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.

System and Method for Automatic Speed Adaptation Control of a Treadmill

Description of Invention: The invention offered for further commercial development relates to the coupling of virtual reality technology with a treadmill to implement goal-oriented walking practices effectively and to promote improved learning skills during gait training. The technology will be useful in rehabilitation of individuals with gait impairments resulting from Parkinson's disease, Traumatic Brain Injury, Stroke, Cerebral Palsy, and Spinal Cord Injury. In order to allow patients practice (*e.g.,* voluntary change of walking speed in a natural way), software has been developed that automatically updates the velocity of a treadmill following the intention of the person walking on the treadmill. The invention uses a swing foot velocity measurement to control the velocity of the treadmill which can quickly and precisely detect the user's intention of changing walking velocity. Swing foot velocity measurement allows users to voluntarily change walking velocity while they have a realistic feel of walking (such as over-ground walking). We are seeking a CRADA collaborator to expand implementation of the invention into a fully integrated system that can control treadmill velocity in real time and can be reliably adapted to typical commercial treadmills.

Applications:

- Rehabilitation of individuals with gait impairments as a complication of Parkinson's disease, traumatic brain injury, stroke, cerebral palsy, or spinal cord injury.
- The technology can also be used for walking through architectural models, for educational purposes (student walk through historical sites or geological surfaces), military or law enforcement training, gaming, motor and sensory rehabilitation, and exercise and recreation.

Development Status: Development partner with experience designing virtual reality environments is sought for a CRADA collaboration.

Inventors: Hyung S. Park (NIH/CC) and Jung Won Yoon.

Relevant Publications:

1. Lichtenstein L, Barabas J, Woods RL, Peli E. A feedback control interface for treadmill locomotion in virtual environments. ACM Trans Appl Percept. 2007 Jan;4(1):Article No. 7; doi 10.1145//1227134.1227141.
2. Souman JL, Giordano PR, Frissen I, De Luca A, Ernst MO. Making virtual walking real: Perceptual evaluation of a new treadmill control algorithm. ACM Trans Appl Percept. 2010 Feb;7(2):Article No. 11; doi 10.1145//1670671.1670675.
3. Christensen RR, Hollerbach JM, Xu Y, Meek SG. Inertial force feedback for the treadport locomotion interface. Presence: Teleoperators and Virtual Environments. 2000 Feb;9(1):1–14; doi:10.1162/105474600566574.
4. von Zitzewitz J, Bernhardt M, Riener R. A novel method for automatic treadmill speed adaptation. IEEE Trans Neural Syst Rehabil Eng. 2007 Sep;15(3):401–409. [PubMed: 17894272]
5. Farnet MG. Treadmill having an automatic speed control system. U.S. Patent 5,368,532 issued November 29, 1994.
6. Potash RL, Jentges CJ, Burns SK, Potash RJ. Adaptive treadmill. U.S. Patent 5,314,391 issued May 24, 1994.
7. Minetti AE, Boldrini L, Brusamolin L, Zamparo P, McKee T. A feedback-controlled treadmill (treadmill-on-demand) and the spontaneous speed of walking and running in humans. J Appl Physiol. 2003 Aug;95(2):838–843. [PubMed: 12692130]

Patent Status: HHS Reference No. E–046–2011/0—One aspect of the overall invention currently exists in software form, for which the U.S. Government will not be seeking patent protection.

Licensing Status: Available for licensing.

Licensing Contacts:

- Uri Reichman, PhD, MBA; 301–435–4616; *UR7a@nih.gov*.
- Michael Shmilovich, Esq.; 301–435–5019; *ShmilovichM@mail.nih.gov*.

Collaborative Research Opportunity: The National Institutes of Health Clinical Center is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize "A system and method for automatic speed adaptation control of a treadmill for patients." Please contact Dr. Hyung S. Park at 301–451–7533 for more information.

Method for the Detection of a Subdural Hematoma Using a Handheld Hematoma Detector and Discriminator

Description of Invention: The invention offered for licensing and further development is a device and method for detecting hematomas. The device is based on near infrared light emitted perpendicularly into a tissue from a non-stationary emitter and on continuous detection of the reflected light with a non-stationary probe. The device is designed as a handheld detector that can be used either in an ER or at the scene of an accident, which will allow the Doctor or EMT to diagnose hematoma for patients with a Traumatic Brain Injury at the scene. Furthermore, this device can be utilized to discriminate between subdural and epidural hematoma. The invention also discloses a novel method of data analysis. The specific combination and sequences of data analysis are performed to discriminate healthy tissue from tissue perfused with blood. In addition, an interface to a laptop will be provided that creates a 3D surface image of the location of the hematoma is displayed. This invention will result in a better triage and treatment for patients with Traumatic Brain Injury (TBI) and fills a must filled gap in TBI health care.

Applications:

- Diagnosis for hematoma
- Early screening and triage for diagnosis of hemorrhage from head trauma
- At-the-scene diagnostic
- On-going patient monitoring
- Neurosurgical procedure preparation
- The device will be useful in combat critical care and/or third world care where CT may not be readily available
- Potential use of the device in a field deployable sense

Advantages:

- Improved capabilities of accurately diagnosing hematoma
- At-the-scene detection capabilities
- The device is inexpensive, simple in its design and easy to operate

• Potential improvement in medical procedures

Development Status:

• The invention is fully developed

• May need to develop a prototype for testing on phantoms

Inventors: Jason D. Riley (NICHD) *et al.*

Patent Status:

• U.S. Provisional Application No. 61/286, 626 filed 15 Dec 2009 (HHS Reference No. E–010–2010/0–US–01)

• PCT Application No. PCT/US2010/060506 filed 15 Dec 2010 (HHS Reference No. E–010–2010/0–PCT–02)

Licensing Status: Available for licensing.

Licensing Contacts:

• Uri Reichman, PhD, MBA; 301–435–4616; *UR7a@nih.gov*.

• Michael Shmilovich, Esq.; 301–435–5019; *ShmilovichM@mail.nih.gov*.

Collaborative Research Opportunity: The National Institute of Child Health and Human Development, Section on Biomedical Stochastic Physics, is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize the topic of this invention or related laboratory interests. Please contact Alan Hubbs, PhD at 301–594–4263 or *hubbsa@mail.nih.gov* for more information.

System and Method for Monitoring and Controlling Radio Frequency Signals in Interventional Devices

Description of Invention: The invention offered for licensing and commercial development is in the field of Interventional Magnetic Resonance Imaging (“iMRI”). More specifically the invention discloses interventional devices in which the heat generated at the device during the imaging process can be controlled to not exceed acceptable levels.

Interventional devices may heat up significantly during an interventional MRI procedure as a result of an RF induced current on the device. The RF induced current is caused by the coupling between the interventional device and RF electrical fields generated by the MRI. As the magnitude of the induced RF signal increases, the amount of heat that is generated also increases. The system of the present invention measures the induced RF signal and changes a decoupling capacitor value by using a varactor and a control circuit to adjust the impedance of the device and thus controls the magnitude of the RF signal. This unique design renders the device and the procedures done with it safe.

Applications:

• Interventional cardiology

• MRI guided surgery

Advantages: The device may fundamentally enable any “active” MRI catheter device to be safe during real-time MRI guided interventional procedures. Automated feedback loops between RF power applied by the MRI scanner and measured power detected inside the MRI catheter coil can be used to assure safety of “active” MRI catheter devices.

Development Status: In development. Prototype is being built.

Inventors: Ozgur Kocaturk and Merdim Sonmez (NHLBI).

Relevant Publication: Overall WR, Pauly JM, Stang PP, Scott GC. Ensuring safety of implanted devices under MRI using reversed RF polarization. Magn Reson Med. 2010 Sep;64(3):823–833. [PubMed: 20593374]

Patent Status: U.S. Provisional Application No. 61/430,311 filed 07 Jan 2011 (HHS Reference No. E–034–2011/0–US–01)

Licensing Status: Available for licensing.

Licensing Contact:

• Uri Reichman, PhD, MBA; 301–435–4616; *UR7a@nih.gov.*

• Michael Shmilovich, Esq.; 301–435–5019; *ShmilovichM@mail.nih.gov.*

Collaborative Research Opportunity: The National Heart, Lung, and Blood Institute is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize safety interventional devices during iMRI procedures. Please contact Peg Koelble at *koelblep@nhlbi.nih.gov* for more information.

Single Channel MRI Guidewire

Description of Invention: The invention offered for licensing and commercial development is in the field of Interventional Magnetic Resonance Imaging (“iMRI”). More specifically the invention discloses a guidewire for magnetic resonance imaging with a single channel design to reduce complexity and to provide conspicuous tip visibility under MRI. In the design of the present device, the guidewire body includes an antenna formed from a rod and a helical coil coupled together. The helical coil can have multiple windings without a gap between the windings. The rod passes through the windings of the helical coil and is coupled to the helical coil using a conductive joint positioned at an end of the rod and at an end of the helical coil. Insulation can be positioned between the rod and the windings of the helical coil. The configuration allows visibility of the antenna along the length of a rod, except where it enters the windings of the coil. Thus, the tip visibility is enhanced as being separated from the rod.

Applications:

• Interventional cardiology

• MRI guided surgery

Advantages:

• The unique design of the device and its dipole antenna, provide a lower profile guidewire (such as coronary 0.014: guidewire) and it is therefore safer and more convenient to use compared with existing guidewires.

• The modified dipole antenna of the device can combine the distinct tip signal profile typical of loop antennae with the whole-shaft visibility of dipole antennae, all operating on a single receiver channel. This overcomes challenges both of conspicuity and of undesirable coupling of comparable two-channel devices that causes heating.

Development Status: In development. Prototype is being built.

Inventors: Merdim Sonmez, Ozgur Kocaturk, and Christina E. Saikus (NHLBI)

Relevant Publications:

1. Kocaturk O, Kim AH, Saikus CE, Guttman MA, Faranesh AZ, Ozturk C, Lederman RJ. Active two-channel 0.035” guidewire for interventional cardiovascular MRI. J Magn Reson Imaging. 2009 Aug;30(2):461–465. [PubMed: 19629968]
2. Qian D, El-Sharkawy AM, Atalar E, Bottomley PA. Interventional MRI: tapering improves the distal sensitivity of the loopless antenna. Magn Reson Med. 2010 Mar;63(3):797–802. [PubMed: 20187186]

Patent Status: U.S. Provisional Application No. 61/429,833 filed 05 Jan 2011 (HHS Reference No. E–274–2010/0–US–01)

Related Technology: U.S. Patent Application No. 12/810,481 filed 24 Jun 2010 (HHS Reference No. E–209–2007/0–US–03), entitled “Active 0.035 Guidewire with Two Separate Channels”

Licensing Status: Available for licensing.

Licensing Contact:

• Uri Reichman, PhD, MBA; 301–435–4616; *UR7a@nih.gov.*

• Michael Shmilovich, Esq.; 301–435–5019; *ShmilovichM@mail.nih.gov.*

Collaborative Research Opportunity: The National Heart, Lung, and Blood Institute is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize technology involving single channel MRI guidewires. Please contact Peg Koelble at

koelblep@nhlbi.nih.gov for more information.

Active Adaptive Detuning Systems To Improve Safety of Interventional Devices

Description of Invention: The invention offered for licensing and commercial development is in the field of Interventional Magnetic Resonance Imaging ("iMRI"). More specifically the invention discloses interventional devices in which the heat generated at the device during the imaging process can be controlled to not exceed acceptable levels.

Active MRI compatible intravascular devices contain RF antenna so that they are visible under MRI. However, these metallic structures may heat up significantly during interventional MRI procedures due to eddy current formation over the conductive transmission lines. The electrical field coupling between interventional devices and RF transmission coils strongly depend on the device position and orientation within the bore and insertion length of the device. Currently, conventional detuning circuit is used to decouple the conductive intravascular device during RF transmission phase of the MRI by activating the circuit with a PIN diode. However, conventional passive techniques do not adapt for each possible orientation or insertion length of the device. The current invention provides for a new active detuning system that adapts its circuit component to limit heating for every possible orientation and insertion length. The system reads out the received current signal value during RF transmission phase and changes the decoupling capacitor value by using varactor and integrated circuit components to reach new resonant condition (very high impedance).

Applications:

- Interventional cardiology
- MRI guided surgery

Advantages: The device may fundamentally enable any "active" MRI catheter device (independent of the orientation and insertion length of the device) to be safe during real-time MRI guided interventional procedures.

Development Status: In development. Prototype is being built.

Inventors: Ozgur Kocaturk (NHLBI).

Patent Status: U.S. Provisional Application No. 61/360,998 filed 07 Jul 2010 (HHS Reference No. E–114–2010/0–US–01)

Relevant Publication: Overall WR, Pauly JM, Stang PP, Scott GC. Ensuring safety of implanted devices under MRI using reversed RF polarization. Magn Reson Med. 2010 Sep;64(3):823–833. [PubMed: 20593374]

Licensing Status: Available for licensing.

Licensing Contact:

- Uri Reichman, PhD, MBA; 301–435–4616; *UR7a@nih.gov.*
- Michael Shmilovich, Esq.; 301–435–5019; *ShmilovichM@mail.nih.gov.*

Collaborative Research Opportunity: The National Heart, Lung, and Blood Institute is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize this technology. Please contact Peg Koelble at *koelblep@nhlbi.nih.gov* for more information.

Dated: March 4, 2011.

Richard U. Rodriguez,

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

[FR Doc. 2011–5511 Filed 3–9–11; 8:45 am]

BILLING CODE 4140–01–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

National Institute of Allergy and Infectious Diseases; Notice of Closed Meeting

Pursuant to section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. App.), 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 Allergy and Infectious Diseases Special Emphasis Panel; Mouse Models of Host Responses.

Date: April 5, 2011.

Time: 1 p.m. to 5 p.m.

Agenda: To review and evaluate grant applications.

Place: National Institutes of Health, 6700B Rockledge Drive, Bethesda, MD 20817.

Contact Person: Brandt Randall Burgess, PhD, Scientific Review Officer, Scientific Review Program, Division of Extramural Activities, DHHS/NIH/NIAID, 6700B Rockledge Drive, MSC 7616, Bethdesda, MD 20892, 301–451–2584, *bburgess@niaid.nih.gov.*

(Catalogue of Federal Domestic Assistance Program Nos. 93.855, Allergy, Immunology, and Transplantation Research; 93.856, Microbiology and Infectious Diseases Research, National Institutes of Health, HHS)

Dated: March 4, 2011.

Jennifer S. Spaeth,

Director, Office of Federal Advisory Committee Policy.

[FR Doc. 2011–5505 Filed 3–9–11; 8:45 am]

BILLING CODE 4140–01–P

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Center for Scientific Review; Notice of Closed Meetings

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

The meetings 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: Center for Scientific Review Special Emphasis Panel; Fellowships: AIDS Predoctoral and Postdoctoral.

Date: March 29, 2011.

Time: 11 a.m. to 7 p.m.

Agenda: To review and evaluate grant applications.

Place: New York Marriott East Side, 525 Lexington Avenue at 49th Street, New York, NY 10017.

Contact Person: Shiv A Prasad, PhD, Scientific Review Officer, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 5220, MSC 7852, Bethesda, MD 20892, 301–443–5779, *prasads@csr.nih.gov.*

Name of Committee: Center for Scientific Review Special Emphasis Panel; Member Conflict Computational Genetics and Genomics.

Date: March 29, 2011.

Time: 3 p.m. to 5 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: Malgorzata Klosek, PhD, Scientific Review Officer, Center for Scientific Review, National Institutes of Health, 6701 Rockledge Drive, Room 4188, MSC 7849, Bethesda, MD 20892, (301) 435–2211, *klosekm@csr.nih.gov.*