



**TSC ALERT**  
**December 2007**

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**IMPORTANT SUBMISSION DEADLINES**

**TS Alliance Announces New Requests for Applications:**

The Tuberous Sclerosis Alliance announces Requests for Applications for the following grant mechanisms:

- Predoctoral, Postdoctoral and Clinical Fellowships
- TSC Innovator Awards
- TSC Supplemental Funding Awards
- TSC Workshop/Conference Awards (one year awards only)

**Amounts:** Up to \$60,000 per year for three-year awards; total not to exceed \$180,000

**Indirect Costs:** The TS Alliance will support up to an additional 10% indirect costs on research grant awards (maximum total request of \$66,000 per year)

**Requisites:** Open to investigators at established academic and/or research institutions worldwide

**Letter of Intent:** Before submitting an application for research support, an applicant must submit a Letter of Intent (LOI) briefly describing the project. If the research proposed in the LOI meets the TS Alliance’s funding priorities in a given year, the investigator will be invited to submit a formal proposal. The TS Alliance Grant Review Committee carefully reviews all LOIs submitted for review.

**Deadline for Receipt of Letter of Intent: December 17, 2007**

**Deadline for Receipt of Completed Application:** March 3, 2008

**Awards Announced:** June 2008

**Earliest Project Start Date:** July 1, 2008

Additional information, including the Letter of Intent Form, is available on the TS Alliance Website at: <http://www.tsalliance.org>

# ***FUNDING OPPORTUNITIES***

## ***FEDERAL FUNDING AGENCIES***

### **Understanding and Treating Tuberos Sclerosis Complex (R01) (PAS-07-190)**

National Institute of Neurological Disorders and Stroke

National Cancer Institute

National Institute of Arthritis and Musculoskeletal and Skin Diseases

National Institute of Diabetes and Digestive and Kidney Diseases

National Institute of Mental Health

Application Receipt/Submission Date(s): Multiple dates, see announcement.

<http://grants.nih.gov/grants/guide/pa-files/PAS-07-190.html>

### **NIH Nanomedicine Development Centers (NDC)**

The network of NIH Nanomedicine Development Centers requests letters from clinical investigators interested in collaborating in the nanomedicine research enterprise. Clinical investigators, with ongoing preclinical/translational research programs, will be expected to participate in the activities of one or more of the NIH Nanomedicine Development Centers (NDC) and to explore opportunities for potential medical applications that build on the science emerging from one or more of the centers. Approximately \$2,000,000 annually for two years will be available to support three to five projects from clinical collaborators.

Interested individuals must submit a short "Letter of Interest in Collaboration" (LIC) to determine if they qualify for submitting a more extensive application. For LIC preparation instructions and additional information, visit our website: <http://nanomedcenter.org>

Letter of Interest in Collaboration (LIC) Receipt Date: December 10, 2007.

### **NINDS Administrative Supplements for Collaborative Activities to Promote Translational Research (CAPTR)(NOT-NS-08-006)**

National Institute of Neurological Disorders and Stroke

<http://grants.nih.gov/grants/guide/notice-files/NOT-NS-08-006.html>

### **NIH Director's Pioneer Award and the NIH Director's New Innovator Awards**

The RFAs for the 2008 NIH Director's Pioneer Award and the NIH Director's New Innovator Award programs have been issued in the NIH Guide. A news release on the program launch is at

<http://www.nih.gov/news/pr/nov2007/nigms-13.htm>

NIH Director's Pioneer and New Innovator Award Programs Launch 2008 Application Cycles

NIH is calling for applications for 2008 NIH Director's Pioneer Awards and New Innovator Awards. Both programs are part of the NIH Roadmap for Medical Research and support exceptionally creative scientists who take highly innovative approaches to major challenges in biomedical or behavioral research.

Pioneer Awards provide \$2.5 million in direct costs over 5 years and are open to scientists at any career stage. New Innovator Awards provide \$1.5 million in direct costs over the same period and are for new investigators who have not received an NIH regular research (R01) or similar grant.

NIH expects to make 5 to 10 Pioneer Awards and up to 24 New Innovator Awards in September 2008.

To continue its strong record of diversity in these programs, NIH especially encourages women and members of groups that are underrepresented in NIH research areas to apply.

The Pioneer Award application period is from December 16, 2007 to January 16, 2008. See <http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-08-013.html> for application instructions and <http://nihroadmap.nih.gov/pioneer> for more information. Send questions to [pioneer@nih.gov](mailto:pioneer@nih.gov)

Submit New Innovator Award applications between March 3 and 31, 2008. Application instructions are at <http://grants.nih.gov/grants/guide/rfa-files/RFA-RM-08-014.html> and additional information is at [http://grants.nih.gov/grants/new\\_investigators/innovator\\_award](http://grants.nih.gov/grants/new_investigators/innovator_award). Send questions to [newinnovator@nih.gov](mailto:newinnovator@nih.gov)

**Predictive Multiscale Models of the Physiome in Health and Disease (R01) (PAR-08-023)**

National Institute of Biomedical Imaging and Engineering

National Cancer Institute

National Heart, Lung, and Blood Institute

National Institute on Aging

National Institute of Arthritis and Musculoskeletal and Skin Diseases

National Institute on Drug Abuse

National Institute on Deafness and Other Communication Disorders

National Institute of Environmental Health Sciences

National Institute of General Medical Sciences

National Institute of Mental Health

National Institute of Neurological Disorders and Stroke

National Library of Medicine

Application Receipt/Submission Date(s): Multiple dates, see announcement.

<http://grants.nih.gov/grants/guide/pa-files/PAR-08-023.html>

**Assay Development for High Throughput Molecular Screening (R21) (PAR-08-024)**

NIH Roadmap Initiatives

Application Receipt/Submission Date(s): January 10, 2008; April 22, 2008, November 20, 2008; March 20, 2009; November 20, 2009; March 20, 2010

<http://grants.nih.gov/grants/guide/pa-files/PAR-08-024.html>

**Research on Co-Morbid Mental and Other Physical Disorders (R01) (PA-08-029)**

National Institute of Mental Health

National Institute of Nursing Research

Application Receipt/Submission Date(s): Multiple dates, see announcement.

<http://grants.nih.gov/grants/guide/pa-files/PA-08-029.html>

**Quick-Trials for Novel Cancer Therapies and Prevention: Exploratory Grants (R21) (PAR-08-025)**

National Cancer Institute

Office of Dietary Supplements

Application Receipt/Submission Date(s): March 7, 2008; July 9, 2008; November 7, 2008; March 9, 2009; July 9, 2009; November 9, 2009; March 9, 2010; July 9, 2010; November 9, 2010

<http://grants.nih.gov/grants/guide/pa-files/PAR-08-025.html>

**The NIMH Strategic Plan is Available for Comment through 12/21/2007 (NOT-MH-08-004)**

National Institute of Mental Health

<http://grants.nih.gov/grants/guide/notice-files/NOT-MH-08-004.html>

**Limited Competition: Clinical Centers for the Halt-Polycystic Kidney Disease Trials (U01) (RFA-DK-07-504)**

National Institute of Diabetes and Digestive and Kidney Diseases

Application Receipt Date(s): March 18, 2008

<http://grants.nih.gov/grants/guide/rfa-files/RFA-DK-07-504.html>

## **Clinical Studies of Safety and Effectiveness of Orphan Products; Research Project Grant (R01) (RFA-FD-08-001)**

Food and Drug Administration

Application Receipt Date(s): February 6, 2008; February 4, 2009

<http://grants.nih.gov/grants/guide/rfa-files/RFA-FD-08-001.html>

## **Solicitation of Assays for High Throughput Screening (HTS) in the Molecular Libraries Probe Production Centers Network (MLPCN) (X01) (PAR-08-034)**

### **NIH Roadmap Initiatives**

Application Receipt/Submission Date(s): Jan. 30, 2008; May 23, 2008; Sept. 26, 2008; Jan. 23, 2009; May 22, 2009; Sept. 24, 2009; Jan. 26, 2010; May 26, 2010; and Sept. 24, 2010

<http://grants.nih.gov/grants/guide/pa-files/PAR-08-034.html>

## **Solicitation of Assays for High Throughput Screening (HTS) in the Molecular Libraries Probe Production Centers Network (MLPCN) (R03) (PAR-08-035)**

### **NIH Roadmap Initiatives**

Application Receipt/Submission Date(s): Jan. 30, 2008; May 23, 2008; Sept. 26, 2008; Jan. 23, 2009; May 22, 2009; Sept. 24, 2009; Jan. 26, 2010; May 26, 2010; and Sept. 24, 2010

<http://grants.nih.gov/grants/guide/pa-files/PAR-08-035.html>

## **Other Funding Agencies**

### **Tuberous Sclerosis Alliance**

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Electronic submissions are mandatory using the online TS Alliance grant application forms. No paper grant applications sent via the mail or FAX will be accepted.

### **James S. McDonnell Foundation 21st Century Science Initiative - 2008**

Research Award Application Deadline: **3:59 PM CST on Wednesday March 12, 2008**

The James S. McDonnell Foundation announces updated program descriptions and application guidelines for its 21st Century Science Initiative Research Awards. The 21st Century Research Awards support investigator-initiated research in two (2) topical areas: Studying Complex Systems

and Brain Cancer Research. Program information, application guidelines, and proposal preparation instructions are available at: <http://www.jsmf.org/apply/research> No geographic restrictions; international applications are encouraged.

Updated program descriptions and application guidelines for the James S. McDonnell Scholar Awards will be available on the website in January 2008.

Information on the Foundation's 21st Century Collaborative Activity Awards is also available on the website at: <http://www.jsmf.org/apply/collaborative>

### **ARPKD/CHF Alliance Research Grant Program Now Accepting Letters of Intent**

Deadline: December 31, 2007 (Letters of Intent)

ARPKD/CHF Alliance (<http://www.arpkdCHF.org/>) has announced it is accepting Letters of Intent for a \$50,000 research grant.

Requirements of LOI and more information can be found at the following link:

<http://www.arpkdCHF.org/research/ARPKDCHF%20Alliance%20Research%20Grant%20Program.htm>

Notifications of letter of intent review will be made by January 15, 2008 as to whether to proceed with full application.

## ***NEW TSC PUBLICATIONS***

Altman JK, Yoon P, Katsoulidis E, Kroczynska B, Sassano A, Redig AJ, Glaser H, Jordan A, Tallman MS, Hay N, Plataniias LC (2007) Regulatory effects of mTOR-mediated signals in the generation of arsenic trioxide responses. *J Biol Chem* 2007 Nov 29 [Epub ahead of print]

<http://www.jbc.org/cgi/reprint/M705227200v1>

Arai N, Takahashi T, Komori T, Yagishita A, Shimizu H (2007) Diagnostic surgical neuropathology of intractable epilepsy. *Neuropathology* 27(6):594-600

Boer K, Jansen F, Nellist M, Redeker S, van den Ouweland AM, Spliet WG, van Nieuwenhuizen O, Troost D, Crino PB, Aronica E (2007) Inflammatory processes in cortical tubers and subependymal giant cell tumors of tuberous sclerosis complex. *Epilepsy Res* 2007 Nov 16 [Epub ahead of print]

Cruz AA, Constanzi M, de Castro FA, Dos Santos AC (2007) Apical involvement with fibrous dysplasia: implications for vision. *Ophthal Plast Reconstr Surg* 23(6):450-4

Dowling RJ, Zakikhani M, Fantus IG, Pollak M, Sonenberg N (2007) Metformin Inhibits Mammalian Target of Rapamycin Dependent Translation Initiation in Breast Cancer Cells. *Cancer Res* 67(22):10804-10812

Grozinsky-Glasberg S, Franchi G, Teng M, Leontiou CA, Ribeiro de Oliveira A Jr, Dalino P, Salahuddin N, Korbonits M, Grossman AB (2007) Octreotide and the mTOR Inhibitor RAD001 (Everolimus) Block Proliferation and Interact with the Akt-mTOR-p70S6K Pathway in a Neuro-Endocrine Tumour Cell Line. *Neuroendocrinology* 2007 Nov 16 [Epub ahead of print]

Habib SL, Riley DJ, Mahimainathan L, Bhandari B, Choudhury GG, Abboud HE (2007) Tuberin Regulates the DNA Repair Enzyme OGG1. *Am J Physiol Renal Physiol* 2007 Nov 7 [Epub ahead of print]

Hall MR, Kovach BT, Miller JL (2007) Unilateral facial angiofibromas without other evidence of tuberous sclerosis: case report and review of the literature. *Cutis* 80(4):284-8

- Han B, Tong J, Zhu MJ, Ma C, Du M (2007) Insulin-like growth factor-1 (IGF-1) and leucine activate pig myogenic satellite cells through mammalian target of rapamycin (mTOR) pathway. *Mol Reprod Dev* 2007 Nov 21 [Epub ahead of print]
- Jansen FE, Braams O, Vincken KL, Algra A, Anbeek P, Jennekens-Schinkel A, Halley D, Zonnenberg BA, van den Ouweland A, van Huffelen AC, van Nieuwenhuizen O, Nellist M (2007) Overlapping neurologic and cognitive phenotypes in patients with TSC1 or TSC2 mutations. *Neurology* 2007 Nov 21 [Epub ahead of print]
- Jansen FE, Vincken KL, Algra A, Anbeek P, Braams O, Nellist M, Zonnenberg BA, Jennekens-Schinkel A, van den Ouweland A, Halley D, van Huffelen AC, van Nieuwenhuizen O (2007) Cognitive impairment in tuberous sclerosis complex is a multifactorial condition. *Neurology* 2007 Nov 21 [Epub ahead of print]
- Jozwiak J, Sahin M, Jozwiak S, Kotulska K, Ploski R, Szperl M, Wlodarski PK (2007) Cardiac rhabdomyoma in tuberous sclerosis: Hyperactive Erk signaling. *Int J Cardiol* 2007 Nov 23 [Epub ahead of print]
- Kotulska K, Larysz-Brysz M, Grajkowska W, Jozwiak J, Wlodarski P, Sahin M, Lewin-Kowalik J, Domanska-Pakieta D, Jozwiak S (2007) Cardiac rhabdomyomas in tuberous sclerosis complex show apoptosis regulation and mTOR pathway abnormalities. *Pediatr Dev Pathol* 2007 Jul 30;1 [Epub ahead of print]
- Liu JL, Mao Z, La Fortune TA, Alonso MM, Gallick GE, Fueyo J, Yung WK (2007) Cell cycle-dependent nuclear export of phosphatase and tensin homologue tumor suppressor is regulated by the phosphoinositide-3-kinase signaling cascade. *Cancer Res* 67(22):11054-63
- Marone R, Cmiljanovic V, Giese B, Wymann MP (2007) Targeting phosphoinositide 3-kinase-Moving towards therapy. *Biochim Biophys Acta* 2007 Oct 12 [Epub ahead of print]
- Matsuo N, Imamura A, Ito R, Sugawara K, Takahashi Y, Kondo N (2007) The Correlation between 1H-MR Spectroscopy and Clinical Manifestation with Tuberous Sclerosis Complex. *Neuropediatrics* 38(3):126-9
- Messina MP, Rauktys A, Lee L, Dabora SL (2007) Tuberous sclerosis preclinical studies: timing of treatment, combination of a rapamycin analog (CCI-779) and interferon-gamma, and comparison of rapamycin to CCI-779. *BMC Pharmacol* 7(1):14 [Epub ahead of print]  
<http://www.biomedcentral.com/1471-2210/7/14>
- Nassaf M, Afif H, Aichane A, Ridai M, Souabny A, Ouafi NE, Bouayad Z (2007) [Recurrent pneumothorax revealing a tuberous sclerosis complex.] *Rev Med Interne* 2007 Oct 22 [Epub ahead of print] [Article published in French]
- Ruegg S, Baybis M, Juul H, Dichter M, Crino PB (2007) Effects of rapamycin on gene expression, morphology, and electrophysiological properties of rat hippocampal neurons. *Epilepsy Res* 2007 Nov 3 [Epub ahead of print]
- Sharfstein SR, Ahmed S, Islam MQ, Najjar MI, Ratushny V (2007) Case of moyamoya disease in a patient with advanced acquired immunodeficiency syndrome. *J Stroke Cerebrovasc Dis* 16(6):268-72
- Thedieck K, Polak P, Kim ML, Molle KD, Cohen A, Jenö P, Arriemerlou C, Hall MN (2007) PRAS40 and PRR5-Like Protein Are New mTOR Interactors that Regulate Apoptosis. *PLoS ONE* 2(11):e1217  
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?tool=pubmed&pubmedid=18030348>
- Vasudevan B, Sawhney MP, Radhakrishnan S, Shilpa G (2007) Tuberous sclerosis with portal vein thrombosis, protein C and S deficiency. *Indian J Dermatol Venereol Leprol* 73(6):412-414

Yang X, Yang C, Farberman A, Rideout TC, de Lange CF, France J, Fan MZ (2007) The mTOR-signaling pathway in regulating metabolism and growth. J Anim Sci 2007 Nov 12 [Epub ahead of print]

Yu J, Henske EP (2006) Estrogen-induced activation of mammalian target of rapamycin is mediated via tuberin and the small GTPase Ras homologue enriched in brain. Cancer Res 66(19):9461-6

## **CONFERENCES AND SEMINARS**

**April 4-6, 2008**

**LAM Foundation 2008 International Research Conference (LAMposium)**

Westin Hotel, Cincinnati, OH

For more information: [www.thelamfoundation.org](http://www.thelamfoundation.org)

**May 15-17, 2008**

**Conference on Diagnosis and Treatment in Pediatric Neurology**

Warsaw, Poland

For more information: [www.neuroped2008.pl](http://www.neuroped2008.pl)

**May 20-22, 2008**

**4th International Conference on Rare Diseases and Orphan Drugs (ICORD)**

Global Approaches for Rare Diseases Research and Orphan Products Development

Washington, DC

For more information: <http://www.icord.cc>

**June 22-25, 2008**

**1st International Epilepsy Colloquium on the Mesial Temporal Lobe Epilepsies**

Marburg, Germany

This colloquium is part of a series to be continued in Lyon, France in 2009 and Cleveland, Ohio, USA in 2010.

For more information:

AKM Congress Service GmbH

Hauptstr. 18

D-79576 Weil am Rhein

Phone: +49 (7621) 983345

Fax: +49 (7621) 78714

E-mail: [laubscher.s@akmcongress.com](mailto:laubscher.s@akmcongress.com)

[www.akmcongress.com](http://www.akmcongress.com)

**July 27-Aug 1, 2008**

**PKD Meeting Sponsored by FASEB**

Snowmass, CO

For more information: <http://www.faseb.org/meetings/futuremeetings.htm>

**August 3-8, 2008**

**Gordon Conference: Mechanisms of Epilepsy and Neuronal Synchronization**

Colby College, Waterville, ME

Application Deadline: Applications for this meeting must be submitted by July 13, 2008

<http://www.grc.org/programs.aspx?year=2008&program=epilepsy>

**September 11-13, 2008**

**TSC International Research Conference 2008**

University of Sussex, Brighton, UK

Organized by the Tuberous Sclerosis Association, U.K.

For more information: [www.tuberous-sclerosis.org](http://www.tuberous-sclerosis.org)

# NEWS

## **College Students Invited to Apply for Summer Research Program at Janelia Farm**

The Janelia Farm Research Campus announced today that it is seeking applications for its undergraduate research scholars program. Up to eight college students will be selected to participate in the program and will pursue research projects with Janelia Farm scientists during Summer 2008. To read the complete announcement, go to <http://www.hhmi.org/news/jfrc20071115.html>

## **New Images Show Ion Channel in Its Natural Habitat**

Howard Hughes Medical Institute researchers have unveiled the most detailed views yet of the structure of a voltage-dependent potassium ion channel. The new images, which show the channel in a more natural environment than previous studies, reveal that the channel's function is likely to be profoundly influenced by lipid molecules within the cell membrane in which the channel is embedded. The research team, led by HHMI investigator Roderick MacKinnon, hopes that a technique they used to prepare the ion channel for analysis -- called lipid-detergent-mediated crystallization -- will make it possible to capture membrane proteins in a more native, membrane-like environment. This research was published in the November 15, 2007, issue of the journal Nature. To read the full story, go to <http://www.hhmi.org/news/mackinnon20071115.html>

## **Immunologic Death Blow to Cancer Cells**

Taking a clue from a rare disorder in which the immune system destroys a patient's cancer even as it attacks the nervous system, researchers have devised a new strategy to fight breast and ovarian cancer. The scientists have engineered immune cells that target cells containing a protein found in up to 60 percent of ovarian tumors and 25 percent of breast tumors. This research was published in the November 05, 2007, issue of Proceedings of the National Academy of Sciences by Robert B. Darnell, M.D., Ph.D., HHMI investigator, The Rockefeller University. For the full story, go to: <http://www.hhmi.org/news/darnell20071105.html>

## **REQUEST FOR PUBLIC COMMENTS BY DECEMBER 21, 2007**

### **U.S. System of Oversight of Genetic Testing:**

### **SACGHS' Draft Response to the Charge of the Secretary of HHS**

The Secretary's Advisory Committee on Genetics, Health, and Society (SACGHS) is seeking public comment on a draft report to the Secretary of Health and Human Services (HHS) on the oversight of genetic testing. The draft report is available at: [http://www4.od.nih.gov/oba/SACGHS/public\\_comments.htm](http://www4.od.nih.gov/oba/SACGHS/public_comments.htm)

SACGHS was established by the Department of Health and Human Services (HHS) to serve as a public forum for deliberations on the broad range of policy issues raised by the development and use of genetic and genomic technologies and, as warranted, to provide advice on these issues. For more information about the Committee, please visit: <http://www4.od.nih.gov/oba/SACGHS.HTM>

In 2004, SACGHS recognized that oversight of genetic testing was a high priority issue that required ongoing monitoring. In 2006, SACGHS began an in-depth fact-finding process on the oversight roles of Federal, State, and private sector entities. In March of 2007, the Office of the Secretary of HHS outlined a specific charge to SACGHS to focus the Committee's inquiry. The charge reads as follows: Undertake the development of a comprehensive map of the steps needed for evidence development and oversight for genetic and genomic tests, with improvement of health quality as the primary goal. Consider and address the following questions:

- What evidence of harm exists regarding genetic tests? Is that harm attributable to analytic validity, clinical validity, or clinical utility of the tests? If evidence does not exist, what threats are not currently being addressed? What public health benefits are not accruing as quickly as they might?
- What distinguishes genetic tests from other laboratory tests for oversight purposes?

- What are the existing pathways that examine the analytic validity, clinical validity, and clinical utility of genetic tests? Consider the use of case studies.
- What organizations are currently involved with each of these aspects, and what are they doing to address these issues? Who should be responsible for each of these aspects?
- What resources (e.g., standards reagents/materials) are needed to develop proficiency testing kits or protocols for genetic tests? What is currently available in terms of proficiency testing kits or protocols for genetic tests? What information is provided by proficiency testing? Is the current level of proficiency testing for genetic tests adequate and are the results of such laboratory performance assessments sufficiently transparent?
- What are the potential pathways to communicate clear information to guide test and treatment selection by the provider?
- What new approaches or models should be considered for private and public-private sector engagement in demonstrating clinical validity and clinical utility for developing effectiveness measures of genetic tests in clinical practice?
- Would additional or revised Government oversight add value for patients, and if so, how and where?

SACGHS organized a task force to explore the questions outlined in the Secretary's charge and gather facts and perspectives on how best to address them. With the help of the task force, SACGHS drafted a report that addresses the issues and offers a number of recommendations for enhancing the oversight of genetic testing in the U.S. SACGHS would welcome comments on any aspect of the report. In particular, SACGHS would appreciate input on whether the draft report: 1) fully responds to questions posed by the HHS Secretary; 2) proposes appropriate remedies to close gaps in the current system; and 3) adequately anticipates future developments in the field of genetics/genomics that may bear on the oversight of genetic testing.

In addition to submitting written comments, the public will have an opportunity at the SACGHS meeting on November 19-20, 2007 to provide testimony on this topic. The meeting is being held at the Ronald Reagan Building, Washington, DC (see <http://www4.od.nih.gov/oba/SACGHS/SACGhsMTGIndex.HTM> for a meeting agenda).

Comments received by **December 21, 2007** will be considered by SACGHS in preparing its final report. Please submit comments to SACGHS by emailing them to Cathy Fomous, Ph.D. at [cfomous@od.nih.gov](mailto:cfomous@od.nih.gov). Alternatively, comments may be mailed or faxed to:

Secretary's Advisory Committee on Genetics, Health, and Society  
 Attn: Cathy Fomous, Ph.D.  
 NIH Office of Biotechnology Activities  
 6705 Rockledge Drive, Suite 700  
 Bethesda, MD, 20892 (20817 for non-US Postal Service mail)  
 Fax: 301-496-9839

### **Brain Differences Found in People with Migraine**

ST. PAUL, Minn. – People with migraines have differences in an area of the brain that helps process sensory information, including pain, according to a study published in the November 20, 2007, issue of *Neurology*<sup>®</sup>, the medical journal of the American Academy of Neurology.

The study found that part of the cortex area of the brain is thicker in people with migraine than in people who do not have the neurological disorder.

Comparing 24 people with migraine to 12 people without migraine, the study found that the somatosensory cortex area of the brain was an average of 21 percent thicker in those with migraine.

"Repeated migraine attacks may lead to, or be the result of, these structural changes in the brain," said study author Nouchine Hadjikhani, MD, of The Martinos Center for Biomedical Imaging at Massachusetts General Hospital in Boston. "Most of these people had been suffering from migraines since childhood, so the long-term overstimulation of the sensory fields in the cortex could explain

these changes. It's also possible that people who develop migraines are naturally more sensitive to stimulation."

Hadjikhani said the results indicate that the brain's sensory mechanisms are important components in migraine. "This may explain why people with migraines often also have other pain disorders such as back pain, jaw pain, and other sensory problems such as allodynia, where the skin becomes so sensitive that even a gentle breeze can be painful."

Other studies have shown changes in the cortex. The area becomes thinner in neurological disorders such as multiple sclerosis and Alzheimer's disease. But the area thickens with extensive motor training and learning.

The study was supported by grants from the National Institutes of Health, the Swiss Heart Foundation, and the Harvard School of Dental Medicine Dean's Award.

The American Academy of Neurology, an association of more than 20,000 neurologists and neuroscience professionals, is dedicated to improving patient care through education and research. A neurologist is a doctor with specialized training in diagnosing, treating and managing disorders of the brain and nervous system such as Parkinson's disease, ALS (Lou Gehrig's disease), dementia, West Nile virus, and ataxia.

For more information about the American Academy of Neurology, visit [www.aan.com](http://www.aan.com)

### **New Guideline for How to Treat a Person's First Unprovoked Seizure**

ST. PAUL, Minn. – A guideline developed by the American Academy of Neurology recommends a routine electroencephalogram (EEG) and brain scans be considered when diagnosing and treating adults who experience their first unprovoked seizure. Evidence shows such tools often detect brain abnormalities that caused the seizure and predict seizure recurrence. The guideline is published in the November 20, 2007, issue of *Neurology*<sup>®</sup>, the medical journal of the American Academy of Neurology.

"Since even one seizure is a frightening, traumatic event with serious potential consequences, such as loss of driving privileges, limitations for employment and bodily injury, information about optimal, evidence-based approaches for treating people with a seizure is important," said guideline author Allan Krumholz, MD, a neurologist at the University of Maryland Medical Center and a Fellow of the American Academy of Neurology.

To develop the guideline, the authors analyzed all available scientific studies on the topic.

The guideline recommends a routine EEG be considered as part of the diagnosis of a person with a first unprovoked seizure. "Evidence shows an EEG revealed abnormalities indicating epilepsy in about one in four patients and was predictive of seizure recurrence," said Krumholz, who is also a professor of neurology at the University of Maryland, School of Medicine.

The guideline also recommends CT or MRI brain scans be routinely considered since the scans are significantly abnormal in one of 10 patients, helping to indicate the cause of their seizure. "A CT scan or MRI may lead to the diagnosis of disorders such as a brain tumor, stroke, an infection, or other structural lesions and may help determine a person's risk for a second seizure," said Krumholz.

For adults who experience their first unprovoked seizure, Krumholz says the results of an EEG, CT or MRI will influence aspects of patient care and management, including drug treatment, patient and family counseling, and the need for immediate hospitalization and subsequent follow-up.

Seizures are among the most common serious neurological disorders cared for by neurologists. Annually approximately 150,000 adults will have a first seizure in the United States. It is estimated that in 40 to 50 percent of these people, seizures recur and are classified as epilepsy.

The American Academy of Neurology, an association of more than 20,000 neurologists and neuroscience professionals, is dedicated to improving patient care through education and research. A neurologist is a doctor with specialized training in diagnosing, treating and managing disorders of the brain and nervous system such as epilepsy, dystonia, migraine, Huntington's disease, and dementia. For more information about the American Academy of Neurology, visit [www.aan.com](http://www.aan.com)

**Brain Matures a Few Years Late in ADHD, But Follows Normal Pattern**

<http://www.nimh.nih.gov/science-news/2007/brain-matures-a-few-years-late-in-adhd-but-follows-normal-pattern.shtml>

**Preschoolers with Three or More Coexisting Disorders Show No Response to ADHD Medication Treatment**

<http://www.nimh.nih.gov/science-news/2007/preschoolers-with-three-or-more-coexisting-disorders-show-no-response-to-adhd-medication-treatment.shtml>

## ***TSC CLINICAL TRIALS AND STUDIES***

### **TSC Clinical Trials**

A list of clinical trials that are currently enrolling study participants can be viewed on the TS Alliance web site at: <http://tsalliance.easycqi.com/pages.aspx?content=370>

## ***TSC INFORMATION***

For information about TSC and the Tuberous Sclerosis Alliance, visit the TS Alliance Web site at: <http://www.tsalliance.org> or contact the TS Alliance at [info@tsalliance.org](mailto:info@tsalliance.org) or by telephone: 1-800-225-6872 or 301-562-9890.

This is the December 2007 edition of *TSC Alert* – an online research newsletter for individuals interested in Tuberous Sclerosis Complex (TSC) research and clinical care. This online newsletter contains information of interest to the TSC research and health care community. Please forward this newsletter to colleagues who are interested in TSC. To be added/deleted to/from the mailing list for *TSC Alert* and/or to submit information for the January 2008 *TSC Alert* contact: [vwhitemore@tsalliance.org](mailto:vwhitemore@tsalliance.org)

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