2013 Osaka City University International Symposium

Osaka 20 years from now– Re-inventing the City

Sharing the knowledge of Osaka City University

9/17 (Tuesday) [Knowledge Capital Congrés Convention Center]

——— **Opening** 9:30-10:00 ———

Session1 Creative Management 10:00-12:00

Takaya Kawamura (Associate Professor, Osaka City University Graduate School of Business)
Jinichiro Yamada (Associate Professor, Osaka City University Graduate School of Business)
Steven S. Taylor (Associate Professor, Worcester Polytechnic Institute)
(Live) *Leslie Stager* (Organizational Learning and Development Consultant, Cleveland Clinic Foundation, USA)
(Video) *Kotaro Takagi* (Professor, Aoyama Gakuin University)
(Video) *Stefan Meisiek* (Associate Professor, Copenhagen Business School)
(Video) *Klaus-Peter Schulz* (Associate Professor, ICN Business School)

Session2 Artificial Photosynthesis (1) 13:00-15:00

Hideki Hashimoto (Professor, Osaka City University Advanced Research Institute for Natural Science and Technology)
Richard J. Cogdell (Professor, University of Glasgow)
Yutaka Amao (Professor, Osaka City University Advanced Research Institute for Natural Science and Technology)

Session3 Health Science Innovation though Neuroscience 15:30-17:30

Yasuyoshi Watanabe (Special Appointment Professor, Osaka City University Graduate School of Medicine)
Semir Zeki (Professor, University of London)
Norihiro Sadato (Professor, National Institute for Physiological Sciences)

——— **Reception** 18:00-20:00 ———

9/18 (Wednesday)

Session4 Community and Creativity 10:00-12:00 [Osaka Prefecture University I-site Namba]

Koichi Kana (Associate Professor, Osaka City University Graduate School of Engineering)
Zong-bo Tan (Professor, Tsinghua University)
Shinya Hashizume (Professor, Osaka Prefecture University)
Daisuke Abe (Associate Professor, Ryukoku University)
Hirofumi Hori (Special Appointment Lecturer, Osaka City University Urban Research Plaza)

Session5 Artificial Photosynthesis (2) 13:00-15:00 [Osaka City University Media Center]

Hideki Hashimoto (Professor, Osaka City University Advanced Research Institute for Natural Science and Technology)
Nathan Lewis (Professor, California Institute of Technology)
Nobuo Kamiya (Professor, Osaka City University Advanced Research Institute for Natural Science and Technology)

Session6 Urban Smart Energy Network 15:30-17:30 [Osaka City University Media Center]

Masaki Nakao (Special Appointment Professor, Osaka City University Graduate School of Engineering)
Tsuyoshi Nagahiro (Special Appointment Professor, Osaka City University Graduate School of Engineering)
Yutaka Fueki (Fuji Electric Co. Ltd. Power & Social infrastructure Business Group Smart Community Grand Design Department)
Ken Umeno (Professor, Kyoto University)
Hiroaki Tsujimoto (Professor, Osaka City University Graduate School of Engineering)

Session7 Community and Safety Part 1 16:00-17:00 Part 2 18:00-20:30 [Sumiyoshi Shrine]

Kazuhiko Mori (Professor, Osaka City University Graduate School of Human Life Science)
Carolyn Whitzman (Associate Professor, University of Melbourne)
Michihiro Takai (Chief Priest, Sumiyoshi Shrine)
Yasuto Yoshida (Director of Sumiyoshi Ward)
Yasuko Kimura (Principal of the Osaka Municipal Minami-Sumiyoshi Ozora Elementary School)
Muneki Mitamura (Professor, Osaka City University Graduate School of Science)

9/19 (Thursday)

Session8 Open Source Approach for Community Building 10:00-12:00 [Osaka City University Media Center]

Yoshihiro Ohnita (Professor, Osaka City University Graduate School of Science)
Venkatesh Raghavan (Professor, Osaka City University Graduate School for Creative Cities)
Shinji Masumoto (Professor, Osaka City University Graduate School of Science)
Tatsuyoshi Hamada (Assistant Professor, Fukuoka University, JST CREST and Visiting Research of Osaka City University)
David Hastings (Creator and Curator, Human Security Index)

Session9 Young Researchers' Presentations 13:00-15:00 [Osaka City University Media Center]

Four recipients of the OCU Presidential Awards for Encouragement

Eriko Sato *Keisuke Yaku* *Go Yonezawa* *Kazunobu Okazaki*

Session10 Scholarly drama

[Osaka 20 years from now – Re-inventing the City] 15:30-17:30 [Tanaka Memorial Hall]

Session1

Creative Management :Mastering How to Connect, Collaborate and Lead through Theater Workshops

Business schools around the world nowadays offer workshops that use a variety of artistic techniques such as theater, design, or LEGO blocks, to develop leadership, change management and entrepreneurial skills.

Osaka City University Graduate School of Business is also giving educationally highly effective theater workshops as part of its 'Health/Social Care Innovation Management' evening MBA program for health/social care professionals, in cooperation with business schools in Japan and abroad. For this session, Associate Professor Steven S. Taylor（Worcester Polytechnic Institute, the United States）, who has given many theater workshops at business schools and companies world-wide as a university professor, an actor, a playwright, and an OD/HRD consultant, will lead a special public workshop to develop 'collaboration' skills, which are indispensable for organizational innovation and entrepreneurship for 12 participants "on-stage" including scientists, engineers, health/social care professionals, and graduate students of management.

After an introductory lecture by Professor Taylor, the participants are engaged in group works and presentations on a 30m2 specially-built stage, all recorded by video cameras and projected on the walls of the event hall. During the Exercise 3 group work, Leslie Stager, Organizational Learning and Development Consultant at Cleveland Clinic Foundation, USA, who is also a well-known theater workshop facilitator and an actress, will also "appear" on the event hall walls to provide on-line comments for the audience and to introduce video presentations of arts-based workshops at Copenhagen Business School（Copenhagen, Denmark）, ICN Business School（Nancy-Metz, France）, and Aoyama Gakuin University Graduate School of Social Informatics（Tokyo, Japan）.

Public theater workshop introduction lecture, guidance and explanation

Steven S. Taylor (Associate Professor, Worcester Polytechnic Institute, School of Business, USA)

Dr. Taylor received his B.S. in Humanities from Massachusetts Institute of Technology, USA in 1982, M.A. in Performing Arts from Emerson College, USA in 1993, and Ph.D.in Management, Organizational Studies from Boston College, USA in 2000. After teaching as Lecturer in Change Management at University of Bath, UK, he has been teaching at Worcester Polytechnic Institute, USA as Assistant Professor, Department of Management (2002-2008), and Associate Professor, School of Business (2008-present). Dr. Taylor's research focuses on the aesthetics of organizational action and reflective practice. Recently his academic work has focused on theorizing what business can learn from the arts and leadership as craft. Dr. Taylor is the author of the book ***"Leadership Craft, Leadership Art"*** (Palgrave Macmillan, 2012), one of co-authors of ***"Action Inquiry"*** (Berrett-Koehler, 2004), and the editor of the journal ***"Organizational Aesthetics"***. He is also a playwright whose work has been performed in England, France, Poland, Canada, Denmark, New Zealand, Italy, Australia, and the USA. Dr. Taylor served as a Fulbright Specialist (New Zealand, 2013) and a Researcher in Residence at the Banff Centre (Canada, 2008).

Live on-line commentator on the public theater workshop.

Leslie Stager, PhD (Organizational Learning and Development Consultant, Cleveland Clinic Foundation, USA)

Leslie Stager is presently an Organization Learning and Performance Consultant with the Cleveland Clinic Foundation in Cleveland, Ohio, USA. She works as a scholar/practitioner who drives her practice with internal clients using current organization, management, and leadership research to inform the practice needs of the organization keeping its processes cutting edge.Most recently, she lectured at Massey University in Auckland,
New Zealand in Management Communication. Her primary research interests include how theatre and acting methods can positively benefit management training and the training of organization development consultants. Leslie is working on a book chapter about the representation of business in film. She is also investigating how stage presence can be taught to managers to motivate and inspire employees.Additionally, she will be studying the long-term effects of teaching theatre skills to MBA students with R. Edward Freeman of the University of Virginia's Darden Graduate School of Business.When her schedule allows, she is a professional actress appearing in television commercials and shows, and stage productions.

Time Table

10:00-10:20: Creative Leadership (Short Lecture)
Entrepreneurship and leadership are fundamentally creative acts, they are art not science.
How artists understand creativity?
Today we will focus in on collaboration.

10:20 – 10:40: The Structure and Feel of Collaboration (Large group exercises)
- negative conversation
- positive conversation
- structured "yes and" exercises
- Image Theater handshake exercise (small group only)
- discussion and relationships to connection

10:40 – 11:00: Barriers to Collaboration (small group exercises)
- low status posture
- high status posture
- interact with high and low status groups
- low status eye contact
- high status eye contact
- interact with high and low status groups
- observations of exercises and relationships to connection

11:00 – 11:30: Doing Status (small group exercise – On-line live commentary)
- raising and lowering your own status
- raising and lowering others status
- discussion of exercises

11:30 – 11:45: Opening your heart (small and large group exercise)
- opening your heart to others (small and large group exercise)
- discussion of exercise and relationships to connection

11:45 – 12:00: Closing comments and discussion

Moderators, workshop support

Takaya Kawamura
Associate Professor, Osaka City University Graduate School of Business

Takaya Kawamura completed his doctoral course work at Hitotsubashi University Graduate School of Commerce. After working as a strategic planning staff at Seibu Department Store, he started to teach at Konan University where he was appointed as associate professor. He then joined the Faculty of Business at Osaka City University in 2000. His research interests involve knowledge management of public services, healthcare, social welfare, arts, media, education, and environment from the socio-psychological point of view.

Currently, he is also a director of "E-health promotion at work Kansai (NPO)" as well as a member of the Institute for Environmental Management Council and Osaka City Ogimachi High School Council.

Jinichiro Yamada
Associate Professor, Osaka City University Graduate School of Business

Dr. Jin-ichiro Yamada is associate professor of Entrepreneurship Strategy in the Graduate School of Business, Osaka City University, as well as visiting research officer of the National Institute of Science and Technology, Japan. He was a research fellow in Cranfield School of Management, UK, and visiting professor in Chair Arts, Culture & Management in Europe, Bordeaux Management School, France. His main interest is new venture strategy and strategic management in creative industries and high technology industries, and he has been engaged in consulting and management development projects in related areas. His current research work focuses on the social and human capital of entrepreneurship in innovation and industrial clustering in East Asian countries.

Video presentation

Stefan Meisiek
Associate Professor, Copenhagen Business School, Denmark

Klaus-Peter Schulz
Associate Professor, ICN Business School, France

Kotaro Takagi
Professor, Aoyama Gakuin University, Graduate School of Social Informatics

Session2

Artificial Photosynthesis（1）

The technological realization of artificial photosynthesis is receiving urgent attention of researchers worldwide. Its realization would make it possible to produce solar fuels such as hydrogen and alcohol from water and carbon dioxide using solar energy. Until now Japan has been leading the world in artificial photosynthesis research, but recently the USA, Europe, China, Korea and other countries have also started to establish centers for artificial photosynthesis and research is intensifying worldwide. For this session we invited Professor Richard J. Cogdell（FRS（Fellow of the British Royal Society））of the University of Glasgow, the leading center of artificial photosynthesis research in Europe, as our main guest. As an esteemed Fellow of the Royal Society, we have asked him to deliver a lecture with a wide perspective on the production of solar fuels by artificial photosynthesis, explaining the current situation and future development of the research centers in Europe and speaking about the ethics involved. For OCU, Professor Yutaka Amao（Professor at the OCU Advanced Research Institute for Natural Science and Technology and Vice-Director of the OCU Research Center for Artificial Photosynthesis）will explain the practice of hydrogen and methanol production using solar energy from a bioengineering point of view. Each presentation will be 1 hour, including time for questions and answers（2 hours in total）.

The Case for Solar Fuels: what we can learn from photosynthesis about how to use solar energy to make fuels

Richard J. Cogdell （Professor, University of Glasgow, UK, FRS.）

Professor Cogdell was elected Fellow of the Royal Society in May 2007. After obtaining his degree and doctorate in Biochemistry at Bristol, he completed his post-doctoral work at Cornell University before becoming a senior fellow in the Department of Biochemistry at the University of Washington in 1974. He returned to the UK in 1975, becoming a lecturer in Biochemistry in the Department of Botany at the University of Glasgow. Here he has made seminal contributions to photosynthesis research - specifically into the structure and function of bacterial reaction centres and light-harvesting complexes - a subject on which he has published widely. He has remained at Glasgow since this return, taking up the Hooker Chair of Botany in 1993. He has also held visiting positions in universities at Gottingen, California, Illinois, Munich and Paris-Sud. He is the president of the International Society for Carotenoid Research and has won numerous prizes, including the Alexander von Humboldt Research Prize in 1996 and the Daiwa Adrian Prize Tokyo in 2001.

As carbon dioxide levels in the atmosphere rise and our climate changes to become more erratic attention is turning to how mankind can provide for their energy needs in ways that minimise the consumption of fossil fuels. Solar energy has the capacity to make a significant contribution to this quest. Currently we have successful solar cells that can produce electricity rather efficiently. However there are problems with just producing electricity from renewable sources such as the sun. Basically we have problems dealing with intermittency and with storage. What is lacking is efficient technologies to use solar energy to make fuels. Fuels represent stored energy that can be accessed on demand. There is, however, one major chemical process on Earth that can convert solar energy into fuel. This process is photosynthesis. My lecture will describe how we can potentially use our deep understanding of this natural process to start to devise artificial ways to mimic photosynthesis in order produce solar fuels.

Artificial Photosynthesis based on the Bioengineering Technology for Solar Fuel Production

Yutaka Amao （Professor, Osaka City University Advanced Research Institute for National Science and Technology）

Professor of the OCU Advanced Research Institute for Natural Science and Technology, Osaka City University/ PRESTO Researcher, JST【Academic Degree】Doctor of Engineering（Tokyo Institute of Technology 1997.3）【Research Interest】Biocatalysis Chemistry, Photofunctional Material Chemistry

The major purpose of this presentation is to achieve *"Artificial Photosynthesis based on the Bioengineering Technology for Solar Fuel Production"*. In this presentation, production technologies of low-carbon fuels are classified into two categories. The first category is the solar hydrogen production from water based on the artificial photosynthesis using bioinspired system consisting of an electron donor, a photosensitiser, an electron relay and a platinum nano-particle. The second category is the artificial photosynthesis system for solar fuel production from CO_2. This system is a potential technology for photocatalytic CO_2 reduction and synthesis of organic compounds from CO_2 as the starting material.

Chair

Hideki Hashimoto （Professor, Osaka City University Advanced Research Institute for National Science and Technology）

Professor Hashimoto earned a doctorate degree of Science from Kwansei Gakuin University Graduate School of Science. He worked as an assistant professor at Osaka City University's Faculty of Engineering, an associate professor at Shizuoka University's School of Engineering, a visiting associate professor at University of Glasgow. In 2002, he became professor at Osaka City University's Graduate School of Science and he has served as project leader at the OCU Advanced Research Institute for Natural Science and Technology（OCARINA）since 2010. Currently, Prof. Hashimoto is the president of International Carotenoid Society as well as the director of OCU Media Center.

Session3

Health Science Innovation though Neuroscience / Neuroesthetics and Neurowellness

For health science to advance in order to combat the heavy daily stresses that we experience, and which often leads, among other syndromes, to the debilitating chronic fatigue syndrome, it is becoming increasingly important to address how we can harness the brain's ability to adapt to new means of communication and develop strategies to battle fatigue through artistic creativity and communication. In this session, we want to enquire how we can create important new openings to further advance health science through neuroscience. For this, leading experts will update us on the latest neuroscienctific knowledge, focusing on communication, art and anti-fatigue and discuss the current state and future developments in the new disciplines of neuroesthetics and neurowellbeing

Art and Brain

Semir Zeki (Professor, University College London, Neurobiology, UK)

1964: BSc in Anatomy, UCL, 1967: PhD in Anatomy, UCL, 1980-1985 Henry Head Research Fellow of the Royal Society, 1981-present Professor of Neurobiology at UCL, and Visiting scientist at various institutions worldwide., Fellow of the Royal Society 1990, of the Academia Europea（1993）, of the European Academy of Sciences and Arts（1995）. Foreign member of the American Philosophical Society Awards: King Faisal International Prize in Science 2004（King Faisal Foundation）, Erasmus Medal（Academia Europea（2008）, and many others

Professor Semir of the University of London, one of the leading scientists in the field of vision, will chart recent progress in the field of neuroesthetics and explain how the brain is organized to allow us to experience beauty derived from different sources, such as music and visual art. He will show that aesthetic experiences correlate with activity in the reward centres of the brain and that aesthetic judgment can be quantified by relating the declared intensity of the aesthetic experience to the intensity of activity in the brain's reward centres.

Communication and Brain

Norihiro Sadato (Professor, Division of Cerebral Integration, Department of Cerebral Research, National Institute for Physiological Sciences, National Institute of Natural Sciences)

MD, PhD Division of Cerebral Integration, Department of Cerebral Research
National Institute for Physiological Sciences National Institute of Natural Sciences
1983 Graduated from Kyoto University School of Medicine. 1994 Completed the doctoral course in Medical Sciences, Kyoto University. 1993-95 Visiting Research Fellow, NINDS, NIH. 1995 Lecturer, Fukui Medical University. 1998 Associate Professor, Fukui Medical University. 1999 Professor, NIPS. Specialty: Functional neuroimaging, Neuroscience
1998 Award from The Japanese Society of Nuclear Medicine

Our contemporary society is characterized by the fast- and ever- changing social interaction, which highlights the importance of the research on the social cognition and communication in terms of its developmental trajectory and neural substrates. Professor Sadato, a leading expert in functional brain imaging and social neuroscience, will introduce "social brain" research that incorporates fast-developing functional MRI techniques.

Fatigue Science for Human Health

Yasuyoshi Watanabe (Professor, Osaka City University Graduate School of Science)

1976 Graduated from Kyoto University Faculty of Medicine, 1980 Defended his doctoral thesis（MD, PhD）from Kyoto Univ. Graduate School of Medicine, 1981-1984 Instructor, Kyoto Univ. Radioisotope Research Center, 1984-1987 Assistant Prof., Osaka Medical College, 1987-2001 Dept. Head, Osaka Bioscience Institute, 1993-2001 Adjungerad Prof., Department of Medical Pharmacology, University of Uppsala, Sweden, 1999-present Professor, Osaka City Univ.（OCU）Grad. Sch. Med., 2006-2008 Program Director, RIKEN Molecular Imaging Research Program, 2008-2013 Director, RIKEN Center for Molecular Imaging Science, 2013-present Director, RIKEN Center for Life Science Technologies, 2013-present Director, OCU Center for Health Science Innovation, 2012-present President, Japanese Society of Fatigue Science Awards: Erwin von Bälz 1st Preis 2007 for Molecular Imaging Research, Research Category, Prizes for Science and Technology, The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology 2010

Professor Watanabe of Osaka City University and RIKEN is a leading expert in fatigue science and molecular imaging. He will address the pervasive problem of fatigue and introduce new products and commercial developments based on studies of the molecular and neural mechanisms underlying fatigue and especially chronic fatigue. He will discuss how, based on neuroscientific research, a new and quantitative field of anti-fatigue science is developing, which promises to combat severe chronic fatigue.

Session4

Community and Creativity

How can we best achieve creative city renewal? That is being tried out in many places in the world. In this session we will look at the urban planning and design aspects of how 'Community and Creativity' serves as an engine for creativity in 21st century cities around the world. In Asia, we will look at what is happening in the exceptionally fast growing cities of China. In Europe, we will look at the success of Barcelona in reviving its old city center. In North-America we will look at the management of urban resource utilization and revival. Last, we will present and discuss methods for the revitalization of the city of Osaka to see how we can creatively re-invent Osaka over the next 20 years.

How can urban planning deal with high-speed growth

Zong-bo Tan (Professor, Tsinghua University School of Architecture, China)

After graduating from the Tsinghua University Department of Architecture he continued studying at the Osaka City University Graduate School of Engineering, where he obtained his doctoral degree. He started his career as research fellow for the United Nations Center for Regional Development, followed by a position at Mori Building Group Forest Overseas Co. Ltd. He was first appointed associate professor at the Tsinghua University School of Architecture in 1996 and professor in 2005. During his stay at Harvard University as a visiting scholar, he carried out comparative research of urban planning management, focusing especially on land use planning. Currently, he also has his own design and consultancy office to implement his work and study.

The large scale city developments in China bring not only growth and progress, but also problems. For example, how can you protect a city's environment and scenery in ambitious development projects? And how to reorganize the urban spatial structure in regions where the economic structure is changing? How is this being done in reality? Current Chinese city planning will be introduced.

Osaka's imagination and creativity: starting from a reed stick

Shinya Hashizume (Special Professor, Osaka Prefecture University Research Organization for the 21st Century, Director, Osaka Prefecture University Research Institute for Toursm Industry and Special Appointment Professor, Osaka City Univerrity Urban Research Plaza)

Dr. Hashizume studied architecture and engineering at Kyoto University, and obtained his doctoral degree from Osaka University. After teaching at Kyoto Seika University and Osaka City University, he became professor at Osaka Prefecture University. Currently, he also acts as a special counsel of Osaka, promoting comprehensive research focusing on urban development and architecture, event space, and commercial facilities. He has written a large number of books, and he received the Best award for Energy-Forum in 2005 and he was awarded "Honorable prize of Osaka Vitality Grand Prix 2009".

What constituted the vitality of Osaka city? Looking at the past we can see Osaka's future.

Creating liberal space in Barcelona

Daisuke Abe (Associate Professor, Ryukoku University)

Dr. Abe was born in Hawaii, but studied in Waseda University and the University of Tokyo where he received his Ph.D. in engineering. He also holds his second Ph.D. from The Polytechnic University of Catalonia (Spain). After working at National Graduate Institute for Policy Studies and The University of Tokyo Center for Sustainable Urban Regeneration, he currently works as associate professor at Ryukoku University. His research focuses on urban development and design, and he received several awards for his work.

Barcelona is at the forefront of urban renewal. One of the issues it is now facing is how to manage and increase the touristic attractiveness of the city center and at the same time include the communities of weaker groups in society who live there. Does the promotion of creativity in cities contribute to socially sustainable regional spatial development? He will explain the challenges that urban renewal forerunner Barcelona is facing to repair the faults and cracks that arose after the redevelopment.

Architectural design with the help of the community -The future of design review and creativity in North-America-

Hirofumi Hori (Special Appointment Lecturer, Osaka City University, Urban Research Plaza)

Dr. Hori was born in Osaka and completed his doctoral coursework in Urban Engineering at University of Tokyo. After working as a visiting scholar at the University of Toronto (as research fellow of the Japan Society for the Promotion of Science) he joined Osaka City University in 2011. His research interests include urban planning, public law and design policy in North-America.

With many redevelopment projects and high-rise housing towers appearing in the center of Osaka, more and more people worry about the deterioration of the living environment and changes in the neighborhood atmosphere because historical buildings are destructed. Although also in Japan in recent years the word 'Community' has become important, the relation between the 'Community' and the urban redevelopment projects carried out by the government is not always good. We will introduce the citizen participatory architectural design review system that has been in use for many years in Seattle, USA and Vancouver, Canada, and by asking questions such as 'What is a community?', 'What role can the community play in urban planning and design?' and reversely, 'How close do urban planning and the community actually need to be?', we would like to debate what kind of developments and design guidelines Osaka should aim for and what designer creativity actually means.

Osaka's dreams and Osaka's challenges

Koichi Kana (Associate Professor, Osaka City University)

Dr. Kana obtained his doctoral degree from the Tokyo Institute of Technology. After his graduation he joined the current Mitsubishi UFJ Research and Consulting. He is now an associate professor at the Osaka City University Graduate School of Engineering, specializing in urban planning history, environmental studies and urban renewal design and is a special advisor to Osaka City and Osaka Prefecture. He is currently involved in the urban renewal of the Kyoto and Osaka region and has published several books on the subject.

A historic city, a people's city, a daring city. These characteristics are put to use for the revitalization of Osaka. He'll discuss what kind of deregulation and social programs are needed for a people's led urban renewal.

Session5

Artificial Photosynthesis（2）

In the United States President Obama announced to spend 15 billion yen over 5 years to develop fuel generation through artificial photosynthesis. For this session we invited the leader of this project, Professor Nathan Lewis, director of the Joint Center for Artificial Photosynthesis（JCAP）and professor at the California Institute of Technology, to talk about current research and future developments of artificial photosynthesis research at JCAP. For Osaka City University, Professor Nobuo Kamiya, professor at the Advanced Research Institute for Natural Science and Technology and director of the Research Center for Artificial Photosynthesis（ReCAP）, will explain the detailed structure analysis of the MnCaO5 cluster, the biological catalyst that generates oxygen by splitting water produced by plants, and current research and future developments at ReCAP. Each lecture will take 1 hour（total 2 hours）, including time for questions and answers.

Current research and future developments at JCAP

Nathan Lewis（Professor, California Institute of Technology, USA）

Dr. Nathan Lewis, the George L. Argyros Professor of Chemistry, has been on the faculty at the California Institute of Technology since 1988 and has served as professor since 1991. He has also served as the Principal Investigator of the Beckman Institute Molecular Materials Resource Center at Caltech since 1992, and is the Principal Investigator of the Joint Center for Artificial Photosynthesis, the Energy Innovation Hub in Fuels from Sunlight. From 1981 to 1986, he was on the faculty at Stanford, as an assistant professor from 1981 to 1985 and as a tenured Associate Professor from 1986 to 1988. Dr. Lewis received his Ph.D. in Chemistry from the Massachusetts Institute of Technology.
Dr. Lewis has been an Alfred P. Sloan Fellow, a Camille and Henry Dreyfus Teacher-Scholar, and a Presidential Young Investigator. He received the Fresenius Award in 1990, the ACS Award in Pure Chemistry in 1991, the Orton Memorial Lecture award in 2003, the Princeton Environmental Award in 2003 and the Michael Faraday Medal of the Royal Society of Electrochemistry in 2008. He is currently the Editor-in-Chief of the Royal Society of Chemistry journal, Energy & Environmental Science. He has published over 300 papers and has supervised approximately 60 graduate students and postdoctoral associates. His research interests include artificial photosynthesis and electronic noses.

The Joint Center for Artificial Photosynthesis is the U.S. Department of Energy's Innovation Hub in Fuels from Sunlight. Its goal is to perform the research and development to demonstrate a complete artificial photosynthetic system that directly produces fuel from sunlight, with an efficiency at least ten times greater than current natural photosynthesis. JCAP work is focused on the discovery and development of new catalysts, light absorbers, membranes, and interfaces needed to demonstrate an artificial photosynthesis capability, and to integrate these functions in one synergistic unified team effort. This presentation will describe the organization, goals, mission, and accomplishments of JCAP as well as specific examples of recent important developments in artificial photosynthesis that will underpin the development of this technology into a useful, scalable, global clean energy system.

Detailed structure analysis of oxygen-evolving center: Mn_4CaO_5 cluster in photosynthesis, and current research and future developments at ReCAP

Nobuo Kamiya（Professor, Osaka City University Advanced Research Institute for National Science and Technology）

After obtaining a doctor degree of science at Nagoya University, he started to design the first synchrotron radiation beamline for macromolecular crystallography at the Laboratory for High Energy Physics, Tsukuba. From 1985, as a researcher of RIKEN he constructed a structural biology beamline at SPring-8, Harima. In 2005 he became professor of the Graduate School of Science at OCU, and in 2010 professor at OCARINA. He has been working with Professor Shen of Okayama University on X-ray crystallography of photosystem II from 1990.

Photosystem II（PSII）in the thylakoid membrane of plants and algae performs light-induced electron transfer and water-splitting reactions, which lead to the formation of molecular oxygen in photosynthesis. The oxygen-evolving center（OEC）of PSII is a metal cluster containing four Mn and one Ca atoms, and elucidation of the reaction mechanism of OEC is very important to develop novel catalysts for artificial photosynthesis. In his lecture, he will discuss the relations between the oxygen-evolving catalyst and other components for realizing the artificial photosynthesis device.

Chair

Hideki Hashimoto（Professor, Osaka City University Advanced Research Institute for National Science and Technology）

Professor Hashimoto earned a doctorate degree of science from Kwansei Gakuin University Graduate School of Science. He worked as an assistant professor at Osaka City University's Faculty of Engineering, an associate professor at Shizuoka University's School of Engineering and visiting associate professor at University of Glasgow. In 2002, he became professor at Osaka City University's Graduate School of Science and he has served as project leader at the Osaka City University Advanced Research Institute for Natural Science and Technology（OCARINA）since 2010. Currently, Professor Hashimoto is the president of the International Carotenoid Society as well as the director of Osaka City University Media Center.

Session 6

Urban Smart Energy Network

Much research is being carried out to realize a flexible interchange of electricity and heat for smart communities.

To secure a stable energy supply, low carbon usage and emergency electricity and energy sources for existing urban areas, we are doing research to build regional highly efficient distributed energy resource systems that enable new and old large buildings to use renewable energy.

① Power routing technology that gives consumers the possibility to trade energy with suppliers
② Heat packet transport technology that gives consumers the possibility to trade heat with suppliers.
③ IT-technology for electricity and heat transfer（Chaos CDMA）
④ High-precision sensor technology necessary for smart energy supply and demand systems

The City of Osaka is promoting the 'Sakashima District Smart Community Demonstration Project" as part of its energy policy within the Kansai Innovation International Strategic Comprehensive Special Zone. One of the aims is to stimulate the area by involving new players in this energy project. By laying heat and energy transport pipelines along a train line in the urban Sakashima district, Osaka can build an electricity and heat transfer infrastructure at low cost and test CO2 reduction effects, wide-area operability and disaster prevention aspects.

Sakishima Smart Community project plan and the involved R&D

Tsuyoshi Nagahiro (Special Appointment Professor,Osaka City University Graduate School of Engineering, President of Sakishima-Asia Smart Community Alliance)

Nagahiro started his career at the Energy Plant Department of Toshiba Fuchu Factory in 1989. Using his subsequent experience working at the Power Generation and Transmission Department, he then transferred to architectural design office Sakurai System. There, he was in charge of architectural facilities and mechanical design and worked on the urban redevelopment of the Amagasaki station area.
He is now President of the Sakishima-Asia Smart Community Alliance, which offers concrete solutions to implement smart communities. The Sakishima Smart Community uses railroads and stations as infrastructure for the flexible transfer of heat and energy and demonstrates the effects on the revitalization of an existing urban area that is transformed in an energy saving low carbon community.

The smart community project is demonstrated in various cities across the world including Japan, though it is not the solution to the world's energy problem yet.

The Sakishima Smart Community develops and demonstrates of essential technologies to enable a flexible exchange between heat and electricity supply and demand. This is an unparalleled project because it not only transforms an existing urban area into a smart community using its existing facilities, but it simultaneously contributes to low carbon usage and stimulates the area.

Thermal Grids

Masaki Nakao (Special Appointment Professor, Osaka City University Graduate School of Engineering)

Education: B.S. in Mechanical Engineering from Waseda University and M.S. in Control Engineering from Tokyo Institute of Technology
Experience: After extensive research and business accomplishment in NTT, NTT Facilities and Sokon Consulting Corporation, joined in Osaka city University faculty in 2004 as professor in the graduate school of Engineering. Has served as an active member of the national committee by Ministry of Economy, Trade and Industry and that of Osaka city and local government in the field of urban efficient energy utilization in Japan. Current chairman of Heat Island Institute International and a fellow of The Society of Heating, Air-conditioning and Sanitary Engineers of Japan
Awards: The Architectural Institute of Japan Award（Technical）
The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan Award
Publications: "Countermeasure of Heat Island" joint author

We are carrying out R&D on thermal grids transporting hot and cold water within or between buildings by routing packets of heat. Through this technology it would become possible to save energy by using hot and cold water cascades within or between buildings.

Power routing systems for EoD（Energy on Demand）and PoD（Power on demand）

Yutaka Fueki (Fuji Electric Co. Ltd. Power & Social infrastructure Business Group Smart Community Grand Design Department)

Joined Fuji Electric Co., Ltd. in 1982 Developed Iron manufacture, Logistic, Medical treatment systems.
Take charge designing and planning of a smart community in Japan and in Southeast Asia from 2009.
These days, take charge construction of the smart community of industrial complex and Urban development in Southeast Asia and the Middle East.

He will present smart community case studies in Japan, illustrating the features of power routing systems for EoD to optimize supply and workload and PoD to optimize the balance between interphase and workload.

Next generation communication technology: Chaos CMDA for smart energy systems

Ken Umeno (Professor, Kyoto University)

He received his BSc degree in electronic communication from Waseda University, Japan in 1990. He received his MSc and PhD degrees in physics from the University of Tokyo, Japan in 1992 and 1995, respectively. Currently, he is a professor at Graduate School of Informatics, Kyoto University. Prior to joining Kyoto University in 2012, he worked for the Ministry of Posts and Telecommunications, Communications Research Laboratory（currently National Institute of Information and Communications Technology of Japan, NICT）. From 2004 to 2012, he was the CEO and the president of ChaosWare, Inc, a first spin-off company of NICT as well as a principal investigator of NICT. He received the LSI IP Award in 2003, the Telecom-System Awards in 2003 and 2008 respectively. He holds 46 registered Japanese patents, 23 registered US patents, and 2 registered Chinese patents in the fields of telecommunications, security, and financial engineering. His research interests include ergodic theory, statistical computing, coding theory, chaos theory and its applications to communications and computing.

By using Chaos as a communication code we can efficiently transport large amounts of energy and information. Additionally, Chaos CMDA also solves security problems. We will explain the suitability of Chaos CMDA for smart energy networks.

High-precision power sensors using micro magnetic devices

Hiroaki Tsujimoto (Professor, Osaka City University Graduate School of Engineering)

Education: B.Sc. in Engineering Science, Osaka University Ph.D. in Engineering, Osaka University
Experiences: Worked as an assistant, lecturer, and assistant professor at Osaka University. Joined Osaka City University in 1999, and is now a professor.
Research interests: Electronic Devices, Mechanical Engineering, Electric Power Engineering

After the Great East Japan Earthquake and the accident in Fukushima I Nuclear Power Plant, Japan was in critical condition, there was a shortage of power supply. It severely affected the Japanese economy and the national life of Japan.

On the other hand, photovoltaic power generation, wind power generation and the power by utilizing recyclable energy and new energy of fuel cell etc. were actively developed. The electric power supply and demand changed the overconcentration system to the distributed system. The accommodated energy management system for it was strongly demanded.

The thin film power sensor by using magneto resistance effect is able to detect total electricity consumption, power factor, harmonic power, electricity consumption for each frequency for DC and AC. And the size of its sensor is a very small. Therefore its sensor can be set in a narrow place where we could not arrange a big size sensor before. So we can measure the accurate electricity consumption.

Therefore the thin film power sensor by using magnetoresistance effect is able to bring an innovative and electric power saving technology.

Session 7

Community and Safety

In this session we will discuss safety, security and well-being in Sumiyoshi-ward, the location of Osaka City University. We especially would like to focus on urban disaster prevention from a scientific and cultural point of view, whilst looking at 'community revitalization', 'city redevelopment' and 'regional industrial promotion', all problems that are common in modern societies. Sumiyoshi-ward is located in the Sumiyoshi area, which started to develop already from around 1800. It accommodates many different lifestyles and has experienced various disasters.

Nowadays, although it still is a prime residential area of Osaka, problems such as isolation of individual inhabitants, decline of local industries and insufficient disaster prevention capacity are becoming increasingly obvious. We will discuss a variety of topics, including disaster prevention by the city and by the community, and people's lifestyles, history and culture.

Program 1: sightseeing tour of Sumiyoshi Shrine, National Treasure（16:00~17:00）
Program 2: symposium（18:00~20:30）

Safety, security and well-being of people in urban settings

Carolyn Whitzman（Associate Professor, University of Melbourne, Australia）

Dr. Whitzman obtained her Ph.D. from McMaster University, Canada and she won the Canadian Association of Geographers prize for best dissertation in human geography. She also worked for the City of Toronto on healthy city initiatives. Dr. Whitzman has an international reputation for her work on the prevention of violence. Her current research interests include the development of integrated violence prevention initiatives at the local government level, increasing independent mobility for children, and the policy implications of planning for healthy cities. She started to teach at University of Melbourne in 2003, and became associate professor in 2010. She is the lead editor of Building Inclusive Cities: Women' s Safety and the Right to the City (Earthscan, 2012) for which she received an outstanding book award from the Association of American Geographers this year.
(Source: http://www.abp.unimelb.edu.au/associate-professor-carolyn-whitzman)

The idea of the "inclusive city" in which ideally all residents (including children, people with disabilities, elderly etc) live safely and in affluence, will be introduced. Furthermore, the "inclusive city" world trends will be described using examples from the US and Australia.

Overview of Sumiyoshi Shrine

Michihiro Takai（Chief Priest, Sumiyoshi Shrine）

Michihiro Takai was born in Sumiyoshi, and he has been serving in Sumiyoshi Shrine for nearly 40 years now. His focus is to pass 1,800 years of the shrine history and tradition to the next generation, and to keep the shrine continue to be a place of comfort for residents in Osaka.

The chief priest of Sumiyoshi Shrine will give a talk about the history of the shrine and its implication to our modern societies.

Safety and Security Initiative of Sumiyoshi-ward

Yasuto Yoshida（Director of Sumiyoshi-ward）

He has been the director of Sumiyoshi Ward since August, 2012. He believes people live very closely with tradition, culture, and history in Sumiyoshi Ward, a fact illustrated by the presence of Sumiyoshi Shrine and Abiko Kannon. He supports the community building effects of local organizations, authorities, and others for a harmonious Sumiyoshi.

We will discuss the efforts of Sumiyoshi-ward, a prime residential area of Osaka, to overcome problems regarding its residents' life and perception of the future.

A case report of "Life-saving lesson" at Ozora Elementary school

Yasuko Kimura（Principal of the Osaka Municipal Minami-Sumiyoshi Ozora Elementary School）

The Ozora Elementary School, since its establishment in 2006, has always been a 'local school' built on solidarity with the motto –a school for everybody, a school made by everybody–, guaranteeing the right to learn for each child.
The school aims to give its pupils four strengths: 'to value other people' , 'to think for yourself, 'to express yourself and 'to challenge yourself, and teaches them one rule 'Do not do unto others what you do not want others to do unto you'.

The principal of Ozora Elementary School will give a case report about "life-saving lesson" practiced at the school and involving the local residents to participate. Its outcome and future progress will be discussed.

A Concept of "Inochi-rabo network" and implementation of disaster education in the community

Muneki Mitamura（Professor, Osaka City University Graduate School of Science）

Professor Mitamura graduated in Geology from Osaka City University Graduate School of Science in 1983 and joined Kawasaki Geological Engineering Co. Ltd. as a technician. He became research associate at Osaka City University Graduate School of Science in 1985, subsequently lecturer, assistant professor and associate professor and was appointed professor in 2010.
Since the Kobe earthquake in 1995 he has been doing research on liquefaction and deformation of artificial ground and has been active in disaster education, giving lectures to the general public and at primary and high schools.

The concept of "Inochi-rabo network" which was developed mainly by OCU will be explained. Also, implemented disaster education in the community, based on the same concept, will be discussed.

Chair

Kazuhiko Mori（Professor, Osaka City University Graduate School of Human Life Science）

Professor Mori graduated in Building Engineering from Toyohashi University of Technology Graduate School of Engineering in 1982 and joined Yamashita Sekkei Inc. After working as research associate at Toyohashi University of Technology from 1986, he became assistant professor at Tsukuba University of Technology in 1995 and at Osaka City University in 1999. He was appointed as professor in 2005. His main field of research is welfare environmental design. He is involved in local community design projects such as the Senboku New Town renewal project and the Osaka City University Disaster Reduction Research Project.

Session8

Open Source Approach for Building Resilient Communities

Though mathematics and physics are often considered as pure theory and experimental research, in this symposium we shall emphasize their social nature and applications, especially the possibility of creating big communities using "free open source software". We want to show you how an Open Source Community led Approach can bring about better education and help in improving the socio-economic and Environmental Fabric of Societies. We present the following topics: (1) Definition and Quantification of Resilient Communities based on "Human Security Index", (2) Enhancing Education in Basic Science - Example of "MathLibre" Community, (3) Open Approach to Building Spatial Data Infrastructure - Example of Open Initiatives in Spatial Information Science, etc.

Attempting to Measure and Understand Well-being/Vulnerability: The Human Security Index for Nations and Communities

Dr. David Hastings (Founder and Curator, The Human Security Index)

Field: Geophysics, Remote sensing and geographical information systems, Information and Communications Technology, Characterization of socio-economic development situations, etc. 2008-present: Creator and Curator of HumanSecurityIndex.org. 1986-2013: Scientist of the U.S Federal Government.

The Human Security is a universal problem of human beings. The Human Security Index was proposed as a new index to measure and understand the well-being and the vulnerability for the sake of communities with nations of the world. The Human Security Index is now developed for 232 countries. And, the importance of the free open source software will be appealed.

Dr. David Hastings has worked in academic and public sector research and development, and spent most of the past decade with the United Nations Economic and Social Commission for Asia and the Pacific. Over the past decade he used 30+ years' experience (in the field & digital analysis lab, and on research & development teams) in indicator development to attempt a prototype HSI. That effort may have appeared to be bottom-up in its approach: "What is available which could be helpful in crafting a Human Security Index?" However, he had been working on his own, unnamed, human development index since 1987 (three years prior to publication of the first UN HDI), and on concepts of characterizing development since 1972. This experience provided design guidance behind the scenes of the outwardly bottom-up process. That, plus many discussions with UN and other colleagues, resulted in the HSI release of 2008.

Mathematics and Open Source

Tatsuyoshi Hamada (Assistant Professor, Fukuoka University, JST CREST and Visiting Research Osaka City University)

Field: Mathematics, Geometry, Mathematical Software. Membership: Mathematical Society of Japan, Japan Society for Symbolic and Algebraic Computation. 1997: Ph.D. in Mathematics, Tokyo Metropolitan University. 1997: Research Associate at Department of Applied Mathematics, Fukuoka University. 2007: Assistant Professor at Department of Applied Mathematics, Fukuoka University. 2008: Collaborative Researcher of JST CREST Team Hibi. 2012: Visiting Researcher of OCAMI.

He will talk about the mathematical software and the development of its global community in the world, focusing on the "MathLibre" project providing distributable and variable computer environment for mathematical research and educations. The "MathLibre" project is a new project started from 2012. It originates from the "KNOPPIX/Math" project which worked hard to spread the mathematical open source software for ten years.

Professor Venkatesh Raghavan has received the Sol Katz Award in 2012.
The Sol Katz Award is awarded annually by OSGeo to individuals who have demonstrated leadership in the GFOSS community and contributed significantly through their activities to advance open source ideals in the geospatial realm.

Open Initiatives in Spatial Information Science

Venkatesh Raghavan
(Professor, Osaka City University Graduate School for Creative Cities)

Field: Spatial Information Science, Geology. Membership: Japan Society of Geoinformatics, Japan-Vietnam Geoinformatics Consortium, International Association for Mathematical Geology, Remote Sensing Society of Japan, GIS Association of Japan, The Geological Society of India. Bachelor and Master degrees in Geology from University of Pune, India and Ph.D. in Geosciences at Osaka City University. 1996: Lecturer at Osaka City University. 2006: Professor at Graduate School for Creative Cities, Osaka City University.
He has received the Sol Katz Award in 2012. The Sol Katz Award is awarded to the individual who showed leadership every year in the GFOSS community from the OSGeo foundation, and advancing the ideal of an open source in the field of geographical space.

Shinji Masumoto
(Professor, Osaka City University Graduate School of Science)

Field: Geology, Geoinformatics. Membership: Japan Society of Geoinformatics, The Geological Society of Japan. Bachelor, Master and Doctor of Science degrees from Osaka City University. 1984: Researcher Associate at Faculty of Science, Osaka City University. 2006: Professor at Graduate School of Science, Osaka City University.

They will talk about the history of the software in Spatial Information Science, which was drastically changed by the free open source software "FOSS", and the relationship with communities. We also shall emphasis on their importance of society.

Professor Venkatesh Raghavan has received the Sol Katz Award in 2012.
The Sol Katz Award is awarded annually by OSGeo to individuals who have demonstrated leadership in the GFOSS community and contributed significantly through their activities to advance open source ideals in the geospatial realm.

Chair

Yoshihiro Ohnita (Professor, Osaka City University Graduate School of Science and OCAMI)

Field: Mathematics, Differential Geometry. Membership: Mathematical Society of Japan. 1980: Bachelor in Mathematics from Ibaraki University. 1985: Ph.D. in Mathematics from Tohoku University and JSPS research fellow. 1986: Research Associate at Department of Mathematics, Tokyo Metropolitan University. 1987-1989: Guest Researcher at the Max-Planck Institute for Mathematics in Bonn. 1998: Professor of Mathematics at Tokyo Metropolitan University. 2005: Professor at Department of Mathematics, Graduate School of Science, Osaka City University. 2013: Director of the Osaka City University Advanced Mathematical Institute (OCAMI).

Session9

Young Researchers' Presentations

Four recipients of the Osaka City University Presidential Awards for Encouragement will give presentations about their research.

Eriko Sato

(Lecturer, Graduate School of Engineering)
Graduate School of Engineering Osaka City University,Ph.D.
Member of Society of Polymer Science, Adhesion Society of Japan, Chemical Society of Japan, Society of Rubber Science and Technology, Japan

Precise Synthesis of Acrylic Polymers and Application to High Performance Dismantlable Adhesive Materials

Dismantlable adhesion materials have both good adhesion properties in use and on demand dismantlability, and are attractive materials to help the efficient use of energy in terms of resource saving and productivity growth. In this presentation, the design strategy of the novel dismantlable adhesion materials using the property changes of reactive acrylic polymers induced by external stimuli will be described and then investigations concerning practical applications including stability improvement by using dual-rock system, the enhancement of adhesion strength and stimuli responsibility, and the development of oxygen tolerance polymerization system will be presented.

Keisuke Yaku

(Doctoral student, Graduate School of Human Life Science)
Graduated the masters program at the Osaka City University Graduate School of Human Life Science,Master of Human Life Science.
Member of Japanese Biochemical Society, Japan Society of Nutrition and Food Science

Neuroprotective effect of 1'-acetoxychavicol acetate extracted from Alpinia galangal

Neurodegenerative diseases are progressive diseases caused by death of neurons in brain. The incidence increases with aging. It is important to prevent neurodegeneration in our aging society. I will present the effect of 1′-acetoxychavicol acetate which is extracted from ***Alpinia galangal*** on neuroprotection.

Go Yonezawa

(Associate Professor, Graduate School for Creative Cities)
Graduate School of Science, Osaka City University,Ph.D.
Member of Japan Society of Geoinformatics, GIS Association of Japan etc.

Urban Spatiotemporal Transformation and Sustainability of Hanoi, Vietnam Using Open Source

Hanoi city, the capital of Vietnam, is one of the fastest-growing cities in Southeast Asia. However, the serious urban problems are increasing year after year. To consider the city as a three dimensional (3-D) spatial area (from underground to surface), and generate the basis data for diverse study fields is important. This presentation indicates the fundamental urban 3-D model and its application for the transformation of Hanoi city.

Kazunobu Okazaki

(Associate Professor,Reseach Center of Urban Health and Sports)
Shinshu University Graduate School of Medicine,Ph.D.
Member of Japanese Society of Physical Fitness and Sports Medicine, Japanese Physiological Society, American College of Sports Medicine、American Physiological Society, Japanese Society of Physical Education, Osaka Society of Physical Education, Japan Society of Exercise and Sports Physiology, Society for Running

Practical method for the privention of heat related illness in the elderly

One of the life-threating problems in the summer is 'heat related-illness'. Especially, about 70% of the number of deaths from the disorder is affects the elderly, therefore it is required to develop the effective measures for it. In this presentation, I will present that thermoregulatory capacity in a hot environment measured by the enhanced sweating and skin vasodilation to the increased core body temperature deteriorates with biological aging. In addition, I will present the effectiveness of endurance exercise training in conjunction with the post-exercise protein and carbohydrate intake to enhance thermoregulatory capacity in the elderly.

Session10

Scholarly drama

[Osaka 20 years from now – Re-inventing the City]

In Session 10, all of the coordinators of the other sessions except for Session 9 will come together in a single venue and talk about the theme of "Osaka 20 Years From Now: Re-inventing of the City." In the normal course of things, there would be reports summarizing each of the separate sessions, and after a wide-ranging general discussion the symposium would wind up in a predictable fashion. However, one of the keywords of this symposium is 'creativity,' and since it is precisely that creativity which is the necessary key to breaking new ground in implementing and researching the re-invention of the city, we have decided to creatively convert Session 10 from a simple oral report presentation into a kind of drama, which will be a 'scholarly drama.' This is because we think that for us, particularly burdened as we now are by natural disaster and major economic difficulties, creativity is necessary to bring into being a better future. During the 19th century, the German composer Richard Wagner devised his musical dramas as a comprehensive art form that combined opera, symphonies, ballet, stage drama, and the literary arts together in a multidimensional form that brought about a revolution in the world of performing arts. That form is still carried on today by the Bayreuth Music Festival which is widely regarded in Europe as a performing arts festival of the very highest level. Our scholarly drama is not meant to carry on the aesthetics of Wagner's romanticism, but rather, in learning from the comprehensiveness of his vision, to be something newly devised as one means of integrating multifaceted urban research into an event where we hope both scholarship and the performing arts will richly resound.

Dramas essentially create fictional times and spaces. Because they are fictional, they draw is in all the more with the illusion of reality. On the other hand, because scholarship pursues the truth, it forms in contrast a relationship of tension with dramas which are based on fiction. We intend to walk the narrow pathway between the two. In recent years, one can see a change toward a more open style in the presentation of scholarly findings. Televised versions of exuberant classrooms such as those of Harvard's Michael Sandel or the TED Talks are being acclaimed. In university education as well, e-learning systems are more and more being introduced, and means of expression are being elaborated. New ways of getting across knowledge and experience are rapidly developing. We earnestly hope that our own scholarly drama will be a contribution to this trend.

The setting for our drama is 20 years in the future, in other words in the Osaka of 2033. What kind of Osaka will there be then? We really hope that you will enjoy it.

Cast:

MITAMURA Muneki (*Science*)
MIZUUCHI Toshio (*Urban Research Plaza*)

MORI Kazuhiko (*Human Life Science*)
NAKAO Masaki (*Engineering*)
HASHIMOTO Hideki (*OCARINA*)
WATANABE Yasuyoshi (*Medicine*)
OHNITA Yoshihiro (*Science*)
KAWAMURA Takaya (*Business*)
KANA Koichi (*Engineering*)

Aung Myat Win (*Creative Cities- Myanmar*)
Mircha Anton (*Creative Cities- Russia*)
Kienner Johannes (*Literature- Austria*)
Trinh Quy Lon (*Engineering- Vietnam*)
Jeon Eunhwee (*Literature-Korea*)
Jin Shengdi (*Engineering-China*)

ESASHIKA Takuma (*Literature 3*)
MATSUMOTO Tomoko (*Literature 3*)
MARUOKA Ai (*Economics 3*)
INUI Yuto (*Economics 2*)
TANIGUCHI Masaki (*Literature 2*)
NAKAYAMA Yojiro (*Engineering 2*)
UEYAMA Tomoaki (*Literature 1*)
MASUMURA Misato (*Science 1*)

Director:

NAKAGAWA Shin (*Literature and Human Sciences*)
TAKARADA Hiroshi (*Assistant, Literature M1*)