

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Government-Owned Inventions; Availability for Licensing

AGENCY: National Institutes of Health, Public Health Service, HHS.

ACTION: Notice.

SUMMARY: The inventions listed below are owned by an agency of the U.S. Government and are available for licensing in the U.S. in accordance with 35 U.S.C. 207 to achieve expeditious commercialization of results of federally-funded research and development. Foreign patent applications are filed on selected inventions to extend market coverage for companies and may also be available for licensing.

ADDRESSES: Licensing information and copies of the U.S. patent applications listed below may be obtained by writing to the indicated licensing contact at the Office of Technology Transfer, National Institutes of Health, 6011 Executive Boulevard, Suite 325, Rockville, Maryland 20852-3804; telephone: 301/496-7057; fax: 301/402-0220. A signed Confidential Disclosure Agreement will be required to receive copies of the patent applications.

In Vivo Assessment of Tissue Microstructure and Microdynamics: Estimation of the Average Propagator From Magnetic Resonance Data

Description of Technology: This invention relates to diffusion-weighted magnetic resonance imaging (DW-MRI) and describes a novel method for estimating the 3-D average propagator from DW-MRI data. The average propagator measures the probability that water molecules move from one place to another during a given diffusion time. This quantity provides local information about the tissue microstructure and the microenvironment in which water diffuses without making any *a priori* assumptions about the underlying diffusion process itself. Several methods, such as 3D q-space magnetic resonance imaging (MRI) and diffusion spectrum imaging have been developed to measure the average propagator, but these techniques currently require acquisition of large numbers of DW images, making them infeasible for routine animal and clinical imaging. The proposed methodology introduces a new data reconstruction concept, which involved using computer tomography (CT) algorithms to estimate the average propagator from the MR data. The

proposed CT reconstruction requires many fewer DW-MRI data than conventional methods consistent with a clinically feasible period of MR image acquisition. The novel technique can be used to diagnose medical disorders that are associated with alterations in water diffusion, such as stroke and several neurodegenerative diseases and other disorders for which diffusion tensor MRI is currently used. Additional applications include drug development (screening drug candidates), material science (testing the quality of materials that have restricted and hindered compartments, e.g. porous media, gels and films) and food processing (testing structural changes in food).

Applications: In vivo Functional MRI of humans and animals; Drug development; Material science; Food processing.

Development Status: Early stage; only testing using fixed tissues and numerical phantoms have been performed at this time.

Inventors: Peter J. Basser and Valery Pickalov (NICHD).

Patent Status: U.S. Patent Application No. 11/407,096 filed 20 Apr 2006 (HHS Reference No. E-164-2006/0-US-01).

Licensing Status: Available for non-exclusive or exclusive licensing, as well as for collaborative research, provided that non-disclosure agreements and MTAs have been executed.

Licensing Contact: Chekesha S. Clingman, Ph.D.; 301/435-5018; clingmac@mail.nih.gov.

Collaborative Research Opportunity: The NICHD Laboratory of Integrative and Medical Biophysics, Section on Tissue Biophysics and Biomimetics, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize this technology. Please contact Peter J. Basser, Ph.D. at pjbasser@helix.nih.gov for more information.

Fast Electron Paramagnetic Resonance Imaging (EPRI) Using CW-EPR Spectrometer With Sinusoidal Rapid-Scan and Digital Signal Processing

Description of Technology: Electron Paramagnetic Resonance (EPR) Imaging is an indispensable tool that may be applied to a variety of disciplines for evaluation of chemical species having unpaired electrons such as free radicals and transition metal ions. In Continuous Wave (CW)-EPR the sample is continuously irradiated with weak RF radiation while sweeping the magnetic field relatively slowly. Existing CW-EPR techniques utilize a signal detection method known as phase-sensitive detection which results in data

acquisition times that are too long for *in vivo* applications. The present technology represents significant improvements on conventional CW-EPR.

The subject technology includes three approaches to collecting image data with increased spatial, temporal and spectral resolution and improved sensitivity. Spectral data acquisition is performed by a direct detection strategy involving mixing a signal to base-band and acquiring data with a fast-digitizer. Projection data is acquired using a sinusoidal magnetic field sweep under gradient magnetic fields. Data collection times are decreased with the utility of rotating gradients. Further, the current technology improves sensitivity by employing Digital Signal Processing, which decreases background analog noise.

Increased speed and sensitivity makes CW-EPR a potentially useful and complementary tool to Magnetic Resonance Imaging for *in vivo* imaging. The presently described improvements to CW-EPR will allow changes of blood perfusion and oxygenation in tumors to be observed in nearly real-time, while improved resolution will permit angiogenesis in and around tumors to be carried out in a non-invasive manner. Additionally, rapid scan imaging provides excellent temporal resolution and will help quantify pharmacokinetics and metabolic degradation kinetics of bioactive free radicals.

Applications: (1) Enhanced spatial, temporal, and spectral resolution of Continuous Wave-Electron Paramagnetic Resonance Imaging; (2) Real-time assessment of changes in blood perfusion and oxygenation.

Development Status: Preliminary experiments have been conducted and the technology has been tested for feasibility.

Inventors: Sankaran Subramanian, Nallathamby Devasahayam, Janusz Koscielniak, James Mitchell, and Murali Krishna (NCI).

Publication: S Subramanian, JW Koscielniak, N Devasahayam, RH Pursley, TJ Pohida, TJ Pohida, MC Krishna. A new strategy for fast radiofrequency CW-EPR imaging: Direct detection with rapid scan and rotating gradients. Submitted to Journal of Magnetic Resonance for publication.

Patent Status: U.S. Provisional Application No. 60/818,052, filed 30 Jun 2006 (HHS Reference No. E-221-2005/0-US-01).

Licensing Status: Available for non-exclusive or exclusive licensing and commercial development.

Licensing Contact: Chekesha S. Clingman, PhD; 301/435-5018; clingmac@mail.nih.gov.

Collaborative Research Opportunity: The Radiation Biology Branch, National Cancer Institute, NIH, Bethesda, MD is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize the above Rapid scan-Rotating gradients strategy for performing routine *in vivo* Radiofrequency CW-EPR imaging in small animals. Please contact John D. Hewes, PhD at 301-435-3121 or hewesj@mail.nih.gov for more information.

Dated: January 5, 2007.

Steven M. Ferguson,

Director, Division of Technology Development and Transfer, Office of Technology Transfer, National Institutes of Health.

[FR Doc. E7-350 Filed 1-11-07; 8:45 am]

BILLING CODE 4140-01-P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Heart, Lung, and Blood Institute; Notice of Closed Meetings

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meetings.

The meetings will be closed to the public in accordance with provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Heart, Lung, and Blood Institute Special Emphasis Panel; Conference Grants (R13).

Date: January 24, 2007.

Time: 8 a.m. to 9 a.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892 (Telephone Conference).

Contact Person: Valerie L. Prenger, PhD, Scientific Review Administrator, Review Branch, Room 7214, Division of Extramural Research Activities, National Heart, Lung, and Blood Institute, 6701 Rockledge Drive, MSC 7294, Bethesda, MD 20892-7294, (301) 435-0270, prengerv@nhbi.nih.gov.

Name of Committee: National Heart, Lung, and Blood Institute Special Emphasis Panel; Shared Resource Grant (R24).

Date: January 25, 2007.

Time: 3 p.m. to 4:30 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6701 Rockledge Drive, Bethesda, MD 20892 (Telephone Conference Call).

Contact Person: Shelley S. Sehnert, PhD, Scientific Review Administrator, Review Branchy, NIH/NHLBI, 6701 Rockledge Drive, Room 7206, Bethesda, MD 20892-7294, (301) 435-0303, ssehnert@nhlbi.nih.gov.

(Catalogue of Federal Domestic Assistance Program Nos. 93.233, National Center for Sleep Disorders Research; 93.837, Heart and Vascular Diseases Research; 93.838, Lung Diseases Research; 93.839, Blood Diseases and Resources Research, National Institutes of Health, HHS)

Dated: January 8, 2007.

Anna Snouffer,

Acting Director, Office of Federal Advisory Committee Policy.

[FR Doc. 07-101 Filed 1-11-07; 8:45 am]

BILLING CODE 4140-01-M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of Nursing Research; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2), notice is hereby given of the following meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Institute of Nursing Research Initial Review Group.

Date: March 5-6, 2007.

Time: 8:15 a.m. to 5 p.m.

Agenda: To review and evaluate grant applications.

Place: Crowne Plaza Hotel, 8777 Georgia Avenue, Silver Spring, MD 20910.

Contact Person: Jeffrey M. Chernak, PhD, Scientific Review Administrator, Office of Review, National Institute of Nursing Research, 6701 Democracy Plaza, Suite 710, MSC 4870, Bethesda, MD 20892, (301) 402-6959, chernak@nih.gov.

(Catalogue of Federal Domestic Assistance Program Nos. 93.361, Nursing Research, National Institutes of Health, HHS)

Dated: January 8, 2007.

Anna Snouffer,

Acting Director, Office of Federal Advisory Committee Policy.

[FR Doc. 07-98 Filed 1-11-07; 8:45 am]

BILLING CODE 4140-01-M

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of Environmental Health Sciences; Notice of Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2) notice is hereby given of a meeting of the National Advisory Environmental Health Sciences Council.

The meeting will be open to the public as indicated below, with attendance limited to space available. Individuals who plan to attend and need special assistance, such as sign language interpretation or other reasonable accommodations, should notify the Contact Person listed below in advance of the meeting.

The meeting will be closed to the public in accordance with the provisions set forth in sections 552b(c)(4) and 552b(c)(6), Title 5 U.S.C., as amended. The grant applications and the discussions could disclose confidential trade secrets or commercial property such as patentable material, and personal information concerning individuals associated with the grant applications, the disclosure of which would constitute a clearly unwarranted invasion of personal privacy.

Name of Committee: National Advisory Environmental Health Sciences Council.

Date: February 15, 2007.

Open: 8:30 a.m. to 1 p.m.

Agenda: Discussion of program policies and issues.

Place: Nat. Inst. of Environmental Health Sciences, Building 101, Rodbell Auditorium, 111 T.W. Alexander Drive, Research Triangle Park, NC 27709.

Closed: 1 p.m. to 2:30 p.m.

Agenda: To review and evaluate grant applications.

Place: Nat. Inst. of Environmental Health Sciences, Building 101, Rodbell Auditorium, 111 T.W. Alexander Drive, Research Triangle Park, NC 27709.

Open: 2:30 p.m. to 5 p.m.

Agenda: Discussion of program policies and issues.

Place: Nat. Inst. of Environmental Health Sciences, Building 101, Rodbell Auditorium, 111 T.W. Alexander Drive, Research Triangle Park, NC 27709.