Newsletter of YunTech

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Awards and Commendation

Beautiful Pieces, First Prize, Franz Award 2009- I

YunTech Department of Industrial Design Wins the First Prize at Franz Award 2009

Yi-Ru Ju and Che-Huan Kuo, graduate students of the Department of Industrial Design of National Yunlin University of Science and Technology (hereafter called YunTech), won the first prize at the "Franz Award 2009" held by National Taiwan University of Arts, China Ceramic Industrial Association (CCIA) and Asia-Pacific Cultural Creative Industry Association. In addition to being awarded with NT$500,000 (equivalent to RMB$100,000), the winners gained a precious chance to present their remarkable work in Maison & Objet Paris.

Completed under the instructions of the department professor Ming-Chyuan Ho, the award-winning work entitled "Beautiful Pieces" conveys the spirit of patch culture and inspires people nowadays to "cherish things we have and ever possessed". In order to create a packaging box more suitable to these ceramic bowls and dishes, the award winners chose bamboo to be its main material which in Chinese history was unique and

represented the culture and ideology of Chinese people. Unlike other packaging boxes that are one-time-use expendables, this bamboo-made box is light, recyclable and enhances the whole quality of the product inside. By only glancing at the box, the most basic belief of the designers, “Keep Memory Alive and Represent Good Values”, is revealed and easily discovered.

Beautiful Pieces, First Prize, Franz Award 2009- II

Professor Rong-Ho Lee of Department of Chemical and Material Engineering Is Honored with “Ta-You Wu Memorial Award”

Dedicated to the memory of Mr. Ta-You Wu whose contributions to science and technological research have been greatly recognized, the “Ta-You Wu Memorial Award” aims to nurture young researchers and encourage long-term devotion to academic research. As the founder of the award, the National Science Council chooses among various candidates the most outstanding researchers and confers the award every year.

Professor Rong-Ho Lee, the winner of the “2009 Ta-You Wu Memorial Award”, has been working for the YunTech Department of Chemical and Material Engineering since 2004. He established the Optoelectronic Polymer Lab and has guided students to investigate and work on organic electroluminescence display and dye sensitized solar cell. The focus of his research includes synthesis and design of macromolecules, structural design of optoelectronic properties and the development of optoelectronic manufacturing technology as well as optoelectronic detection technology. In only 5 years, Professor Lee conducted 9 projects sponsored by the National Science Council and other 6 industrial-academic cooperation projects. He is academically remarkable and has published 18 articles in SCI, presented 27 conference papers and submitted 7 patent applications. Due to his superior contributions to academic research and industrial-academic cooperation, Professor Rong-Ho Lee honorably won the “2009 Ta-You Wu Memorial Award” and became a role model for young research workers.

YunTech Wins the World Title at GlobalTiC Talentrepreneur Award

Consisting of various students from different departments, a YunTech representative group took part in the “2009 GlobalTiC Talentrepreneur Award” and won the first prize for its own brand “Kassan” that was applied to the online DIY T-shirt design. The group members included Jia-Hau Tu and Chuen-Yi Tsai from Department of Business Administration, Shr-Huo Wang of Department of Industrial Design, Jeng-Hau Lin of Department of Architecture and Interior Design, Yi-Yan You and Feng-Jau Jiang from Department of Digital Media Design and You-Shiang Jeng as well as Ke-Bi Wang from Department of Visual Communication Design.

“Kassan”, a Japanese word for mother, signifies the birth of a human being and the very beginning of his/her life journey. Life, as a pure white canvas at the beginning, starts to involve more and more colors with

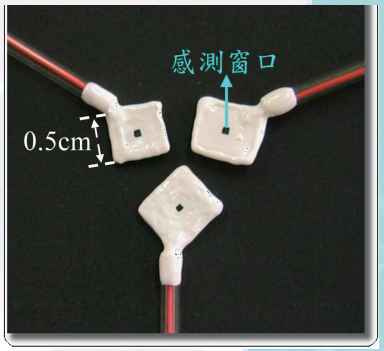
The Kaasan group stood out at the “Textile Innovation Award at Tic Taiwan”

mother's most attentive care. With different elements users choose to add to, the T-shirt designed based on the core value of "Kassan" shows unlimited vitality. For such a power of giving, the users also become the Kassan (mother) of this specific T-shirt.

In order to pursue further development, the "Kaasan" designers eagerly participated in various competitions, those including YunTech's Enterprise Challenge Competition and the fourth National Enterprise Challenge Competition. They took part in the "Textile Innovation Award at Tic Taiwan" and defeated all the teams before being assigned to represent Taiwan for the "2009 GlobalTiC Talentrepreneur Award" from August 14 to August 18, 2009. After competing against 24 representative teams from Mexico, Colombia, Peru, Ecuador, Japan, Singapore, Mongolia, Honduras and so forth, the Kaasan group received world recognition and gloriously won the first prize!

YunTech Snares Three Golds at IENA International Trade Fair "Ideas-Inventions-New Products", Nuremberg Germany

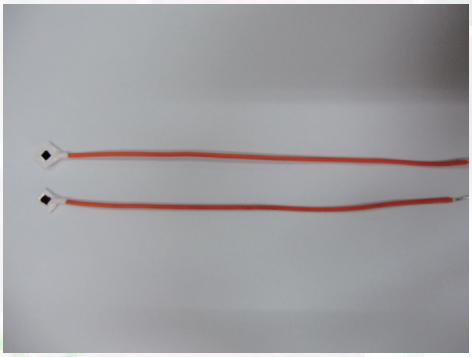
As the first and the oldest creative trade fair in history, the "IENA International Trade Fair, Ideas-Inventions-New Products, Nuremberg Germany" entered its 61st year and attracted more than 800 inventions from 34 countries to compete against one another in Nuremberg Germany from November 5 to November 8, 2009. This time Taiwan recommended 76 works that were



Technological invention of Professor Jung-Chuan Chou - II

submitted by 36 organizations, including universities, junior high schools, senior/vocational high schools, small and medium enterprises and research institutes. YunTech presented four that focused on biomedical sensing and mechanical engineering, three of which were praised by a gold medal. Such great recognition made Taiwan become the biggest winner with the most golds in pocket.

One of the gold-awarded works entitled "Uricase Enzyme Biosensors and Fabrication Method Thereof, Sensing Systems and Sensing Circuits Comprising the Same" is a patent approved technology invented by the team led by Professor Jung-Chuan Chou of Department of Electronic Engineering. The uricase enzyme biosensor includes a metal oxide semiconductor field effect transistor and is used to test for uric acid through a sensing unit that is connected with the transistor by a conductive wire. Unlike traditional sensors that are expensive and big in size, this device is low-cost and small. In addition to serving as a helper to personal health care, it can be broadly applied to domiciliary care or used for biomedical


Technological invention of Professor Jung-Chuan Chou - I


"High-Performance Accelerometer" by Department of Mechanical Engineering

sensing purposes. For how surprising and astonishing it was at the IENA International Trade Fair, the device attracted a great amount of factories to ask about the possibility of technology licensing and cooperation in the future.

Also invented by Professor Jung-Chuan Chou's research team, the "Methods for Fabricating a Chloric Ion Sensing Membrane, Chloric Ion Sensing Device, Measuring Systems, Sensitivity Measuring Methods for a Chloric Ion Sensing Unit, and Methods for Measuring Temperature Sensitivity, Response Time, Hysteresis and Drift of a Chloric Ion Sensing Unit" is another gold-winning work and characterized by being low-cost and small in volume. It is used to measure by the chloride ion-sensor layer the level of chloride concentration in water. As big as a pen, the device is easy to be carried and used to measure the quality of tap water, sea water, swimming pool water and even water for farming. In comparison with the currently available measuring devices, this achievement has fully reached the industrial requirement of being light and practical.

The third gold-recognized technology "High-Performance Accelerometer" is an invention of the research group instructed by Professor Yu-Sheng Lu. The device successfully integrated the measuring modes of capacitive accelerometer and piezoelectric accelerometer and improved their measurement accuracy in alternating acceleration and direct acceleration respectively. It obviously promoted the efficiency of these two accelerometers being operated in a singular module. This technology based on the mechanic engineering can be broadly used to measure vibration on cars, precision machines and large amusement equipments. It can also be applied by the aerospace industry for the vibration measurement of airplanes.

Highly competitive in market, the above award-winning technologies are patent recognized by both the Taiwan Patent and Trademark Office and the United States Patent and Trademark Office. It is expected that, said President Yeong-Bin Yang, for its innovative ideas and outstanding achievements YunTech can one day be truly internationalized and promote itself to be a top brand in the world.

Academic Exchanges

International Cultural and Creative Design Workshop 2009

Beginning from October 30, 2009, the three-day "2009 International Cultural and Creative Design Workshop" was held by the YunTech College of Design, Design Research Center and Department of Industrial Design. Many highly regarded professionals were invited to serve as workshop instructors, those including Dr. Ching Chiuan YEN from National University of Singapore, Mr. Gideon Loewy, design director of Scandinavian Design Consultant Company and Mr. James Soame and Anthony Soames, owners and design directors of Subkarma International Associates Company. The focus of the workshop was to discuss how the human culture has been correlated with human's living quality and global ecological balance. It was hoped that inspired by the workshop people who are involved could successfully include innovative ideas and eco-friendly design in the mission of keeping human culture alive and protecting the global environment, so as to create a new relationship between human being and products.

Besides the above professionals, four well-known scholars were invited to deliver speeches concerning the current development of the industrial safety both inside and outside Taiwan. They were Dr. J.P. Gupta, professor of Indian Institute of Technology who at the

Dr. Ching Chiuan YEN of National University of Singapore delivered a speech

same time serves as the president of Rajiv Gandhi Institute of Petroleum Technology, Dr. Mohamad Pauzi Zakaria and Dr. Sa'ari b. Mustapha of Universiti Putra Malaysia and Professor Shuh-Woei Yu from the Graduate Institute of Environmental Engineering, National Central University, Taiwan.

During the workshop, the participants were divided into different groups and worked with the group members on the design topic they were assigned to. They were expected to find advanced enabling solutions to the difficulties they faced during the design procedure and then propose ideal and feasible plans. The topics they worked on included design topic identification, market analysis, user observation and interview, development of horizontal and vertical perception, assessment as well as presentation. After brainstorming discussion and practice, the participants presented a range of remarkable designs, including graphic design, physical model and multimedia design. They were later displayed on November 1, 2009 for those interested in design to provide feedback and suggestions.

International Conference on Digimedia 2009

Held on December 2 and 3 at YunTech, the "2009 International Conference on Digimedia" was to encourage academic exchange and interaction between researchers and practitioners in the industrial and academic circles of digital media design. The conference had a long guest list, and with their participation as well as remarkable speeches it turned out to be an impressive and successful international conference. These renowned guests were Mr. Heinz Hermanns, CEO of Interfilm Berlin, Mr. Nag Vladermersky, director of the London International Animation Festival (LIAF) in the UK, Professor Sheila M. Sofian, chair of Division of Animation and Digital Arts, University of Southern California, Shu-Xian Liu, manager of Digital Education Institute, Institute of Information Industry, Shuzo John Shiota, CEO of Japan Polygon Pictures Company, and Professor Millán García Toral of Facultad de Bellas Artes, Universidad de Sevilla, Spain.

As what was expected, a great amount of results and achievements were reached at the conference, and those helped establish a channel for international exchange, promote digimedia related knowledge and encourage practitioners to develop their own international competitiveness. The conference hence became an important milestone that helped promote Taiwan's cultural and creative industries to the world. For more details, please visit http://www.dmd.org.tw/2009conference/conference/index.html.

First International Conference on Information, Integration and Innovation

Hosted by the YunTech Department of Information Management on January 7, 2010, the first "International Conference on Information, Integration and Innovation" offered a real opportunity to discuss several issues on the integration and innovation of information technology (IT) and management. The main topics that were covered included "IT & Management Inter-Industrial Integration", "IT & Management Innovation" and "IT & Management Application".

Many international scholars were invited to deliver speeches, two of which were Professor Wayne W. Hsieh and Professor Chung-Hsing Yeh. They are academically experienced and their academic achievement is instrumental for an exchange among the domestic information technology, management industry and the academic circle. Besides, the collaborative interaction and research sharing facilitated the establishment of a channel for international exchange and the development of IT as well as its integration with management. This also boosted the competitiveness of domestic academic and industrial circles and helped promote Taiwan's information integration and innovation to the world.

Through speeches and forums, the possibilities of the innovative integration of IT and management were discussed. What was concluded from the conference would be a good reference for the prospective development of Taiwan's information technology and management. Moreover, the success of the conference built a channel between domestic researchers or students and international scholars for their future academic exchange. Further details concerning the conference can be acquired at http://www.mis.yuntech.edu.tw/ics/.

YunTech Presentation of Potential Future Diving Equipments

Along with Mr. Jiun-Yan Wu who serves as the design chief of Multinational Co., Ltd., Professor Dengchuan Cai of Department of Industrial Design and his graduate students Lan-Ling Huang, Chiung-I Ma as well as Yu-Ping Chiu presented in YunTech's CGSEH a series of future diving products that were invented based on an industrial-academic cooperation project sponsored by the National Science Council.

Taiwan, surrounded by sea on all sides, provides an ideal place for diving which has been increasingly developed as a recreational sport. The joys that SCUBA Diving (Self-Contained Underwater Breathing Apparatus Diving) bring to people are to experience the attractive and amazing world under the sea. In cooperation with Multinational Co., Ltd., the YunTech Department of Industrial Design invented five diving products that will be possibly manufactured by the technology available in the future 5 years. Those include (1) buoyancy-regulating pneumatic wetsuit, (2) mask assembled with flashlights and a digital camera, (3) removable diving fins, (4) GPS-driven wireless dive watch and (5) diving biosensor used to detect fishes and topography.

All these engineered diving products are characterized by useful functions and features. The buoyancy-regulating pneumatic wetsuit, assembled with tanks, is designed to adjust the weight of buoyancy compensator by reducing buoyancy in water. The mask that is equipped with a digital camera not only can capture beautiful fishes, but also can lighten by the flashlights on its two sides the dark and mysterious underwater world. The removable diving fins, as they way they are called, are adjustable according to what types or functions divers want they to be or have. The GPS-driven wireless dive watch is able to show essential information on the depth, time and location under the ocean, so that the divers can be found and rescued immediately if they are in danger. The diving biosensor equipped with lamps and camera is able to detect fishes, submarine topography, tides and others based on its built-in database. Not only being applied to the sport of diving, these equipments can be used in other water sports as well and help decrease possible accidents when any activity is taking place under water.

College of Design - Joint Exhibition

The YunTech College of Design is one of the design schools in Taiwan where the same mix of disciplines - industrial design, visual communication design, architecture and interior design, digital media design and creative design - is housed in the same college. As an academically outstanding unit, the College held a joint exhibition and the "2010 YunTech Technology Transfer Signing Ceremony" on January 21.

From global and local perspectives, the Department of Creative Design created a "Sustainable and Creative

Professor Dengchuan Cai (right 2) and his students

Director Ming-Mao Lai of Department of Industrial Design and one of the exhibited works - Childhood_ Love

Campus" where a healthy and comfortable environment was established for students to learn and study. The design integrated the cultures and technologies between the East and the West and inspired the green ideas that help meet the policy of energy saving and carbon reduction. The department's other design "Creative Handmade Animation" applied computer technology and software to capture the individual images that made up the animation. The Department of Visual Communication Design conducted the "Design Project on the Image of Shihbi Community" and worked on the packaging design for several products of Shihbi Gukeng Township, those including bitter tea, persimmon, handmade soap, bamboo shoots and high mountain tea. Moreover, they established visual indicators as well as websites, and successfully promoted the image of Shihbi Gukeng Township. The department also exhibited creative graphic designs of ancient Chinese words and idiomatic phrases.

The Departments of Architecture and Interior Design and Digital Media Design used the computer-aided technologies, CAD and CAM, along with advanced design competencies to explain the "Procedure of A Laser Cutting Machine Being Applied to Freeform Curve Models" in a more accurate, precise and efficient way. Besides, they designed innovative products and created static models by following the structure of real world cultural and natural heritage. Inspired by the core value of "Green Products and Strategies", the Department of Industrial Design created various environment friendly products which included solar-powered bike, self powered mouse and sports shoes.

Professor Chih-Chung Liao of Department of Visual Communication who instructed students to conduct the "Design Project on the Image of Shihbi Community"

New Energy Saving Technology – Electronic Green Refrigerator

As a requisite in our daily life, refrigerator is one of the main equipments that consume the most electricity. Have you realized that as you open the refrigerator, its compressor starts to operate and this is when your power bill gets higher? Every time when we open the refrigerator, what's the real purpose of ours, to get the food we need or just check what we have in it?

Professor Terng-Jou Wan and his students of Department of Safety Health and Environment Engineering invented "liquid crystal glass" and used it to replace traditional refrigerator doors. Through the liquid crystal glass, users can clearly see what is stored inside refrigerator. They found out via research that the energy consumption of opening traditional refrigerator doors is twelve times higher than that of using liquid crystal glass. On the day of presenting "liquid crystal glass", Professor Terng-Jou Wan took the chance to urge everyone to help protect the environment and encourage more contributions to the energy saving and carbon reduction.

The liquid crystal glass in clear status

Green E-Bike - Technology Transfer Signing Ceremony

Regarding the "Green E-Bike", invention of professor Terng-Jou Wan of Department of Safety Health and Environment Engineering, the executive director of 3E Electronic Bloc, Bing-feng Wang and YunTech

vice president Shang-Chia Chiou singed a technology transfer contract before starting the industrial-academic cooperation between both parties.

According to Professor Terng-Jou Wan, it is expected to have the first Green E-Bike released in market in a near future. It is a bike that can store energy by converting any motions such as pedaling, braking and going downhill, into the mechanic energy and save it as the electronic power for its operation. With it, users would no longer worry about the occurrence of power outage. The vehicle is, furthermore, capable of travelling up to 40 kilometers when it's fully charged.

Happy and confident of the potential business opportunities created from the cooperation with YunTech, the executive director Bing-feng Wang indicated that for the following steps, they would take advantage of their experienced marketing skills and approaches and promote the product to satisfy market demand. He pointed out at the same time that the estimated output value of green e-bike in the future 10 years would reach more than 10 billion dollars. With expectations, he wished to keep cooperating with YunTech and make a breakthrough in both the academic and industrial circles.

YunTech has been focusing its main development on green technology and innovation, and in order to fulfill the goal of energy saving and carbon reduction, it has presented many creative green inventions. YunTech vice president Shang-Chia Chiou indicated that the cooperation with 3E Electronic Bloc is another green action that shows YunTech's potential of green innovation and is taken in response to the government's environmental protection policy. It is not only a good example for the industrial-academic cooperation in Taiwan, but also infuses vitality and energy into Taiwan green energy industry.

YunTech vice president Shang-Chia Chiou and the executive director of 3E Electronic Bloc, Bing-feng Wang, exchanged the contract


YunTech vice president Shang-Chia Chiou and the executive director of 3E Electronic Bloc, Bing-feng Wang, were riding the Green E-Bikes

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