NIDCD’s mission is to conduct and support biomedical research, behavioral research, and research training in the normal and disordered processes of hearing, balance, smell, taste; and voice, speech, and language. The institute also conducts and supports research and research training related to disease prevention and health promotion; addresses special biomedical and behavioral problems associated with people who have communication impairments or disorders; and supports efforts to create devices that substitute for lost and impaired sensory and communication function. To accomplish these goals, the NIDCD manages a broad portfolio of both basic and clinical research. The portfolio is organized into three program areas: Hearing and balance; smell and taste; and voice, speech, and language. The three program areas seek to answer fundamental scientific questions about normal function and disorders and to identify patient-oriented scientific discoveries for preventing, screening, diagnosing, and treating disorders of human communication.

The draft 2012–2016 NIDCD Strategic Plan has been developed over the past 12 months by NIDCD staff in consultation with scientific experts, the National Deafness and Other Communication Disorders Advisory Council, and the public. (Details of the development process are included in Appendix C of the draft Plan.) The goals listed in the draft Plan are an assessment of research areas that present the greatest scientific opportunities and public health needs over the next five years for the three program areas: Hearing and balance; smell and taste; and voice, speech, and language.

The NIDCD has identified four Priority Areas that have the potential to increase our understanding of the normal and disordered processes of hearing, balance, smell, taste, voice, speech, and language and to further our knowledge in human communication sciences. They are:

- **Priority Area 1—Understanding Normal Function**: Deepen our understanding of the mechanisms underlying normal function of the systems of human communication. By defining what is normal in both animal models and humans, we can better understand mechanisms of disease.
- **Priority Area 2—Understanding Diseases and Disorders**: Increase our knowledge of the mechanisms of diseases, disorders, and dysfunctions that impair human communication and health. Understanding mechanisms that underlie diseases and disorders is an important step in developing better prevention and treatment strategies.
- **Priority Area 3—Improving Diagnosis, Treatment, and Prevention**: Develop, test, and improve diagnosis, treatment, and prevention of diseases, disorders, and dysfunctions of human communication and health. Diagnosis considers normal function and provides targets for prevention and treatment. Improvements in prevention and treatment lead to better outcomes with fewer side effects.
- **Priority Area 4—Improving Outcomes for Human Communication**: Accelerate the translation of research discoveries into practice; increase access to health care; and enhance the delivery, quality, and effectiveness of care to improve personal and public health. Scientifically validated prevention and treatment models will lead to better personal and public health only if they are translated effectively into routine practice.

The goals presented in the Plan are a guide for:

- **Scientists**: To better understand the directions that NIDCD research may take in the future;
- **The NIDCD**: To assist in developing funding opportunity announcements and to identify projects for high program priority nomination; and
- **The Public**: To understand the state of communication sciences and to discover the scientific breakthroughs that are possible with sustained investments in biomedical research.

Responses to this Notice are voluntary. Proprietary, classified, confidential, or sensitive information should not be included in your response. The Government reserves the right to use any non-proprietary technical information in any resultant solicitation(s). Names and affiliation (when submitted) may be subject to release in response to requests made under the U.S. Freedom of Information Act.

This Notice is for information and planning purposes only and should not be construed as a solicitation or as an obligation on the part of the Federal Government, or the NIH. The NIH does not intend to award a grant or contract to pay for the preparation of any information submitted or for the NIH’s use of such information. No basis for claims against the NIH shall arise as a result of a response to this request for information or the NIH’s use of such information as part of the NIDCD Strategic Plan.

The NIDCD anticipates that the finalized plan will be published on the NIDCD Web site in January 2012.

Dated: October 20, 2011.

James F. Battey, Director, NIDCD, National Institutes of Health.
applications; and (3) to highlight and acknowledge the contributions and accomplishments of undergraduate students.

**DATES:** The competition begins October 27, 2011.

Submission Period: January 03, 2012, 12:01 a.m. (EST) to May 26, 2012, 11:59 p.m. (EDT).


Winners announced: July 31, 2012, 5 p.m. (EDT).

Award ceremony: October 2012.

**FOR FURTHER INFORMATION CONTACT:** Dr. Zeynep Erim at (301) 451–4797 or Zeynep.Erim@nih.gov.

**SUPPLEMENTARY INFORMATION:** Subject of Challenge Competition: The NIBIB DEBUT Challenge solicits entries that develop innovative solutions to unmet health and clinical problems under one of the following categories:

- Diagnostic Devices/Methods.
- Therapeutic Devices/Methods.
- Technology to Aid Underserved Populations and Individuals with Disabilities.

Eligibility Rules for Participating in the Competition:

1. To be eligible to win a prize under this challenge, each individual on the Student Team must:

   a. Be a citizen or permanent resident of the United States;
   b. Be an undergraduate student enrolled full-time in an undergraduate curriculum during the academic year 2011–2012;
   c. Have his/her own active Challenge.gov account that he/she has created at http://www.challenge.gov;
   d. Form or join a “Student Team” with at least two other individuals who satisfy the criteria in (a), (b), and (c) above for the purpose of developing an entry for submission to this challenge. While it is expected that most of the individuals participating in the competition may be students from biomedical engineering departments, interdisciplinary teams including students from other fields are welcome and encouraged;

   e. Acknowledge understanding and acceptance of the DEBUT Challenge rules by signing the NIBIB DEBUT Challenge Certification Form found at http://www.nibib.nih.gov/Training/UndergradGrad/DEBUT/Form.pdf. Each entry must include one NIBIB DEBUT Challenge Certification Form, completed with dates and the printed names and signatures of each individual member of the Student Team. Entries that do not provide a complete Certification Form will be disqualified from the challenge;

   f. Comply with all the requirements under this section; and

   g. Not be a Federal employee acting within the scope of his or her employment. Federal employees seeking to participate in this challenge outside the scope of their employment should consult their ethics official prior to developing a submission.

2. By participating in this challenge, each individual agrees to abide by all rules of this challenge and the Challenge.gov Terms of Participation (http://www.challenge.gov/terms).

3. Each entry into this challenge must have been conceived, designed, and implemented by the Student Team. Student Teams participating in capstone design projects are especially encouraged to enter the challenge.

4. Each Student Team may submit one entry into this challenge through one member of the Student Team appointed to do so by that Student Team (e.g., the “captain” or “submitting participant” of that Student Team).

5. Each entry into this challenge must describe an original biomedical engineering project that falls into one of the following 3 categories:

   a. Diagnostic Devices/Methods e.g., sensors, imaging devices, imaging agents, telehealth, clinical laboratory diagnostics;
   b. Therapeutic Devices/Methods e.g., implants, biomaterials, surgical tools, tissue engineering, drug and gene delivery;
   c. Technology to Aid Underserved Populations and Individuals with Disabilities e.g., point-of-care technologies, devices/methods to address health disparities, m-health, aids for individuals with disabilities (see http://www.ada.gov/pubs/adastatute08.htm#12102 for a definition of “disability”).

   These examples under the different categories above are provided for illustration but not limitation. It is possible for an entry to fit into more than one category. In such instances, Student Teams should choose the category to which the entry is most closely related.


7. Each individual on the Student Team must be 13 years of age or older. Individuals who are younger than 18 must have their parent or legal guardian complete the Parental Consent Form found at http://www.challenge.gov/p parental_consent_form.pdf.

8. Each entry must:

   a. Include the following:

      • Cover letter, on department letterhead, from a faculty member from the Biomedical Engineering, Bioengineering or similar department of the institution in which the Student Team members are enrolled, verifying that the entry was achieved by the named Student Team that is enrolled full-time in an undergraduate curriculum during the academic year 2011–2012;
      • The NIBIB DEBUT Challenge Certification Form (downloadable from http://www.nibib.nih.gov/Training/UndergradGrad/DEBUT/Form.pdf), completed with dates and the printed names and signatures of each individual member of the Student Team;
      • Project Title;
      • Team members and affiliations;
      • Challenge category;
      • Abstract;
      • Description of clinical need or problem, including background and current methods available;
      • Design, including a discussion of the innovative aspects;
      • Evidence of a working prototype (results/graphics obtained with the designed solution);
      • A completed Parental Consent Form, accessible at http://www.challenge.gov/p parental_consent_form.pdf, for each individual on the Student Team who is under the age of 18.

   b. Use Arial font and a font size of at least 11 points.

   c. Not exceed 6 pages, including any graphics. Submissions exceeding 6 pages will not be accepted. An optional 2-minute video displaying the operation of the device/method may be included. However the 6-page write-up must be a stand-alone description of the project.

   9. NIBIB will claim no rights to intellectual property. Individuals on the Student Team will retain intellectual property ownership as applicable arising from their entry. By participating in this challenge, such individuals grant to NIBIB an irrevocable, paid-up, royalty-free, nonexclusive worldwide license to post, link to, share, and display publicly the entry on the Web, in newsletters or pamphlets, and by other information products. It is the responsibility of the individuals on the Student Team to obtain any rights necessary to use, disclose, or reproduce any intellectual property owned by third parties and incorporated in the entry for all anticipated uses of the entry.
10. One individual appointed by his/her Student Team (e.g., the “captain” or “submitting participant”) will submit a Student Team’s entry on behalf of the Student Team by following the links and instructions at http://debut.challenge.gov and certify that the entry meets all the challenge rules.

11. All entries must be submitted by the challenge deadline, May 26, 2012, 11:59 p.m., EDT.

12. Entries must not infringe upon any copyright or any other rights of any third party.

13. By participating in this challenge, each individual agrees to assume any and all risks and waive claims against the Federal Government and its related entities, except in the case of willful misconduct, for any injury, death, damage, or loss of property, revenue, or profits, whether direct, indirect, or consequential, arising from participation in this prize challenge, whether the injury, death, damage, or loss arises through negligence or otherwise.

14. Based on the subject matter of the challenge, the type of work that it will possibly require, as well as an analysis of the likelihood of any claims for death, bodily injury, or property damage, or loss potentially resulting from challenge participation, individuals are not required to obtain liability insurance or demonstrate financial responsibility in order to participate in this challenge.

15. By participating in this challenge, each individual agrees to indemnify the Federal Government against third party claims for damages arising from or related to challenge activities.

16. An individual shall not be deemed ineligible because the individual used Federal facilities or consulted with Federal employees during this challenge if the facilities and employees are made available to all individuals participating in the challenge on an equitable basis.

**Prize:** One winning Student Team will be selected for each of the three challenge categories. The winning Student Team in each category will be awarded a $10,000 prize, to be distributed among the members of the Student Team.

Winning Student Teams will be honored at the NIBIB DEBUT Award Ceremony during the 2012 Conference of the Biomedical Engineering Society (BMES) in Atlanta, Georgia, in October 2012. Each winning Student Team will receive, in addition to the prize, up to $2,000 toward the travel and registration costs for the members of the Student Team to attend the award ceremony. Winning teams are required to provide receipts to document travel expenses for reimbursement purposes in accordance with NIH policy and applicable laws and regulations (http://oma.od.nih.gov/manualchapters/management/1500/), for example:

- Air travel must be by coach class, unless an alternative is medically necessary and documented.
- If you choose to drive to the meeting instead of taking a common carrier (airplane, train, or bus), you may be reimbursed at 51 cents per mile, not to exceed the cost of common carrier.
- Limousine/taxi reimbursements are provided to and from airports as well as to and from meetings. Receipts are required whenever a fare exceeds $75 per trip.
- Per diem rates include lodging and meals and incidental expenses (M&E). Reimbursement for these varies by city. The first meeting of BMES at which the award ceremony will be held will be in October 2012 in Atlanta.
- The current allowable room rate is $132 and the M&E is $56. For future years, the lodging and M&E for the host city will be posted on the NIBIB Web site.

Reimbursement rates are subject to change. Updates will be posted on the NIBIB Web site at http://www.nibib.nih.gov/Training/UndergradGrad/DEBUT.

**Basis Upon Which Winner Will Be Selected:**

The winning entry in each category of the challenge will be selected based on the following criteria:

- Significance of the problem addressed—Does the entry address an important problem or a critical barrier to progress in clinical care or research?
- Impact on potential users and clinical care—How likely is it that the entry will exert a sustained, powerful influence on the problem and medical field addressed?
- Innovative design (creativity and originality of concept)—Does the entry utilize novel theoretical concepts, approaches or methodologies, or instrumentation?
- Working prototype that implements the design concept and produces targeted results—Has evidence been provided (in the form of results, graphs, photographs, films, etc.) that a working prototype has been achieved?

The above four criteria will be weighed equally and will apply to all challenge categories.

**Additional Information:** For more information and to submit entries, visit http://www.debut.challenge.gov.

The NIBIB prize approving official will be Roderic Pettigrew, PhD, M.D., Director, NIBIB. Prizes will be paid using electronic funds transfer and may be subject to Federal income taxes. NIH will comply with the Internal Revenue Service (IRS) withholding and reporting requirements, where applicable.

Dated: October 21, 2011.

James M. Anderson,
Director, Division of Program Coordination, Planning, and Strategic Initiatives, National Institutes of Health.