



## THE TAKEDA YOUNG ENTREPRENEURSHIP AWARD

The Takeda Foundation announces the Awardees of the Takeda Young Entrepreneurship Award 2014. The highest award, the Best Entrepreneur Award goes to Mr. Tanapon Phenrat of Naresuan University, Thailand, for his proposal of TERI-Thailand's environmental restoration initiative for reclamation of contaminated natural resources, quality of life of affected community, and sustainability of industry. He works not only in his laboratory, but also organizes various stakeholders, develops guidelines for environmental restoration, and conducts field tests for water and soil remediation. His versatile activities in the area of environmental restoration deserve the Best Entrepreneur Award. The monetary prize for the Best Entrepreneur Award is one million yen.

The Entrepreneur Awards go to Mr. Azran Azhim Noor Azmi, Universiti Teknologi Malaysia, Malaysia, Mr. Keita Yasutomi, Shizuoka University, Japan, Moses Musalaki Kima, Hogave Conservation Inc, Papua New Guinea, Mr. Shinya Shimizu, AgIC Inc, Japan, and Mr. Venkatech Seshasayee, Stellapps Technologies Private Limited, India. The monetary prize for each of the Entrepreneur Awards is 200,000 yen. The Awards Ceremony will be held on February 7, 2015, in conjunction with the Takeda Symposium in the Takeda Hall of the Takeda Building, the University of Tokyo.

The purpose of the Takeda Young Entrepreneurship Award is to assist the development of young human resources who bring well-being to people as well as to cultivate entrepreneurship. The Award is positioned between awards for best papers selected by peer review and business awards selected from the point of view of economic success. The Award requires the submission of supporting letters from beneficiaries who will benefit from the success of the proposed project as well as the project proposal itself. Candidates should be young individuals under forty years of age regardless of sex, organization or nationality.

This year, the Foundation received 65 applications from 16 countries. Awardees were selected by a Selection Committee (Chair, Dr. Kunihiko Asada, Director of VLSI Design and Education Center and Professor, the University of Tokyo) consisting of outside intellectuals. Finalists were selected following first and second panel discussions by the selection committee; the Awardees were chosen following video presentations by the finalists.



November 17, 2014  
The Takeda Foundation

- THE BEST ENTREPRENEUR AWARD: Tanapon Phenrat, Naresuan University (Thailand), “TERI-Thailand’s environmental restoration initiative for reclamation of contaminated natural resources, quality of life of affected community, and sustainability of industry”
- THE ENTREPRENEUR AWARD: Azran Azhim Noor Azmi, Universiti Teknologi Malaysia (Malaysia), “Engineered biological scaffolds using sonication decellularization system for medical implant application”
- THE ENTREPRENEUR AWARD: Keita Yasutomi, Shizuoka University (Japan), “High range resolution time-of-flight imager for contactless 3D scanners”
- THE ENTREPRENEUR AWARD: Moses Musalaki Kima, Hogave Conservation Inc (Papua New Guinea), “Hogave Micro Hydro (Single wire earth return system)”
- THE ENTREPRENEUR AWARD: Shinya Shimizu, AgIC Inc. (Japan), “AgIC-democratization of electric circuits”
- THE ENTREPRENEUR AWARD: Venkatesh Seshasayee, Stellapps Technologies Private Limited (India), “SmartMoo™-Small farm automation solutions”

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## **THE BEST ENTREPRENEUR AWARD**

**Tanapon Phenrat** (Naresuan University, Thailand)

### **TERI-Thailand's environmental restoration initiative for reclamation of contaminated natural resources, quality of life of affected community, and sustainability of industry**

Tanapon Phenrat has been promoting an environment restoration initiative, TERI(Thailand's Environmental Restoration Initiative), by organizing various stakeholders including the Thai government, private companies, local people, universities, institutes, and media outlets. His activities include the development and dissemination of guidelines for environment restoration, conducting field tests of several restoration technologies he has developed, reducing phenol concentrations in well water using vetiver grass and an ozone generator, and restoring cadmium contaminated soil based on magnetic adsorption. He has been involved in 15 restoration projects over 4 years in 5 local communities and an NGO, and has succeeded in remedying 4 major contaminated areas out of 10 in Thailand. He not only works in his laboratory but also organizes various stakeholders, develops guidelines for environmental restoration, and conducts field tests for water and soil remediation. His versatile activities in environmental restoration deserve the Best Entrepreneur Award.

## **THE ENTREPRENEUR AWARD**

**Azran Azhim Noor Azmi** (Universiti Teknologi Malaysia, Malaysia)

### **Engineered biological scaffolds using sonication decellularization system for medical implant application**

Azran Azhim Noor Azmi has been working on a new preparation method for biological scaffolds for use in tissue engineering. Scaffold is essential for the preparation of tissue-engineered medical implants such as valves, patches, and conduits. Biological scaffolds have many advantages over biodegradable synthetic polymers in terms of short and long-term complications, but conventional preparation methods for biological scaffolds such as high-hydrostatic pressure technology require high investment costs. The Awardee employs sonication decellularization technology that does not require a high investment, and has the merit of versatile applications. He learned the technology while studying at Tokyo Denki University from 2008 to 2012. When he returned to Malaysia, he started his own laboratory at Universiti Teknologi



Malaysia to improve the technology. The technology has the potential for industrial applications but there are many hurdles to be overcome in order to provide patients with safe and inexpensive biological scaffolds including clinical studies and compliance of medical regulations. The Foundation recognizes his dedication to the development of safe and low cost biological scaffolding technology in Malaysia, and presents him with the Entrepreneur Award.

## **THE ENTREPRENEUR AWARD**

**Keita Yasutomi** (Shizuoka University, Japan)

### **High range resolution time-of-flight imager for contactless 3D scanners**

The Awardee has developed a new imager that can scan the 3D structures of objects. The new imager will be used as the heart of a 3D scanner. The device can calculate a distance between the light source and target objects by irradiating impulse laser light to target objects and measuring the flight time of the reflected light. A high resolution 3D image can be obtained by integrating the distance between the light source and all areas of the object. He has developed a new pixel structure that can repeatedly store charges without loss, and has enabled high-speed imaging. He has obtained a highest range resolution of 0.3 mm among reported time of flight imagers by developing a new correction circuit that can minimize the effects of control clock time delay that arise when pixels are arrayed two-dimensionally. The Awardee reported his imager at ISSCC and submitted a patent application for the invention of a new imager. He has licensed the imager to Brookman Technology, which has a plan to manufacture and sell the new imager to 3D scanner makers. The new imager can also be used for games and industrial usages.

## **THE ENTREPRENEUR AWARD**

**Moses Musalaki Kima** (Hogave Conservation Inc, Papua New Guinea)

### **Hogave Micro Hydro (Single wire earth return system)**

The development of a small scale hydroelectric generation and electricity supply network using single wire earth return system was started in a mountain village of Papua New Guinea in March 2010. The project has been supported financially by the Hans Wilsdorf Foundation, a Swiss based private foundation. The Awardee, Moses Kima, is the son of David Kima who started the project. Following his graduation from the Papua New Guinea University of Technology in 2010, he joined the project and has been playing a central role in surveying



river conditions, selecting the generator and installation point, designing the water reservoir and conduit, and procuring a generator system. He also has been active in management and the development of human resources for the project. The project has been making a great contribution to the quality of everyday life in Hogave and neighboring villages by providing electricity for electric appliances including cellular phones, welding and grinding tools and refrigerators.

### **THE ENTREPRENEUR AWARD**

**Shinya Shimizu** (AgiC Inc, Japan)

#### **AgiC-democratization of electric circuits**

The project provides people with an inexpensive preparation method for printed-circuit boards using commercially available printers. The Awardee learned that circuit boards can be easily printed out on paper with commercially available printers using special conductive silver ink while working for McKinsey & Company. He saw it as a business chance, left the company, and founded his own start up company, AgiC Inc. in January 2014. AgiC sells cartridges for home inkjet printers filled with special conductive silver ink. Users can easily prepare circuit boards by printing on paper with this cartridge ink. With this method, users do not need to order for breadboards. They can print out circuit boards for experiments or educational purposes. The method has the possibility of making a significant contribution to the improvement of the educational environment of electric engineering. AgiC Inc has been able to collect funds from several sources including \$80,000 dollars from Kickstarter and a \$360,000 loan from the Japan Finance Corporation and Shinkin Bank. The company has a partnership with Benesse Corporation, and is trying to expand into a global business.

### **THE ENTREPRENEUR AWARD**

**Venkatesh Seshasayee** (Stellapps Technologies Private Limited, India)

#### **SmartMoo™-Small farm automation solutions**

India is one of the largest milk producing countries, but 70% of the milk producers are small-scale cattle farmers. They cannot make sufficient profits because the milk production processes, such as pumping, rely heavily on manual labor, and because cannot maintain milk at proper low temperature, which means the milk spoils easily. The Awardee has developed an automatic



milk production management system, SmartMoo, which consists of an automatic milk production management program and small production and storage equipment including mechanical pumps and a low temperature storage tank. The system enables small-scale cattle farmers to automatically manage milk production, storage, and data control, thus making it possible to increase their profits. The Awardee received starting funds from a venture capital with the support of the Rural Technology Business Incubator of the Indian Institute of Technology, Madras, with which he started Stellapps Technologies in 2011 as a channel to market SmartMoo. With SmartMoo, small-scale farmers can pump milk mechanically, control storage tank temperature remotely, check cattle conditions, manage peak yield of milk production, and get the latest daily farm management and livestock information. SmartMoo has been employed by 20 small-scale cattle farmers and has made a significant contribution to increasing in their quality of life.