *from page 1*

Of the genes distinguishing the ASD phenotype, some were grouped among genes that regulate cell communication and motility and others among genes that regulate cell fate and differentiation. In the latter was a subgroup of genes that regulate proteins related to the immune system, genes that Mirnics described as "fighting back against environmental insults, suggesting an immune component in autism that is trying to restore balance."

Of particular interest is the OAS gene cluster, three genes that mediate resistance to virus infection and that are implicated in the control of cell growth, differentiation, and cell death. Mirnics is collaborating with the laboratories of Pat Levitt and Dan Campbell (U Southern California), James Sutcliffe (Vanderbilt/VKC), and Tony Persico (U Biomedico, Rome) to explore whether the OAS cluster may be an ASD susceptibility locus.

hundreds of downstream effects, positive and negative. It's possible one may have bad effects in the brain but good effects elsewhere in the body."

One of the four major chemicals was IL-6. In another experiment, the Mirnics lab found that the offspring of mice given injections of recombinant IL-6 exhibited behavioral deficits. Subsequently, the affected mice received a chemical that blocked IL-6, and they found that the behavioral deficits normalized. This suggested that IL-6 is a critical mediator of the brain's immune response.

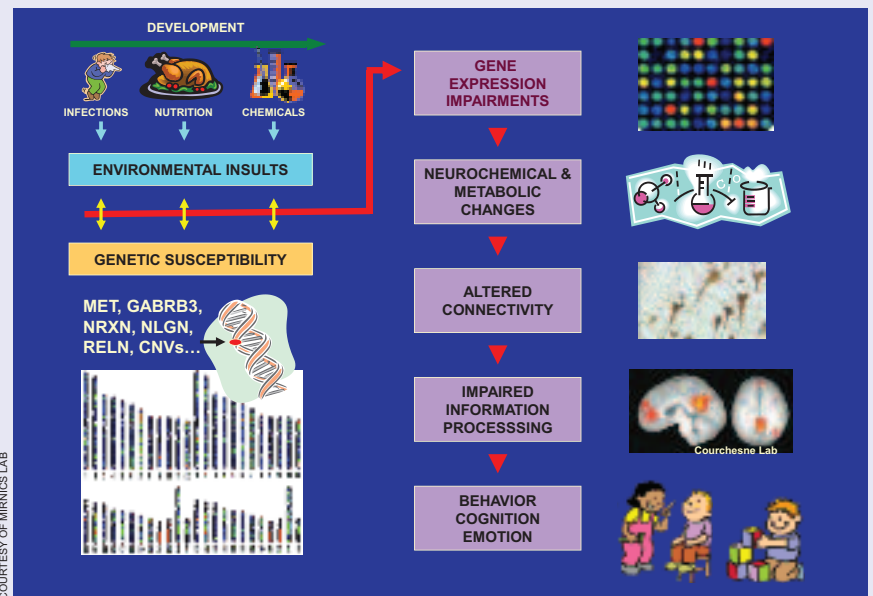
Mirnics summarized that immune activation in the brain may be a hallmark of ASD, and may be an ongoing, active process, "slowly simmering. The intrauterine immune challenge has a profound effect on the developing brain, resulting in reproducible molecular and behavioral deficits, as both animal and human studies have shown."

Animal Studies

In an initial study about 10 years ago, the Mirnics lab conducted its first animal study, with mice, that explored the effects on offspring of maternal viral infection during gestation. The pups appeared to be typically developing at birth but over time showed dramatically altered exploratory behavior. A typical mouse explores its environment. By contrast, the affected mice showed minimal exploratory behavior and their social interaction was decreased. The timing of the viral infection between the first and second trimesters appeared to be the crucial boundary for affecting offspring.

The pregnant mice received an immunostimulant that mimics viral infection, and the mice showed sickness behavior. Their offspring had behavioral deficits in social interactions. This experiment indicated that it was not a virus as such but the immune response to virus that is affecting offspring.

Mirnics indicated that the immunostimulant triggered four major chemicals that mediated the effects, "triggering forest fires across the brain. If we knew which one, or if all were involved, it would be possible to develop target drugs. But each has



Schematic of genetic-environment interactions related to developmental disabilities

IL-6 appears to be one of the critical mediators of the observed molecular and behavioral deficits. Theoretically, it will be possible to find compounds to mediate the effects, although this may be years away.

Mirnics pointed out that the ratio of funding for genetics research vs. environmental research in ASD is \$500:\$1—yet environment influences ultimate outcomes. "Environmental factors in ASD are an understudied and underfunded area of research," Mirnics summarized.

The Mirnics lab is funded by NIMH grants R01 MH067234 and MH079299, and VKC developmental funds. ■



Grant Bolsters Autism Training for Tennessee Educators BY JENNIFER WETZEL

A grant from the Tennessee Department of Education will allow TRIAD to continue a 13-year partnership to provide autism-specific training opportunities for school personnel throughout the state.

The 3-year, \$1.5 million grant marks the largest award received since 1999 when TRIAD first partnered with the Tennessee Department of Education to offer training for educators.

Last school year, TRIAD reached 1,400 school personnel in 86 of Tennessee's 95 counties. The current grant will enable TRIAD to conduct more than 25 workshops each year.

This increase in funding correlates with the ever-growing need for autism services, says Zachary Warren, Ph.D., assistant professor of Pediatrics and Psychiatry and TRIAD director.

"Given that we are now seeing autism in over 1 percent of the population, we must increasingly develop realistic ways for meeting the intensive educational needs of students with autism," Warren said. "Our partnership with the Tennessee Department of Education provides us the opportunity to translate cutting-edge educational science into sustainable educational practice throughout the state. This type of partnership is, in my opinion, critical to improving educational, vocational, and social outcomes for individuals with autism."



KYLIE BECK

The training opportunities are free and include individual and team-based workshops on topics ranging from communication, social skills, and behavior. Workshops are designed for specific

see them working."

Most of the trainings occur each academic year in each of the state's three grand regions.

The Elementary/Middle School Teacher

Training involves teams of two—a teacher and a paraeducator—who learn about ASD and integrated, evidence-based approaches within an interactive school-based workshop setting. High School Teacher Training has a similar aim and setting.

The Administrator Academy is a 2-day workshop for school and system administrators. It, too, is held in each of the state's three grand regions.

Each of the following will occur once in each grand region of the state during the academic year: workshops for paraeducators and for parents, and workshops on discrete

trial teaching, social skills, and communications.

The 2-day Summer and Winter Institutes are held in Nashville. This is a two-part, team-based workshop in which teams focus on one of their own student's IEP, and learn integrated, evidence-based approaches to teaching students with ASD.

Dates and locations will be posted as they are confirmed. For information and registration, check periodically at <http://kc.vanderbilt.edu/triad/events/>. ■

audiences including teachers, administrators, teaching assistants, and parents.

"Everything we present is very current on what we know works for kids with autism, and we break it down in a way participants can easily understand and implement," said Pablo Juárez, M.Ed., TRIAD educational consultant. "If the teachers can use what they learn immediately, it benefits the students more quickly, and the teachers will continue using those strategies if they

Helping School Systems Assess Autism BY JAN ROSEMERGY

With school systems serving increasing numbers of students on the autism spectrum, school psychologists are among the educational professionals seeking autism-specific training.

School psychologists help students succeed academically, socially, behaviorally, and emotionally. Among their many responsibilities are identifying and addressing learning and behavioral problems and evaluating eligibility for special education services, as part of a multidisciplinary team.

"Across TRIAD programs, we aim to find ways to build sustainability and capacity within school districts across the state," said Whitney Loring, Psy.D., a clinical psychologist and assistant professor of Pediatrics at Vanderbilt. "Providing training for school psychologists so that enhanced autism-specific assessments can be done at the community level is a new training activity at TRIAD, begun last year and expanding in the coming year."

TRIAD has provided half-day and full-day training sessions for school psychologists for

individual Tennessee school districts, as well as for a South Carolina school district. Training focuses on an in-depth understanding of what autism is and how to structure high-quality autism assessments within school settings.

For school psychologists who have completed this initial level of training, TRIAD periodically offers 2-day clinical training workshops in administering the ADOS—Autism Diagnostic Observation Schedule. The ADOS is the "gold standard" instrument for assessing autism spectrum disorders across age, developmental level, and language skill. The course provides detailed, initial training for professionals who plan to use the ADOS in clinical or school settings.

Evaluations of training sessions for school psychologists have been quite positive, Loring indicated. One participant commented, "The multitude of examples was very beneficial for practical application ideas." Another said, "I enjoyed how [the presenters] communicated the importance of getting quality answers and then

provided videos of what that might look like." Still another commented, "It was helpful to receive updated information and terminology, since it has been a while since I worked on an autism evaluation team."

TRIAD is providing such training through a variety of mechanisms. Some training is provided through TRIAD's collaboration with the Tennessee Department of Education to provide autism-related training to Tennessee school districts; costs are covered by Department. In other instances, school districts contact TRIAD directly to schedule and cover costs. For ADOS and other clinical training, workshop registrants pay a fee individually or through their school districts.

"By enabling school districts statewide to provide this high level of specialization in their autism assessments, families can feel confidence in their local services, thereby providing continuity of care at the community level," Loring said.

For information, contact lori.m.ryden@vanderbilt.edu, (615) 936-0267. ■



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"I like how people interact with each other and how everyone is always supportive of each other."



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"I liked learning about mindfulness."

Summer Joy BY COURTNEY TAYLOR

► SENSE Theatre Camp (photos 2, 5, 6)

"As a parent of a child with special needs, I'm always learning. Sometimes love can make us hold on too tight, help too much, and 'protect' our child from some of the necessary experiences that help them mature. Recently, while working behind the scenes at SENSE Theatre Camp, I was able to observe 16 kids with all different levels of autism. I was reminded how capable our kids can be when we back away and give them a little space to blossom. It was a clear sign for this mom that I've been blocking my daughter's sun. It's time to take a few more steps back, so she can grow. Although I've got some backtracking to do, I'm very thankful to be headed in the right direction." - *Tammy Vice*

SENSE Theatre Camp, founded by Blythe Corbett, Ph.D. (Psychiatry), is a 2-week summer program that combines established behavioral strategies alongside theatrical techniques to target social interaction and stress responsivity in children with autism spectrum disorders.

► Reading Clinic's Amazing Race to Reading (4, 7, 12)

The VKC Reading Clinic initiated two summer programs to help struggling readers. Read Enjoy And Discover featured captivating books that told amazing journeys. This 2-week program was half-days, for students K-4th grades and 5th-8th grades who were behind in reading or had learning or intellectual/developmental disabilities.

In the Amazing Race to Reading (5 hrs/day, 5 days), students in 5th-8th grades who were behind in reading or had learning disabilities were taught both word-level and comprehension skills. For example, students read a chapter book about a "couch potato" who finds adventure visiting his uncle in Costa Rica. In addition, all children created art (to be exhibited later at the VKC), and acted out parts of the book. Day 5 was a big adventure—students visited Vanderbilt's LifeFlight. Reading Clinic instruction is evidence-based, and led by faculty director Laurie E. Cutting, Ph.D. (Special Education).

► Research Stars at Music Camp (1, 3, 8)

The 2012 ACM Lifting Lives Music Campers performed with Big & Rich at the Grand Ole Opry—to a standing ovation. ACM Lifting Lives staff, VKC Leadership Council's Lorie Lytle, and Rondal Richardson were instrumental in planning a phenomenal week for 28 campers with Williams syndrome or other disabilities from 14 states and Canada. "Offstage", campers took part in research.

The Williams Syndrome Research team, led by VKC director Elisabeth Dykens, Ph.D., collected data for 6 studies, including two dissertations. Brain imaging methods included MRI, DTI, and resting state scans; and ERP auditory processing. Cognitive and psychiatry evaluations were done. Projects focused on amusia and music production; teaching personal safety strategies with strangers; and biomarkers of a mindfulness-based stress reduction intervention. All this plus songwriting, jamming, and meeting the stars!



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“I was reminded how capable our kids can be when we back away and give them a little space to blossom.”



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music and

► **Next Steps Summer Institute (9, 10, 11)**

Next Steps at Vanderbilt Summer Institute is a college transition program for young adults with developmental disabilities up to age 24. It provides a week-long peek into what it is like to go to college. Both accepted Next Steps students and other students interested in postsecondary options stay in a dorm on campus and explore social, educational, and independent living. The week was filled with mindfulness exercises, career assessments, self-advocacy training, a session on dating, grocery shopping, art, public speaking, cookouts, and more!

► **Summer Jobs (13)**

All Next Steps at Vanderbilt students have summer jobs. Two of those students, Matt Moore and Carrie DePauw, are proud to be seasonal employees at the Nashville Zoo at Grassmere. They split a full-time shift in the Zoofari Café.

“We help to keep the Zoo clean around the Café,” said DePauw. “Some of our tasks are to

sweep, clean tables, wash the windows, and learn about food preparation.”

“My favorite part is working inside the kitchen,” said Moore. “I like to wrap the cheese in aluminum foil. Our co-workers are our friends and they help us out. We check in with them.”

“Yes,” added DePauw. “Our co-workers help us and are really nice and friendly. I love working at the Zoo.”

Just as they are for other college students, summer jobs are part of preparing for future careers for these students with developmental disabilities. ■

Photo Credits: Amy Gonzalez; Getty Images/Courtesy of ACM Lifting Lives; Crystal Finley; Katelyn Abernathy; Kylie Beck; Lauren Deisenroth; Steve Green/Vanderbilt



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Accolades BY ELIZABETH TURNER

Camilla Benbow, Ed.D., Patricia and Rodes Hart Dean of Education and Human Development, has been appointed co-chair of the **Council for the Accreditation of Educator Preparation**, a new accrediting body formed through a unification of the National Council for the Accreditation of Teacher Education and the Teacher Education Accreditation Council.

At the 2012 Commencement, 19 retiring faculty members received the **title of emeritus** or emerita faculty honoring their years of service. Among them were **William Bernet**, M.D., professor of Psychiatry, emeritus (1992-), **Ford F. Ebner**, Ph.D., professor of psychology (Arts & Science) and Cell & Developmental Biology, emeritus (1991-), and **Robert Fox**, Ph.D., professor of Psychology (Arts & Science), emeritus (1963-).

Randolph Blake, Ph.D., Centennial Professor of Psychology, was one of two Vanderbilt professors **elected to the National Academy of Sciences**, a prestigious group created by President Abraham Lincoln to advise the government on science and technology. Blake was among only 84 new members selected nationwide.



Randolph Blake, Ph.D.

Meghan Burke, a doctoral student in Special Education and a VKC UCEDD trainee who graduated in May, received the **Anne Rudiger Award of the Association of University Centers in Disabilities** recognizing an outstanding trainee.



Carissa Cascio, Ph.D., assistant professor of Psychiatry, received the **Slifka/Ritvo Innovation in Autism Research Award** at the **International Meeting for Autism Research**. The goal of the Slifka Awards is to create opportunities for junior investigators or to fund brilliant ideas that could not be funded through other means. Cascio was one of only two who received the research award.

Jeffrey Conn, Ph.D., Lee E. Limbird Professor of Pharmacology and director of the Vanderbilt Program in Drug Discovery, **won the first Governor's Award for Innovation Excellence** for his efforts to accelerate the discovery of new drugs for Parkinson's disease, schizophrenia, and other brain disorders. The award recognizes Tennesseans "whose dedication to enhancing our world through innovation has made a major impact on society."

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Leading the Vanguard of Discovery

Vivien Casagrande, Ph.D.

Professor of Cell & Developmental Biology, Psychology, and Ophthalmology & Visual Sciences
Vanderbilt Kennedy Center Investigator
Joined Vanderbilt Kennedy Center 1982



Research Interests

Visual system organization, development, and plasticity.

Principal Investigator

- Visual System Organization and Development in Primates, National Eye Institute
- Multisensory Interactions in the Lateral Geniculate Nucleus, National Eye Institute

Honors and Awards

- Charles Hudson Herrick Award of the American Association of Anatomists, 1981
- National Institutes of Health Research Career Development Award, 1981-1986
- President, Cajal Club, 1998
- Elected Fellow of American Association for the Advancement of Science, 2006
- Elected Fellow of the American Association of Anatomists, 2011
- Charles R. Park Faculty Research Award (Vanderbilt University), 2012

Education

- B.A., 1964, Psychology/Biology, University of Colorado
- Ph.D., 1972, Physiological Psychology, Duke University
- Postdoctoral Fellow, 1972-1973, Neuroanatomy, Duke University
- Postdoctoral Fellow, 1973-1975, Anatomy, University of Wisconsin

Attraction to Developmental Disabilities Research

When I drive to work, I often marvel at the fact that everyone on the road is performing incredibly complex sensory, motor, and cognitive tasks seamlessly. Given the number of times I have traveled the same route either in my car or on my bike, it is rare to witness an accident. This is despite the fact that people of all ages are driving or riding. This is despite the fact that individuals may have mental or physical challenges. And this is despite the fact that individuals driving or riding may be using new technologies that did not exist a decade ago. The brain is a marvelous machine! How can the brain work so well? What factors are involved that allow brain circuitry to be so flexible

and yet so resilient?

It is clear that developmental programs guided by genetics and impacted by epigenetic factors are some of the keys to understanding the answers to these questions. When I first came to Vanderbilt, I was heavily involved in basic questions concerning neural development. Areas where there are errors in development offer clues about typical development and function. In addition, errors in development lead to sensory, motor, and cognitive deficits that similarly offer clues about how the brain is wired to perform tasks typically. The Vanderbilt Kennedy Center was originally attractive to me in the early 1980s because it was one of the few Centers on campus concerned with neural development and one of the few places where neuroscience investigators came together.

More recently, my lab has been investigating a deep brain structure, the primate pulvinar, which may be important in understanding ADHD and autism and certainly is important in various aspects of attention. We would like to understand more about the relationship of the pulvinar to developmentally related problems in brain function. Therefore, we would like to make use of our links through the Kennedy Center to test this hypothesis. The links between pulvinar and ADHD and autism represent new areas that we could investigate using all the new tools available.

Reasons for VKC Membership

I originally joined the Kennedy Center because of my research in neural development and because the Kennedy Center represented the center of neuroscience research at Vanderbilt. I have played a number of roles at the Kennedy Center since I joined under then director Al Baumeister. My research moved away from basic issues concerning the typical development of the nervous system, specifically the visual system, to more functional questions concerning the organization of the visual system in mature animals. Now my research is beginning a new chapter which may move our research questions closer to those of the Kennedy Center, since the structure we have been studying has been implicated in such developmental brain disorders as schizophrenia, autism, and ADHD.

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ACCOLADES from page 6

Blythe Corbett, Ph.D., assistant professor of Psychiatry, achieved a milestone when her article "Brief Report: Theatre as Therapy for Children with Autism Spectrum Disorder" was listed among the **Top 20 Downloaded Articles** on the website of the *Journal for Autism and Developmental Disorders*.

Tammy Day, M.Ed., program director of Next Steps at Vanderbilt, was **invited to serve on the National Advisory Board for the 2012 State of the Art Conference for Post-Secondary Education and Individuals with Intellectual Disabilities**.



Tammy Day, M.Ed.

VKC director **Elisabeth Dykens**, Ph.D., Annette Schaffer Eskind Chair and professor of Psychology, Psychiatry, and Pediatrics, received the **American Association of Intellectual and Developmental Disabilities Research Award** for her innovative work in focusing on genetics and specific etiologies of IDD, developing effective behavioral/mental health interventions, and introducing positive psychology to the field. In addition, she also received the **Outstanding Achievement Award of the Association of University Centers on Disabilities**.

Lynn Fuchs, Ph.D., professor of Special Education and Nicholas Hobbs Chair in Special Education and Human Development, and **Steve Graham**, Ed.D., professor and Currey Ingram Chair in Special Education and Literacy, were among 36 scholars nationwide to be **named to the 2012 class of American Educational Research Association Fellows** in recognition of their exceptional scholarly contributions to education research.

John Gore, Ph.D., Hertha Ramsey Cress Chair in Medicine, Chancellor's University Professor of Radiology & Radiological Sciences and Biomedical Engineering, professor of Molecular Physiology &

Biophysics and Physics, and director of the Institute of Imaging Science, has been **appointed to the National Advisory Council for Biomedical Imaging and Bioengineering**. The Council advises the federal government on policies regarding the conduct and support of research training and other programs involving biomedical imaging, biomedical engineering, and related technologies.



John Gore, Ph.D.

Special Education doctoral student **Megan Griffin** received the **American Association of Intellectual and Developmental Disabilities 2012 Student Award**, recognizing her research on transition and postsecondary education for students with intellectual/developmental disabilities.

Craig Anne Heflinger, Ph.D., associate dean for Graduate Education, Peabody College, and professor of Human & Organizational Development, will serve on the **Measurement Advisory Panel of the National Committee on Quality Assurance** as part of its **National Collaborative for Innovation in Quality Measurement**.



Craig Anne Heflinger, Ph.D.

Professor of Special Education **Carolyn Hughes**, Ph.D., was recently **awarded the American Association of Intellectual and Developmental Disabilities 2012 Education Award**. Hughes was recognized for her commitment to improving the lives of those with significant disabilities and their families as well as her contributions to the field of special education.

Three VKC members were recently named to new endowed chairs. **Jon Kaas**, Ph.D., professor of Psychology and Radiology & Radiological

Sciences, and **Sohee Park**, Ph.D., professor of Psychology and Psychiatry, were both named **Gertrude Conaway Vanderbilt Professor of Psychology**. **David Piston**, Ph.D., professor of Molecular Physiology & Biophysics, Physics, Chemical and Biomolecular Engineering and director of the Biophotonics Institute, was named **Louise B. McGavock Chair**.

Beth Malow, M.D., M.S., Burry Chair in Cognitive Childhood Development, professor of Neurology and Pediatrics, and director of the Vanderbilt Sleep Disorders Division, was awarded the **2012 Sleep Science Award of the American Academy of Neurology** for her presentation "Thinking About Sleep in Autism—A Model for Treating Neurological Disease."

The **Alexander Heard Distinguished Service Professor Award** was presented to **Sohee Park**, Ph.D., Gertrude Conaway Professor of Psychology and professor of Psychology and Psychiatry. A leading researcher in the study of schizophrenia,



Rachel Pearson

Park was one of five professors honored at the Spring Faculty Assembly.

Rachel Pearson of Nashville, a graduate of Next Steps at Vanderbilt, received the **Self-Determination Award from The Arc Tennessee** during the tenth annual Tennessee Disability MegaConference Awards Banquet and Dance.

Krystal Werfel, a doctoral candidate in Hearing & Speech Sciences mentored by assistant professor **Melanie Schuele**, Ph.D., received the **International Reading Association Jeanne S. Chall Research Fellowship Award** for her dissertation "Contribution of Linguistic Knowledge to Spelling Ability in Elementary Children With and Without Language Impairment." ■

VANGUARD – VIVIEN CASAGRANDE from page 6

Selected Publications

Jermakowicz, W. J., Chen, X., Khaytin, I., Bonds, A. B., & Casagrande, V. A. (2009). Relationship between spontaneous and evoked spike-time correlations in primate visual cortex. *Journal of Neurophysiology*, 101, 2279-89, PMC2681437.
 Casagrande, V. A., & Purushothaman, G. (2009). Modularity. In E. B. Goldstein (Ed.), *Encyclopedia of perception* (pp 561-566). Thousand Oaks, CA: Sage.
 Casagrande, V. A., & Marion, R. T. (2011). Process-

ing in the primary visual cortex. In A. Alm & P. L. Kaufman (Lead Eds.), L. A. Levin, S. F. E. Nilsson, J. Ver Hoeve, & S. M. Wu (Eds.) *Adler's Physiology of the Eye* (11th ed., pp. 586-598). Mosby, Elsevier.
 Casagrande, V. A., & Ichida, J. M. (2011). Processing in the lateral geniculate nucleus (LGN). In A. Alm & P. L. Kaufman (Lead Eds.), L. A. Levin, S. F. E. Nilsson, J. Ver Hoeve, & S. M. Wu (Eds.) *Adler's Physiology of the Eye* (11th ed., pp. 574-585). Mosby, Elsevier.
 Purushothaman, G., Marion, R., Li, K., &

Casagrande, V. A. (2012). Gating and control of primary visual cortex by pulvinar. *Nature Neuroscience*, 15, 905-912.
 Ichida, J. M., Shostak, Y., & Casagrande, V. A. (2012). Distinct patterns of corticogeniculate feedback to different layers of the lateral geniculate nucleus (LGN). Submitted.
 Marion, R., Purushothaman, G., Jiang, Y., & Casagrande, V. A. (2012) Morphological and neurochemical comparisons between pulvinar and V1 projections to V2. Submitted. ■



Educating to Advocate

UCEDD faculty and staff, trainees and Community Advisory Council (CAC) members all have a responsibility to educate our communities—and most especially public policy makers. We educate to inform public policies and to shape service systems to promote independence, self-determination, productivity, integration, and inclusion of individuals with disabilities.

► White House Policy Briefing

VKC UCEDD CAC member and president of The Arc Tennessee Board of Directors holly lu conant-rees attended the White House Policy Briefing organized by The Arc U.S. Reflections on her experience follow:

A day-long disability policy briefing at the White House? Fabulous. Representing Tennessee in a group with only 150 slots? Humbling. High level policy-makers not only speaking to us but listening to us? An awesome opportunity.

I sat in a row among self-advocates, family members, and executive directors, reminding me that while our heart is centered in families and people with intellectual/developmental disabilities, our body has many parts, and our power lies in partnership. Marvelously, all these officials spoke to us as allies, compatriots, rather than instructing us in the myriad ways that we are wrong-minded.

[At the conclusion] Kareem Dale, the Special Assistant on Disability Policy, returned to the podium, and said, “We thought you might like to hear from one more person.” And that person was Barack Obama. I’m guessing that it doesn’t matter what your politics are. The words “Ladies and Gentlemen, the

President of the United States” have a uniquely galvanizing effect on the human nervous system.

I realized later when I was restored to common reality that I had heard virtually nothing the man said except when he assured us that he’s got our backs. But even the most eloquently crafted sentence could not have carried more power than the simple fact of his appearance in a room with 150 leaders of The Arc nation. The President of the United States made time for us.

I challenge every one of you/us to say . . . and to back it up with action, whether it’s a phone call, a volunteer hour, a check or spreading the gospel: *We’ve got your back.*

► Down Syndrome Day on the Hill

Will McMillan and Matthew Moore are students in Next Steps at Vanderbilt. Wednesday, March 21, was Down Syndrome Day in Tennessee. We both attended and got to speak about advocating for our rights to be a part of the community. We met Miss Tennessee and Governor Haslam and the State legislators. Our speech was about being in Next Steps and what we will be doing after graduating. We also talked about being a voting Tennessean and how government could help families and their kids. We were both a little nervous before we gave the speech. And we both felt brave and confident to talk about advocating.

► Disability Days on the Hill

Christine Sartain and her daughter Lake met their representatives at 2012 Disability Days on the Hill.

As Lake waved and yelled goodbye, her mom replied “I’m teaching her the self-advocacy skills, but the charm is all her own!” Sartain is a VKC CAC member and was the 2011-12 LEND Family Trainee. Each spring, disability advocates meet with their representatives at the Legislature to share their personal stories and to educate on disability issues. The VKC UCEDD and The Arc Tennessee distribute *Family Stories*, collected by VU Special Education students through family interviews. Find *Family Stories* at kc.vanderbilt.edu, Resources. Hold the date: January 30, 2013; see www.tndisability.org.

► Sharing Research Expertise

Through the years, VKC- affiliated faculty have shared their expertise with policy makers so that state and national public policy can be evidence-based. Most recently, Erik Carter (Special Education) spoke at a Council for Exceptional Children briefing on Capitol Hill in Washington. He discussed how funding for education research has improved academic, behavioral, and lifelong outcomes for children with and without disabilities.

It’s Not Too Late...End the Wait!

The Arc Tennessee is hosting informational meetings across the state for family members of an individual on the Waiting List for DIDD Services. Meetings will include the status of the Wait List, ways families can advocate, and resources. For more information, contact cguiden@thearctn.org, (800) 835-7077 x14. ■

(1) Laura Brewer, Sheila Moore, Frank Meeuwis, Tommy Lee Kidd, U.S. Senator Lamar Alexander, Doria Panvini, U.S. Senator Bob Corker, Maggie Massimore, and Elise McMillan at “Tennessee Tuesday” at U.S. Capitol. Photo courtesy of Senator Alexander’s Staff. (2) Will McMillan, Miss Tennessee Erin Brooks, and Matthew Moore. Photo courtesy of Next Steps at Vanderbilt. (3) Christine Sartain and Lake. Photo courtesy of Tennessee Disability Coalition. (4) Erik Carter. (5) holly lu conant-rees.



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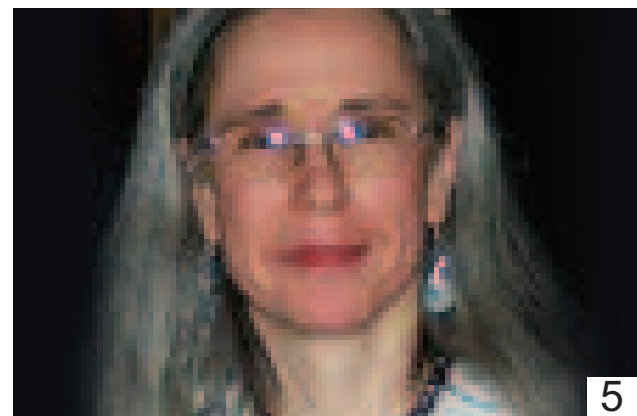
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VKC UCEDD Reaching Out BY COURTNEY TAYLOR



Michael Heroux, Rachel Pearson, and Steven Greiner complete Next Steps at Vanderbilt.



Megan Griffin



Meghan Burke



Ruth Wolery

► Next Steps and New Beginnings

Next Steps at Vanderbilt graduated its second class of students on April 25. Steven Greiner, Michael Heroux, and Rachel Pearson completed this 2-year certificate program for students with intellectual disabilities, which aims to improve academic, social, and independent living skills and to broaden career options.

In her commencement address, Sharon Shields, Ph.D., professor of the Practice of Human & Organizational Development and Dean of Professional Education, remarked that in her 35 years at Vanderbilt, participation in the Next Steps program has been a highlight of her career.

"I have been profoundly moved by these students," Shields said. "You enrich our classrooms because you give us new perspectives, you bring us a joy and an enthusiasm for learning, you bring ideas, and you share from personal experiences. We know you will go on to do amazing things in life, to be agents of change, and to make a difference in this world. How do we know that will happen? Because you have been amazing agents of change right here at Vanderbilt, and you have made a difference for us all. We are here today to celebrate your completion of the Next Steps Program. But we also are here to celebrate the new beginnings that await you."

With job locating and coaching assistance from Next Steps job developer Amy Gonzales, the graduates have indeed embarked upon their new beginnings. Greiner is doing data entry for Project Support and Include with Vanderbilt associate professor of Special Education Erik Carter. Heroux has been hired at Goodwill Industries, working 20 hours/week in the retail area sorting clothing and helping with shipments. Pearson is at The Gardner School, working as a teacher assistant in a preschool classroom. She also worked as the vocal warm-up coach for SENSE Theatre campers and received a surprise invitation to join the cast.

Gonzales says that the transferable skills the graduates gained through their internships and classes have been invaluable in helping them secure meaningful employment.

► First UCEDD Long-Term Trainees Graduate

"It is with great pride and sadness that we congratulate and bid farewell to UCEDD long-term trainees Dr. Megan Griffin and Dr. Meghan Burke," said Elise McMillan, VKC UCEDD co-director. "As our UCEDD's first long-term trainees, they have exhibited great commitment to our Center's mission and have shared their skillful knowledge and efforts, which have enabled so many of our programs to develop and grow. We wish them well in their future endeavors and look forward to watching their careers blossom."

Griffin will join the Special Education faculty at the University of New Mexico. Her dissertation, *Participation in Transition Planning Among High School Students with Autism Spectrum Disorders*, concluded that attendance in transition meetings was positively related to expressive communication, and was negatively related to parent involvement at school. Participation was positively related to self-advocacy ability; however, older students were less likely to participate actively, as were African-American students. Both student attendance and participation were positively related to the percentage of time students spent in general education and the frequency of discussions they have at home about transition.

Burke will begin a postdoctoral position at the University of Illinois-Chicago. Her dissertation, *Correlates of Family-School Partnerships in Special Education*, focused on a national dataset of 1,004 parents of students with disabilities. Respondents completed a 163-item, web-based questionnaire. Stronger family-school partnerships related to: increased satisfaction with services, frequent parent-school communication, and parents who were more extroverted.

Both Burke and Griffin received national awards in recognition of their contributions as trainees.

► SGS Director Retires

Ruth Wolery, Ph.D., has stepped down as director of the Susan Gray School for Children (SGS), a position she has held since 2001. She will remain on the Special Education faculty until May 2013. She will be on sabbatical for much of 2012-13 in Abu Dhabi, where she and husband Mark Wolery, Ph.D., professor of Special Education, will be working with the special education component in two new demonstration schools.

"I take with me a strong sense of how critical a culture of community is in all we do," said Wolery. "Being at the School has shown me how effective and productive we can be as a community when everyone is included and involved."

Kiersten Kinder, Ph.D., has been named SGS interim associate director and is working closely with assistant director Michelle Wyatt to cover administrative and leadership responsibilities while a national search for a new director is under way.

► Building Capacity

With the goal of laying the groundwork for creating more inclusive postsecondary education (PSE) programs for individuals with intellectual/developmental disabilities, the 2012 Tennessee Postsecondary Education Alliance Capacity Building Institute (CBI) was held in Knoxville, April 30. Over 75 representatives from secondary education, institutes of higher education, and disability agencies attended.

A packed agenda included a presentation on the national landscape of the postsecondary education movement by Think College coordinator Cate Weir; updates from University of Tennessee FUTURE and Next Steps at Vanderbilt students and staff; and an overview of the North Carolina Postsecondary Education Alliance by Deborah Zuver and Donna Yerby, Carolina Institute for Developmental Disabilities, UNC-Chapel Hill. The CBI was co-sponsored by Think College Consortium, the Tennessee Council on Developmental Disabilities, and the University of Tennessee. ■



A Commitment to Inclusive Postsecondary Education: Carol Henderson BY COURTNEY TAYLOR

VK Leadership Council member Carol Henderson has been a long-term supporter of inclusive education for students with disabilities. In 1996, she and her husband endowed the Britt Henderson Training Series for Educators in memory of their son Britt. The series provides training for school teams that focuses on innovative, evidence-based practices to improve the quality of education for students with disabilities.

This year, Henderson has given a significant 4-year financial gift to the Next Steps at Vanderbilt program, a 2-year certificate program for students with intellectual and other developmental disabilities. The program aims to provide students with a traditional college experience and to improve their employment options. Henderson was drawn to the program because she believes it would have been a great fit for her son.

“I first heard about Next Steps at a Leadership Council meeting,” Henderson said. “I can remember thinking ‘Oh, I wish this had been around when Britt was alive.’ Much of my interest in the area of education, and much of my motivation for giving in this regard, is grounded in what I think would have worked for Britt. Of course, I also love Vanderbilt. I am a very proud graduate and the very thought of Britt going to Vanderbilt and taking classes and being in college—I think it’s wonderful. I get chills just thinking about it.”

Henderson was eager to meet with Next Steps students and to get a glimpse of the program. Her visit increased her enthusiasm and affirmed her



Carol Henderson

belief that students with disabilities need more options as they transition from secondary education.

“Britt was such a social and curious young man,” said Henderson. “I can’t imagine a life for him with no options. You know, a lot has changed since he was alive, and yet a lot remains the same. What are our children going to

do, and what are we going to do to support them in their endeavors? These are the questions that we, as parents and as a community, need to be asking ourselves. What are we doing to ensure that our children have meaning in their day-to-day living? What are we doing to help them find out who they are and what they want for themselves in order to lead a good life? The Next Steps program, to me, seems to be one more step in this puzzle.”

“We’re enormously grateful to Carol and her family for this marvelous gift,” said Elise McMillan, J.D., VK UCEDD co-director. “Their deep commitment to inclusive education has reached hundreds of students, teachers, and families through the Britt Henderson Series for



Britt Henderson

Educators. Now this new gift is a cornerstone in continuing Next Steps past its initial funding through a grant from the Tennessee Council on Developmental Disabilities and the continuing philanthropy of Leadership Council member Linda Brooks. This gift is an instance of how family members who share our vision for a fulfilling future for individuals with disabilities make a critical difference in what is possible.” ■

Grants Awarded *Competing renewal funded

Presynaptic Regulation of *C.elegans* Dopamine Transporter

Randy Blakely, Ph.D. (Pharmacology)
National Institute of Mental Health

Genetic and Developmental Analyses of Fragile X Mental Retardation Protein*

Kendal Broadie, Ph.D. (Biological Sciences)
National Institute of Mental Health

Mechanisms of Neurotrophin Signaling Through P75 Receptor*

Bruce Carter, Ph.D. (Biochemistry)
National Institute of

Neurological Disorders and Stroke

Novel Transgenic Tools for Analysis of 5HT2C Receptor Expression and Function

Ronald Emeson, Ph.D. (Pharmacology)
National Institute of Mental Health

Regulation of Neurogenesis in TSC by mTORC1 and mTORC2

Kevin Ess, Ph.D., M.D. (Neurology)

National Institute of Neurological Disorders and Stroke

Characterization of the Sleep Phenotype in Adults with Autism

Spectrum Disorders

Suzanne Goldman, Ph.D. (Nursing)

Autism Speaks Foundation

Adaptive Interventions for Minimally Verbal Children with ASD in the Community

(subcontract UCLA; Connie Kasari, PI) Ann Kaiser, Ph.D. (Special Education)
National Institute of Child Health and Human Development

Iron Treatment of Sleep Disorders in Children with Autism Spectrum Disorder

Beth Malow, M.D., M.S. (Neurology)
Health Resources and Services Administration

Ascorbic Acid Function and Metabolism*

James May, M.D. (Medicine)
National Institute of Diabetes and Digestive and Kidney Diseases

Classical vs. Operant Conditioning: Differences in Mechanism and Circadian Regulation

Terry Page, Ph.D. (Biological Sciences)
National Science Foundation

Stochastic Models of Visual Search

Jeffrey Schall (Psychology), Thomas Palmeri & Gordon Logan (MPI)
National Eye Institute

A Murine Sox10 Dominant Negative COIN Allele for Functional Gene Analysis

Michelle Southard-Smith, Ph.D. (Medicine)
National Institute of Neurological Disorders and Stroke

Toddler Interventions for ASD: Testing Effects of Intensity Levels and Delivery Style in a Randomized, Multisite Study

(subcontract UC-Davis; Sally Rogers, PI) Paul Yoder, Ph.D. (Special Education)
National Institute of Child Health and Human Development ■



My Story of Chance BY JESSICA YOUNG

I am a single mother of two beautiful children. Jenna is my 7-year-old typical child and Chance is my 2-year-old with ASD, or autism spectrum disorder.

Chance was delayed in a lot of things. He didn't cry a lot. He wasn't interested in eating and he could not tolerate being strapped in his highchair. So now we eat standing up, and I change his diapers standing up. The desire to have tummy time, roll over, or to sit up, just wasn't there. I thought "Wow. I have a good quiet baby."

Chance was very slow in reaching age group milestones. Everyone told me "Ah, boys take longer, don't worry." But I did. Deep down inside something was off. It didn't add up. Chance's primary care provider shared a lot of my concerns.

I learned about TRIAD and found out that they were doing a study for Chance's age group. The Vanderbilt Kennedy Center has helped me with a lot of resources on autism-related information and intervention programs. Recently I signed Chance up for a Useful Speech Study. We need more funding for programs like these.

On September 22, 2011, my son Chance Patrick was diagnosed with full autism on all 3 counts. Nonverbal, antisocial, and repetitive behavior. That is a day I will never forget. Now that we had a diagnosis, it was time to find treatment.

What does the word Chance mean to you? I've asked myself this question randomly throughout experiences in my life. Now I have an answer. By the Grace of God, I have another Chance. So in that sentence were both of the baby names I had

picked out. Chance was the name given to him way before autism attached itself to my son. He was my second Chance to be a mother, and another Chance for me to start over.

TRIAD kept in touch with us. And we found out that a new study was out. The Early Start Denver Model (ESDM). It was a 12-week intervention program.

The staff was excellent. They explained everything they were doing and kept me involved. Most of the study is play-based. Chance and a therapist were in one room, while I watched through a 2-way mirror. He picked it up quickly, and we started to see results. Chance has therapy 4 days a week, twice a day. I have formed my life around his therapy schedule.

After Chance's diagnosis, I signed him up for feeding therapy, occupational therapy, physical therapy, speech and applied behavior analysis. Anything I could find out there, we went for it. We went to

workshops and learned about IEPs. I got into the autism community and joined a great moms group. I educated myself on autism and came to realize that this is in my life to stay. And I learned how not to let the label of autism rule me.

Chance's ESDM teacher asked if I was interested in participating in a Parent Training Program. This program is showing me how to implement the Denver Model into Chance's play.

I don't know if he will be independent when he grows up. I do know that having programs like the ones at the Vanderbilt Kennedy Center and keeping him in therapy is key. We might have a fighting Chance.

As a parent of a child on the spectrum, it's difficult to maintain a balance. While you want your child to learn as much as possible, you also simply want to be a parent.

My wish is no different than any other mother's—to belong, to love, to be loved, and to be

understood. I see the struggles that lay ahead, but I know that there will be triumphs as well. Thank you for letting me share my story of Chance. ■



PHOTO COURTESY, JESSICA YOUNG

Jessica and Chance Young

Hobbs Society Donors Honored

The VKC Leadership Council thanked members of the Nicholas Hobbs Donor Society at a reception on May 9 at the home of Donna and Jeff Eskind. The generosity of Hobbs Society donors supports innovative research on the causes and treatments of disabilities such as autism, Down syndrome, and other genetic syndromes.

Donna Eskind, Leadership Council chair, opened the evening's program. Shirley Speyer, Hobbs Society chair, thanked members whose gifts support Hobbs Discovery Grants. Promising findings from these innovative "seed" grants help researchers obtain federal grants for larger studies. Jeff Balsler, Vanderbilt Vice Chancellor for



TOMMY LAWSON/VANDERBILT

Elisabeth Dykens, Jeff Balsler, Donna Eskind, Shirley Speyer

Health Affairs and Dean of the School of Medicine, thanked Hobbs Society members for their important role in supporting scientific discoveries.

Jessica Young, whose 2-year-old son Chance has been diagnosed with autism, shared how her son has benefitted from VKC programs (see "My Story of Chance").

VKC director Elisabeth Dykens summarized the innovative research being undertaken by the 2012 Hobbs Discovery Grant recipients, who were introduced. She thanked the many Hobbs Society members who fund ground-breaking science that over time may lead to improvements in the quality of life for children and adults with disabilities and their families. ■



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Find us on Facebook for frequent updates and discussions on news, events, and research going on at the Center. tinyurl.com/vkcfacbook

Giving kc.vanderbilt.edu/giving



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Survey

TN Autism Service Needs and System

kc.vanderbilt.edu/AutismServicesSurvey

If you are a parent or guardian of a child with autism (ASD) and would like to take part in this survey, go to the link: <https://kc.vanderbilt.edu/AutismServicesSurvey>. Survey takes 25-30 minutes to complete. Responses are voluntary and anonymous.

This statewide survey is a project of TN Disability Coalition, TN Autism Summit Team, and the VKC. Findings will be used to develop a state plan to improve services and service coordination for children with ASD and related disabilities.



Questions? Email AutismServicesSurvey@vanderbilt.edu or Phone (615) 322-8240, (866) 936-8852

Discovery is a quarterly publication of the Vanderbilt Kennedy Center designed to educate our friends and the community, from Nashville to the nation. The Center is a *Eunice Kennedy Shriver* Intellectual and Developmental Disabilities Research Center funded by the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development, and a University Center for Excellence in Developmental Disabilities (UCEDD) funded by the Administration on Developmental Disabilities. *Discovery* is supported in part by Grant No. HD 15052 from EKS NICHD, Administration on Developmental Disabilities Grant #90DD0595, and LEND Training Grant No. T73MC00050 MCHB/HRSA.

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CALENDAR OF EVENTS | AUGUST-DECEMBER 2012



MATTHEW LOVELAND



BRADLEY EARLY



DERICK FREEMAN



GROUP PARTICIPANTS



CLAY SMITH

Youth with autism designed and made Superhero costumes, thanks to VSA Tennessee and MTSU Human Sciences students. On exhibit at VKC through Aug. 31.

Unless otherwise noted, events are free and open to the public. Events are subject to change. Please check the website calendar at kc.vanderbilt.edu or contact (615) 322-8240 or toll-free (1-866) 936-VUKC [8852].

Please keep this calendar and check the Event Calendar on the VKC website for updates. If you wish to receive event announcements by email, send your email address to kc@vanderbilt.edu.

For disability-related training and other events statewide and nationally, see the Pathfinder Disability Calendar www.familypathfinder.org.

*Event will be held in Room 241 Vanderbilt Kennedy Center/One Magnolia Circle Bldg (110 Magnolia Circle).

■ **AUGUST 11***

TRIAD Families First Workshops Out and About: Grocery Stores and Restaurants Register at kc.vanderbilt.edu/registration. Info (615) 322-6027 or families.first@vanderbilt.edu. Saturday 9 a.m.-12 p.m. Fall workshops TBA

■ **AUGUST 20**

Fragile X Treatment Research Program Symposium Transitions and Adulthood Register at kc.vanderbilt.edu/registration. Info (615) 936-3288 or angela.s.mosley@vanderbilt.edu. Holiday Inn Vanderbilt, 2613 West End Ave. Monday 6:30 p.m.

■ **AUGUST 25***

SibSaturday For siblings 5-7 and 8-13 years who have a brother/sister with a disability Games, friends, conversation \$10/child, \$20 max/family (assistance available) Register at kc.vanderbilt.edu/registration (required in advance) Info (615) 936-8852 or laurie.fleming@vanderbilt.edu.

■ **SEPTEMBER 4***

Statistics and Methodology Core Training Seminar Research Electronic Data Capture (REDCap): What's New and What's Next? Paul A. Harris, Ph.D. Associate Professor of Biomedical Informatics, Research Associate Professor of Biomedical Engineering Tuesday 12:30 p.m.

■ **SEPTEMBER 5***

Developmental Disabilities Grand Rounds Social Interaction and Stress in Autism Blythe Corbett, Ph.D. Assistant Professor of Psychiatry & VKC Investigator Wednesday 12 p.m.

■ **SEPTEMBER 13***

Clinical Neuroscience Core Training Seminar Sleep and Circadian Rhythms in Developmental Disorders: Opportunities for Research through the Vanderbilt Sleep Core Beth Malow, Ph.D. Burry Chair in Cognitive Childhood Development, Professor of Neurology & Pediatrics, Director of Vanderbilt Sleep Disorders Division Thursday 12 p.m.

■ **SEPTEMBER 14***

Community Advisory Council Meeting Info (615) 936-8852 Friday 9 a.m.-12 p.m.

■ **SEPTEMBER 19**

Neuroscience Graduate Program Seminar Series Hippocampal Plasticity and Cognitive Function: Focus on Choline as an Essential Nutrient Christina Williams, Ph.D. Professor of Psychology & Neuroscience, Duke University Co-sponsor Vanderbilt Brain Institute Room 1220 MRB III Lecture Hall Wednesday 4:10 p.m.

■ **OCTOBER 3***

Developmental Disabilities Grand Rounds Think Left and Think Right: Using Zebrafish to Understand the Development of Brain Asymmetry Joshua Gamse, Ph.D. Assistant Professor of Biological Sciences, & Cell & Developmental Biology; VKC Investigator Wednesday 12 p.m.

■ **OCTOBER 15***

Lectures on Development and Developmental Disabilities The Emerging Behavioral Phenotype in Young Children with Down Syndrome Deborah Fidler, Ph.D. Associate Professor of Human Development & Family Studies, Colorado State University Monday 4:10 p.m.

■ **OCTOBER 29***

Disabilities, Religion, and Spirituality Panel Discussion Helping Individuals With Autism Cope With Loss Monday 12 p.m.

■ **NOVEMBER 1***

Statistics and Methodology Core Training Seminar MOOSES Version 4: Aiding Discrepancy Discussions and Improving Inter-Observer Reliability Paul Yoder, Ph.D. Professor of Special Education & VKC Investigator, & Jon Tapp, VKC Information Technology Director Thursday 12:30 p.m.

■ **NOVEMBER 7***

Developmental Disabilities Grand Rounds Developing Child Mental Health Capacity in the Developing World, in General and for ASD Bahr Weiss, Ph.D. Associate Professor of Psychology & Human Development Wednesday 12 p.m.



CALENDAR OF EVENTS | AUGUST-DECEMBER 2012



IMAGE ©ISTOCKPHOTO.COM

■ **NOVEMBER 10***

SibSaturday

For siblings 5-7 and 8-13 years who have a brother/sister with a disability Games, friends, conversation \$10/child, \$20 max/family (assistance available) Register at kc.vanderbilt.edu/registration (required in advance) Info (615) 936-8852 or laurie.fleming@vanderbilt.edu.

■ **NOVEMBER 13**

Disability and Cultural Diversity Conference

\$30 lunch/workshop materials Register at kc.vanderbilt.edu/registration (required in advance) Info (615) 875-5082, (800) 640-4636, or TNPathfinder@vanderbilt.edu. Ezell Bldg Rm 363, David Lipscomb University, One University Park Drive Tuesday 8 a.m.-2:30 p.m.

■ **NOVEMBER 14**

Neuroscience Graduate Seminar Programming Innate Immunity by the Early-Life Environment:

Implications for Brain and Behavioral Development Staci Bilbo, Ph.D. Assistant Professor, Psychology & Neuroscience, Arts & Sciences, Duke University Co-sponsor Vanderbilt Brain Institute Room 1220 MRB III Lecture Hall Wednesday 4:10 p.m.

■ **DECEMBER 5***

Developmental Disabilities Grand Rounds

A Potential Role for the Thalamus in Developmental Disorders Involving Inattention and Neglect Vivien Casagrande, Ph.D. Professor of Cell & Developmental Biology & Ophthalmology & Visual Sciences; VKC Investigator Wednesday 12 p.m.

■ **DECEMBER 13***

Lectures on Development and Developmental Disabilities

Order and Disorder in the Developing Emotional Brain: Prospects for Cultivating Healthy Minds Richard J. Davidson, Ph.D. Professor of Psychology & Psychiatry, University of Wisconsin Thursday 4:10 p.m.

■ **ARTS AND DISABILITIES EXHIBIT**

Monday-Friday 7:30 a.m.-5:30 p.m. Lobby VKC/One Magnolia Circle Info (615) 936-8852

• **THROUGH AUGUST 31**

Superheroes

Super Hero Costumes designed by youth with autism in a fashion design course in the Human Sciences Department, Middle Tennessee State University, a project with VSA Tennessee

• **SEPTEMBER 1 THROUGH DECEMBER 31**

Creative Expressions XVIII

Jointly sponsored by the VKC and the Nashville Mayor's Advisory Committee for People with Disabilities, this annual exhibit features work by artists with a wide range of abilities/disabilities and ages.

■ **AUTISM TRAININGS FOR K-12 SCHOOL PERSONNEL**

With the Tennessee Department of Education, TRIAD offers free autism-specific workshops for school personnel, parents, and the community in locations across the state. Dates/locations TBA; see kc.vanderbilt.edu/TRIAD/events.

■ **LEARNING ASSESSMENT CLINIC**

Multidisciplinary academic assessments of students, 5-25 years, to identify learning strengths and challenges and to recommend strategies to improve academic learning. Info (615) 936-5118 or patty.abernathy@vanderbilt.edu

■ **NEXT STEPS AT VANDERBILT**

A 2-year certification postsecondary education program for students with intellectual disabilities providing individualized Programs of Study in education, social skills, and vocational training. Info (615) 343-0822 or NextSteps@vanderbilt.edu.

■ **READING CLINIC**

Assessment and tutoring for students through middle school Info (615) 936-5118 or patty.abernathy@vanderbilt.edu.

■ **TAKE PART IN RESEARCH**

VKC Research Studies

For children and adults, with and without disabilities Lynnette Henderson (615) 936-0448 Toll-free (1-866) 936-VUKC [8852]

• **Research Family Partners**

kc.vanderbilt.edu/rfp

Register and be notified of research studies

• **StudyFinder**

kc.vanderbilt.edu/studyfinder

View lists of studies, criteria, and contact information

• **See also VUMC Clinical Trials**

www.vanderbilthealth.com/clinicaltrials

■ **TENNESSEE DISABILITY PATHFINDER ■ MULTI-CULTURAL OUTREACH**

Helpline, Web-Searchable Database with Calendar and Resource Library, Print Resources www.familypathfinder.org English (615) 322-8529 Español (615) 479-9568 Toll-free (1-800) 640-INFO [4636] tnpathfinder@vanderbilt.edu Project of VKC UCEDD and TN Council on Developmental Disabilities

■ **ASMT EVENTS***

Autism Society of Middle Tennessee ASMT members free; nonmembers \$5/family. Registration is requested for all events. Info (615) 385-2077 or www.tnautism.org.

■ **DSAMT EVENTS**

Down Syndrome Association of Middle Tennessee Info (615) 386-9002 or www.dsamt.org.