

IEEE Presidents' Change the World Competition

The inaugural IEEE Presidents' Change the World Competition recognizes students who develop unique solutions to real-world problems using engineering, science, computing and leadership skills to benefit their community, the world at large, or both. The contest offers students the perfect opportunity to have their ingenuity and enthusiasm for engineering and technology recognized by IEEE members around the globe. IEEE is proud to salute the inaugural winners of this prestigious competition.



IEEE Student Humanitarians Supreme

\$US10,000

Drew Hall & Richard Gaster

Students at Stanford University, California, USA

Of Special Note:

The Ceres Connection at the Massachusetts Institute of Technology Lincoln Labs, the organization responsible for naming asteroids in honor of excellence in science, has named minor planets after the top prize winners.

Project Title:

NanoLab: A Hand-Held Diagnostic Laboratory

Project Description:

In third world countries, access to medical diagnostic laboratories and well trained technicians is limited. As a result, the majority of diagnoses in these regions are based upon patient signs and symptoms. While this method of patient care is suitable in straightforward situations such as diagnosing the flu, the vast majority of illnesses

cannot be determined by simple observation. In contrast, in the developed world, medical decision-making is increasingly based on molecular testing where quantitative detection of disease-specific proteins in serum and other bodily fluids has become the basis for virtually any therapy. This team designed a handheld device capable of quantitative multiplex protein detection in a very simple to use, wash-free assay that is more sensitive than the Enzyme Linked Immunosorbent Assay (ELISA), the current gold standard in protein detection. Due to the ease of use, portability, and low cost, this platform could have a very broad impact on society ranging from molecular diagnostics in remote villages in Africa (which lack laboratory equipment and skilled technicians) to over the counter home diagnostics kits that can be purchased at a local pharmacy.





IEEE Distinguished Student Humanitarian

\$US5,000

Kartik Kulkarni & team

Students at B.V. Bhoomaraddi College of Eng and Tech, India

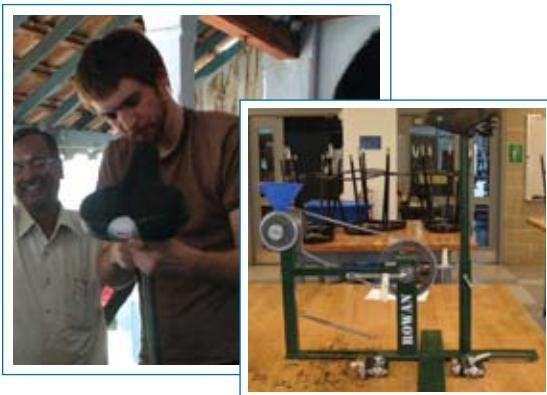
Project Title:

Electronic Aids for Handicapped Children

Project Description:

This team of 19 students worked together with the USHAS Center for Exceptional Children, Hubli, to develop games, devices and toys that create excitement and interest for physically and mentally handicapped children. Bringing a sense of fun to the exercises, the

devices help therapists encourage physical and mental exercises which can help the patients overcome their disability. Modules include: The Walking Tutor, a leg exercising game aid, and Chitra Vallari, which enhances cognitive abilities. Continuous feedback from doctors and therapists is helping to standardize these modules for mass production so that they can be properly and easily implemented at different locations.



IEEE Exceptional Student Humanitarian

\$US2,500

Kevin McGarvey & team

Students at Rowan University, New Jersey, USA

Project Title:

Engineering Innovators without Borders

Project Description:

This team of 5 students developed a bicycle-powered grain crusher, useful in many rural parts of the world where the conversion of grain to flour is often made difficult because of the lack of electricity for motorized grain crushers. Using an existing quern device as a

starting point and improving on the design to be more affordable and reproducible, the team tested models, worked with villagers and modified several versions. The final device helps the community produce higher quantities of flour at a minimal cost. Once distributed, the devices should also provide entrepreneurial opportunities to the villages and people running them. This should alleviate poverty to an extent in the developing world and improve the quality of life.

The complete list of prize winners is listed on the IEEE 125th Anniversary website: ieee125.org

Prizes have been funded by the IEEE Life Members Committee