

# XXXIV ICPIG & ICRP-10

XXXIV International Conference on Phenomena  
in Ionized Gases (XXXIV ICPIG)  
10th International Conference on Reactive  
Plasmas (ICRP-10)  
37th Symposium on Plasma Processing (SPP37)  
32nd Symposium on Plasma Science for Materials (SPSM32)



**XXXIV ICPIG & ICRP-10 @ SAPPORO / HOKKAIDO (JAPAN)**  
**14-19 July 2019**

## FINAL ANNOUNCEMENT

### Welcome to XXXIV ICPIG & ICRP-10

The International Scientific Committee of ICPIG, the International Organizing Committee of ICRP and the Local Organizing Committee are pleased to invite you to the Joint Conference of XXXIV International Conference on Phenomena in Ionized Gases (XXXIV ICPIG) and 10th International Conference on Reactive Plasmas (ICRP-10), that will be held in Sapporo, Japan, from 14th to 19th of July 2019.

**This edition has a substantial number of slots for contributed oral presentations, as well as traditional poster presentations, in the scientific program.**

Since 1953, ICPIG has been a discussion forum for nearly all fields of plasma science. The XXXIV edition of ICPIG will be a joint conference with ICRP, organized with the scope covering the fundamentals and applications of reactive plasmas. The joint conference will be a precious opportunity to cover both modelling and experiments, from the fundamentals of plasma elementary processes, basic data and discharge physics, to applications with the plasma processing of surfaces and particles, high pressure and thermal plasma processing, radiation sources, plasma medicine, atmospheric and stellar plasmas, environmental protection and pollution control, plasma aerodynamics, and non-thermal plasmas in fusion devices.



## CONFERENCE TOPICS

### **FUNDAMENTALS**

- 1) Elementary processes and fundamental data
- 2) Thermodynamics and transport phenomena
- 3) Plasma wall interactions, electrode and solid/liquid surface effects
- 4) Chemical processes in plasmas
- 5) Plasmas in/with liquid
- 6) Collective and nonlinear phenomena

### **MODELLING, SIMULATION, AND DIAGNOSTICS**

- 7) Modelling and simulation techniques
- 8) Plasma diagnostic methods

### **PLASMA SOURCES AND DISCHARGE REGIMES**

- 9) Astrophysical, geophysical, and other natural plasmas
- 10) Low-pressure plasmas
- 11) High-frequency discharges
- 12) Non-equilibrium plasmas and microplasmas at high and atmospheric pressures
- 13) Thermal plasmas
- 14) Complex and dusty plasmas, ion-ion plasmas, mixed phase plasmas
- 15) Plasma created by external sources of ionization

### **APPLICATIONS**

- 16) Plasma processing of surfaces and particles (etching and deposition)
- 17) High-pressure and thermal plasma processing
- 18) Plasma lamps and radiation sources
- 19) Medical, biological, agricultural, and environmental applications
- 20) Plasma power and pulsed power technology
- 21) Particle sources and aeronautical applications
- 22) Emerging technologies

## IUPAP SUPPORT AND POLICY

XXXIV ICPIG & ICRP-10 is partly sponsored by the International Union of Pure and Applied Physics (IUPAP). IUPAP support of our conference is subject to our agreement to abide by IUPAP Policies on Conferences (<http://iupap.org/sponsored-conferences/conference-policies/>); including those of Free Circulation of Scientists, maximum IUPAP conference registration fee, as well as the IUPAP policy statement on harassment at conferences.

1. **Free Circulation of Scientists:** The principle of the Universality of Science is fundamental to scientific progress. This principle embodies freedom of movement, association, expression and communication for scientists, as well as equitable access to data, information and research materials. In pursuing its objectives with respect to the rights and responsibilities of scientists, the International Union of Pure and Applied Physics (IUPAP) actively upholds this principle, and, in so doing, opposes any discrimination on the basis of such factors as ethnic origin, religion, citizenship, language, political stance, gender, or age. IUPAP should only sponsor conferences and events at institutions and in countries that uphold this principle. If scientists are excluded from attending IUPAP-sponsored international conferences by a host institution or country on the basis of any of these factors, IUPAP should register its concern at the highest level of that institution or country, and should not sponsor any



future events in that country until such exclusions have been eliminated.  
[Section 1. (<http://iupap.org/sponsored-conferences/conference-policies/>)]

**2. Harassment at Conferences:** It is the policy of the International Union of Pure and Applied Physics (IUPAP) that all participants at an IUPAP-supported Conference will enjoy a comfortable experience, and that they will treat each other with respect at all times. The conference organisers will name an advisor who will consult with those who have suffered from harassment and who will suggest ways of redressing their problems, and an advisor who will counsel those accused of harassment. [Section 4 IUPAP Conference Policies, weblink (<http://iupap.org/sponsored-conferences/conference-policies/>)]

#### SCIENTIFIC PROGRAM-CONFERENCE FORMAT

The scientific program will consist of

- 3 **Award Lectures**, the von Engel & Franklin Prize lecture (60min), the Reactive Plasma Award lecture (60min) and IUPAP Young Scientist Award for the Commission on Plasma Physics lecture (45min).
- 6 invited **General Lectures** (45min),
- 48 invited **Topical Lectures** (30min)
- 92 **Oral Contributions** (15min)
- 4 **Poster Sessions** (2h)
- 2 **Special Arranged Sessions** (2h) (8 invited Lectures)

“Tentative Scientific Program at a Glance” is shown at  
[http://icpig2019.qe.eng.hokudai.ac.jp/scientific\\_program.html](http://icpig2019.qe.eng.hokudai.ac.jp/scientific_program.html)

#### INVITED SPEAKERS

##### **ICPIG's von Engel & Franklin Prize 2019**

- **Mark J. Kushner**, USA, “Plasma Processing for Microelectronics Fabrication: Will Modelling and Simulation Help Maintain Moore’s Law?”

##### **Reactive Plasma Award (ICRP)**

- **Alexander Fridman**, USA, “Modern Atmospheric Pressure Non-Thermal Reactive Plasmas: from Gliding Arcs to DBD and Jets”

##### **IUPAP Young Scientist Award for the Commission on Plasma Physics**

- **Istvan Cziegler**, UK, “Flow-turbulence coupling in magnetic confinement for fusion”

##### **General Invited Speakers**

- **Luis Alves**, Portugal, “Numerical simulation tools for plasma chemistry”
- **Jan Benedikt**, Germany, “Mass spectrometry and plasma chemistry of atmospheric pressure plasma jets”



- **Hisataka Hayashi**, Japan, “Plasma etching technologies for semiconductor device manufacturing and future prospects”
- **Francoise Massines**, France, “ Multi-frequency atmospheric pressure plasma for surface treatment”
- **Stefan Matejcek**, Slovak Republic, “Electron excitation and dissociative excitation processes to plasma relevant molecules”
- **Richard van de Sanden**, The Netherlands, “Recent trends in renewable energy driven chemistry for energy conversion and storage: plasma chemistry as the special case”

#### Topical Invited Speakers

- **Hiroshi Akatsuka**, Japan, “Optical emission spectroscopic analysis for diagnostics of electron density and temperature in non-equilibrium plasmas”
- **Nikolay Aleksandrov**, Russia, “High-voltage nanosecond discharges under non-uniform gas density conditions”
- **Edward V. Barnat**, USA, “Ultrafast Laser Diagnostics to Interrogate High Pressure, Highly Collisional Plasma Environments”
- **Zdenek Bonaventura**, Czech Republic, “Streamer-induced kinetics of the ground and excited states in N<sub>2</sub>-O<sub>2</sub> including highly excited and auto-ionizing states of atomic species”
- **Anne Bourdon**, France, “Modeling of low-temperature plasma jets at atmospheric pressure”
- **Ronny Brandenburg**, Germany, “Breakdown and plasma formation in reactive nonthermal plasmas at atmospheric pressure”
- **Nikolay Britun**, Belgium, “Understanding high power magnetron sputtering by combined optical diagnostics”
- **Maria Castela**, Portugal, “Modelling non-thermal plasma-flow reactive systems”
- **Laurence Chérigier-Kovacic**, France, “Static and RF electric field direct measurement based on Lyman-alpha emission from a hydrogen probe beam”
- **James Dedrick**, UK, “Control of electron, ion and neutral heating in radio-frequency electrothermal microthrusters”
- **Emilie Despiau-Pujo**, France, “Molecular dynamics simulations for a better understanding of plasma-surface interactions”
- **Zoltan Donko**, Hungary, “Kinetics of capacitively coupled discharges driven by tailored voltage waveforms”
- **Alexander Fedoseev**, Russia, “Non- local electron kinetics in a low-temperature low-pressure DC discharge complex plasma”
- **Marcel Fiebrandt**, Germany, “Plasma Diagnostics for Process Plasmas”
- **John Foster**, USA, “Self-Organization in Atmospheric Pressure Plasmas: Occurrence, Mechanisms of Formation and Applications”
- **David Go**, USA, “Solvated electrons at a plasma-liquid interface”
- **Benjamin Goldberg**, USA, “Electric Field Induced Second Harmonic Generation Using Ultrafast Lasers for Measurements in Pulsed Nanosecond Plasmas”
- **Grzegorz Greczynski**, Sweden, “Time evolution of ion fluxes incident at the substrate plane during reactive high-power impulse magnetron sputtering: from gas-ion to metal-ion-controlled film growth”
- **Olivier Guitella**, France, “Influence of surfaces in the kinetic of CO<sub>2</sub> plasma”
- **Vasco Guerra**, Portugal, “Towards a reaction mechanism of non-equilibrium CO<sub>2</sub> plasmas”
- **Sung Ha Hong**, Australia, “Unravelling the mechanism of plasma interaction with biological material”



- **Bang-Dou Huang**, China, “The dynamics of the fast ionization wave discharge in different phases: from the breakdown to the afterglow”
- **Tsuyohito Ito**, Japan, “Plasma-assisted inkjet printing”
- **Mario Janda**, Slovakia, “Chemical kinetic modelling of NO<sub>x</sub> formation in Transient Spark discharge”
- **Kazunori Koga**, Japan, “Growth Mechanism of Carbon Nanoparticles In Multi-Hollow Discharge Plasma Chemical Vapor Deposition”
- **Igal Kronhaus**, Israel, “Challenges in Design of Very Low Power Plasma Sources for Space Propulsion”
- **Kinga Kutasi**, Hungary, “The tunability of flowing afterglow systems based on surface-wave (surfatron) microwave discharges”
- **Sergey Leonov**, USA, “Plasma-assisted control of supersonic airflow”
- **Vida Mildaziene**, Lithuania, “Cold plasma treatment stimulates seed germination by inducing dormancy loss due to changes in phytohormone balance”
- **Miran Mozetič**, Slovenia, “Plasma characterization using catalytic probes”
- **Tomoyuki Murakami**, Japan, “Modelling of complex chemical kinetics in atmospheric pressure plasmas”
- **Sander Nijdam**, The Netherlands, “Recent developments in streamer-related experiments”
- **Jun-Seok Oh**, Japan, “Dynamic analysis of reactive oxygen nitrogen species in plasma-activated liquid by UV absorption spectroscopy”
- **Osamu Sakai**, Japan, “Plasma metamaterials: present and future”
- **Viktor Schneider**, Germany, “An optical trapping system for plasma diagnostics”
- **Giorgio Senesi**, Italy, “A Laser-Induced Breakdown Spectroscopy Perspective in Earth environments”
- **Nikola Skoro**, Serbia, “Plasma treatment of liquids and its application in agriculture”
- **Eduard Son**, Russia, “Low Temperature Plasma Instabilities and Turbulence”
- **Yuan-Hong Song**, China, “Hybrid simulation of dust particles in a radio frequency capacitively coupled silane plasma”
- **Mi-Young Song**, Korea, “Data evaluation on cross sections of electron-molecule collisions for process plasmas”
- **Gabi Daniel Stancu**, France, “Development of advanced spectroscopic diagnostics for reactive plasmas at atmospheric pressure”
- **Katharina Stapelmann**, USA, “Interactions of low temperature plasmas with biological systems for plasma sterilization”
- **Svetlana Starikovskaia**, France, “Pulsed nanosecond discharges and their applications”
- **Katsuyoshi Tsumori**, Japan, “Plasmas in Caesium-Seeded Negative Ion Sources”
- **Giichiro Uchida**, Japan, “Studies on selective production of RONS and chemical change of amino acids in plasma-treated solutions”
- **Dirk Uhrlandt**, Germany, “Numerical and experimental approaches to high-pressure arcs with non-equilibrium consideration”
- **Jong-Shinn Wu**, Taiwan, “Development of a Parallel Fluid Modeling Code Using Unstructured Grid and Its Application for Complex Gas Discharges”
- **Lenka Zajickova**, Czech Republic, “Low pressure cyclopropylamine plasma polymerization studied by plasma diagnostics and molecular dynamic simulations”



### Special Arranged Sessions

The scientific program includes on July 16 (Tuesday) the Arranged Sessions on “Novel aspects of classical gas discharge phenomena” and “Recent topics of dry processes used in semiconductor industries”

Each Arranged Session is consisted of 4 invited speakers.

#### 1. Novel aspects of classical gas discharge phenomena

- **Milan Šimek**, Czech Republic, “Recent advances in the research of nanosecond discharges in liquid water”
- **Victor F. Tarasenko**, Russia, “Generation runaway electrons and formation diffuse discharges in different gases”
- **Pierre Tardiveau**, France, “Ionization waves in diffuse atmospheric pressure air plasmas generated at high overvoltage conditions”
- **Jannis Teunissen**, The Netherlands, “A computational study of positive streamer branching in air”

#### 2. Recent topics of dry processes used in semiconductor industries

- **Satoshi Hamaguchi**, Japan, “Atomic Layer Etching: its Science and Technology”
- **Keizo Kinoshita**, Japan, “CMOS/MEMS Hybrid Process Integration for Silicon Photonics Devices”
- **Takeshi Ohmori**, Japan, “Machine Learning Applications for Etching Profile Optimization”
- **Mingmei Wang**, USA, “Smarter Plasma Etching Processes: Multi-Scale Modelling and Beyond”

### ICPIG’s von Engel & Franklin Prize 2019

The von Engel and Franklin Prize is awarded biennially for outstanding research in the field of physics and technology of plasmas and ionized gases, as covered by ICPIG meetings. The prize is named in honor of two distinguished colleagues who have had a major role in ICPIG and its community since the original meeting in 1953. The election procedure is conducted by the International Scientific Committee taking account of recommendations from the community based on long - standing and important contributions with remarkable scientific impact to the field. The recipient of the ICPIG’s von Engel & Franklin Prize 2019 is:

- **Mark J. Kushner**, USA

### Reactive Plasma Award (ICRP)

The Reactive Plasma Award (RPA), which was established in commemoration of the 10th ICRP, is the highest recognition awarded by the International Organizing Committee (IOC) of ICRP for outstanding achievements in the field of the fundamentals and applications of reactive plasmas. Nominations are requested from the attendees of past ICRPs. The IOC chair establishes the Selection Committee for RPA immediately after the nomination deadline passes. The recipient of the Reactive Plasma Award 2019 is:

- **Alexander Fridman**, USA

### IUPAP Young Scientist Award for the Commission on Plasma Physics

IUPAP Young Scientist Award for the Commission on Plasma Physics is awarded to a young colleague who has up to 8 years of research experience following Ph.D. (excluding career interruptions), with exceptional achievements. It recognizes the excellence of a physicist working in any field of Plasma Physics. The selection is performed by the IUPAP Commission on Plasma Physics (Commission C16, <http://iupap.org/commissions/c16-plasma-physics/members/>) after an international call. The recipient of the IUPAP Young Scientist Award for the Commission on Plasma Physics is:

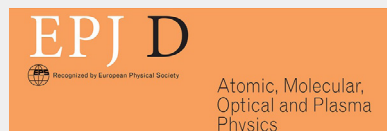


· Istvan Cziegler, UK

### Student Prizes

ICPIG ISC and ICRP IOC announce that STUDENT PRIZES will be awarded to recognize outstanding oral or poster papers presented by students (during BSc, MSc, PhD or young researchers just finishing PhD) at ICPIG2019 and ICRP-10. The prizes acknowledge the quality of both the scientific content and the presentation, irrespective of the topic, or whether it is predominantly experimental, computational or theoretical. The student's supervisor, whether attending ICPIG/ICRP or not, must nominate her/his student for the prize. Eligible students should not have defended their PhD thesis before January 2019. The nomination letter briefly describing and evaluating the specific work (maximum of one page, including up to three most relevant publications - journal and conference proceedings - related to the PhD thesis) should reach the ICPIG ISC Chair, Dr Holger Kersten, by e-mail (kersten@physik.uni-kiel.de), BEFORE 16th June 2019.

Supported by The European Physical Journal D / Springer



### SATELLITE WORKSHOPS

In addition, five satellite workshops will be held on Sunday, the 14th and Saturday, the 20th.

[http://icpig2019.qe.eng.hokudai.ac.jp/satellite\\_workshops.html](http://icpig2019.qe.eng.hokudai.ac.jp/satellite_workshops.html)

### International workshop on nanoparticles and nanostructures synthesized by plasmas for energy applications

- Date: 14 July 2019
- Venue: Sapporo Education and Culture Hall, Sapporo, Hokkaido in Japan
- Program: [Here](#)

### International Workshop on Diagnostics of Atmospheric-Pressure Plasmas

- Date: 14 July 2019
- Venue: Sapporo Education and Culture Hall, Sapporo, Hokkaido in Japan
- Program: [Here](#)

### Atomic and molecular data for plasma applications

- Date: 14 July 2019
- Venue: Sapporo Education and Culture Hall, Sapporo, Hokkaido in Japan
- Program: [Here](#)

### Challenges in simulation of low-temperature plasma and its applications

- Date: 14 July 2019
- Venue: Sapporo Education and Culture Hall, Sapporo, Hokkaido in Japan
- Program: [Here](#)



## **New trends of plasma processes for thin films and related materials**

- Date: 20 July 2019
- Venue: Hokkaido University, Sapporo, Hokkaido in Japan
- Program: [Here](#)

### INSTRUCTIONS FOR PRESENTERS

#### **Oral Sessions**

**All speakers are asked to upload their presentations by the end of the day before their sessions.** The presentations can be uploaded using an USB memory stick

- directly onto the computer in the presentation room.

Members of XXXIV ICPIG & ICRP-10 staff will be present in the rooms to assist in this process and/or in resolving any technical issues. The use of personal laptop for presentations is discouraged. **All presentation will be displayed in format of 4x3. Please save your presentation as ppt. or pdf. files (be mindful of proprietary fonts; we recommend the ppt. format).** When using videos, MPG and AVI are the most used video formats. Movies created in (Apple) QuickTime should be converted to MPG or AVI before inserting the video in your presentation. Save the videos used in your presentation on your USB memory stick. It is the responsibility of each speaker to check that his/her presentation will display correctly on the conference computers (Windows 10, Microsoft Office 2016, Acrobat Reader). If you wish to use your own computer, you will need the appropriate VGA video adapter(d-sub 15-pin adapter).

At the end of the congress, all presentations will be deleted so that no copyright issues will arise.

#### **Poster Sessions**

There will be four poster sessions for contributed papers. The poster sessions will take place on the third floor in Sapporo Education and Culture Hall. The presenters in Poster session 1 (Monday July 15, 14:15-16:15) requested to display their posters after 12:00 on their presentation day. The presenters in Poster Session 2 (Tuesday July 16, 14:00-16:00) and Poster Session 3 (Thursday July 18, 10:45-12:45) are requested to display their posters after 8:30 am on their presentation day. The presenters in Poster Session 4 (Thursday July 18, 14:15-16:15) are requested to display their posters after 13:00 on their presentation day. The posters should be displayed at least 30 min before the start time of the poster session. These presenters should remove their posters right after the end of each poster session. The board size is 900-mm width & 2100-mm height, suitable for an A0 size (841 x 1189 mm) poster format in portrait orientation. Posters can be taped or pinned on the boards. Tapes and pins are supplied by the organizers.

### CONFERENCE LOGISTICS

XXXIV ICPIG & ICRP-10 participants are requested to wear their badges at all times, while attending the sessions, coffee breaks and social events.

### CONFERENCE ABSTRACTS BOOK

The accepted contributions (including Award Lecture, General Lectures, Topical Lectures and Special Session) will be published in the conference abstracts book in digital format (USB drive) distributed to all registered participants.





## PROCEEDINGS AND PAPERS

[Invited speakers]

**The invited speakers** are invited to submit a manuscript for the special issue of either Plasma Sources Science and Technology (**PSST**) or Japanese Journal of Applied Physics (**JJAP**), both of which are published by IOP Publishing. PSST accepts original full papers (research papers), while JJAP accepts original full papers (regular papers) as well as reviews (progress reviews). Please take note of the different scopes of the two journals when making your choice.

[Contributed presenters]

**The presenters of contributed presentations** are invited to submit an original full paper for the special issue of **JJAP**, but not for the special issue of PSST. The publication charge of the contributed presenters is 20,000 JPY. All accepted papers in the special issue of JJAP will be **freely available to public for one year**.

Manuscript types in special issues

	PSST	JJAP	
	Original full papers	Original full papers	Reviews
Invited speakers	✓	✓	✓
Contributed presenters	✗	✓	✗

**Deadline for submissions**  
**30 September 2019**

[Information of the special issue of JJAP]

Submission site: <https://mc04.manuscriptcentral.com/jjaps-jsap>

Choose “Plasma Processing” from the list in “Select Special Issue”.

No “Brief Note” is accepted for the special issue.

Authors are requested to read the policy on “Submission of original JJAP papers based on contents already published in conference proceedings, extended abstracts, or the likes” carefully before paper submission.

<https://journals.jsap.jp/wp-content/uploads/policy.pdf>

The link for the template (both for regular paper and progress review):

<https://journals.jsap.jp/wp-content/uploads/template-RP.docx>

Manuscript types in the special issue of JJAP

**Progress Reviews:** Progress Reviews provide concise, efficient overviews covering the latest progresses in a specific research area of applied physics. It can include or be largely based on the recent results from the author(s). Manuscripts should be written as concisely as possible although no limitation on length is specified. Abstract should be no more than 150 words.

**Regular Papers:** A Regular Paper is an original paper with comprehensive, detailed descriptions of the



research work, presenting a fully developed discussion on the results obtained in relevant fields of applied physics. It must provide sufficient and self-contained information to ensure the repeatability of experiments and analyses by readers. There is no length limit. The expected number of references is approximately more than 30. No upper or lower limit is specified.

#### REGISTRATION

Registration can be made following the information on the XXXIV ICPIG & ICRP-10 website at <http://icpig2019.qe.eng.hokudai.ac.jp/fees.html>

The conference dinner and excursion can be reserved using the same form. Note that the conference dinner are not included in the registration fee.

#### **The registration and the payment of fees can be done on site, during the conference.**

The registration office will be open on Sunday, 14 July from 13:00 to 19:00.

From Monday 15 to Friday 19 July, it will be open from 8:30 to 19:00.

#### **Registration Fees (JPY)**

	<b>Early Registration</b> Before May 31, 2019	<b>Late Registration</b> On or after June 1, 2019
<b>Regular participants</b>	50,000 JPY	60,000 JPY
<b>Students</b>	25,000 JPY	30,000 JPY
<b>Accompanying persons</b>	10,000 JPY	10,000 JPY
<b>Banquet</b> (on Wednesday, July 17, 2019)	5,000 JPY	5,000 JPY

The registration fee for regular participants and for students brings a complete package including a digital copy of the conference proceedings, conference material, coffee breaks, invitation for the welcome reception and the excursion with a complete tourist guide.

The fee for accompanying persons includes the participation in the welcome reception and the excursion.

#### **Cancellation Policy**

Cancellation received

- On or before May 31, 2019 80% refund
- After June 1, 2018 No refund

#### CONFERENCE VENUE

XXXIV ICPIG / ICRP-10 will be held in the Sapporo Education and Culture Hall, located in central Sapporo, Hokkaido, Japan. Hokkaido, the northernmost island of Japan, has been a popular destination for Japanese tourists for decades, but it has become one of the most popular tourist destinations for foreign repeat visitors and first-time foreign visitors. Participants will enjoy the mild sunny climate (with low humidity), excellent foods, beer, whisky, and the beautiful nature of Hokkaido.

<http://icpig2019.qe.eng.hokudai.ac.jp/venue.html>



### Sapporo Education and Culture Hall

Address: Kita 1-jo Nishi 13-chome, Chuo-ku, Sapporo, Sapporo, Hokkaido 060-0001, Japan  
Phone: 81-11-271-5821

#### ACCESS to Sapporo Education and Culture Hall

5-minute walk from Nishi Juitchome Station, the Subway Tozai Line

(From the Subway Namboku Line “Sapporo Station”, transfer to Tozai line at “Odori Station”)



### TRAVEL

Hokkaido is an island in the northernmost of Japan.

Given the travel time, it's best to come to Sapporo by a speedy plane. [New Chitose Airport](#), the gateway to Hokkaido, is linked with major cities across the country and boasts a wide range of facilities. Accessing Sapporo City from the airport is also easy with many options.



#### From New Chitose Airport to Sapporo City

##### By railway (JR)

JR is the fastest means of transportation to Sapporo City. The Rapid Airport to Sapporo runs approximately every 15 minutes (except early morning and late night) from after 8:00 to after 22:00, and takes passengers from the airport to Sapporo Station the quickest in just 37 minutes. If traveling prior to 8:00, you can take a local train bound for Sapporo. JR Hokkaido New Chitose Airport Station is directly connected with the ground floor basement of the airport terminal building.

Time required      Approximately 37 minutes

Charges              One way    ¥1,070  
\* Reserved seat +¥520 \* Half price for children  
\* In addition to tickets purchased at ticket vending machines, you can also use smart cards such as “Kitaca,” “Suica,” and “PASMO.”

##### By bus (Airport Bus)

Hokkaido Chuo Bus and Hokuto Kotsu Bus operate services from the airport to Sapporo City departing every 10-15 minutes. The bus takes approximately 70 minutes to arrive in central Sapporo. There are bus terminals at two locations on the ground floor of the domestic terminal and at one location on the first floor of the international terminal. Tickets can be purchased at the bus counter or from ticket vending machines and used for buses from both companies. There are also special deals such as round trip tickets and coupon tickets.

Time required      Approximately 70 minutes

Charges              One way    ¥1,100  
\* In addition to tickets purchased at ticket vending machines, you can also use smart cards such as “Kitaca,” “Suica,” and “PASMO.”



## VISA

Japan has visa exemption agreements with 61 countries and regions (as of April, 2012). Citizens of these countries who plan to stay in Japan no longer than the period specified in these agreements do not require a visa. Foreign participants should contact the Consular Section of [the Embassy or Consulate General of Japan](#) nearest you as soon as possible, to determine their particular visa requirements. Those requiring visas must initiate the application process well in advance of their departure date. More detailed information how to obtain a Japanese visa is shown at the website below.

“Ministry of Foreign Affairs of Japan” [http://www.mofa.go.jp/j\\_info/visit/visa/](http://www.mofa.go.jp/j_info/visit/visa/)  
Inquiry for the visa application (invitation letter, etc.), please contact to

Conference Secretariat  
icpig2019@qe.eng.hokudai.ac.jp

## ACCOMMODATION

A number of rooms have been reserved, in various hotels near the venue, for the accommodation of the participants and their accompanying persons.

Detailed information on the hotels, including their location, can be found on the XXXIV ICPIG & ICRP-10 website at <http://icpig2019.qe.eng.hokudai.ac.jp/accommodation.html>

Please note that Sapporo, Hokkaido is a tourist destination and July is high season. Attendants to XXXIV ICPIG & ICRP-10 are strongly advised to book in advance.

## CONFERENCE DINNER – July 18 (Thursday) at Sapporo Beer Garden

The official conference dinner will be held at Sapporo Beer Garden. A “Genghis Khan” is made of tender and plain fresh lamb and plenty of vegetables on a special metal skillet. Draft beer is a perfect match with the local cuisine representing Hokkaido. At the Sapporo Beer Garden, aiming at offering you delicious tastes that cannot be experienced anywhere else, freshly brewed beer delivered directly from factories is carefully poured by skilled professionals. Please get a taste of one glass of delicious beer filled with the heart and soul of craftsmen who accumulated experience through daily training.

\*Please apply for Conference dinner at Online Registration.

\*Vegetarian, Halal available

Date: Thursday, 18 July 2019

Time: 19.00-21.00

Venue: [Sapporo Beer Garden](#) (We will take you to the restaurant from the venue by bus.)

Cost: JPY 5,000



## CONFERENCE EXCURSION – July 17 (Wednesday)

In Wednesday afternoon, all participants and their accompanying persons are kindly invited to one of



the three excursions, included in the registration fee (English language guided tours; duration 4-5 h), each starting off at the conference venue at 14:00 and ending at Sapporo Station. There is a choice between the following excursions (pre-registration required by marking your choice on the conference registration page; assignment will be based on first-come-first-served basis) We will offer the dinner option after CONFERENCE EXCURSION (additional charge JPY5,000). It is also pre-registration required by marking your choice on the conference registration page. Restaurants may be different depending on each excursion.

#### TOUR 1 SAPPORO HALF DAY TOUR

Itinerary: 4.5 h (journey time)

Venue - Hokkaido Shrine - Salmon Museum - Chocolate Factory - look at Clock Tower (Tokeidai) from the window - Sapporo Station

Destinations:

##### Hokkaido Shrine

It is a shrine with the highest status rank in Hokkaido. During New Year's period, over 800,000 people come to the Hokkaido Shrine for Hatsumoude (the first temple visit of the New Year). Please feel Sapporo history and real Japanese culture with a guide. Let's try an oracle (a fortune slip)!



##### Salmon Museum

This science museum aims to communicate the importance of the fact that salmon returned to Toyohira River after once disappearing, and offers visitors a chance to observe salmon.

##### Shiroi Koibito Park (Ishiya Chocolate Factory)

This is a unique chocolate factory and theme park for sweets lovers! This is a fantastic space based on the ideals of deliciousness, fun and stories of sweets from a bygone era. The things visitors see, taste and experience here will make for truly "sweet" memories! There don't miss seeing the Mechanical (marionette) Clock Tower in the garden.



##### Clock Tower (Tokeidai) from the window

The Clock Tower was designated as a National Important Cultural Property in 1970 and is now a museum that is also used for various cultural activities. The Clock Tower continues to serve as a historical landmark, telling stories of early days in Sapporo.

## TOUR 2 OTARU HALF DAY TOUR

Itinerary: 4.5 h (journey time)

Venue - Otaru Kihinkan - Walk freely along the Canal at Otaru Canal Terminal - Sapporo Station

Destinations:

### Otaru Kihinkan (the Old Aoyama Villa)

The Old Aoyama Villa is a symbol of herring fishing, born out of the dream of a 17-year-old young woman, Masae Aoyama. Imagine how many people enjoyed grand parties nightly in this villa during its prosperous days!



### The Canal at Otaru Canal Terminal

Participants can walk freely through the Otaru Canal area, a famous sightseeing spot representative of Otaru City. Otaru Canal was dug and built in the Taisho Era (1912-1926) and is about 1,140 m long and 40 m wide.

## TOUR 3 YOICHI DISTILLERY | NIKKA WHISKY TOUR

Itinerary: 4.5 h (journey time)

Venue - YOICHI Distillery (guided tour, tasting services and shopping) - Sapporo Station

### YOICHI Distillery (NIKKA WHISKY)

YOICHI Distillery—is at Lat.43 10'N.Lon.14045'E, or about the same Latitude as the middle of New York State, Toronto Canada, Vladivostok Russia.

- rests about 50 km west of Sapporo City in southern Hokkaido, which is the northernmost of Japan's four principal islands, and was one of the last Japanese frontiers to be developed.
- has three sides surrounded by mountains, and one side on the coast (Sea of Japan).
- is blessed with the things that really matter to great whisky.



Important dates

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