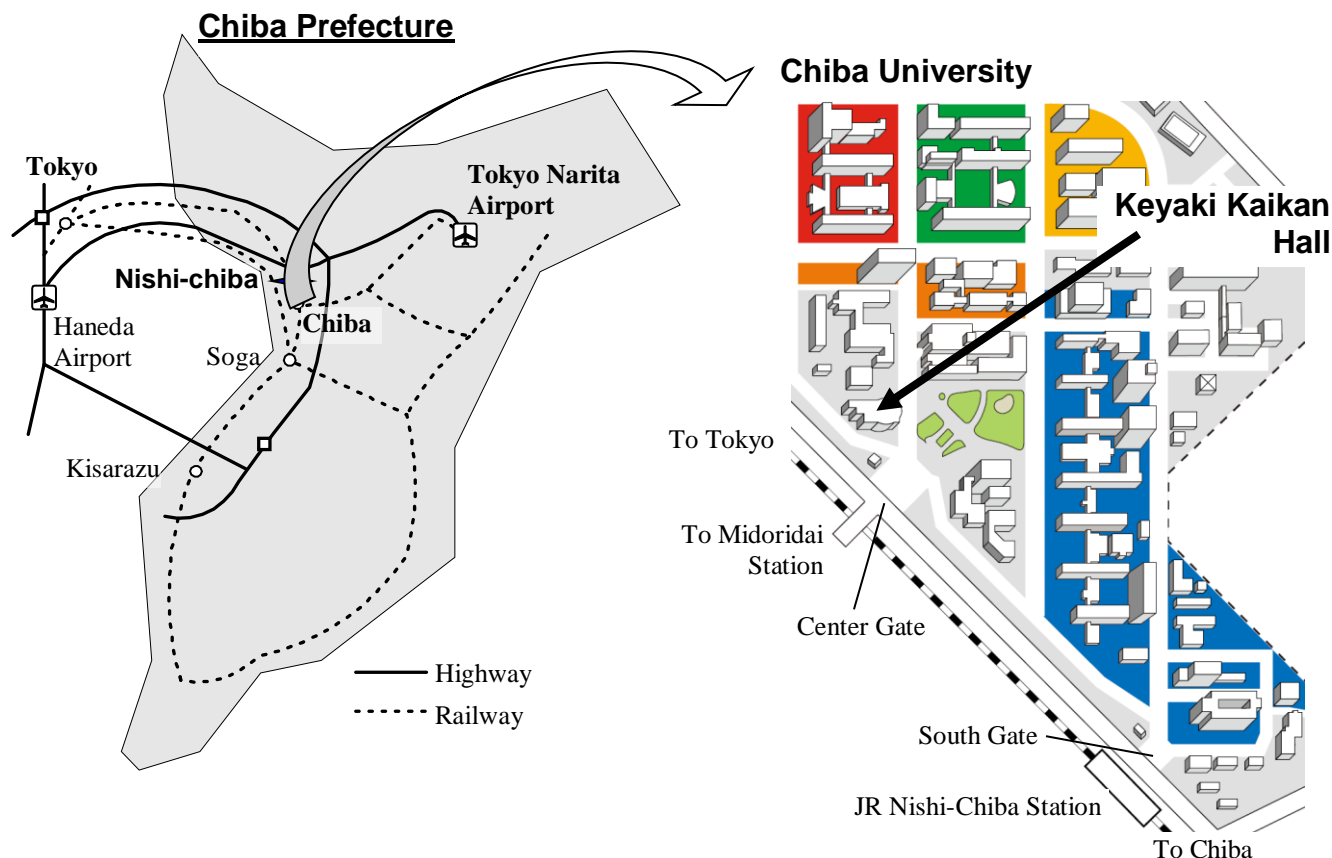


# The 20th Symposium on the Society of Iodine Science

September 8, 2017

Keyaki Kaikan Hall in Chiba University, Chiba, Japan



SPONSORED by **SIS** The Society of Iodine Science

COSPONSOR : The Chemical Society of Japan

Japan Iodine Industry Association

Chiba University

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## *General Information*

The 20th Symposium is organized under the Society of Iodine Science (**SIS**) and is co-sponsored by a number of Chemical Societies and Industries in Japan. Within the framework of the Symposium,

(a) Award lectures / Invited Lectures

(b) Poster Presentations, on original research and applications

(c) Banquet

will be involved.

## Message from SIS Chairman

I am Takashi Fujino, the Chairman of the Society of Iodine Science (SIS). I would like to extend my warmest greetings to you on the occasion of this symposium.

This is the 20th time for the symposium to be held since the first one was organized by the Forum of Iodine Utilization, the predecessor of SIS. Iodine is used in many areas of industry and research. SIS was established with an awareness of the challenge of utilizing iodine in the most advanced ways. Over the years, the society has built up a solid track record of achievements, demonstrating that persistence is the key to success.

At the beginning of this year, the plan for the Chiba Iodine Resource Innovation Center (CIRIC) submitted by Chiba University and Chiba Prefecture was accepted by the Ministry of Education, Culture, Sports, Science and Technology (MEXT). CIRIC will be launched next spring on the Chiba University campus as a research facility operated jointly by academic, industrial and government entities. This is most likely the first organization of its kind in the world for iodine research. We have high expectations that in time CIRIC will become synonymous with iodine research. We also feel that the daily activities of the Society of Iodine Science have contributed to this groundbreaking development.

Iodine is an element that is essential not only to human beings, but to all organisms. Iodine has been used in a number of industrial applications, including disinfectants, X-ray contrast media, catalysts, and polarizer plates for liquid crystal displays. The society will continue to carry out its mission through the pursuit and application of various possibilities for iodine in research and industry, while making use of CIRIC.

To celebrate the 20th anniversary of the symposium, the duration of this year's event will be extended to two days, September 8 and 9. The program for the first day will be similar to past symposiums, with the addition of more guest speakers from overseas to cover global topics related to iodine. The second day will take the form of public lectures aimed at disseminating information on iodine to students and the general public. Our keynote speaker will be Dr. Hideki Shirakawa, who received a Nobel Prize in 2000 for a discovery in which iodine played a role. In addition, there will be panel discussions with experts in various iodine-related fields to foster greater understanding.

We hope to continue to achieve advances in iodine science and technology through collaboration among academia, industry, and government. We look forward to your guidance and support through discussions and exchanges of information so that this symposium will be able to contribute to further progress in iodine research.

Takashi Fujino, Chairman, The Society of Iodine Science (SIS)  
(President and CEO, Ise Chemicals Corporation)

## Official Language

Official language is Japanese. No official simultaneous translation in English will be offered. Presentations for both the oral and the poster presentation welcome in English.

## Registration Fee

**Deadline Aug. 12, 2017**

Registration Fee (for **SIS** members, including 1 booklet of abstracts; transactions)

Reduced Registration Fee (before August 12, 2017):

<b>SIS</b> -Members	1,000 yen
Members of Co-Sponsored Society <sup>☆</sup>	1,000 yen
Non-members <sup>☆</sup>	3,000 yen
Students <sup>☆</sup>	Free

<sup>☆</sup>Non-**SIS** members who require the booklet need to pay 2,000yen.

※Everybody is welcome to join **SIS**. Membership fee is 2,000 yen/year. (Students are 1,000 yen/year)

**After Aug. 15, extra 1,000 yen is needed in every category. After registration by E-mail or Facsimile, you will pay the reduced registration fee at the symposium reception desk (On-site payment).**

Banquet (at KEYAKI Reception Hall, Chiba University):

Every Participants	4,000 yen
(Every Students)	2,000 yen

## Time Table (September 8th)

<b>LECTURES KEYAKI Hall (1F)</b>	
9:30~ 9:35	<Opening Address > TAKASHI FUJINO ( Chairman of SIS )
Chair : S. Matsumoto	
9:35~10:10	<Invited Lecture> Carlos De URRUTICOECHEA (Algorta Norte S.A.) “Chile and the Iodine Industry”
Chair : S. Takahara	
10:10~10:45	<Invited Lecture> Nicolay V. TSAREVSKY (Southern Methodist University) “Hypervalent Iodine Compounds in Polymer and Materials Science”
Chair : S. Minakata	
10:45~11:20	<Invited Lecture> Boris J. NACHTSHEIM (Bremen University) “Novel Alkynylation Strategies with Hypervalent Iodine Compounds”
Chair : S. Yanagida	
11:20~11:55	<Invited Lecture> Hiroshi SEGAWA (The University of Tokyo) “High Performance Organometal Halide Solar Cells”
12:00~12:50 <Short Speeches on Poster Presentations>	
<b>POSTER PRESENTATIONS KEYAKI Reception Hall (3F)</b>	
12:00~14:35	Display 12:00~14:35 , Presentation, question and answer 13:35~14:35
<b>COMMENDATION CEREMONY and LECTURES KEYAKI Hall (1F)</b>	
14:45~14:50	Commendation ceremony
Chair : T. Kitamura	
14:50~15:30	<Award Lecture> Hideo TOGO (Chiba University) “Study of Molecular Iodine and Organic Trivalent Iodines for Organic Synthesis”
Chair : T. Kaiho	
15:30~16:05	<Invited Lecture> Yasuhisa SHIROI (Mundipharma KK) “Povidone-iodine Formulation; Latest Information and New Future Prospects”
16:05~16:40	<Invited Lecture> Werner KRAUSE (VIVOTECC GmbH) “Development of Iodinated X-Ray Contrast Agents”
Chair : H. Kanoh	
16:40~17:15	<Invited Lecture> Duncan W. BRUCE (University of York) “Liquid Crystals Formed from Halogen-Bonded Iodine Compounds: Liquid Crystal Engineering”
17:30~19:00	<b>BANQUET KEYAKI Reception Hall (3F)</b>

An introduction by the chairman and a five minute question-and-answer period are included for the every lecture.

## Poster Presentation

All posters should be posted between 12:00 and 14:35.

Presenters are requested to be at their papers for discussions:

**“S” mark before the poster number shows to give a short speech on poster presentation.**

No.	“Title” <u>Author</u> , Co-authors (Affiliation)
S01	“ <b>Hypervalent Iodine Mediated Oxidative Rearrangement Reaction of Tetrahydro-<math>\beta</math>-carbolines</b> ” <u>K. MURAI</u> , T. KOBAYASHI, K. MATSUURA, R. MIYOSHI, H. FUJIOKA (Graduated School of Pharmaceutical Sciences, Osaka University)
02	“ <b>One-Pot Preparation of Quinoline Derivatives with Diaryliodonium Salts</b> ” <u>T. SASAKI</u> , K. MORIYAMA, H. TOGO (Graduate School of Science, Chiba University)
03	“ <b>Synthesis and Reactions of Hypervalent Iodine 1,4-Benzdiyne Precursor</b> ” <u>T. KITAMURA</u> , K. GONDO, A. NAKAMURA, J. OYAMADA (Graduate School of Science and Engineering, Saga University)
S04	“ <b>Iodine(III)-Catalyzed Cycloisomerization–Amidation Sequence of <i>N</i>-Propargyl Amides</b> ” <u>A. SAITO</u> , Y. OKAMURA (Graduate School of Engineering, Tokyo University of Agriculture and Technology)
S05	“ <b>Cycloisomerization–Fluorination Sequence of <i>N</i>-Propargyl Amides by Iodine(III) Catalysts Bearing Coordinating Substituents</b> ” <u>S. TAKAHASHI</u> , A. SAITO (Graduate School of Engineering, Tokyo University of Agriculture and Technology)
06	“ <b>Development of Novel Asymmetric Reactions Using Chiral Hypervalent Iodine(V) Reagent</b> ” <u>A. MAGARA</u> , Y. YOSHIDA, T. MINO, M. SAKAMOTO (Graduate School of Engineering, Chiba University)
07	“ <b>Development of Planer Chiral Hypervalent Iodine(V) Reagents and Their Applications</b> ” <u>Y. KANASHIMA</u> , Y. YOSHIDA, T. MINO, M. SAKAMOTO (Graduate School of Engineering, Chiba University)
08	“ <b>Synthesis of Optically Active Iodolamellarin N Derivatives</b> ” <u>T. FUKUDA</u> (Graduate School of Engineering, Nagasaki University)
S09	“ <b>Extensive Iodolactonization Catalyzed by Chiral Bis(aminoimino)binaphthol-Zinc Trinuclear Complex</b> ” <u>K. HORIGANE</u> <sup>1</sup> , Y. KAMEI <sup>2</sup> , M. YAMANAKA <sup>2</sup> , T. ARAI <sup>1</sup> ( <sup>1</sup> Graduate School of Science, Chiba University; <sup>2</sup> Graduate School of Science, Rikkyo University)
S10	“ <b>Chiral Hypoiodite Catalysis for Enantioselective Synthesis of Azaspiroindolenine Derivatives</b> ” <u>H. TANAKA</u> , N. UKEGAWA, M. UYANIK, K. ISHIHARA (Graduate School of Engineering, Nagoya University)
S11	“ <b>Diphenyldiselenide–Iodine Cooperative Catalysts for Chlorocyclization of Tryptamine Derivatives</b> ” <u>S. OHMURA</u> , T. HORIBE, K. ISHIHARA (Graduate School of Engineering, Nagoya University)
S12	“ <b>Oxygenation of C–H Bonds at Tertiary Carbon Centers Using Iodine Pentoxide as an Oxidant</b> ” <u>R. ITO</u> , K. KIYOKAWA, S. MINAKATA (Graduate School of Engineering, Osaka University)
S13	“ <b>A Synthesis of 3-Substituted Phthalides via Hydroiodination-Triggered Cascade Reaction with I<sub>2</sub>/PPh<sub>3</sub>/H<sub>2</sub>O</b> ” <u>S. KAWAGUCHI</u> <sup>1</sup> , K. NAKAMURA <sup>2</sup> , A. NOMOTO <sup>2</sup> , A. OGAWA <sup>2</sup> ( <sup>1</sup> Faculty of Agriculture, Saga University; <sup>2</sup> Graduate School of Engineering, Osaka Prefecture University)
S14	“ <b>Development and Application of Light-Responsive Aminating Reagent</b> ” <u>Y. KOBAYASHI</u> , S. MASAKADO, Y. TAKEMOTO (Graduate School of Pharmaceutical Sciences, Kyoto University)
S15	“ <b>Reactions of a Trihydroborate Bearing a Phosphorus–Boron Bond with Alkyl Iodides</b> ” <u>N. KANO</u> , N. J. O'BRIEN, M. FUNATSUKI (Graduate School of Science, The University of Tokyo)
16	“ <b>Development of Iodine-Containing Organic Initiators for Living Radical Polymerization Applicable to Easy Synthesis of Functionalized Polymers</b> ” <u>H. KOMATSU</u> <sup>1</sup> , S. YAMADA <sup>1</sup> , Y. YAMAGUCHI <sup>1</sup> , T. JITSUKAWA <sup>1</sup> , T. NODA <sup>1</sup> , J. ZHENG <sup>2</sup> , C.G WANG <sup>2</sup> , M. MIYAMOTO <sup>1</sup> , A. GOTO <sup>2</sup> ( <sup>1</sup> Godō Shigen Co., LTD.; <sup>2</sup> Nanyang Technological University)
S17	“ <b>A Unique <i>N</i>-Glycofunctionalization of Amides Utilizing Halogen Bonding</b> ” <u>Y. KOBAYASHI</u> , Y. NAKATSUJI, Y. TAKEMOTO (Graduate School of Pharmaceutical Sciences, Kyoto University)

18	<p><b>“Influence of the Steric Property on the Catalytic Reactivity of the Halogen-Bonding Organocatalyst”</b>  R. HARAGUCHI, S. HOSHINO, <u>Y. HIRAIISHI</u>, K. ENDO, S. FUKUZAWA (Department of Applied Chemistry, Institute of Science and Engineering, Chuo University)</p>
19	<p><b>“Development of Asymmetric Mannich Reaction Using Halogen Bonding Donor/Organic Base Combined Catalyst and Structure Activity Relationship”</b>  <u>S. KUWANO</u>, T. SUZUKI, T. ARAI (Graduate School of Science, Chiba University)</p>
S20	<p><b>“Construction of Six-, Seven-, and Eight-Membered Ring Ethers by Iodocyclization of Ynamides”</b>  <u>T. OKITSU</u>, A. NAMURA, S. KONDO, S. TADA, A. WADA (Kobe Pharmaceutical University)</p>
21	<p><b>“Development of Methodology for the (Z)-Selective Synthesis of Trisubstituted Alkenes Using Multi-Component Reactions Triggered by Electrophilic Iodination”</b>  <u>R. KAJIHARA</u>, J. UEDA, S. HARADA, T. NEMOTO (Graduate School of Pharmaceutical Sciences, Chiba University)</p>
S22	<p><b>“Halogen-Bonding in <math>\alpha</math>-Iodoesters and <math>\alpha</math>-Iodosulfons and Their Application for Catalysis”</b>  <u>H. UNO</u>, K. MATSUZAKI, E. TOKUNAGA, N. SHIBATA (Nagoya Institute of Technology)</p>
S23	<p><b>“Substituent Effect on the Iodine-Mediated Cyclization of 2-(<i>o</i>-Alkynylphenyl)thiazoles”</b>  <u>R. SUMIDA</u>, M. AKAZOME, S. MATSUMOTO (Graduate School of Engineering, Chiba University)</p>
S24	<p><b>“Creation of Novel Room-Temperature Phosphorescent Materials Employing Heavy Atom Effects of Iodine”</b>  <u>Y. MATSUI</u><sup>1,2</sup>, A. SAKAI<sup>1</sup>, S. NISHIDA<sup>1</sup>, Y. FUJII<sup>1</sup>, M. NISHINO<sup>3</sup>, E. OHTA<sup>1,2</sup>, H. IKEDA<sup>1,2</sup>  <sup>1</sup>Graduate School of Engineering, Osaka Prefecture University; <sup>2</sup>RIMED, Osaka Prefecture University; <sup>3</sup>School of Engineering, Osaka Prefecture University)</p>
S25	<p><b>“Development of New Organic Conductors Using Iodinated <math>\pi</math>-Donor DIETSe and Square Planar Anions”</b>  <u>K. HOSHINA</u>, M. AKIYAMA, T. IMAKUBO (Department of Materials Science and Technology, Nagaoka University of Technology)</p>
S26	<p><b>“High Durabilization of Organic Cathode Materials for Rechargeable Batteries by Solvent Free Synthesis Using Iodine”</b>  <u>Y. TANAKA</u>, K. KAWANO, N. TANIFUJI (Department of Materials Science, Yonago National College of Technology)</p>
27	<p><b>“Lead Halide Perovskite Solar Cells (—Report for Working Group Grant—2017 International Workshop on Electrified Interfaces for Energy Conversions)”</b>  <u>M. YANAGIDA</u> (National Institute for Materials Science)</p>
28	<p><b>“The Rationale of High Efficiency of PbI<sub>6</sub>-Based Perovskite Solar Cells (PSC) ”</b>  <u>S. YANAGIDA</u><sup>1</sup>, S. YANAGISAWA<sup>2</sup>, M. YANAGIDA<sup>3</sup>, H. SEGAWA<sup>4</sup> (<sup>1</sup>Osaka University, <sup>2</sup>University of the Ryukyus, <sup>3</sup>NIMS, <sup>4</sup>The University of Tokyo)</p>
S29	<p><b>“Theoretical Verification of Iodine as Pharmacological Anti-oxidants”</b>  <u>S. YANAGIDA</u><sup>1</sup>, T. SUZUKI<sup>2</sup>, H. KOKAGO<sup>2</sup> (<sup>1</sup>Osaka University, <sup>2</sup>Good Focus Ltd.)</p>
30	<p><b>“High-Performance Liquid Chromatographic Separation of Iodoamino Acids on a PFP Column”</b>  <u>M. MIYASHITA</u><sup>1</sup>, H. WACHI<sup>1</sup>, J. YOKOYAMA<sup>2</sup> (<sup>1</sup>Hoshi University, <sup>2</sup>Nosan Corp.)</p>
S31	<p><b>“Structure and Functionality by Affinity between Polymers and Polyiodide Ions : Hypothesis of "Dynamic Amphiphilicity"”</b>  <u>A. KAWAGUCHI</u> (Research Reactor Institute, Kyoto University)</p>
32	<p><b>“Preparation Methods for Measurement of <sup>129</sup>I/<sup>127</sup>I Ratio and Present Status of JAEA-AMS-TONO”</b>  <u>N. OKABE</u>, N. FUJITA, T. WATANABE, Y. SAITO-KOKUBU (Japan Atomic Energy Agency)</p>
S33	<p><b>“Reversible 3D Radiochromic Gel Dosimeter Based on Polyvinyl Alcohol-Iodide Complex”</b>  <u>S. HAYASHI</u><sup>1</sup>, T. SUNAGAWA<sup>2</sup>, K. ONO<sup>3</sup>, S. FUJIMOTO<sup>3</sup>, G. WAKABAYASHI<sup>4</sup> (<sup>1</sup>Hiroshima International University; <sup>2</sup>Fukui University of Technology; <sup>3</sup>Hiroshima Heiwa Clinic; <sup>4</sup>Kindai University)</p>

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