

PRELIMINARY PROGRAM



The 21st

Small Engine Technology Conference

Small Engines, The Key to a Prosperous Society

Osaka International Convention Center
(Grand Cube Osaka)

November 17 to 19, 2015



Society of Automotive Engineers of Japan, Inc.



MCEO.com

Motorcycle Engine Oils

Recognizing the Dynamics. Providing the Solutions.

A website dedicated to Motorcycle Oils from
The Lubrizol Corporation, which:

- Provides a channel to learn more about the dynamics and demographics of the motorcycle market
- Navigates visitors through market drivers, hardware, key specifications and video library
- Explains and illustrates the unique design and challenging lubrication requirements
- Supports and builds value in the use of dedicated lubricants

For more information visit MCEO.com and/or contact your Lubrizol representative.



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Program at-a-Glance

Time \ Date	Mon. Nov.16	Tue. Nov. 17	Wed. Nov. 18	Thu. Nov. 19
08:00-09:00	Technical Visits			
09:00-10:00		Opening Ceremony Keynote Address Conference Hall, 12F	Technical Sessions	Technical Sessions
10:00-11:00		Networking Break	Networking Break	Networking Break
11:00-12:00		Technical Sessions	Technical Sessions	Technical Sessions
12:00-13:00		Lunch	Lunch	Lunch
13:00-14:00		Technical Sessions	Technical Sessions	
14:00-15:00		Networking Break	Networking Break	Awards & Closing Ceremony Room 1009, 10F
15:00-16:00		Technical Sessions	Plenary Session Room 1009, 10F	
16:00-17:00				
17:00-18:00				
18:00-19:00		Welcome Reception Lobby, 12F		
19:00-20:00				
20:00-21:30			Banquet, Taiko-En	

10F	Registration	Center Lobby
	Technical Sessions	Room 1004, 1005, 1006, 1007, 1008
	Lunch & Networking Break	Room 1001+1002+1003
	Exhibition	

Note: Short oral presentation by a presenter of a poster session will be planned during networking break.



Introduction of SETC2015

Theme

Small Engines, the Key to a Prosperous Society

Since its first event in 1989, Small Engine Technology Conference (SETC) continues to be the international technology conference for small engines and related products. SETC is jointly sponsored each year by the Society of Automotive Engineers of Japan, Inc. (JSAE) and SAE International.

JSAE is pleased to host the 21st SETC at Osaka International Convention Center from November 17 through 19, 2015 with the cooperation of Japan Land Engine Manufacturers Association (LEMA) and Japan Marine Industry Association (JMIA).

Aspiring to infinite significance of small engines achieved by mobility, environmental friendliness and economic benefits, JSAE has chosen the theme of this conference — “Small Engines, the Key to a Prosperous Society.”

SETC History

Conference	City	Country
SETC1989	Milwaukee	USA
SETC1991	Yokohama & Hamamatsu	Japan
SETC1993	Pisa	Italy
SETC1995	Milwaukee	USA
SETC1997	Yokohama	Japan
SETC1999	Madison	USA
SETC2001	Pisa	Italy
SETC2002	Kyoto	Japan
SETC2003	Madison	USA
SETC2004	Graz	Austria
SETC2005	Bangkok	Thailand
SETC2006	San Antonio	USA
SETC2007	Niigata	Japan
SETC2008	Milwaukee	USA
SETC2009	Penang	Malaysia
SETC2010	Linz	Austria
SETC2011	Sapporo	Japan
SETC2012	Madison	USA
SETC2013	Taipei	Taiwan
SETC2014	Pisa	Italy
SETC2015	Osaka	Japan



Introduction of SETC2015

Patronage of



This event is organised under FISITA Patronage.

FISITA is the international federation linking the national automotive engineering societies in 37 countries. FISITA was founded in 1948 as a neutral forum for the exchange of technical knowledge on every aspect of vehicle design, development and manufacture. FISITA is a non-profit organisation committed to helping create efficient, affordable, safe and sustainable automotive transportation.

www.fisita.com



Sponsors & Advertisers

JSAE Small Engine Technology Conference 2015 committees wish to express sincere gratitude and appreciate strong support of the following companies to the conference. (As of April 27, 2015)

Sponsors



Program Advertisers

- EXEDY Corporation
- F.C.C. Co., Ltd.
- Honda Motor Co., Ltd.
- HORIBA, Ltd.
- Kawasaki Heavy Industries, Ltd.
- KUBOTA Corporation
- The Lubrizol Corporation
- Osaka International Convention Center
- SHOWA CORPORATION
- SUZUKI MOTOR CORPORATION
- Yamaha Motor Co., Ltd.



Committee Members

JSAE Honorary Committee 2015

Chair/Yuji Horiuchi	(Kawasaki Heavy Industries, Ltd.)
Takaaki Kimura	(Yamaha Motor Co., Ltd.)
Yuji Marui	(Honda R&D Co., Ltd.)
Eiji Mochizuki	(SUZUKI MOTOR CORPORATION)
Shujiro Shiohara	(Japan Land Engine Manufacturers Association)
Hideo Shoji	(Nihon University)
Yasushi Tsuritani	(Japan Marine Industry Association)

JSAE Organizing Committee 2015

Chair/Takeshi Araki	(Kawasaki Heavy Industries, Ltd.)
Masayuki Baba	(Honda R&D Co., Ltd.)
Shosaku Chiba	(Honda R&D Co., Ltd.)
Ryosuke Ishikawa	(SUZUKI MOTOR CORPORATION)
Tatsuya Kuboyama	(Chiba University)
Yohei Kurihara	(SUZUKI MOTOR CORPORATION)
Masanori Kurita	(Kawasaki Heavy Industries, Ltd.)
Makoto Matsuo	(Kawasaki Heavy Industries, Ltd.)
Yasuyuki Muramatsu	(Yamaha Motor Co., Ltd.)
Takahito Murase	(Kawasaki Heavy Industries, Ltd.)
Michihisa Nakagawa	(Kawasaki Heavy Industries, Ltd.)
Tadao Okazaki	(Japan Land Engine Manufacturers Association: Kubota Corporation)
Hideyuki Okumura	(Japan Marine Industry Association: Yamaha Motor Co., Ltd.)
Tomoo Shiozaki	(Honda R&D Co., Ltd.)
Ichiro Uemura	(Kawasaki Heavy Industries, Ltd.)
Koji Yoshida	(Nihon University)
Makoto Yoshida	(Yamaha Motor Co., Ltd.)

JSAE Technical Committee 2015

Chair/ Tomoo Shiozaki	(Honda R&D Co., Ltd.)
Takeshi Araki	(Kawasaki Heavy Industries, Ltd.)
Shigeru Fujii	(Yamaha Motor Co., Ltd.)
Satoshi Inoue	(Honda R&D Co., Ltd.)
Tatsuya Kuboyama	(Chiba University)
Hiroataka Kurita	(Yamaha Motor Co., Ltd.)
Takashi Mitome	(SUZUKI MOTOR CORPORATION)
Takahito Murase	(Kawasaki Heavy Industries, Ltd.)
Tohru Nakazono	(Japan Land Engine Manufacturers Association: YANMAR Co., Ltd.)



Committee Members

Yutaka Nitta	(SUZUKI MOTOR CORPORATION)
Tadao Okazaki	(Japan Land Engine Manufacturers Association: Kubota Corporation)
Hideyuki Okumura	(Japan Marine Industry Association: Yamaha Motor Co., Ltd.)
Jiro Senda	(Doshisha University)
Hiroya Ueda	(Honda R&D Co., Ltd.)
Yuh-Yih Wu	(National Taipei University of Technology)
Hiroshi Yano	(Kawasaki Heavy Industries, Ltd.)
Koji Yoshida	(Nihon University)

SAE Technical Committee 2015

Chair/ Leonid Tartakovsky	(Technion - Israel Institute of Technology)
William Attard	(FCA US LLC)
Brian Callahan	(Achates Power, Inc.)
James Carroll	(Southwest Research Institute)
Brent Dohner	(The Lubrizol Corporation)
Pierre Duret	(IFP Energies Nouvelles)
Giovanni Ferrara	(University of Florence)
Jaal Ghandi	(University of Wisconsin, Madison)
Adrian Irimescu	(Istituto Motori CNR)
Tobias Kallerhoff	(Robert Bosch GmbH)
Robert Kee	(Queen's University, Belfast)
Paul Litke	(United States Air Force)
Luca Marchitto	(Istituto Motori CNR)
Nagesh Mavinahally	(Meggitt Control Systems)
Simona Merola	(Istituto Motori CNR)
David Palmer	(Bombardier Recreational Products, Inc.)
Paul Richards	
Stephan Schmidt	(Graz University of Technology)
Cinzia Tornatore	(Istituto Motori CNR)

JSAE General Committee

Chair/Michihisa Nakagawa	(Kawasaki Heavy Industries, Ltd.)
Masayuki Baba	(Honda R&D Co., Ltd.)
Takashi Mitome	(SUZUKI MOTOR CORPORATION)
Yuh Motoyama	(Yamaha Motor Co., Ltd.)
Tadao Okazaki	(Japan Land Engine Manufacturers Association: Kubota Corporation)
Hideyuki Okumura	(Japan Marine Industry Association: Yamaha Motor Co., Ltd.)
Koji Yoshida	(Nihon University)



Conference Registration

Registration Fee

(JPY: Japanese Yen)

Category	Advanced Online Registration ¹⁾ until Wednesday, September 30	Online Registration ²⁾ On-site Registration
Presenting Author and Session Chair/Co-chairs ³⁾	45,000	
JSAE/SAE Member ⁴⁾	50,000	60,000
Student ⁵⁾	3,000	4,000
Accompanying Person ⁶⁾	6,000	6,000
Other than Those Above	60,000	70,000
Media ⁷⁾	Free	Free

- 1) Advanced online registration will begin from the early August till the end of September. Registration fee payment must be made with advanced registration.
- 2) Online registration will close on Saturday, October 31
- 3) Presenting authors and session chairs/co-chairs are required to register and make payment by Wednesday, September 30, 2015. Please contact the Conference Secretariat if it is difficult to do so. Otherwise, your paper will be deemed as withdrawn and thus will not appear in the proceedings.
- 4) JSAE corporate membership is inapplicable but an individual membership only.
- 5) Student includes a student presenting author who may be requested to show an ID on site.
- 6) Accompanying person is a family member of the JSAE/SAE Members.
- 7) Media is a corporate capacity with regular issues.

On-site Registration Hours

Monday, November 16	15:00 – 17:00
Tuesday, November 17	08:00 – 17:00
Wednesday, November 18	08:00 – 17:00
Thursday, November 19	08:00 – 12:00

Entitlements of Registration Fee

- Admission to the Opening, Award & Closing Ceremony
- Admission to Keynote Speeches and Plenary Session
- Admission to Technical Sessions with Proceedings CD (or USB)
- Admission to the Exhibition
- Welcome Reception
- Lunches, Network Breaks

Note: Neither an accompanying person nor an exhibitor is entitled for technical sessions and proceedings.



Conference Registration

Pay Events

Technical Visit JPY5,500

Date: Monday, November 16

Time: Kyoto Course 8:00 - 17:00 / Kobe Course 8:30 - 17:00

Note: Please apply for the technical visits when register online. On-site application will not be taken. The fee includes lunch.

See more details in the page 16 -17, "Technical Visits".

Banquet JPY5,500

Date: Wednesday, November 18

Time: 19:00 - 21:30

Place: Taiko-En

Transportation: A free round-trip bus

Note: Please apply for banquet attendance ticket when register online. On-site application will not be taken unless there is any cancellation.

See more details in the page 23, "Banquet".

Payment Methods

Online Registration

All Payment must be made in Japanese Yen (JPY) with:

Credit Card: VISA / MasterCard / American Express only

Bank Transfer: Only for those who will register in Japan if preferred.

Note: A personal check is unacceptable.

On-site Registration

All Payment must be made in Japanese Yen (JPY) with:

Credit Card: VISA / MasterCard / American Express only

Note: Cash is unacceptable.

Cancellation Policy

By Wednesday, September 30	90% of the registration fee less handling charges to be refunded.
By Saturday, October 31	50% of the fee less handling charges to be refunded.
After Saturday, October 31	No refunds

Note: Cancel request must be e-mailed to the SETC2015 Email: setc2015office@jsae.or.jp

No refunds are applicable once a banquet and/or technical visits have been applied.



Access to Venue

Access to Osaka

■ From Kansai International Airport

Kansai International Airport is one of Japan's most important international airports. Located on a manmade island about 40 km south of central Osaka.

- By Airport Rapid Service on the JR West Line to JR Osaka Station, approx. 55 minutes with JPY1,360.
- By airport limousine bus to a bus-stop near to JR Osaka Station, approx. 60 minutes with JPY1,550 for an adult/one-way (See the next diagram)

■ From Osaka International Airport

Osaka International Airport is a primary domestic airport for the Kansai region of Japan.

- By airport limousine bus to a bus-stop near to JR Osaka Station, approx. 30 minutes with JPY640- for an adult/one-way (See the next diagram)

■ From Tokyo Airport (Narita International Airport / Haneda Airport)

- By Narita Express to JR Tokyo/Shinagawa Station, and transfer for Shin-Osaka to the Shinkansen (Bullet train).

All Shinkansen trains stop at JR Shin-Osaka Station and many limited express trains on conventional lines stop, too. Any trains on conventional lines, limited express, special rapid, rapid or local stop at JR Osaka Station, that is one-stop, three minutes away from the JR Shin-Osaka Station.

- By a domestic flight to Osaka International Airport, and take a limousine bus to a bus stop near to JR Osaka Station (See the next diagram)

■ From JR Osaka Station

- By taxi to Osaka International Convention Center (OICC)/RIHGA Royal Hotel Osaka, approx. 10 minutes with JPY1,000
- By RIHGA Royal Hotel Osaka Free Shuttle Bus to OICC/the hotel, approx. 10 minutes (See the next diagram)

Location: JR Osaka Station West, "SAKURABASHI" Exit, under the elevated railroads

Operating Hours: 7:45 to 22:15 daily

10:00 to 21:00 (run at every 6 minutes)

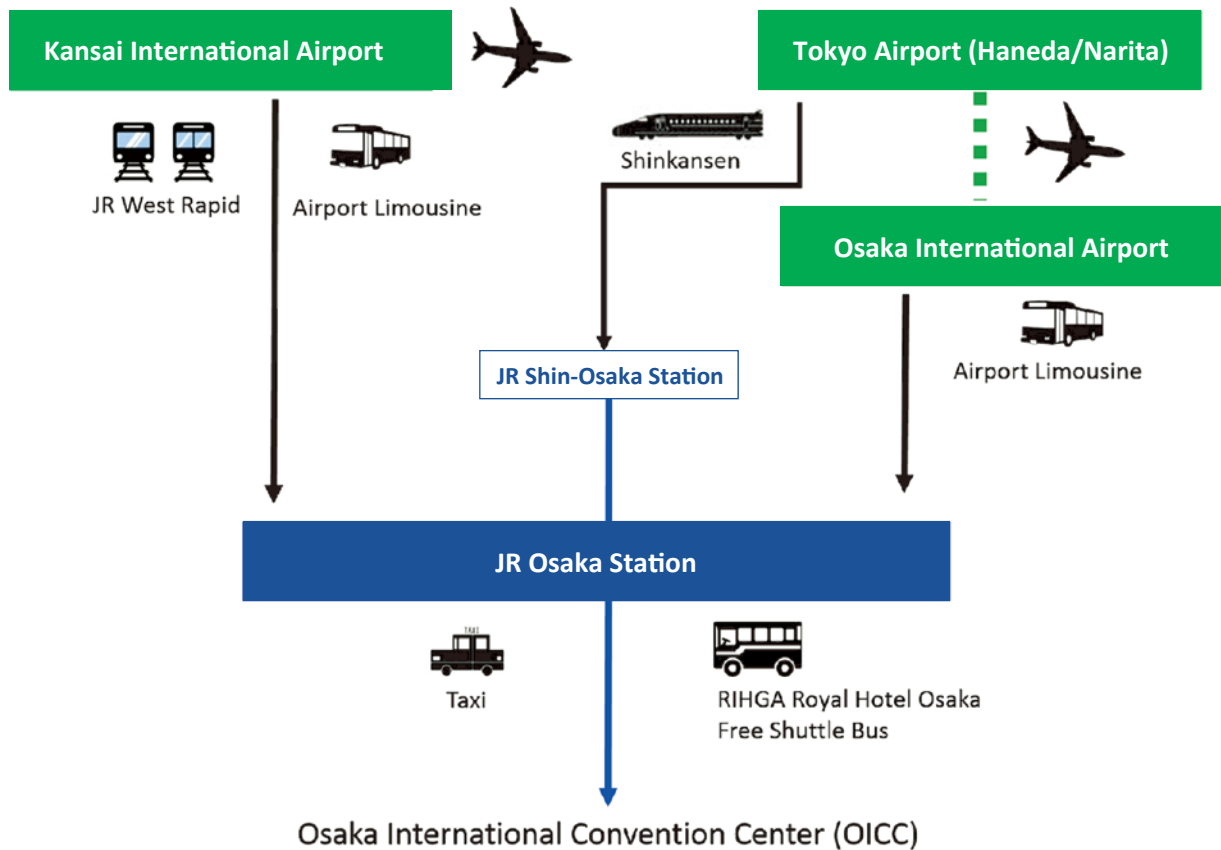
7:45 to 10:00 & 21:00 to 22:15 (run at every 15 minutes)

Note: There are some other ways to OICC. The above routes are relatively easy to those who are first visitors to Osaka. Traffic charges are subject to change without notice.

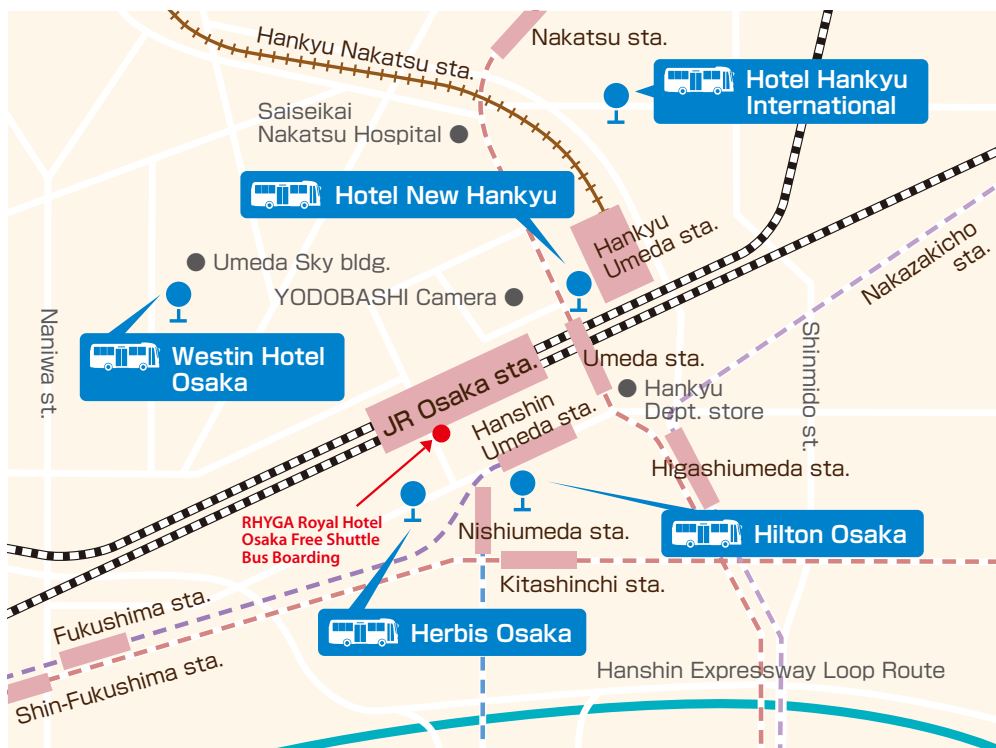


Access to Venue

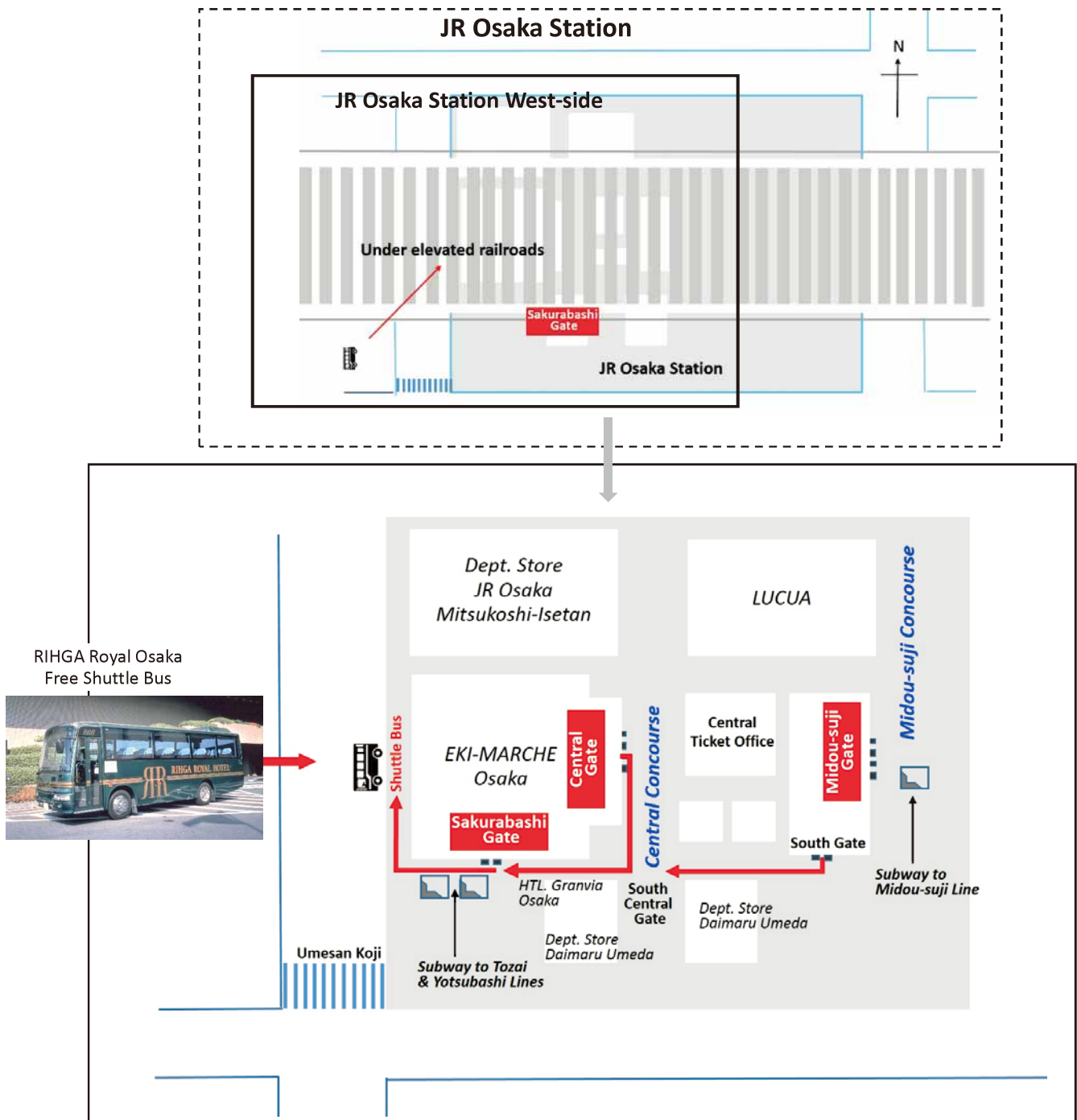
Diagram for Easy - Access to Venue



Airport Limousine Bus-stop Locations around JR Osaka Station



Access to Venue



Conference Official Hotel

RIHGA ROYAL HOTEL

RIHGA Royal Hotel Osaka is a prestigious, five-star hotel in Japan and conveniently located right next to the Osaka International Convention Center. Reservation can be made at SETC2015 online registration website starting from August 2015.

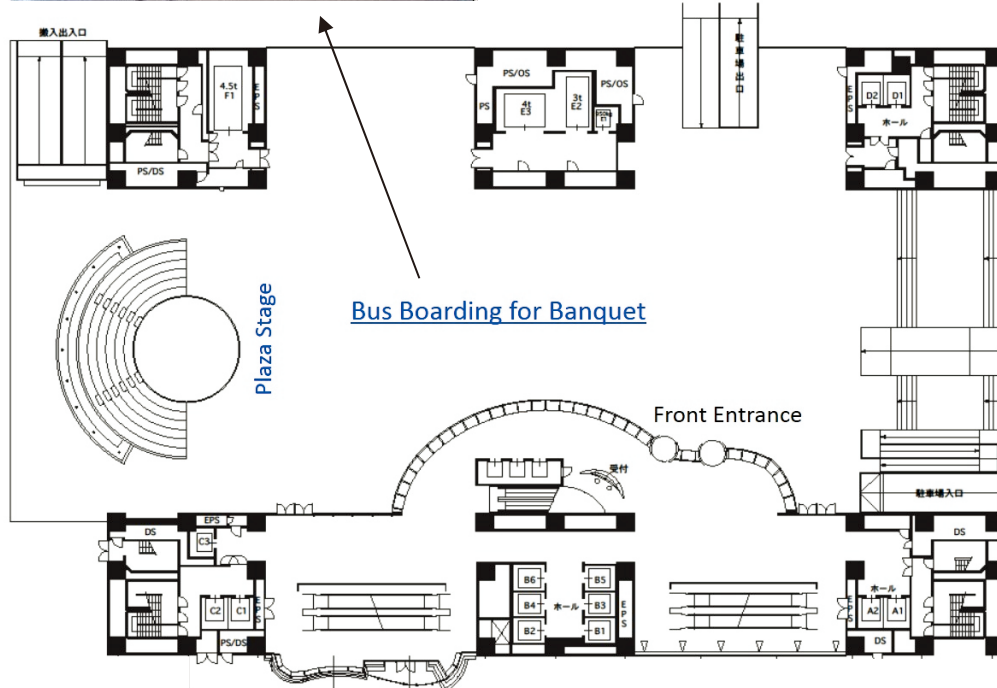
URL: <http://www.setc-jsae.com/>



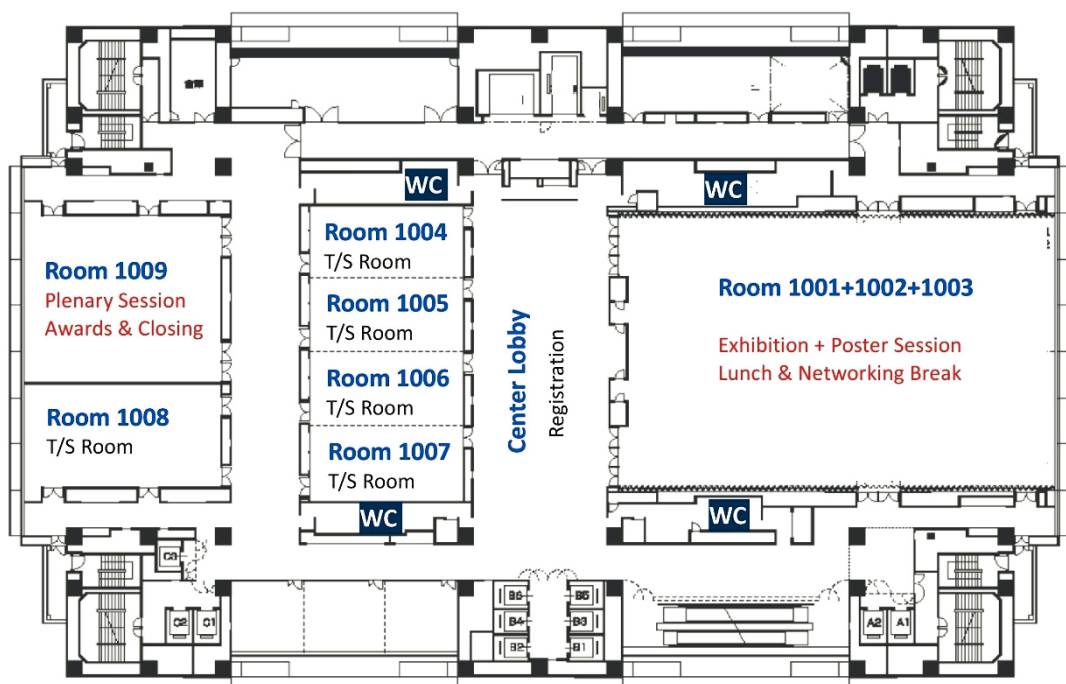
Venue

Osaka International Convention Center

1F



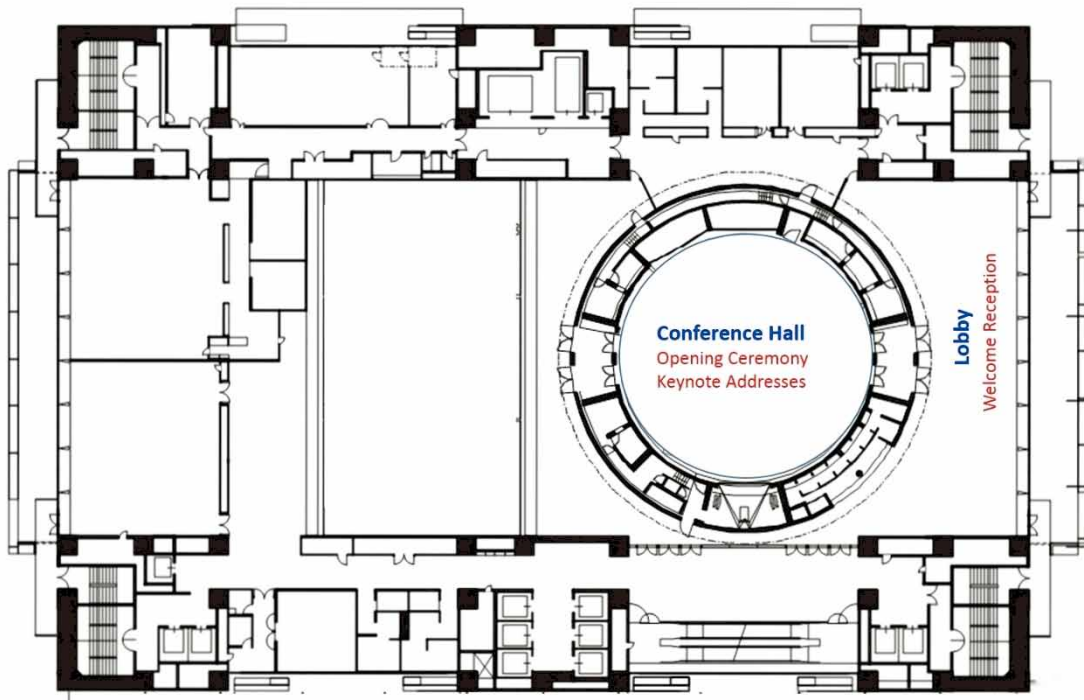
10F



Venue

Osaka International Convention Center

12F



■ Business Center

- Located on the 11F
- Open from 8:30 AM to 7:00 PM during business days
- Copy (B&W, color) & fax service

■ Free Wi-Fi Service

- High-speed Internet accessible in the whole building, except restaurant and cafeteria area

■ Coin Lockers

- Available on the 10F

■ Smoking

- Not allowed in the whole building
- Smoking area is located at outside by the Plaza Stage, 1F.

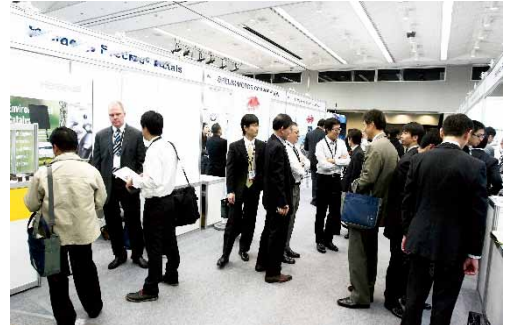


Exhibition & Poster Session

Period: Tuesday, November 17 through Thursday, November 19
Place: Room 1001+1002+1003, 10F

The exhibition offers an excellent showcase for small engine manufacturers as well as related component & equipment suppliers, measurement instruments and system providers in the peripheral industries in exchange of technological opinions and ideas with small engine researchers and engineers who are mainly research paper presenters.

The poster session is aimed at undergraduate and graduate university students who would like to expose their research activities to the participants of the conference. A short oral presentation by a student will be requested to evaluate for an award.



Opening Hours

Tuesday, November 17	10:00 to 17:00
Wednesday, November 18	10:00 to 17:00
Thursday, November 19	10:00 to 12:00

Application for an Exhibit Space Reservation and Fee

@ JPY108,000 (tax included)

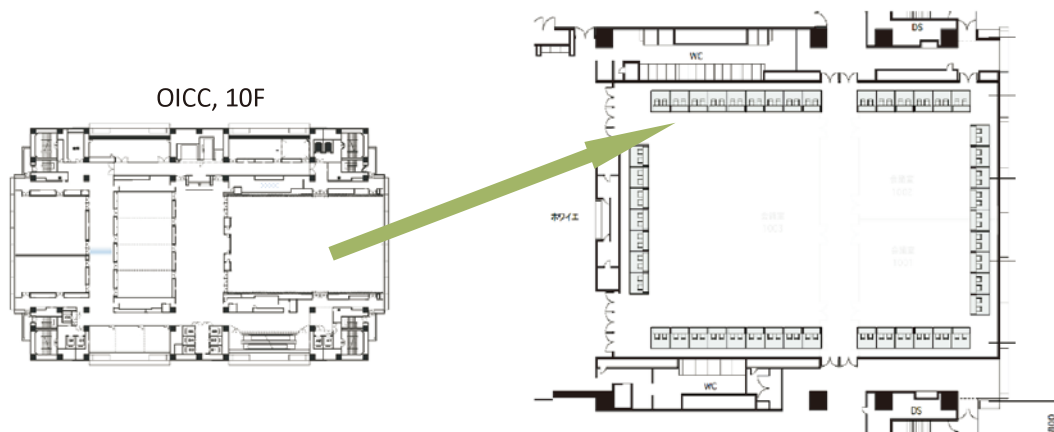
The application due Friday, July 3

Please find more information at the following SETC web site: <http://www.setc-jsae.com/>

Application for Poster Session

Free participation. The details will be announced in due course at the SETC web site.

The place to set up a poster is subject to change.



Technical Visits

Date: Monday, November 16.

Time: Kyoto Course 8:00 - 17:00 / Kobe Course 8:30 - 17:00

Technical Visits will be arranged under the cooperation of the following organization on Monday November 16. SETC2015 Technical Visits offer unique courses of interests. You can select from two courses. In Kobe course, you exactly experience Kawasaki's world widely from motorcycle to large plant. Akashi Factory is one of the major plants, where its latest motorcycles are produced. Kawasaki Good Times World is in the historical area of Kobe Port. At Hakutsuru Sake Brewing museum, you enjoy not only tasting Japanese sake but also how to make it with their special craftsmanship. In Kyoto course, you can see the cutting edge of spray and combustion research works of IC engines in Doshisha University. Horiba is one of the top makers world-wide to produce measurement apparatus of exhaust emissions. You also have a chance to taste Japanese whisky in Suntory and to see Japanese historical Fushimi Inari Grand Shrine.

Kobe Course



The **Kawasaki Heavy Industries Group** manufactures a vast array of products that demonstrate technological mastery of the land, sea, air and outer space. Its aerospace business offers various products ranging from aircraft to satellites, while the shipbuilding business provides LNG and LPG carriers, submarines and other vessels. Japan's Shinkansen trains and New York City's subway cars are just two examples of its rolling stock business' famed global offerings. They also supply many products that demonstrate its expertise in engineering, such as gas turbines, energy plant, environmental protection facilities, and industrial equipment. Their unique ability covers such world famous consumer products as Kawasaki-brand motorcycles, ATVs and Jet Ski® personal watercraft. This time you will visit the motorcycle plant and the industrial robot plant at **Akashi Factory**.



In 2006, **Kawasaki Good Times World** opened within the Kobe Maritime Museum at Kobe Meriken Park. The museum showcasing Kawasaki Heavy Industries Group's origins, more than century-long history and products, it also illuminates their pioneering technologies - which encompass mastery of the land, sea and air - and demonstrates how they have made significant contributions to society. By interacting with their products in fun and informative ways, you will experience the wonders of technology and come to appreciate the importance of craftsmanship. Please enjoy Kawasaki Good Times World.



At **HAKUTSURU SAKE Brewing Co., Ltd.**, they have opened their old sake brew house in its original form to the public as the Sake Brewery Museum. Their hope in doing so is to give visitors a feel of the tradition of sake making that has been carried down through the ages and to broadly and deeply convey the "heart of Japan" to the sake making world. Various sake production implements are on display and the various stages of making sake are depicted in detail. In the sake-tasting area, you can enjoy freshly pressed, unpasteurized sake that cannot be found anywhere else.



Technical Visits

Kyoto Course

同志社大学

Doshisha University is a private university in Kyoto, Japan. Established in 1875, it is one of the oldest private institutions of higher learning in Japan, and has approximately 30,000 students. 'Doshisha' means 'a community created by those who share the same aspiration' - the aspiration embedded in the dream of Joseph Neesima. Through the lab tour of Spray & Combustion Science Laboratory, you can get a chance to see their experimental and simulation works about combustion, spray and particle behavior in IC engines. Also energetic conversion research to environmental conservation is another important subject in this laboratory.



HORIBA

Explore the future

The **HORIBA Group** of worldwide companies provides an extensive array of instruments and systems for applications ranging from automotive R&D, process and environmental monitoring, in-vitro medical diagnostics, semiconductor manufacturing, to a broad range of scientific R&D and QC measurements. Proven quality and trustworthy performance have established widespread confidence in the HORIBA Brand. Inspired by our motto, "JOY and FUN," we focus on social responsibilities by building state-of-the-art products for scientific advancement; especially for protecting health, safety, and the environment. HORIBA employees are looking forward to working with you and providing the best analytical solution for your needs.



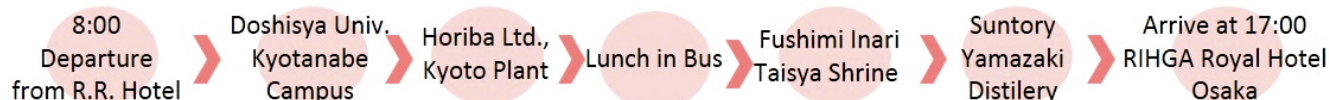
伏見稲荷大社

Fushimi Inari Taisha Shrine is a head shrine among the national Inari shrines and one of the oldest shrines in Kyoto. It boasts of being one of the shrines that have the largest number of worshippers and is especially crowded on the New Year holidays, 1st of the month or Uma-no-hi, well-known as a god of business. The word "Inari" is said to have originated from "Inenari". So those who are engaged in business as well as agriculture worship the shrine as a god of good harvest.



SUNTORY

Suntory Yamazaki Distillery is distinguished by its uniqueness that a single distillery can produce a variety of whiskies, which a very few distillery in the world can match up. It all started with Suntory's pursuit of crafting world-class whisky to please the delicate Japanese palate. This theme has been a constant over the distillery's long history as craftsmen add new innovations while continuing to practice skills passed down by their predecessors. The story of how Yamazaki Distillery crafted Yamazaki single malt whisky and endowed it with a world-class level of quality is the story of Japanese whisky itself, and it is no exaggeration to say that this is a sacred spot for Japanese whisky.



Note: Technical Visits are advanced registration only. On-site registration is not available.
A bus will depart from RIHGA Royal Hotel Osaka. (R.R. Hotel)



Keynote Addresses

Date: Tuesday, November 17

Time: 9:30 to 10:30

Place: Conference Hall, 12F

Speech Theme



Mr. Yuji Horiuchi

General Manager, Research &
Development Division
Motorcycle & Engine Company
Kawasaki Heavy Industries, Ltd.



Small Engines: Solutions for Tomorrow (tentative)

Yuji Horiuchi, since the beginning of his professional career, has dedicated his efforts and energy to development of Kawasaki's motorcycles and other products. Some of the featured big machines of Kawasaki have been brought about through his hard work. Besides being a talented engineer, he is also a motorcycle enthusiast and still enjoys riding a motorcycle.

- 1985 - 1996 Engineer
Engine design for motorcycles and personal water crafts
- 1996 - 2001 Assistant Manager (Engine design for motorcycles)
- 2001 - 2006 Manager (ditto)
- 2006 - 2012 Senior Manager: Motorcycle design, Administration and others divisions
- 2013 - 2014 President, India Kawasaki Motors Pvt. Ltd.
- 2014 - General Manager, Research & Development Division

Speech Theme



Robert M. Wagner, Ph.D.

The Director of the Fuels, Engines,
and Emissions Research Center
Oak Ridge National Laboratory



Disruptive Opportunities for Small Engine Combustion Systems

Dr. Robert Wagner is the Director of the Fuels, Engines, and Emissions Research Center at Oak Ridge National Laboratory; a faculty member of the Bredesen Center for Interdisciplinary Research and Graduate Education at the University of Tennessee, Knoxville; and a Fellow of the Society of Automotive Engineers (SAE) International. His responsibilities include the coordination and development of strategic internal and external collaborations at ORNL to better support the mission of the United States Department of Energy (DOE) Vehicle Technologies Office. Dr. Wagner has been principal investigator on many research activities spanning low temperature combustion, unstable combustion fundamentals, nonlinear controls, thermodynamics, renewable fuels, and emissions characterization. This includes the integration of ORNL expertise in high performance computing, neutron sciences, material sciences, and advanced manufacturing to accelerate the development of advanced transportation technologies. Dr. Wagner is on the editorial board of four international journals and has authored more than 100 technical publications.



Plenary Session

Date: Wednesday, November 18

Time: 15:15 - 17:30

Place: Room 1009, 10F

Theme

The Environment Surrounding Small Engines and the Demanded Techniques Now and in the Future (Tentative)

We have focused on and discussed a number of topics in the past SETCs. Environmental protection and energy savings were major topics in particular, and safety issues for motorcycles and small vehicles have been increasingly crucial issues, too. The more SETC gets globalized, the more regional issues become important such as fuel quality and diversity. Taking all challenging-issues into consideration, we look back the original points associated with small engine technologies and will discuss about “Small Engines and their Concerns” with invited guests and experts at the SETC2015, Osaka.

Moderator



Prof. Jiro Senda

Professor, Dr. – Eng.
Department of Mechanical
Engineering
Doshisha University, Kyoto,
Japan

Education

- 1978 BSME, Mechanical Engineering, Doshisha University
- 1980 MSME, Mechanical Engineering, Doshisha University
- 1985 Dr. - Eng., (Ph.D.) Mechanical Engineering, Doshisha University

Research Work Experience

- 1984 - 1990 YANMAR DIESEL Co., Ltd. Technical Research Center

Career

- 1990 Assistant Professor of Mechanical Engineering, Doshisha University
- 1992 Associate Professor of Mechanical Engineering, Doshisha University
- 1998 - the present

Professor of Mechanical Engineering, Doshisha University Spray & Combustion Science Laboratory; <http://comb.doshisha.ac.jp>
Energy Conversion Research Center;
<http://www1.doshisha.ac.jp/~ene-cent/>

- 2003 - 2008 Director of Energy Conversion Research Center
- 2004 - 2007 Dean of Library and Information Technology Center
- 1994 - 1995 Visiting Associate Professor of Mechanical Engineering, University of Wisconsin - Madison, Engine Research Center
- 2015 - the present
Director of Energy Conversion Research Center

Awards

- Encouragement Award of the Japan Institute of Marine Engineering, 1992
- Research Award of Engine System Division of Japan Society of Mechanical Engineers, 1997
- Article Award of Japan Society of Automotive Engineers, 2001
- Article Award of The Institute of Liquid atomization and Spray Systems - Japan, 2001
- Best Paper Award of Journal of Engine Research, 2002
- Article Award of Japan Society of Automotive Engineers, 2005
- Special Recognition Award of SETC, 2012
- Contribution Award in Technical Fields Japan Society of Automotive Engineers, 2015

Major Fields

Spray and Combustion Science/Internal Combustion Engine/Optical Measurements/Cavitation Phenomena/Modeling and CFD/Sustainable Urban/Design with Optimum Energy Application



Plenary Session

Speaker



Prof. Yasuhiro Daisho

Faculty of Science & Engineering,
Director, Research Organization
for Next Generation Vehicles
Waseda University, Tokyo
Japan

Education

- 1966 - 1970 Bachelor, Dept. of Mechanical Engineering, Waseda University
- 1970 - 1972 Master, Mechanical Engineering, Graduate School, Waseda Univ.
- 1973 - 1976 Doctor, Mechanical Engineering, Graduate School, Waseda Univ.

Academic Experience

- 1976 - 1978 Research Associate, Dept. of Mechanical Engineering, Waseda Univ.
- 1978 - 1980 Assistant Professor, Dept. of Mechanical Engineering, Waseda Univ.
- 1980 - 1985 Associate Professor, Dept. of Mechanical Engineering, Waseda Univ.
- 1985 Professor, Dept. of Mechanical Engineering, Waseda Univ.
- 1986 - 1987 Visiting Professor, University of Wisconsin-Madison, U.S.A.
- 1998 Guest Professor, Shanghai Jiao Tong University, China
- 2010 - 2014 Dean, Graduate School of Environment and Energy Engineering, Waseda Univ.
Director, Environment Research Institute, Waseda Univ.

Recent Research Subjects

- Engine combustion and emissions, and alternative fuels in theory and practice
- Developments and performance evaluations of electric, hybrid and fuel cell vehicles
- Urban mobility and the environment
- Global warming mitigation and energy shift in the transportation sector

Academic and Social Activities

- Executive Vice President of Society of Automotive Engineers of Japan (JSAE), 2004-2006
- Fellow, the Japan Society of Mechanical Engineers (JSME)
- Fellow, the Society of Automotive Engineers, Japan (JSAE)
- Member, Environmental Council, the Metropolis of Tokyo, 1999-2006
- Vice President-Technical, FISITA (International Federation of Automotive Engineering Societies) 2008-2012
- Member, Central Environmental Council, Ministry of the Environment (present)
- Member, Council of Transport Policies, the Ministry of Land, Infrastructure and Transport (present)
- Member, Council of Resources and Energy, the Ministry of Economy, Trade and Industry (present)



Lukas Walter

Dipl. - Ing. / Vice President
Commercial Powertrain
Systems AVL List GmbH
Austria

Education

- 1989 - 1997 Technical University of Vienna, Austria
Mechanical Engineering, Transportation Engineering
- 1983 - 1988 Engineering College TGM, Vienna
Electrical Engineering

Professional Career

- 2003/10 - present AVL List GmbH., Austria, Business Field Leader
Global responsibility for Business Field Commercial Powertrain Systems
- 2001/05 - 2006/10 AVL Autókut Engineering Ltd., Budapest, Managing Director
Management of AVL Hungary Tech Center for Commercial Diesel development
- 2006/04 - 2012/04 AVL List GmbH, Graz, Austria
Project Manager in Commercial Diesel development for European OEMs
- 2004/01 - 2005/04 AVL Powertrain Engineering Inc., Plymouth, MI, USA.
Skill Team Leader, Thermodynamics & CFD
- 1994 to 2001 Several positions for AVL in Austria and the USA



Plenary Session



Mr. Masahiro Shibata

HDD Applicants
Kitsuregawa Technical Center
Professional Engineer Japan
(Mechanical Engineer)
Johnson Matthey Japan G.K.
Japan

Subject

Emission Control and Catalytic Systems of Non-road Diesel Engine

Career

- 1976 Master of mechanical engineering, Hokkaido University for the research on diesel engine combustion and exhaust odor
- 1976 Toyota Motor Corp.
Involved in engine combustion research
- 1987 Toyota Motor Europe
Vehicle and engine system survey
- 1991 Toyota Motor Corp.
Engine and exhaust catalyst system research
- 1999 JCAP, JAMA committee
Committed to the Combustion analysis working group
- 2003 Recognition
SAE Horning Memorial Award as the JCAP working group
- 2003 Johnson Matthey Japan
In charge of catalyst system development and applications
- 2003 Professional Engineer Japan (Mechanical Engineering)



Dr. Mitsuharu Oguma

Group Leader
Engine Combustion & Emission
Control Group, Research Institute
for Energy Conservation,
National Institute of Advanced
Industrial Science and Technology
Japan

Subject

Worldwide Fuel Trend

Education

- 1996 BSc in Mechanical Engineering from Ibaraki University
- 1998 MSc in Mechanical Engineering from Ibaraki University
- 2001 Ph.D. from Ibaraki University

Career

- Join National Institute of Advanced Industrial Science and Technology (AIST) from Apr. 2001
- Apr. 2001 NEDO fellow researcher in Institute for Energy Utilization at AIST
- Apr. 2003 Post-doctoral researcher in Institute for Energy Utilization at AIST
- Oct. 2003 Research Scientist in Institute for Energy Utilization at AIST
- Oct. 2009 Senior Research Scientist in Research Center for New Fuels and Vehicle Technology (NFV) at AIST
- Sep. 2010 Team Leader in NFV at AIST
- Apr. 2014 Leader in Collaborative Engine Research Team for Next Generation Vehicles at AIST

Award

- 1997 The Prize of Scholarship of the Japan Welding Society, "Characterization of Laser Induced Plasma in High Power Laser"
- 1998 The Best Presentation Prize of SVBL, Ibaraki University, "Fundamental Investigation of Alternative Fuels"
- 2006 The Asahara Prize of Scientific Encouragement, "Analysis of Particulate Matter (PM) Emitted from DME powered DI Diesel Engine - Evaluation of SOF Characteristics by Chemical Analysis -", 56th JSAE (Society of Automotive Engineers of Japan) Awards, JSAE
- 2012 The Technical Paper Award, "Evaluation of DME Fuel Lubricity by HFRR Test Method", 62th JSAE (Society of Automotive Engineers of Japan) Awards, JSAE

Current Research Fields

The professional environment includes utilization technologies with new fuels such as DME, Bio-fuels etc. Standardization research is the most important study now. Convenor of ISO/TC28/SC4/WG13 (Standardization of DME fuel) from 2011.



Awards & Closing Ceremony

Date: Thursday, November 19
Time: 13:30 - 14:30
Place: Room 1009, 10F

Before the awards & closing ceremony, seating-buffet-lunch will be served in the room 1001+1002+1003, 10F from 12:00 to 13:00 to all registered attendees, who will be kindly asked to move to the ceremony venue. The ceremony will begin by the conference summary, and the announcement of the each prize awardees will follow.

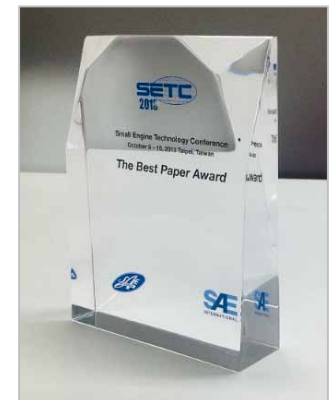
The Summary of the Conference

A representative of JSAE will announce the summary at the beginning of the ceremony.

Awards

Awardees will be announced and given certificates in recognition of:

- High Quality Paper Awards 10 papers
- The Best Paper Award One out of the 10 High Quality Papers
- High Quality Presentation Awards 5 Presenting authors
- The Best Poster Award 1 poster
- The Best Collegiate Event Award 1 paper



Announcement & Introduction of SETC2016

A representative of SAE International will announce and introduce the next SETC to be held in the USA.

Farewell Remarks

A representative of JSAE will make farewell remarks at the end of the ceremony.

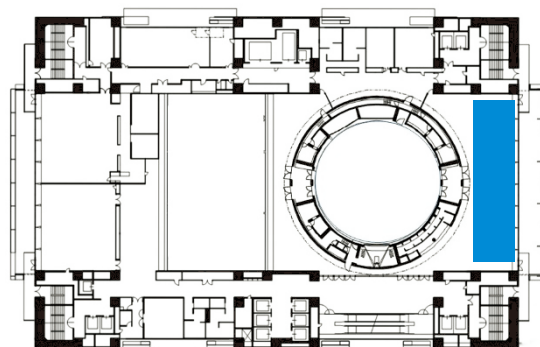


Reception & Banquet

Welcome Reception Free (All registered attendees)

Date: Tuesday, November 17
Time: 18:00 - 20:00
Place: Lobby of the Conference Hall, 12F

The reception will be held in the lobby of the conference hall, 12F where you can relax and enjoy night views of Osaka's skyscrapers and even the Osaka Castle. Get together and mingle with your friends in the first evening of the conference.



Banquet Fee: JPY5,500

Date: Wednesday, November 18
Time: 19:00 - 21:30
Place: Taiko-En

Online registration required. No tickets available on the day unless there is any cancellation. The seats will be reserved on first-come & first-served basis and application may be declined or put on a waiting list when they are fully booked.

Transportation: A free round-trip bus, departing at 18:00 from Osaka International Convention Center.

A nice opportunity to socialize and network, while enjoying cuisine and cultural attraction in Osaka.

Taiko-En situated adjacent to Yodogawa River in the city of Osaka was opened in 1959 as it was also named Yodogawa-tei (residence). The beauty of the garden, together with seasonally blooming trees and flowers, feasts visitors' eyes throughout the year. The building is recognized as a prestigious reception hall and as a place for international social interaction activities.

Guests will also enjoy performances of "Kawachi Ondo", a kind of Japanese folk song that originates from Yao City in the old Kawachi region of Japan during the banquet.



Technical Sessions

(As of March 24, 2015)

Tentative session timetable will be available at the end of August, 2015 from the following website.

<http://www.setc-jsae.com/>

Advanced Combustion

Organizers: Hiroya Ueda (Honda R&D Co., Ltd.), William Attard (FCA US LLC), Jaal Ghandhi (University of Wisconsin-Madison), Simona Merola, Adrian Irimescu (Istituto Motori-CNR)

20159718	Characterization of New Generation Plasma Ignition System Through Experimental Investigations Simona Silvia Merola, Cinzia Tornatore , Gerardo Valentino, Luca Marchitto, Adrian Irimescu (Istituto Motori-CNR)
20159721	The Effects of Engine Load and Air-Fuel Ratio on Controlled Hot Surface Ignition Operating with Natural Gas Fino Scholl, Maurice Kettner (Karlsruhe University), Markus Klaissle (SenerTec Kraft-Wärme-Energiesysteme GmbH)
20159735	Analysis for Influence of Inhomogeneity of Air-Fuel Mixture to Super-Knock in Supercharged Direct-Injected SI Engine Based on Numerical Calculation Keito Negoro, Mina Nishi, Norimasa Iida (Keio University), Katsuya Matsuura, Yoshihisa Sato (Honda R&D Co., Ltd.)
20159738	Study on Flame Behavior Control by the Electric Field Shota Yanagisawa, Akira Iijima, Hideo Shoji, Koji Yoshida (Nihon University), Jun Osaka, Yoshihiko Matsui, Wakichi Kondo (DENSO CORPORATION)
20159771	Influence of Engine Oil Additives with a on Abnormal Combustion in an SI Engine Kenta Miura, Kento Shimizu, Norikuni Hayakawa, Tomomi Moyasaka, Akira Iijima, Hideo Shoji (Nihon University), Kazushi Tamura (Idemitsu Kosan Co., Ltd)
20159796	Effect of Xylene Ratio on the Secondary Atomization with UV Laser Hiroshi Enomoto, Naoki Iwafune, Masaya Morii, Ryo Honda, Noboru Hieda, Yoshikazu Teraoka (Kanazawa university)

Alternative fuels

Organizers: Koji Yoshida (Nihon University), Toru Nakazono (LEMA/YANMAR Co. Ltd.), Simona Merola, Cinzia Tornatore (Istituto Motori-CNR), Paul Richards

20159712	Genset Direct-Injection SI Engine Operating with Methanol Reforming Products Leonid Tartakovsky, Ran Amiel, Vladimir Baibikov, Rafael Fleischman, Arnon Poran, Mark Veinblat (Technion-Israel Institute of Technology)
20159733	Influence of Supercharging on Biodiesel Combustion in a Small Single Cylinder DI Diesel Engine Yasufumi Yoshimoto, Masayuki Yamada (Niigata Institute of Technology), Eiji Kinoshita, Takeshi Ohtaka (Kagoshima University)
20159756	Diesel Combustion Characteristics of Coconut Oil Butyl Ester with Butanol Akira Itakura, Eiji Kinoshita, Takeshi Ohtaka (Kagoshima University), Yasufumi Yoshimoto (Niigata Institute of Technology), Thet Myo (United Nations Industrial Development Organization, Myanmar)



Technical Sessions

(As of March 24, 2015)

Alternative fuels (Continued)

20159784	An Experimental Investigation of Butanol-Gasoline Blend Fuel with Different Fuel Injection Pressure Yung Hsiang Hsu, Young Xiang Hsu (National Taipei University of Technology)
20159791	Emission and Fuel Consumption of Motorcycle Running with Hydrogen Rich Reformed Gas Jau-Huai Lu, Yu Cheng Jiang (National Chung Hsing University)
20159792	Exergy Analysis of the Methanol Reforming Process Using the Exhaust Energy of Motorcycle Engine Jau-Huai Lu, Liang Chun Lu, Yu Cheng Jiang (National Chung Hsing University)
20159795	Effect of Ignition Timing on Small SI Engine Torque at WOT Condition with Syngas from Wood Biomass Gasifier Hiroshi Enomoto, Masahiro Sasao, Yusuke Odani, Noboru Hieda, Yoshikazu Teraoka (Kanazawa university)
20159797	A Comparative Analysis of Combustion Process, Performance and Exhaust Emissions in Diesel Engine Fueled with Blends of Jatropa Oil/Diesel Fuel and Jatropa Oil/Kerosene Takaaki Yamaji, Katsuyoshi Asaka, Yoshimitsu Kobashi, Satoshi Kato, Yasumitsu Suzuki (Kanazawa Institute of Technology), Alberto Macamo (Eduardo Mondlane University)
20159801	An Application of Cellulosic Liquefaction Fuel for Diesel Engine Masayuki Yamazawa, Kohei Suzuki, Akira Iijima, Hideo Shoji, Koji Yoshida (Nihon University)
20159818	The Impact of Ignition Timing on the Performance of Direct Injection Spark Ignition Engine when Using Ethanol Blends with Gasoline as Fuel Panuwat Kangkaya, Chinda Charoenphonphanich (King Mongkut's Institute of Technology Ladkrabang), Manida Tongroon (National Science and Technology Development Agency), Hidenori Kosaka (Tokyo Institute of Technology)
20159820	Performance Evaluation and Emission Characteristics of Biodiesel-Alcohol-Diesel Blends Fuelled in VCR Engine Dhruv Gupta, Vasu Kumar (Delhi Technological University)
20159822	Effect of Engine Speed and Air-Fuel Ratio on the Combustion of Methane Enriched Syngas in Direct-Injection Spark-Ignition Engine Ftwi Yohaness Hagos (Universiti Malaysia Pahang), A. Rashid A. Aziz, Shaharin Anwar Sulaiman (Universiti Teknologi PETRONAS)
20159826	Effect of Injection Timings on Combustion Characteristics and Emissions of Ethanol CI Engine Rachen Chumueang, Yossapong Laoonual (King Mongkut's University of Technology Thonburi), Nuwong Chollacoop (National Metal and Materials Technology Center)
20159831	A Study of Stoichiometric Bio-Mass Gas Engine Toru Nakazono, Yuta Watanabe (Yanmar Co., Ltd.)



Technical Sessions

(As of March 24, 2015)

Collegiate Events

Organizers: Takashi Mitome (SUZUKI MOTOR CORPORATION), Geoff McCullough (Queen's University Belfast)

20159742 **Optimizing the Opening Period and the Timing of Intake and Exhaust Valves to Improve Engine Performance in a Super Mileage Vehicle**

Kenta Goto, Shinji Noda, Kohei Nakashima, Yoshio Murakami (Meijo University)

20159823 **Adaptation of Turbocharger to Small Displacement Single Cylinder SI Engine**

Yujiro Fujita, Takashi Suzuki (Sophia University)

20159829 **A Study on the Design and Manufacturing for Student Formula Japan Vehicle**

Tomoaki Kodama, Toshiki Yamashita, Naohiro Nojima, Yuji Mizutani, Yasuhiro Honda (Kokushikan University)

20159838 **Engine Development of Kinki University Formula Project**

Tadamasa Fukuoka (Kinki University)

Diesel Engine

Organizers: Masahiko Sugimoto (Kubota Corporation), Cinzia Tornatore, Luca Marchitto (Istituto Motori-CNR), Brian Callahan (Achates Power, Inc.), Paul Litke (Air Force Research Laboratory)

20159710 **Engine Performance, Emission and Combustion of Common Rail Turbocharged Diesel Engine Fuelled from Jatropha Curcas Blends via ANN Modeling**

Arridina Susan Silitonga, Ong Hwai Chyuan, Masjuki Haji Hassan, How Heoy Geok, Y.H Theo (University of Malaya), T.M. Indra Mahlia (Universiti Tenaga Nasional), Fitranto Kusumo (Universiti Kebangsaan Melayu)

20159715 **Detailed Diesel Combustion and Soot Formation Analysis with Improved Wall Model Using Large Eddy Simulation**

Beini Zhou, Masahiro Horikoshi, Akira Kikusato, Jin Kusaka, Yasuhiro Daisho (Waseda University), Kiyotaka Sato, Hidefumi Fujimoto (Mazda Motor Corporation)

20159724 **Droplets Behavior and Evaporation of Diesel Spray Affected by Ambient Density after Pilot Injection**

Mohd Al-Hafiz Mohd Nawawi, Yoshiyuki Kidoguchi, Yuzuru Nada (The University of Tokushima)

20159737 **Examination of Discrete Dynamics Model for Diesel Combustion and Model-Based Feedback Control System (Second Report)**

Shoma Tsuboi, Norimasa Iida, Mina Nishi (Keio University), Yudai Yamasaki (University of Tokyo), Ryo Hasegawa (Toyota Motor Corporation)

20159754 **Low Temperature Premixed Diesel Combustion with Blends of Ordinary Diesel Fuel and Normal Heptane**

Hideyuki Ogawa, Yuhei Sakane, Tatsunori Obe, Gen Shibata (Hokkaido University)

20159761 **Detection of Cylinder-to-Cylinder Injection Variation in a Four-Stroke Diesel Engine by Monitoring the Turbocharger Speed**

Giovanni Vichi, Isacco Stiaccini, Michele Becciani, Giovanni Ferrara (University of Florence), Lorenzo Ferrari (Italian National Research Council - CNR - ICCOM), Alessandro Bellissima (Yanmar R&D Europe)



Technical Sessions

(As of March 24, 2015)

Diesel Engine (Continued)

20159776	Evaluation of Droplet Dispersion near Diesel Injector Nozzle by Using L2F Noritsune Kawaharada, Daisaku Sakaguchi, Hironobu Ueki, Masahiro Ishida (Nagasaki University)
20159816	A 1D-3D Coupling Simulation to Investigate the Effects of EGR Supply Configuration on the EGR Dispersion Pavlos Dimitriou (University of Bath)
20159825	Combustion Characteristics of Diesel Spray with Temporally-Splitting High-Pressure Injection Keiya Nishida, Heizo Tomoda, Youichi Ogata, Yusuke Nishioka (University of Hiroshima), Baolu Shi (Beijing Institute of Technology)

Emissions

Organizers: Hiromi Deguchi (SUZUKI MOTOR CORPORATION), Leonid Tartakovsky (Technion-Israel Institute of Technology), Jim Carroll (South West Research Institute), Jan Czerwinski (University of Applied Sciences Biel-Bienne)

20159765	Crank Angle Resolved Exhaust Composition in a Small Internal Combustion Engine Using FTIR Kevin Patrick Horn, Joseph K Ausserer, Marc D Polanka (Air Force Institute of Technology), Paul K Litke (US Air Force Research Lab), Keith Grinstead (ISSI Inc.)
20159780	A Study on Four Stroke Scooter Vehicle and Engine Performance with Change in Physical and Chemical Properties of Catalytic Converter Pradeep Subramanian Srinivasan, Sampoorananda Basrur, Mahendran Appadurai, Rahul Sharma, Satish Vemuri (TVS Motor Company Ltd.)
20159782	Effect of Automatic Choke System on Emissions, Light-off Characteristics and Cold Start-Ability of Four-Stroke Scooter Engine Sampoorananda Basrur, Pradeep Subramanian Srinivasan, Rahul Sharma (TVS Motor Company Ltd.)
20159783	Development of Three-Way Catalytic Converter Diagnostic Strategy Yong Fu Syu, Jia Siou Wu, Jhih Si Syu, Bo Chiuan Chen, Yuh Yih Wu (National Taipei University of Technology)
20159802	Investigation of High Achievable Pollutant Reduction on a "State of the Art" Asian 2 Wheelers - Technology Road Map to a Cleaner Air Francois Jayat, Sven Seifert (Continental Emitec GmbH)
20159821	Impact of Fuel Additives on Diesel Engine Particle Emission Nanostructure and Oxidation Kinetic Komkla Siricholathum, Preechar Karin (King Mongkut's Institute of Technology Ladkrabang), Nuwong Chollacoop (National Metal and Material Technology Center), Katsunori Hanamura (Tokyo Institute of Technology)
20159824	Enhancing the Performance of a Catalyst Formulation for a Big Displacement Motorcycle for Future Emission Regulations, Part 2 Marcus Bonifer, Rainer Kiemel (Heraeus Chemicals)
20159835	Advanced Strategies to Reduce Tail Pipe Emissions on Small Capacity Two-Wheelers Concerning the Targets of EURO 5 Jürgen Tromayer (Graz University of Technology)



Technical Sessions

(As of March 24, 2015)

Emissions (Continued)

- 20159836 **Application of a NO_x Storage Catalyst for Emissions Reduction on a Lean-Burn Isobutanol-Fueled Snowmobile**
Gregory W Davis, Madeleine Moir (Kettering University)

Environmental Impacts

Organizers: Hiromi Deguchi (SUZUKI MOTOR CORPORATION), Leonid Tartakovsky (Technion-Israel Institute of Technology), Jan Czerwinski (University of Applied Sciences Biel-Bienne)

- 20159707 **Development of Bengaluru Motorcycle Drive Cycle from Real Time Data for Accurate Prediction of Exhaust Emissions and Fuel Economy**
Rashmita Khare, Abhijit Shankar Bahirat (Robert Bosch Engineering and Business Solutions Ltd., India), Pramod Reddemreddy, Prashanth Anantha (Bosch Ltd., India)

Engine Components

Organizers: Takahito Murase (Kawasaki Heavy Industries, Ltd.), Nagesh Mavinahally (MEGGITT CONTROL SYSTEMS), David Thornhill (Queen's University Belfast)

- 20159704 **A Comprehensive Comparative Study Of Passive and Active Magnetic Speed Sensors For Automotive Application**
Klaus Grambichler, Lakshmy Neela, Thomas Koban (Infineon Austria Technologies AG)
- 20159751 **Analytical, CFD and Experimental Studies on Forced Air Cooling System of Single Cylinder Engine to Improve Cooling Efficiency**
Loganathan K, Vishnu Kumar Kuduva Shanthulal (TVS Motor Company Ltd.)
- 20159793 **Optimization of Ring Pack Design for Improving Fuel Economy for a Gasoline Engine**
T Sukumaran Vipin (TVS Motor Company Ltd.)
- 20159798 **Development and Application of Cylinder Integral-Type Crankcase Casting Method**
Tomokazu Watanabe (Kawasaki Heavy Industries, Ltd.)
- 20159799 **Fatigue Analysis and Validation of Fracture Split Connecting Rod for Value Engineering Using 1D and 3D Simulation Tools**
Kandreegula Suresh Kumar, Diwakar Ayyar, Umashanker Gupta (VE Commercial Vehicles Ltd.)
- 20159805 **Study of Optimization of Reciprocating Parts for General-Purpose Engine with Aluminium-Alloy Connecting Rods**
Masami Okubo, Masato Suzuki (Honda R&D Co., Ltd.)
- 20159806 **Transient and Fatigue Analysis of Crankshaft for HD Commercial Vehicles and Experimentally Correlated**
Kandreegula Suresh Kumar, Sonu Paroche, Sayak Mukherjee (VE Commercial Vehicles Ltd.)



Technical Sessions

(As of March 24, 2015)

Engine Controls

Organizers: Yutaka Nitta (SUZUKI MOTOR CORPORATION), Tobias Kallerhoff (Bosch)

20159726	Patented Software Solution to Prevent Rotation of the Tool upon Machine Start at Idle Klaus Stuhlmüller (PRUFREX Engineering e Motion GmbH & Co. KG)
20159730	Estimating the Air Gap to Determine Optimized Crank Angle Position Klaus Stuhlmüller (PRUFREX Engineering e Motion GmbH & Co. KG)
20159749	Online Engine Speed Based Adaptation of Combustion Phasing and Air-Fuel Ratio: Evaluation of Feature Quality Henning Heikes, Gadkari Geetesh, Christian Steinbrecher, Christian Linder, Martin Löhning, Wolfgang Fischer (Robert Bosch GmbH)
20159752	Application of OSC Estimation Technology of the Catalyst to the Air-Fuel Ratio Control of the Motorcycle Daisuke Yanase, Shinichi Kuratani, Takashi Abe, Hiroyuki Koga (Kawasaki Heavy Industries, Ltd.)
20159788	Application of Adaptive Idle Speed Control on V2 Engine Jie Yin, Yao Chung Liang, Bo Chuan Chen, Yuh Yih Wu (National Taipei University of Technology)
20159819	Optimization of Gasohol PFI Boat Engine Control System Kittichart Tumaiaam, Chaiwat Nutong (King Mongkut's Institute of Technology Ladkrabang), Teera Phatrapornnant (National Electronics and Computer Technology Center), Masaki Yamakita (Tokyo Institute of Technology)

Engine Technology

Organizers: Satoshi Inoue (Honda R&D Co., Ltd.), Hideyuki Okumura (JMIA/Yamaha Motor Co., Ltd.), Adrian Irimescu (Istituto Motori-CNR), Nagesh Mavinahally (MEGGITT CONTROL SYSTEMS)

20159701	Compressed Air as a Quality and Pollution Free Fuel Substitute in Reciprocating Engines - an Effect of the Valve Size on the Engine - Performance Takayuki Sugita (Hiroshima Prefectural Miyajima Technical High School)
20159713	Development of a Cogeneration Engine Operating with Miller/Atkinson Valve Timing and Charging-Optimised Intake System to Meet Future Emission Limits while Maintaining Engine Efficiency Denis Neher, Maurice Kettner, Fino Scholl (University of Applied Sciences Karlsruhe), Markus Klaissle, Danny Schwarz (SenerTec Kraft-Wärme-Energiesysteme GmbH)
20159719	Development of the XMv3 Rotary SI Engine Alexander C Shkolnik, Daniele Littera, Mark Nickerson, Nikolay Shkolnik (LiquidPiston)
20159729	Development of a Supercharged Engine for Motorcycle with a Centrifugal Supercharger Hiroyuki Watanabe, Satoaki Ichi, Masahito Saito (Kawasaki Heavy Industries, Ltd.)
20159732	Advanced Engine Cooling System Abhishek Saini (Indian Institute of Technology Patna), Prakash Shakti (Doon College of Science and Technology)



Technical Sessions

(As of March 24, 2015)

Engine Technology (Continued)

20159744	Fuel Economy Improvement of Air-Cooled Engine for Scooter with Variable Cooling System Tomokazu Kobayashi, Kazuyuki Kosei, Sadaaki Ito (Honda R&D Co., Ltd.)
20159757	Fuelling a Two-Wheeler Engine by Ultrasonic Atomization BalaSubramanian N, Anand T.N.C., Keerthi Ganesh (Indian Institute of Technology Madras)
20159768	Free Piston Combustion Engine Efficiencies and Challenges Frank M. Washko, Daryl W. Salhus, Rodeo A. Winchell (Saint Martin's University)
20159787	Mechanical Cam Phaser (MCP) System for Fuel Economy, Emissions, and Performance P S Satyanarayana, Balasubramian Loganathan Thiruvallur (TVS Motor Company Ltd.)
20159808	Development of 2 Types of SI Engines in Parallel Takeshi Kawasaki, Shinji Kishi, Toshihiro Tsujioka, Kentaro Shiraishi, Yuichiro Yamada (Kubota Corporation)
20159809	Expansion to Higher Efficiency – Experimental Investigations of the Atkinson Cycle in Small Combustion Engines Patrick Pertl, Alexander Trattner, Reinhard Stelzl, Michael Lang, Stephan Schmidt, Roland Kirchberger (Graz University of Technology)
20159815	Comparison of Different Downsizing Strategies for 2- and 3-Cylinder Engine by the Use of 1D-CFD Simulation Christian Zinner (Graz University of Technology)
20159817	Thermodynamic Limits of Efficiency Enhancement of Small Displacement One-Cylinder Engines Alexander Trattner, Patrick Pertl, Franz Winkler, Stephan Schmidt, Roland Kirchberger (Graz University of Technology)
20159827	An Insight into the Design and Development Process of a Modern 150cm³ Four-Stroke Motorcycle Engine for the Asian Market Jürgen Tromayer (Graz University of Technology)
20159837	Development of the Szorenyi Rotary Engine Peter King (None)

Fuel Supply Systems

Organizers: Hideyuki Okumura (JMIA/Yamaha Motor Co., Ltd.)

20159755	CFD Simulation and Experimental Validation of a Throttle Body Design without Bypass for Fuel Injected Motorcycles Pradeep Ramachandra, Mohankumar Nagalapura (Bosch Limited)
20159767	Analysis of Mixture Formation Process in a PFI Motorcycle Engine Yasuo Moriyoshi, Tatsuya Kuboyama (Chiba University), Minoru Iida (Yamaha Motor Co., Ltd.)
20159773	A Novel Concept for Mixture Preparation in Port Fuel Injected Engines Saransh Jain, Anand T.N.C. (Indian Institute of Technology Madras)
20159833	Computational and Experimental Evaluation of Low Pressure Gas-Air Mixer for I C Engine Avinash Hanumant Kolekar (Indian Institute of Technology, Bombay)



Technical Sessions

(As of March 24, 2015)

HCCI

Organizers: Tatsuya Kuboyama (Chiba University), William Attard (FCA US LLC), Jaal Ghandhi (University of Wisconsin-Madison)

- | | |
|----------|--|
| 20159706 | Experimental Investigation and Analysis of Homogeneous Charge Compression Ignition in a Two-Stroke Free-Piston Engine
Stephan Schneider, Horst E. Friedrich (German Aerospace Center (DLR), Institute of Vehicle Concepts) |
| 20159736 | An Investigation of the Effects of Fuel Concentration Inhomogeneity on HCCI Combustion Using LIF Measurement
Hiroshi Mizokami, Norimasa Iida, Mina Nishi (Keio University) |
| 20159770 | Experimental and Numerical Study of HCCI Combustion Using Cooled EGR
Munehiro Matsuishi, Yuya Higuchi, Yasuhide Abe, Yuma Ishizawa, Akira Iijima, Hideo Shoji (Nihon University), Kazuhito Misawa (Suzuki Motor Corporation) |
| 20159772 | A Study of HCCI Combustion Induced by Streamer Discharge Using Optically Accessible Engine
Masanori Yamada (Nihon University) |
| 20159790 | A Study of HCCI Combustion Using Two-Component Blended Fuel
Takahiro Shima, Hirotaka Suzuki (Nihon University) |
| 20159807 | Influence of Internal EGR on Knocking in an HCCI Engine
Takashi Shimada, Yuuki Yosida, Chibin Rin, Masanori Yamada, Naoya Ito, Akira Iijima, Koji Yoshida (Nihon University) |
| 20159840 | HCCI Combustion Analysis through Mass Fraction Burned Method
Wei-Chin Chang, Jhong-Ru Kang, Chee-Hong Piong (Southern Taiwan Univ. of Science & Technology) |

Hybrids, Electric Drives, and Fuel Cells

Organizers: Yasuyuki Muramatsu (Yamaha Motor Co., Ltd.), Robert Kee (Queen's University Belfast)

- | | |
|----------|--|
| 20159740 | Single Cylinder 25kW Range Extender: Development for Lowest Vibrations and Compact Design Based on Existing Production Parts
Christian Hubmann (AVL List GmbH) |
| 20159753 | A Study of Function Control in the Electric Motorcycle
Daisuke Kawai, Yoshimoto Matsuda, Takahito Murase (Kawasaki Heavy Industries, Ltd.) |

Lubricants

Organizers: Toru Nakazono (LEMA/YANMAR Co., Ltd.), Brent Dohner (Lubrizol Corporation)

- | | |
|----------|---|
| 20159708 | Unique Needs of Motorcycle and Scooter Lubricants and Proposed Solutions for More Effective Performance Evaluation
Michael J Marcella, Alexander Michlberger (The Lubrizol Corporation) |
| 20159764 | Additive Technology for Superior and Unique Motorcycle Oil (SUMO)
Pei Yi Lim, Huai Hui Huang (Infineum Singapore Pte. Ltd.), Katherine Richard (Infineum USA L.P.) |



Technical Sessions

(As of March 24, 2015)

Materials

Organizers: Hirotaka Kurita (Yamaha Motor Co., Ltd.), David Palmer (BRP)

- | | |
|----------|---|
| 20159720 | Reduction in Costs and Environment Impact of The Composite Plating Solution
Naoyuki Hirose (Kawasaki Heavy Industries, Ltd.) |
| 20159743 | Development of Black Surface Treatment Applicable to Bolts for Motorcycles
Hiroyuki Yoshida, Hiroshi Hirayma, Shinsuke Mochizuki (Honda R&D Co., Ltd.), Yasuhiro Kato, Toshiki Inomata, Manabu Inoue (Dipsol Chemicals Co., Ltd.) |
| 20159830 | Development of Fracture-Split Connecting Rod Made of Titanium Alloy Used for Super Sports Motorcycles
Tsuyoshi Kubota, Kosuke Doi, Takeshi Murakami, Yuuki Kojima, Tetsu Miura (Yamaha Motor Co., Ltd.) |

Measurement & Simulation

Organizers: Tadao Okazaki (LEMA/Kubota Corporation), Shigeru Fujii (Yamaha Motor Co., Ltd.), Stephan Schmidt (Graz University of Technology), Giovanni Ferrera (University of Florence)

- | | |
|----------|--|
| 20159711 | Experiments and Simulations of a Lean-Boost Spark Ignition-Engine for Thermal Efficiency Improvement-
Sok Ratnak, Jin Kusaka, Yasuhiro Daisho (Waseda University), Kei Yoshimura, Kenjiro Nakama (Suzuki Motor Corporation) |
| 20159717 | Effect of Thickness Ratio on Fatigue and FEA Life Estimation Criteria in Welded Structures
Govardan Daggupati (TVS Motor Company Ltd.) |
| 20159722 | Motorcycle Frame Evaluation through Two Poster Testing
Baskar Antonysamy, Ravi Kaushik, Ashton Aureleo Menezes (Hero Motocorp Ltd.) |
| 20159728 | Development of Measurement Technic on Propagating Flame by Densely Installed Ion-Probes
Tomoaki Yatsufusa, Shinsuke Miyata, Koji Ishibashi (Hiroshima Institute of Technology) |
| 20159731 | Acceleration Performance Analysis for Rubber V-belt CVT with Belt Tension Clutching
Yusuke Okimura, Moriyuki Sakamoto, Seiji Itoo, Akiyuki Yamasaki (Kawasaki Heavy Industries, Ltd.) |
| 20159739 | Establishment of Prediction and Evaluation Technology of Fatigue Durability Performance for Exhaust System of Motorcycle
Hiroshi Kuribara, Kenichiro Nakamura, Hiroshi Horikawa, Takanori Nagata, Daisuke Kitamura (Honda R&D Co., Ltd.) |
| 20159741 | Application of a PEMS Analyzer for Measuring Emission on Small Non-Road SI Engines
Mithun Kanti Roy, Takeshi Kusaka, Kenji Takeda, Ichiro Asano (HORIBA Ltd.) |
| 20159745 | Systematic Modeling Technique by using Function Power Graph on the Centrifugal Anti-Lock Braking System Simulation
Yu-Fan Chen, I-ming Chen, Cheng-ping Yang, Tyng Liu (National Taiwan University) |
| 20159748 | Combustion Diagnostics Using Time-Series Analysis of Radical Emissions in a Practical Engine
Nobuyuki Kawahara, Shota Hashimoto, Eiji Tomita (Okayama University) |



Technical Sessions

(As of March 24, 2015)

Measurement & Simulation (Continued)

20159763	Innovative Approach and Tools to Design Future Two-Wheelers Powertrain Milosavljevic Misa, Stephane Venturi, Fabrice Le Berr, Philippe Degeilh, Samy Laabidi (IFP Energies nouvelles), Francois Raymond (D2T Powertrain Technologies)
20159766	A Reduced Order Turbocharging Model for Real Time Torque Profile Control Kazuhide Togai (Osaka Sangyo University)
20159769	CFD Modelling of a Four Stroke GDI Engine for Motorcycle Application Nithin Joseph Tito (Indian Institute of Technology, Madras)
20159800	Structural Non-Linear Topology Optimization of Powertrain Components Kandregula Suresh Kumar, Naveen Sukumar, Umashanker Gupta (VE Commercial Vehicles Ltd.)
20159803	Valve Train Dynamics Study for Two Wheeler Engine Rajagopalan Varadarajan Ranganathan (TVS Motor Company Ltd.)
20159804	Investigation of In-Cylinder Heat Flux in a Single Cylinder, 4 Stroke, Air-Cooled, Spark Ignition Engine for Motorcycle Application Rajagopalan Varadarajan Ranganathan, Anand Sankaranarayanan (TVS Motor Company Ltd.)
20159811	Development of Fatigue Durability Evaluation Technology for Motorcycle Frame Daichi Kano, Go Matsubara, Takumi Kawasaki, Akiyuki Yamasaki, Hiroyuki Kasugai, Hideaki Saito (Kawasaki Heavy Industries, Ltd.)
20159814	Energy Flow Analysis for Powersport Applications by a Complete Vehicle Simulation Paul Rieger, Hermann Edtmayer, Raimund Almbauer, Stephan Schmidt, Christian Zinner (Graz University of Technology)
20159828	Development of GPS Data Logger for Motorcycles Masashi Matsuo, Hitoshi Watanabe, Takeshi Morioka (Yamaha Motor Co., LTD.)

NVH Technology

Organizers: Hiroshi Yano (Kawasaki Heavy Industries, Ltd.), Thomas Lagö (QirraSound Technologies Europe AB), Kal Bagga (Ford Motor Company)

20159727	Engine Mount System Achieving Reduced Vibration from an Inline 3 Cylinder Engine Installed in a Utility Vehicle Akiyuki Yamasaki, Teruaki Yamamoto, Kazumasa Hisada, Hiroshi Nakahara, Takumi Kawasaki (Kawasaki Heavy Industries, Ltd.)
20159747	Placement Technique of Measurement Points for Inverse Acoustic Analysis Hiroko Oshima, Hilmi Bin Helaladin, Akihito Ito, Nobutaka Tsujiuchi, Takayuki Koizumi (Doshisha University)
20159758	A Compressible Flow and Temperature Solver for Exhaust Line Applications Diego Copiello, Gregory Lielens, Shriram Subramaniam (Free Field Technology)
20159774	Comparison Method of Input Powers and Contribution Rates Between Statistical Energy Analysis and Transfer Path Analysis for Small Power Generator's Enclosure Hilmi Bin Hela Ladin, Nobutaka Tsujiuchi, Akihito Ito (Doshisha University), Katsuhiko Kuroda (Nagasaki Institute of Applied Science)
20159812	A Study on Acoustic and Combustion Analysis System Applied for Small General Purpose Engines Tomoharu Tajima, Toshiro Kiura (Honda R&D Co., Ltd.)



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Two Stroke Engine

Organizers: Yuh Motoyama (Yamaha Motor Co., LTD.), Brian Callahan (Achates Power, Inc.), Giovanni Ferrera (University of Florence)

20159702	CFD Modelling of a Two Stroke Engine to Predict and Reduce Short Circuit Losses Manish Garg, Davinder Kumar (TVS Motor Company)
20159716	Quantification of Short-Circuiting and Trapping Efficiency of Small Internal Combustion Engines by GC-MS Joseph Karl Ausserer, Kevin P. Horn, Marc D. Polanka (Air Force Institute of Technology), Paul J. Litke (Air Force Research Laboratory), Keith D. Grinstead (Innovative Scientific Solution Incorporated)
20159760	CFD Analysis of the Effect of the Injection Pressure on a Small 2S LPDI Engine Francesco Balduzzi, Giovanni Vichi, Luca Romani, Giovanni Ferrara (University of Florence)
20159762	An Experimental Methodology for the Evaluation of the Trapped Air-Fuel Ratio of a Small 2S LPDI Engine Luca Romani, Francesco Balduzzi, Giovanni Vichi, Giovanni Ferrara (University of Florence)
20159777	Investigations on the Performance of a Direct Injection Two Stroke SI Engine Fuelled with Liquid LPG Adwitiya Dube , A Ramesh (Indian Institute of Technology, Madras)
20159832	Layout and Development 300 cm³ High Performance 2S-LPDI Engine Franz Winkler, Roland Oswald, Oliver Schögl, Andrea Abis, Roland Kirchberger (Graz University of Technology), Stefan Krimplstätter (Forschungsgesellschaft für Verbrennungskraftmaschinen und Thermodynamik mbH)

Vehicle Dynamics and Safety

Organizers: Shigeru Fujii (Yamaha Motor Co., LTD.), Masayuki Baba (Honda R&D Co., Ltd.)

20159705	Simulation and Optimization Analysis of Small Vehicle Deceleration to Reduce Occupant Injury at Frontal Collision Takanobu Fujimura (Suzuki Motor Corporation)
20159709	A Novel Low Cost Experimental Procedure to Estimate the Longitudinal Force Characteristics of a Tire Barath Mohan, Venkata Mangaraju Karnam, Velagapudi Sai Praveen (TVS Motor Company Ltd.), Chandramouli Padmanabhan (Indian Institute of Technology, Madras)
20159723	Chassis Development for the Motorcycle With High Power Output Supercharged Engine Hiroshi Ishii (Kawasaki Heavy Industries, Ltd.)
20159725	Objective Evaluation of Motorcycle Handling Comparison by Expert Riders and Ordinary Riders Baskar Antonysamy, Rajvirendra Singh, Atul Malik (Hero MotoCorp Ltd.)
20159775	Ergonomic Study of Rider's User Interface and Ease in Operating Various Operation in Motorcycle Atul Bansal, Anoop Jain, Yashpal Singh Sinsinwar (Hero MotoCorp Ltd.)
20159781	Study on Steering Behaviour of Two Wheelers Using On-Center Steer Test Venkatesh G, Sai Praveen Velagapudi (TVS Motor Company Ltd.)



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(As of March 24, 2015)

Vehicle Dynamics and Safety (Continued)

20159810	Development of High Performance Motorcycle Wheel Using Numerical Shape Optimization Hisato Tokunaga, Kazuhiro Ichikawa, Takumi Kawasaki, Masato Kogirima, Eiji Sakurada, Tomo Yamamoto(Kawasaki Heavy Industries, Ltd.)
20159813	Study on Airbag Concept for Motorcycles Using Opposing Vehicle as Reaction Structure Yutaka Aikyo, Yuki Kobayashi, Tomohiko Akashi, Makoto Ishiwatari, Takashi Sato (Honda R&D Co., Ltd.)
20159834	ABS and Motorcycle Stability Control – Solutions to Improve Motorcycle Safety and Riding Dynamics Thomas Michael Lich (Robert Bosch Corporation), S N Prashanth, Wilko Block (Bosch Corporation Japan), Brad Heiler (Robert Bosch LLC)

Vehicle Components

Organizers: Masayuki Baba (Honda R&D Co., Ltd.), Robert Kee (Queen's University Belfast)

20159750	Development of Headlight System with Cost Advantageous Design Using Light Emitting Diodes Yosuke Tsuchiya, Teppei Matsuzaki, Tetsuo Takeshige, Tsuyoshi Oguchi (Honda R&D Co., Ltd.)
20159759	Importance of Tire Pressure Monitoring System in a Motorcycle Shiwalik Ghosh, Baskar Anthonysamy, Prateek Srivastava, Anant Kumar Tiwary, Rishi Kumar Dear (Hero MotoCorp Ltd.)
20159778	Brake Fade Reduction in Drum Brake System for Two Wheelers Ramakanta Routaray (Hero MotoCorp Ltd.)
20159785	A Shock Absorber Design with Position Sensitive Damper and its Performance Evaluation Nizar Ahamed, Girish Kokane, Ravindra Kharul (Endurance Technologies Pvt. Ltd.)
20159786	Development of an Integrated Approach for Suspension Performance Evaluation Nizar Ahamed, Girish Kokane, Ravindra Kharul, Kishore Kothe (Endurance Technologies Pvt. Ltd.)
20159789	Variable Stiffness Rear Suspension : Motorcycle Ride Comfort Analysis Rajvirendra Singh, Baskar Antonysamy, Shiwalik Ghosh (Hero MotoCorp Ltd.)
20159839	Development of the Frame with Low Rigidity of Lateral Direction for Motorcycle Racing Koichiro Kawata (SUZUKI MOTOR CORPORATION)

Functional Safety

Organizers: Takashi Mitome (SUZUKI MOTOR CORPORATION)

20159714	Research on Method for Evaluating Injury Severity in Motorcycle Accidents for ISO 26262 Yuji Arai, Makoto Hasegawa (Japan Automobile Research Institute)
20159746	ISO 26262 Controllability Evaluation Technique by Expert Riders Maki Kawakoshi, Takashi Kobayashi, Makoto Hasegawa (Japan Automobile Research Institute)
20159794	Examination of the Adequacy of Connections between MSILs and ASILs in ISO 26262 Sei Takahashi, Hideo Nakamura (Nihon University), Makoto Hasegawa (Japan Automobile Research Institute)



About Osaka City

About

Osaka, located on the southwestern side of the main Japanese island of Honshu, is Japan's third largest city and a major commercial center in the Kansai region. It sits along Osaka Bay at the mouth of the Yodo River, and is known for its many canals and rivers, as well as the bridges that cross them. The Yodo and Yamato Rivers flow across the city. Osaka has a very long history, dating back to at least the 5th or 6th century BC. The port made the city a strategic location for building a city, easily connected to other parts of Japan and good conditions for growing rice. Osaka became the capital of Japan for brief periods in the early history, and even after the capital moved to Nara, it remained an important center of business. The arts and cultural scene in Osaka began to thrive in the 18th century, with *KABUKI* and *BUNRAKU* performance styles. Osaka has grown to become a modern metropolitan city, with a thriving business, cultural and nightlife scene.

Osaka Castle

Osaka Castle was originally constructed in 1583 but was destroyed in thirteen years after during a war. Although it was rebuilt by the Tokugawa Shogun ate in the 1620s, its main castle tower was burnt down by lightning in 1665. It was not until 1931 that the present ferroconcrete reconstruction of the castle tower was built. Major repair works gave the castle new glamor in 1997. The castle tower, surrounded by secondary citadels, gates, turrets, impressive stone walls and moats, is entirely modern on the inside and even features an elevator for easier accessibility. It houses an informative museum about the castle's history. The garden requires an admission fee.



Tsutenkaku Tower

Tsutenkaku is a symbol of Osaka. It was built in 1912 as the symbol of Shin-Sekai ("A new world"). The concept was very typical of Osaka: build a steel tower that looks like Eiffel Tower on a building designed in the image of the Arch of Triumph. With a height of 64 m, it was once the tallest structure in the East Asia at the time and named Tsutenkaku, meaning "Building leading to heaven". Later it was dismantled after a fire but reconstructed at the request of citizens. At 103 m, the new Tsutenkaku is 39 m higher than the original. In 2007, it was registered as a tangible cultural property of Japan.



Dotonbori

One of Osaka's most popular tourist destinations, the street runs parallel to the Dotonbori canal. It is a popular shopping and entertainment district and is also known as a food destination. At night it is lit by hundreds of neon lights and mechanized signs, including the famous Glico Running Man sign. The north side of the canal is called Soemon-cho, where there are many restaurants and bars. The south side of the canal, Dotonbori Street, is a home of "Kuidaore" with various eateries where you will be amazed with the famous Osaka giant signs such as moving crab, puffer fish, dragon, etc. Try famous Osaka food "Takoyaki (octopus balls)".



About Osaka City

Osaka Station

Osaka Station is a major railway station in Osaka's Umeda district (also known as Kita) that is served by a large number of local and interregional trains, but not the Shinkansen which stops at Shin-Osaka Station. The station underwent extensive renovation works and was reborn in 2011 as Osaka Station City, one of Japan's most attractive railway stations. Osaka Station City's landmark is a large glass roof that spans over the railway tracks and gives the station a lot of new open space. Newly constructed and renovated buildings on the north and south sides of the station provide travelers with a wide array of shopping, dining, entertainment and recreation opportunities, and are connected with each other by a wide bridge over the railway tracks.



Umeda Sky Building

Umeda Sky Building is 173 meters high. It has an innovative form whereby the two skyscrapers are connected at their top floors and a huge atrium that extends about 150 meters connecting the sky and the ground. When going out onto Sky Walk at the very top of the skyscrapers, visitors can feel the fresh air and enjoy 360-degree panoramic views with overwhelming impression. In addition, in the basement, there is the "Takimi Lane of Restaurants" that reproduces the gourmet town of Osaka, a famous location where gourmets spare no expense on food. This famous new place in Osaka attracts throngs of people every day.



Water/Metropolis Osaka

Osaka was laid out with an unusual structure, based on its waterways and the rivers that surround it, so it enjoys a history as an aqua metropolis. From the Edo period when it was known as heaven's kitchen, to modern days when it came to be called the Manchester of the Orient, the city has been blessed countless times by the canals that run through it. Even now, the layout of the city reflects the influence of those canals, and it continues to evolve. In addition to events held here, wharfs and waterside cafes and restaurants have been built, adding more and more spaces where one can feel close to the water. There are also many ways to explore from the water itself, such as on the Aqua Bus, Aqua-Liner that goes around Nakanoshima.



Nakanoshima Area

Nakanoshima is full of places to experience art and culture, including The National Museum of Art, Osaka, unique in that it was constructed completely underground; The Museum of Oriental Ceramics, Osaka, known for its rare celadon and white porcelain pieces; and the Osaka Science Museum, where you can have fun while learning science. It is recommended to take a leisurely walk around the area, stopping to see retro buildings such as the Osaka City Central Public Hall (made of bricks), or the Osaka Prefectural Nakanoshima Library (stone construction).



Useful Websites

■ Kansai International Airport

<http://www.kansai-airport.or.jp/en/access/index.html>

■ Osaka International Airport

<http://osaka-airport.co.jp/en/>

■ Osaka Airport Limousine

<http://www.okkbus.co.jp/en/index2.html>

<http://www.okkbus.co.jp/en/index3.html>

■ West Japan Railway Company

<https://www.westjr.co.jp/global/en/travel-information/pass/>

■ Japan Rail Pass

<http://jprail.com/>

■ Osaka International Convention Center OICC (Grand Cube Osaka)

<http://www.gco.co.jp/en/>

■ OSAKA GOVERNMENT TOURISM BUREAU - 'OSAKA-INFO – ASIAN GATEWAY OSAKA'

<http://www.osaka-info.jp/en/>

■ CITY OF OSAKA

<http://www.city.osaka.lg.jp/contents/wdu020/english/>

■ THE HEART OF OSAKA

<http://osaka-chushin.jp/en/>

■ OSAKA SUIJYO BUS LTD: Osaka City Cruise Plan

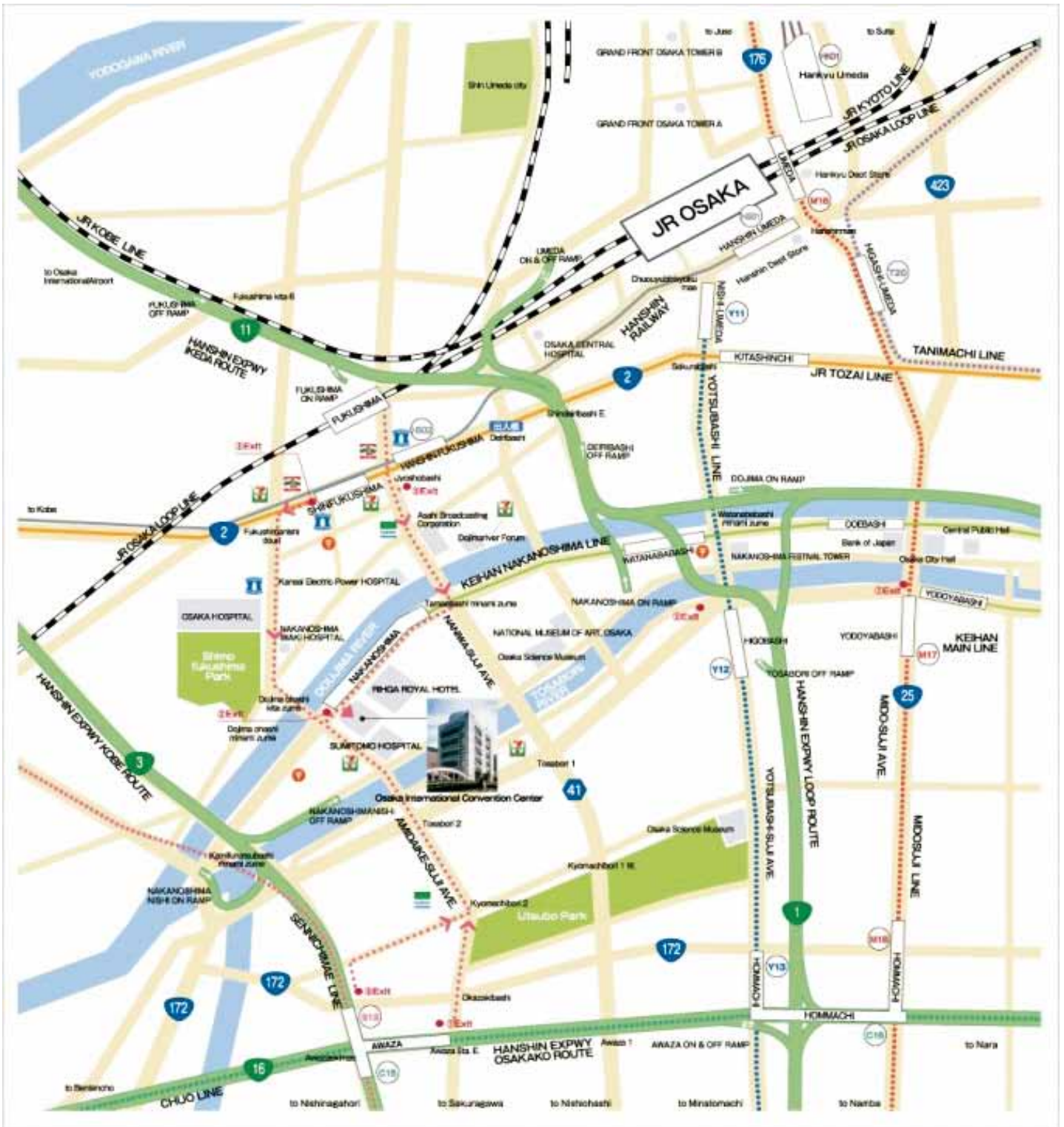
<http://suijo-bus.jp/language/english/>

■ UNIVERSAL STUDIO JAPAN

<http://www.usj.co.jp/e/>



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Germany	Kubota (Deutschland) GmbH / http://www.kubota.de/
UK	Kubota (U.K.) Ltd. / http://www.kubota.co.uk/
China	Kubota Engine (SHANGHAI) Co., Ltd. / http://www.kubota.com.cn/kesco/
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