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Spin-offs Coming into Bloom

Associate Professor Citterio's research project is an outcome of a flexible concept: "Wouldn't it be possible to create sensors for medical and environmental applications using the micro-nozzle technology originally developed for printing?" There are similar cases like this where a certain technology, originally developed for another purpose, can bloom into a new, unexpected flower by adding some novel ingenuity to it. These are known as technological "spin-off", representative examples being space development technologies.

The laser, now popular in lighting

and other fields, was developed for the Apollo Program to accurately measure the distance between the Earth and the Moon. Today its applications range widely from CD and DVD equipment, processing equipment and medical equipment through laser fusion.

Laser equipment for space use must clear various requirements, such as being lightweight, robust, compact and high performance capable. For example, what is known as the truss was contrived by combining triangular frames in order to make a robust cylindrical structure with a limited material. An application of this technology in beverage can design is the shiny "diamond-cut can" for the popular "Can Chu Hi" alcoholic drink, which won a packaging design prize in

Japan. In another example, the idea of small CCD camera, developed to monitor plant experiments in the Space Station, is applied to a pill-type gastroscope (9mm in diameter and 23mm in length).

Furthermore, the "organic waste treatment technology" vitally needed for humans to stay in outer space over a long period is applied to waste treatment technologies on Earth – typically, the recycling of organic waste from alcoholic beverage production processes and excretions from livestock farming into water or energy resource, thus contributing to environmental betterment.

What flowers will advances of Mr. Citterio's research bring next? Expectations are high.

Science and Technology Information

The 11th KEIO TECHNO-MALL 2010 held under the theme "Transcendental Powers"

<http://www.kll.keio.ac.jp/ktm/>

December 10 (Fri.), 2010 (10:00 ~ 17:00)

Tokyo International Forum (Halls B7 & B5)

Admission free, no prior registration required

KEIO TECHNO-MALL is an annual science and technology exhibition held by the Keio Leading-edge Laboratory of Science and Technology (KLL). It introduces a diversity of research achievements and new technologies developed by Keio University with approximately 70 booths for demonstrations and exhibits. This year's concurrent main event will feature a talking session by guests under the theme "Process from Research to Commercialization: Roles played by academia, industry and the government, and the future."

Strategic Management Chair for Creating Innovations

(a Sony-donated chair)

Open Symposium 2010

"Toward a New Phase of Development of Humankind and Society: The Future of Science, Technology and Humankind"

<http://www.koukai-sympo.net/>

January 14 (Fri.), 2010 18:00~

Kyosei-kan Fujiwara Hiroshi Memorial Hall on the Keio University Hiyoshi Campus

Admission free; Prior applications required

This event is the last of a 3-round-series open symposium by an endowed chair established at the Keio Graduate School of Science and Technology. Mr. Mario Tokoro, President of Sony Computer Science Laboratories, Inc. will preside over the symposium, inviting Professor Junichi Rekimoto (Graduate School of Interfaculty Initiative in Information Studies, The University of Tokyo) and other scientists for discussion. Please apply for participation at the above URL. A movie showing last year's symposium is available:

Open Symposium 2009 <http://21722lab.jp/#/basic/detail?id=361>

Editor's postscript

As I knocked on Associate Professor Citterio's lab for an interview, students rushed around Mr. Citterio in a moment at his welcome and began talking cheerfully. As you can see in "Just a word from . . ." at the end of the interview (page 5), Mr. Citterio is called by his first name "Daniel-san" by his students and apparently maintains frank and friendly communication with them. When we were about to take photos for the "My favorite books" corner, Professor Koji Suzuki of the same lab popped in and said "How about this book?" I could feel a truly harmonious and cooperative atmosphere prevailing in this lab.

The next issue will feature an up-and-coming assistant professor from the Department of Systems Design Engineering. Please look forward to the next issue.

(Saori Taira)



A scene from Open Symposium 2009

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