



The winning ALPS team and teaching staff members

Message from the Director and Dean

We were pleased to have finished the 2009 Active Learning Program Sequence (ALPS) with successful final presentations on November 20 and 21. The program features collaboration with MIT and Stanford University. I would like to express my deepest thanks to the professors involved in both universities. I also extend my gratitude to the support from the Global COE Program of the Ministry of Education, Culture, Sports, Science and Technology, participation of JAXA, and interest and visit from many organizations and companies. Moving on to the next topic, the November 23 Nikkei Shimbun carried a story on Page 19 about the "Keio University Graduate School of System Design and Management (SDM)" that gave us an opportunity to discuss the SDM vision and activities. We received comments and encouragement from a large number of people. I would like to thank those who took the time to express their opinions and to the people at Nikkei for featuring us.



Yoshiaki Ohkami
Director, SDM Research Institute
Dean, Graduate School of System Design and Management

* The entire newspaper article is available on the SDM website.

News

TOPIC

1

Articles on a company visit by SDM students appear on 3 newspapers



Visiting NISHIJIMA Co., a company that does not have mandatory retirement system
(seated in front, from left: SDM Associate Professor Toma, NISHIJIMA President Nishijima, Keio University President Seike, SDM Lecturer Yoshida)



Plant tour

On Wednesday, November 11, 22 students and five faculty members, including President Seike, visited NISHIJIMA Co. (Toyohashi, Aichi), a manufacturer of machine tools, as a field trip for "Fundamentals of Accounting, Marketing, and Economics." NISHIJIMA is a model company that has abolished its retirement system and devoted itself to creating an en-

vironment where veteran engineers can work as long as they wish. Its motto is "active for life." Apart from classroom lectures, this on-the-spot learning was a very fruitful day for all of the students.

Their visit appeared on three newspapers: the Nikkan Kogyo Shimbun, Tonichi News and Higashiaichi Shimbun.

JAXA SE Intermediate (A) Seminar was held



Panel discussion by SDM professors

JAXA SE Intermediate (A) seminar was held on November 17(Tue)-18(Wed) in Multipurpose Classroom 1 on the second floor of the Hiyoshi Campus Collaboration Complex. This time, lectures covered systems engineering by SDM lecturers as shown on the right.

SDM professors' lectures with high expertise made the seminars lively with many questions by the audience. Especially, the "Panel Discussion" held at last on the second day, which featured a vigorous give-and-take between the lecturers and audience when lecturers summarized their remarks. We look forward to holding more seminars open to the general public and hope for your support in this endeavor.

Day 1

Strategic systems engineering
(Lecturer: Professor Yoshiaki Ohkami)

Development process theory focusing on automobile development
(Lecturer: Professor Masaru Nakano)

Problem-solving, creative decision-making, analysis of fundamental causes
(Shigaraki Kougen Railway) (Lecturer: Professor Kenichi Takano)

Day 2

Systems engineering in automobile development and the Prius hybrid vehicle
(Lecturers: Professor Shoichi Sasaki, Professor Hidekazu Nishimura)

The complexities of systems integration and solutions
(Lecturers: Professor Hidekazu Nishimura, Professor Shoichi Sasaki)

Panel discussion (all lecturers)
"Make or Buy in the supply chain (based on insights from the automotive, electric power and aerospace industries)"

Lecture on "Project Management" in English was commenced

From the fall term, "Project Management" class becomes available in English as well as Japanese. While designed mainly for exchange students, this class also attracted a number of ambitious Japanese students who consider that studying in English will pay off in today's increasingly globalized project field.

The class is officially accredited by the

Project Management Institute (PMI), whose Japan Chapter dispatches a non-Japanese lecturer to SDM. This is the only English class directly supervised by PMI. For its first attempt, PMI drew up a plan with Associate Professor Toma for approximately six months.

In addition to lectures, the class also introduces a mini project in which students

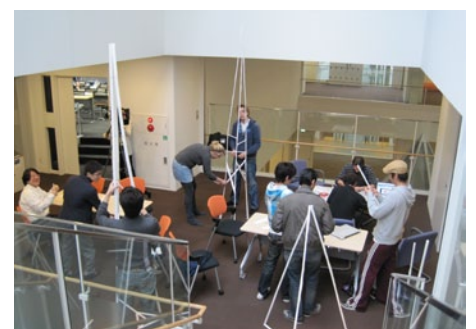
are expected to acquire practical project management skills through construction of a paper tower. This course is of great value as a prerequisite PM training to be certified as a Project Management Professional (PMP) as well as a PDU credit course to PMPs required to renew their certificates.



Mr. Robert Higgins lecturing on Project Management in English



Students enthusiastically listening to the lecture



Practicing project management skills with a paper tower construction project

Final presentations in the ALPS course sponsored by The Norinchukin Bank



Q&A session following a presentation
(Professor Beiter of Stanford University asking the question)



Presentation by students



Professor Haruyama questioning students

For a period of 5 months beginning June 19, each of 12 SDM student teams chose a project topic related to “Sustainable Community” and worked on a project by utilizing the “ALPS” techniques (Mind Map, CVCA, To By Using, Pugh Selection, NPV etc.), going out in the field to conduct interviews, and doing a great deal of work in English in the process.

In the final presentations on November 20 and 21, each team had 30 minutes to present the results of their project in English. All presentations were quite impressive with excellent graphics including CVCA and 5 minute video commercials. Especially there was a team that actually engaged in water cultivation by linking up state-of-the-art water cultivation facilities installed at an empty urban school site with agriculture education and the restaurant industry. This team excellently managed project operation, whereas some teams had to change project topic during the 5-month implementation period. The team won this year’s ALPS contest and was awarded the “ISHII AWARD,” commemorating one of the ALPS founders, late Professor Kosuke Ishii of Stanford University. Other topics include declining birthrates, food issues, health issues, communication between individuals and families, soccer communities, the popularization of sake and maintaining communities of meisters.

The wrap-up presentation was ungraded

“elevator pitches,” which refers to an explanation (pitch) that is short enough to be delivered while encountering on an elevator. The given circumstance was that one of the team members encountered the president of a company and was asked to explain their project in no more than two minutes. Mr. Hiroshi Fujiwara (President and CEO, Internet Research Institute, Inc.) kindly played the role of president this year. Having fully prepared for their two minutes talk, the students appealingly explained to the president their observations over the five months in a large elevator-like set. Without worry about grade, the students did indulge in a bit of comedy during their presentations, which helped relieve the five months tension that had permeated the ALPS final presentations and ALPS 2009 finished in a good mood.



Students enjoying the presentations



Professor de Weck of MIT sampling vegetables grown with water cultivation



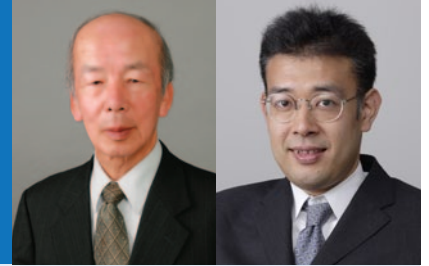
Trophy and award given to the winning team



Reception after the ALPS final presentations

Lab profile

Strategic Systems Design Laboratory
Professor Yoshiaki Ohkami
Associate Professor Masataka Urago



Professor Yoshiaki Ohkami

SDM Dean, former Research Director at the National Space Development Agency; Areas of expertise: Design and management of largescale space systems, strategic systems engineering

Associate Professor Masataka Urago

Former Assistant Professor, Tokyo Institute of Technology
Areas of expertise: "Modeling and simulation of largescale complex systems"

TOPIC Strategic design before you start

The Ohkami and Urago Group is a small melting pot, which designs delightful and collaborative societies across age, specialty, and culture. People in the lab work on an extraordinary range of themes, including; multibody dynamics of human body, software IV &V, optimization of rendezvous docking system; sub-orbital spaceship and its horizontal takeoff system from sea, shape measurement of rigid object from image, inter-relational motion of human body, and policy design about male female collaboration. The lab members also

visited counterparts at the University of British Columbia in Vancouver to exchange opinions.

In this article, we look at the design of sub-orbital spaceships. The group studies what would be required for space travel to be viable as a tourism business. The basic trip that they envision would bring the passenger to an altitude of 100 km, which is considered to be space, for approximately 10 minutes of weightlessness. The operator would offer two flights per week, passengers would require no special training, and takeoffs

and landings would be horizontal from the surface of the ocean. It is also assumed that sub-orbital spaceships would be reusable without separating any major parts.

On September 12 and 13, the lab held an overnight camp that brought together SDM's unique combination of working students and new graduates and students entering in the spring and fall terms.



Prototype space-
ship built by the
Faculty of Science
and Technology, Keio
University

TOPIC Research by Mr. Hiromichi Yasuoka, a researcher at the SDM Research Institute

Mr. Yasuoka is the first doctorate graduate from SDM. His research focuses on management and assessment methods for business using enterprise currencies (points and e-money). He earned his doctorate with a thesis providing guidelines on the design of new alliance-based enterprises using systems engineering techniques (OPM, CACV, ISM, Pugh Selection etc.) to systematize enterprise currencies and chart pathways for their development. The Japanese enterprise currency market

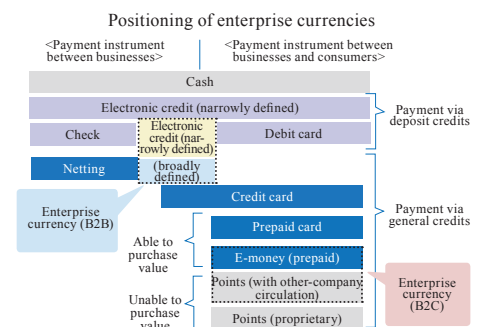


has grown far more quickly than in other countries and continues to expand rapidly. For example, the government of Japan introduced the "Eco-Point" program as a means of combating global warming. This is the first time anywhere in the world where enterprise currencies are funded by a government.

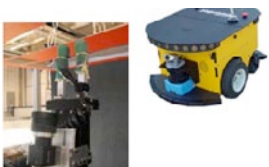
Prior to this, currencies developed as "circular economic systems," in which points were converted to e-money, or points granted for the use of e-money so that the two were mutually interdependent. The the-

sis will contribute to industrial development by providing a comprehensive, systematic overview and assessment of the business based on this model.

Example of media coverage: December 8, 2009 Extra Edition of Weekly Economist



TOPIC Joint research with University of British Columbia (Canada)



CARIS

Under the agreement on academic linkage and collaboration signed with the University of British Columbia (Vancouver, Canada) in 2005, we have exchanged letter of cooperation with the "Collaborative Advanced Robotics and Intelligent Systems Laboratory (CARIS)" led by Professor Croft of the Department of Mechanical Engineering. Based on the letter, we have started exchanging visiting research-

ers. Beginning mid-December, two students, one doctorate and one master student, will visit CARIS to participate in the analysis of biometrics and kinesiology experiments. In future we plan to add a theme on handling robots for indefinite objects.



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