慶應義塾大学学術情報リポジトリ
Keio Associated Repository of Academic resouces

Title	Publication data
Sub Title	
Author	
Publisher	Faculty of Science and Technology, Keio University
Publication year	2016
Jtitle	New Kyurizukai No.22 (2016. 8)
JaLC DOI	
Abstract	
Notes	
Genre	
URL	https://koara.lib.keio.ac.jp/xoonips/modules/xoonips/detail.php?koara_id=KO50001003-00000022-0011

慶應義塾大学学術情報リポジトリ(KOARA)に掲載されているコンテンツの著作権は、それぞれの著作者、学会または出版社/発行者に帰属し、その権利は著作権法によって保護されています。引用にあたっては、著作権法を遵守してご利用ください。

The copyrights of content available on the KeiO Associated Repository of Academic resources (KOARA) belong to the respective authors, academic societies, or publishers/issuers, and these rights are protected by the Japanese Copyright Act. When quoting the content, please follow the Japanese copyright act.

The appeal of modeling

Ken-ichi Tanaka

Operations research (OR) is a multidisciplinary research area with a wide range of applications. In particular, OR is distinctive in that it aims to solve real-world problems by developing mathematical models. We call this process "modeling."

In modeling, we "extract the problem's intrinsic part only, whereas ignoring other parts." This is because we won't be able to see anything if we leave the complex reality as it is. Then how do you consider a certain part of the reality to be intrinsic? This depends on each person's view of the world. Therefore, it's no exaggeration to say there are as many models as the number of analyzers. Especially, problems concerning people and their society are so complex that they cannot be described with the same strictness as laws of physics. When dealing with complex and "soft" targets, the same problem can be approached from diverse view point. Thus, there are infinite possibilities for modeling each problem. I believe this is the very appeal of disciplines covered by OR and administration engineering.

Recent development in computers, highly efficient algorithms and digital geographic data are collectively paving the way for an environment that will allow us to come up with more concrete solutions to large-scale problems in the real world. Such a situation will demand us to be armed with a sense for modeling problems in mathematically easy-to-handle ways. The importance of modeling is bound to increase in the field of OR.

Importance of this approach is not limited to research alone. "Extracting the intrinsic part of target problems", "Grasping the structural nature of problems", "Finding a common structure among different target problems" … These attitudes will be useful in various ways when solving everyday problems and performing creative works in society. "Emphasis on basic theories" is a tradition our Keio Faculty of Science and Technology has cherished since its establishment. I think "Emphasis on basic theories" mean what I mentioned above. College life is the luxury you can afford only now. This makes it all the more valuable for you to acquire such abilities.

I took the opportunity of this interview to review the path I followed and think about my future. Researchers are often asked, "What themes are you studying?" I usually explain, "I'm studying urban and social problems using mathematics." In a word, my answer would be, "Modeling." I'd like to continue education and research activity in order to develop and deliver attractive models.

Science and Technology **Information**

Science and Technology Information
The 17th KEIO TECHNO-MALL 2016
"Develop Industry-Academia Collaboration and Nurture Dreams"





The KEIO TECHNO-MALL is an annual event to widely disseminate research results from the Keio Faculty and Graduate School of Science and Technology while also serving as a vital venue of encounters for industry-academia collaborations such as joint research and technological transfer. More than 100 demonstration-oriented booths, the largest scale of its kind for Japanese universities, will be featured along with technical seminars and roundtables by researchers. Every year, this event attracts a large number of visitors – from businesses, government/public organizations, other universities, etc.

Date: December 16 (Fri.), 2016 10:00 ~ 18:00
Venue: Tokyo International Forum (Exhibition Hall E2, Basement 2)
Contents: Exhibits of real objects and demonstration-oriented exhibits along with other attractive events
Admission free Prior registration is not required for any event.
For details: www.kll.keio.ac.jp.ktm/

<Talk session events>

"Human brains deceived by the computer – As seen in computer visions and robots"
Guest: Mr. Kenichiro Mogi
Structural features and Japaneseness, beauty and comfort of town planning as seen in the Tokyo Olympic Stadium design
Guest: Mr. Kengo Kuma



Editor's postscript

The Department of Administration Engineering is one of the traditional departments of Keio's Faculty of Science and Technology. But it appeared in this web magazine for the first time in six years. In this issue, we introduced Associate Professor Tanaka's social engineering study. How did you enjoy it? Research endeavors, which approach our human society scientifically, will increase in importance more and more in the future. Through the interview with Dr. Tanaka, I could feel his good personality as well as the favorable atmosphere of his lab, which reflects the tradition of the Keio Faculty of Science and Technology.

(Kenji Kobayashi)

新版 窮理図解

New Kyurizukai
No.22 2016 August

Editing: "New Kyurizukai" Editing Committee
Photographer: Keiichiro Muraguchi
Designers: Hiroaki Yasojima, Yukihiko Ishikawa (GRID)
Cooperation for editing: SciTech Communications, Inc.
Publisher: Tojiro Aoyama
Published by : Faculty of Science and Technology, Keio University
3-14-1, Hiyoshi, Kohoku-ku, Yokohama, Kanagawa 223-8522
For inquiries (on "New Kyurizukai" in general) : kyurizukai@info.keio.ac.jp
For inquiries (on industry-academia collaboration) : kll-liaison@adst.keio.ac.jp
Website version: http://www.st.keio.ac.jp/kyurizukai
Facebook: http://www.facebook.com/keiokyuri