

CHINA-JAPAN-KOREA  
INTERNATIONAL  
SYMPOSIUM  
ON  
RING THEORY

**Period:** August 26–31, 2019

**Venue:** Science South Bldg. and Mathematics Bldg.,  
Nagoya University



The 19th International Conference,  
Graduate School of Mathematics, Nagoya University

# The 8th China–Japan–Korea International Symposium on Ring Theory

Period: August 26–31, 2019

Venue: Sakata–Hirata Hall, Science South Building.,  
Rooms 409, 309, 109, Mathematics Building,  
Nagoya University, Nagoya, Japan

Invited Speakers:

Susumu Ariki (Osaka University, JPN),  
Gyu Whan Chang (Incheon National University, KOR),  
Xianhui Fu (Northeast Normal University, CHN),  
Bernhard Keller (University of Paris 7, FRA),  
Sei-Qwon Oh (Chungnam National University, KOR),  
S. Paul Smith (University of Washington, USA),  
Yuji Yoshino (Okayama University, JPN),  
Pu Zhang (Shanghai Jiao Tong University, CHN).

Organizers:

## JAPAN

Hideto Asashiba (Shizuoka University),  
Osamu Iyama (Nagoya University),  
Shigeto Kawata (Nagoya City University),  
Kazutoshi Koike (National Institute of Technology, Okinawa College),  
Yosuke Kuratomi (Yamaguchi University),  
Masahisa Sato (Aichi University).

## CHINA

Nanqing Ding (Nanjing University),  
Jianlong Chen (Southeast University),  
Fang Li (Zhejiang University),  
Quanshui Wu (Fudan University).

## KOREA

Nam Kyun Kim (Hanbat National University),  
Tai Keun Kwak (Daejin University),  
Mi Hee Park (Chung Ang University).

# TIME TABLE

August 26 (Mon), 2019

Sakata–Hirata Hall			
09:00–10:50	Registration		
10:50–11:10	Opening		
11:20–12:10	Yuji Yoshino		
	<i>Lunch Break</i>		
	Room 509	Room 309	Room 109
13:40–14:00	Takuma Aihara	Tsiu-Kwen Lee	Ziyu Guo
14:10–14:30	Takahiro Honma	Tai Keun Kwak	Jung-Miao Kuo
14:40–15:00	Takahide Adachi	Nam Kyun Kim	Tsunekazu Nishinaka
15:10–15:30	Mayu Tsukamoto	Kui Hu	Diah Junia Eksi Palupi
	<i>Coffee Break</i>		
16:00–16:20	Toshinori Kobayashi	Jianlong Chen	Nanqing Ding
16:30–16:50	Naoya Hiramatsu	Xiaofeng Chen	Lixin Mao
17:00–17:20	Kei-ichiro Iima	Xiankun Du	Manoj Kumar Patel

August 27 (Tue), 2019

Sakata–Hirata Hall			
09:00–09:50	Bernhard Keller		
	<i>Coffee Break</i>		
10:20–11:10	Tsutomu Nakamura		
11:20–12:10	Sei-Qwon Oh		
	<i>Lunch Break</i>		
	Room 509	Room 309	Room 109
13:40–14:00	Sota Asai	Naoki Endo	Masahisa Sato
14:10–14:30	Toshiya Yurikusa	Ryotaro Isobe	Yoshiharu Shibata
14:40–15:00	Toshitaka Aoki	Kazuho Ozeki	Gangyong Lee
15:10–15:30	Yuta Kozakai	Naoyuki Matsuoka	Derya Keskin Tütüncü
	<i>Coffee Break</i>		
16:00–16:20	Aaron Chan	Yoshitomo Baba	Hwankoo Kim
16:30–16:50	Zhaoyong Huang	Thomas Dorsey	Izuru Mori
17:00–17:20	Na'imah Hijriati	Meimei Jiang	Kenta Ueyama

### August 28 (Wed), 2019

Sakata–Hirata Hall			
09:00–09:50	Pace P. Nielsen		
	<i>Coffee Break</i>		
10:20–11:10	Haruhisa Enomoto		
11:20–12:10	Jiwei He		
	<i>Lunch Break</i>		
	Room 509	Room 309	Room 109
13:40–14:00	Kunio Yamagata		Ayako Itaba
14:10–14:30	Hideto Asashiba	Guodong Shi	Tomohiro Itagaki
14:40–15:00	Yasuaki Ogawa	Linlin Liu	Hideyuki Koie
15:10–15:30	Xuefeng Mao	Shenglin Zhu	Satoshi Usui
	<i>Coffee Break</i>		
16:00–16:20	Haibo Jin	Tongsuo Wu	Dong Yeol Oh
16:30–16:50	Norihiro Hanihara	Yuehui Zhang	Mi Hee Park
17:00–17:20	Kota Yamaura	Shaotao Zhu	Andreas Reinhart
18:00–21:00	<i>Conference Banquet</i>		

### August 29 (Thu), 2019

Sakata–Hirata Hall	
09:00–09:50	Michał Ziemkowski
	<i>Coffee Break</i>
10:20–11:10	Hiroyuki Minamoto
11:20–12:10	Xianhui Fu

### August 30 (Fri), 2019

Sakata–Hirata Hall			
09:00–09:50	S. Paul Smith		
	<i>Coffee Break</i>		
10:20–11:10	Yoshiyuki Kimura		
11:20–12:10	Nan Gao		
	<i>Lunch Break</i>		
	Room 509	Room 309	Room 109
13:40–14:00	De Chuan Zhou	Iwan Ernanto	Ryo Kanda
14:10–14:30	Kaori Shimada	Sutopo	Masaki Matsuno
14:40–15:00	Shinya Kumashiro		Kazunori Nakamoto
15:10–15:30	Maiko Ono		Indah Emilia Wijayanti
	<i>Coffee Break</i>		
16:00–16:20	Erik Darpö		Guisong Zhou
16:30–16:50	Yingying Zhang		Libin Li
17:00–17:20	Xiaojin Zhang		Zhixiang Wu

### August 31 (Sat), 2019

Sakata–Hirata Hall	
09:00–09:50	Gyu Whan Chang
	<i>Coffee Break</i>
10:20–11:10	Kenichi Shimizu
11:20–12:10	Susumu Arika
	<i>Lunch Break</i>
14:00–14:50	Pu Zhang

# PROGRAM

- \* SH . . . Sakata–Hirata Hall, Science South Bldg.,
- 509 . . . Room 509, Mathematics Bldg.,
- 309 . . . Room 309, Mathematics Bldg.,
- 109 . . . Room 109, Mathematics Bldg.

## Day 1: August 26 (Mon), 2019

- 10:50–11:10 SH Opening
- 11:20–12:10 SH Yuji Yoshino (Okayama University, JPN)  
Auslander–Bridger theory for projective complexes over commutative Noetherian rings
- 13:40–14:00 509 Takuma Aihara (Tokyo Gakugei University, JPN)  
On the weakly Iwanaga–Gorenstein property of gendo algebras
- 309 Tsiu-Kwen Lee (National Taiwan University, TWN)  
A note on Skolem–Noether algebras
- 109 Ziyu Guo (Beijing University of Technology, CHN)  
Cohomology rings and application in hypernormal form for a class of 4-dimensional vector fields
- 14:10–14:30 509 Takahiro Honma (Tokyo University of Science, JPN)  
On the gendo-symmetric algebra of a trivial extension algebra
- 309 Tai Keun Kwak (Daejin University, KOR)  
On CRP rings
- 109 Jung-Miao Kuo (National Chung Hsing University, TWN)  
Partial group actions and partial Galois extensions
- 14:40–15:00 509 Takahide Adachi (Osaka Prefecture University, JPN)  
On balanced Auslander–Dlab–Ringel algebras
- 309 Nam Kyun Kim (Hanbat National University, KOR)  
Characterizations of radicals in skew polynomial and skew Laurent polynomial rings
- 109 Tsunekazu Nishinaka (University of Hyogo, JPN)  
On Thompson’s group  $F$  and its group algebra
- 15:10–15:30 509 Mayu Tsukamoto (Yamaguchi University, JPN)  
Constructions of rejective chains
- 309 Kui Hu (Southwest University of Science and Technology, CHN / Kyungpook National University, KOR)  
Some results on Noetherian Warfield domains
- 109 Diah Junia Eksi Palupi (Universitas Gadjah Mada, IDN)  
The construction of a continuous linear representation from a topological group into topological module space over principle ideal domain
- 16:00–16:20 509 Toshinori Kobayashi (Nagoya University, JPN)  
A characterization of local rings of countable representation type
- 309 Jianlong Chen (Southeast University, CHN)  
Generalized inverses and clean decompositions
- 109 Nanqing Ding (Nanjing University, CHN)  
On Enochs conjecture

- 16:30–16:50 509 Naoya Hiramatsu (National Institute of Technology, JPN)  
A remark on graded countable Cohen–Macaulay representation type
- 309 Xiaofeng Chen (Southeast University, CHN)  
The right core inverses of a product and a companion matrix
- 109 Lixin Mao (Nanjing Institute of Technology, CHN)  
Relative coherent modules and semihereditary modules
- 17:00–17:20 509 Kei-ichiro Iima (National Institute of Technology, JPN)  
On the 2-test modules of projectivity and weakly  $m$ -full ideals
- 309 Xiankun Du (Jilin University, CHN)  
Triangularization of matrices and polynomial maps
- 109 Manoj Kumar Patel (National Institute of Technology Nagaland, IND)  
A note on  $FI$ -semi injective modules

## Day 2: August 27 (Tue), 2019

- 09:00–09:50 SH Bernhard Keller (University of Paris 7, FRA)  
Tate–Hochschild cohomology from the singularity category
- 10:20–11:10 SH Tsutomu Nakamura (University of Verona, JPN)  
Pure derived categories and weak balanced big Cohen–Macaulay modules
- 11:20–12:10 SH Sei-Qwon Oh (Chungnam National University, KOR)  
Relationships between quantized algebras and their semiclassical limits
- 13:40–14:00 509 Sota Asai (Research Institute for Mathematical Sciences, JPN)  
Wide subcategories and lattices of torsion classes
- 309 Naoki Endo (Waseda University, JPN)  
Almost Gorenstein Rees algebras
- 109 Masahisa Sato (Aichi University, JPN)  
Is Ware’s problem true or not?
- 14:10–14:30 509 Toshiya Yurikusa (Nagoya University, JPN)  
Density of  $g$ -vector cones from triangulated surfaces
- 309 Ryotaro Isobe (Chiba University, JPN)  
Ulrich ideals in hypersurfaces
- 109 Yoshiharu Shibata (Yamaguchi University, JPN)  
When is a quasi-discrete module quasi-projective?
- 14:40–15:00 509 Toshitaka Aoki (Nagoya University, JPN)  
 $g$ -polytopes of Brauer graph algebras
- 309 Kazuho Ozeki (Yamaguchi University, JPN)  
The structure of Sally modules and normal Hilbert coefficients
- 109 Gangyong Lee (Chungnam National University, KOR)  
Rudimentary rings: Rings have a faithful indecomposable endoregular module
- 15:10–15:30 509 Yuta Kozakai (Shibaura Institute of Technology, JPN)  
Mutations for star-to-tree complexes and pointed Brauer trees
- 309 Naoyuki Matsuoka (Meiji University, JPN)  
Efficient generation of ideals in core subalgebras of the polynomial ring  $k[t]$  over a field  $k$
- 109 Derya Keskin Tütüncü (Hacettepe University, TUR)  
Baer–Kaplansky Classes in categories



- 16:00–16:20 509 Aaron Chan (Nagoya University, JPN)  
 Recollement of comodule categories over coalgebra objects
- 309 Yoshitomo Baba (Osaka Kyoiku University, JPN)  
 On two sided Harada rings and QF rings
- 109 Hwankoo Kim (Hoseo University, KOR)  
 A new semistar operation on a commutative ring and its applications
- 16:30–16:50 509 Zhaoyong Huang (Nanjing Univeristy, CHN)  
 The extension dimension of Abelian categories
- 309 Thomas Dorsey (Center for Communications Research, USA)  
 Questions and counterexamples on strongly clean rings
- 109 Izuru Mori (Shizuoka University, JPN)  
 Noncommutative Matrix Factorizations and Knörrer’s Periodicity Theorem
- 17:00–17:20 509 Na’imah Hijriati (Universitas Gadjah Mada, IDN)  
 On representation of a ring with unity on a module over a ring with unity
- 309 Meimei Jiang (Jiangsu Second Normal University, CHN)  
 McCoy property over Jacobson radicals
- 109 Kenta Ueyama (Hirosaki University, JPN)  
 Knörrer’s periodicity for skew quadric hypersurfaces

**Day 3: August 28 (Wed), 2019**

- 09:00–09:50 SH Pace P. Nielsen (Brigham Young University, USA)  
 Nilpotent polynomials with non-nilpotent coefficients
- 10:20–11:10 SH Haruhisa Enomoto (Nagoya University, JPN)  
 The Jordan–Hölder property, Grothendieck monoids and Bruhat inversions
- 11:20–12:10 SH Jiwei He (Hangzhou Normal University, CHN)  
 Noncommutative Auslander theorem and noncommutative quotient singularities
- 13:40–14:00 509 Kunio Yamagata (Tokyo Univeristy of Agriculture and Technology, JPN)  
 On a problem of socle-deformations of self-injective orbit algebras
- 109 Ayako Itaba (Tokyo University of Science, JPN)  
 Hochschild cohomology of Beilinson algebras of graded down-up algebras
- 14:10–14:30 509 Hideto Asashiba (Shizuoka University, JPN)  
 2-categorical Cohen–Montgomery duality between categories with I-pseudo-actions and I-graded categories for a small category I
- 309 Guodong Shi (Southeast University, CHN)  
 $Q$ -graded Hopf quasigroups
- 109 Tomohiro Itagaki (Tokyo University of Science, JPN)  
 The Hochschild cohomology of a class of exceptional periodic selfinjective algebras of polynomial growth
- 14:40–15:00 509 Yasuaki Ogawa (Nagoya University, JPN)  
 General heart construction and the Gabriel–Quillen embedding
- 309 Linlin Liu (Southeast University, CHN)  
 Rota–Baxter  $H$ -operators and pre-Lie  $H$ -pseudoalgebras over a cocommutative Hopf algebra  $H$
- 109 Hideyuki Koie (National Institute of Technology, JPN)  
 An application of a theorem of Sheila Brenner for Hochschild extension algebras of a truncated quiver algebra

- 15:10–15:30 509 Xuefeng Mao (Shanghai University, CHN)  
DG polynomial algebras and their homological properties
- 309 Shenglin Zhu (Fudan University, CHN)  
Structures of irreducible Yetter–Drinfeld modules over quasi-triangular Hopf algebras
- 109 Satoshi Usui (Tokyo University of Science, JPN)  
A Batalin–Vilkovisky differential on the complete cohomology ring of a Frobenius algebra
- 16:00–16:20 509 Haibo Jin (Nagoya University, JPN)  
Cohen–Macaulay differential graded modules and negative Calabi–Yau configurations
- 309 Tongsuo Wu (Shanghai Jiao Tong University, CHN)  
Boolean graphs — A Survey
- 109 Dong Yeol Oh (Chosun University, KOR)  
The chain conditions on ideals in composite generalized power series rings
- 16:30–16:50 509 Norihiro Hanihara (Nagoya University, JPN)  
Cohen–Macaulay modules over Yoneda algebras
- 309 Yuehui Zhang (Shanghai Jiao Tong University, CHN)  
Directed partial orders over non-Archimedean fields
- 109 Mi Hee Park (Chung-Ang University, KOR)  
Noetherian-like properties in polynomial and power series rings
- 17:00–17:20 509 Kota Yamaura (University of Yamanashi, JPN)  
Happel’s functor and homologically well-graded Iwanaga–Gorenstein algebras
- 309 Shaotao Zhu (Beijing University of Technology, CHN)  
Quaternion ring and application in hypernormal form of 4 dimensional semi-simple nonlinear dynamical systems
- 109 Andreas Reinhart (Incheon National University, KOR)  
On the monoid of ideals of orders in quadratic number fields

#### Day 4: August 29 (Thu), 2019

- 09:00–09:50 SH Michał Ziemkowski (Warsaw University of Technology, POL)  
Lie solvability in matrix algebras
- 10:20–11:10 SH Hiroyuki Minamoto (Osaka Prefecture University, JPN)  
On a cubical generalization of preprojective algebras
- 11:20–12:10 SH Xianhui Fu (Northeast Normal University, CHN)  
Ideal approximation theory

#### Day 5: August 30 (Fri), 2019

- 09:00–09:50 SH S. Paul Smith (University of Washington, USA)  
Elliptic algebras
- 10:20–11:10 SH Yoshiyuki Kimura (Osaka Prefecture University, JPN)  
Twist automorphism of quantum unipotent cells and the dual canonical bases
- 11:20–12:10 SH Nan Gao (Shanghai University, CHN)  
A functorial approach to monomorphism category for species

- 13:40–14:00 509 De Chuan Zhou (Southwest University of Science and Technology, CHN / Hoseo University, KOR)  
On an open problem concerning the small finitistic dimension of a commutative ring
- 309 Iwan Ernanto (Universitas Gadjah Mada, IDN)  
Arithmetic modules over generalized Dedekind domain
- 109 Ryo Kanda (Osaka University, JPN)  
The characteristic variety of an elliptic algebra
- 14:10–14:30 509 Kaori Shimada (Meiji University, JPN)  
On the radius of the category of extensions of matrix factorizations
- 309 Sutopo (Universitas Gadjah Mada, IDN)  
Positively Graded rings which are maximal orders and Generalized Dedekind Rings
- 109 Masaki Matsuno (Shizuoka University, JPN)  
AS-regularity of geometric algebras of plane cubic curves
- 14:40–15:00 509 Shinya Kumashiro (Chiba University, JPN)  
The Auslander–Reiten conjecture for non-Gorenstein rings
- 109 Kazunori Nakamoto (University of Yamanashi, JPN)  
An application of Hochschild cohomology to the moduli of subalgebras of the full matrix ring II
- 15:10–15:30 509 Maiko Ono (Okayama University, JPN)  
On liftable DG modules over a commutative DG algebra
- 109 Indah Emilia Wijayanti (Universitas Gadjah Mada, IDN)  
On generalized Dedekind modules over generalized Dedekind domain
- 16:00–16:20 509 Erik Darpö (Nagoya University, JPN)  
Functors between higher cluster categories of type A
- 109 Guisong Zhou (Ningbo University, CHN)  
The structure of connected (Hopf) algebras
- 16:30–16:50 509 Yingying Zhang (Hohai University, CHN)  
Semibricks, wide subcategories and recollements
- 109 Libin Li (Yangzhou University, CHN)  
The center subalgebra of the quantized enveloping algebra of a simple Lie algebra revisited
- 17:00–17:20 509 Xiaojin Zhang (Nanjing University of Information Science and Technology, CHN)  
Tilting modules over Auslander–Gorenstein algebras
- 109 Zhixiang Wu (Zhejiang University, CHN)  
The classification of Leibniz conformal algebras of rank three

**Day 6: August 31 (Sat), 2019**

- 09:00–09:50 SH Gyu Whan Chang (Incheon National University, KOR)  
Unique factorization property of non-UFDs
- 10:20–11:10 SH Kenichi Shimizu (Shibaura Institute of Technology, JPN)  
Action functor formalism
- 11:20–12:10 SH Susumu Aiki (Osaka University, JPN)  
On cyclotomic quiver Hecke algebras of affine type
- 14:00–14:50 SH Pu Zhang (Shanghai Jiao Tong University, CHN)  
Gorenstein-projective and semi-Gorenstein-projective modules

# INFORMATION

Welcome to Nagoya. The following information will be useful in helping you enjoy your stay during the conference. Please feel free to get in touch with the organizers and secretaries if any questions arise or if you encounter unexpected trouble.

## Conference Venue

The conference takes place at Sakata–Hirata Hall in Science South Building, and Room 109, 309, 509 in Mathematics Bldg. on campus (Figure A).

## Registration Desk

From August 26 to 30, the registration desk will be set in following places. You can pick up your conference package.

August 26 (Mon)–28 (Wed), 2019	
Morning	(1) lobby of Sakata–Hirata Hall, Science South Bldg.
Afternoon	(2) doorway of Room 509, Mathematics Bldg.
August 29 (Thu), 2019	
Morning	(1) lobby of Sakata–Hirata Hall, Science South Bldg.
Afternoon	— <i>closed</i> —
August 30 (Fri), 2019	
Morning	(1) lobby of Sakata–Hirata Hall, Science South Bldg.
Afternoon	(2) doorway of Room 509, Mathematics Bldg.

Table 1: Registration Desk

\* The last day, the registration desk will not be opened. So, talk to organizers.

If you need to make copies, please ask at the registration desk. Those who want to ask something else can do at the desk as well.

## Coffee Breaks

Coffee and some drinks will be served at:

Conference Room	Drink Service
Sakata–Hirata Hall	lobby
Room 509	5F Lounge
Room 309	3F Lounge
Room 109	inside of the room

Table 2: Drink Service

All participants are requested not to bring food into conference room.

## **Restaurants**

For lunch and dinner, there are some restaurants in the campus, or outside of the campus. You will find them in Figure D.

## **Group photo**

We will take a group photo of all participants in the Sakata–Hirata Hall. We are planning this on August 27 (Tue) just after the morning session.

## **Banquet**

The banquet will be held on August 28 (Wed) from 18:00 at the cafeteria “Mei-dining” in the westside campus (Figure A). The cost for the banquet will be 3,000 JPY per attendee.

If you want to join the banquet, please come to the registration desk by 17:30 on August 27.

## **Library**

The participants may use the Science Library.

Location: Science Building A, 1st Floor (Figure A)

Hours: 9:00–17:00

Services: The browsing, reference are available.

Please ask the librarians for details.

## **Money Exchange**

You will find a Post Office authorized to conduct foreign money exchange on campus (Figure A). Japan Post Bank provides cash withdrawal services for credit cards and cash cards issued by overseas financial institutions. Cards bearing

VISA, VISA ELECTRON, VISA PLUS, MasterCard, Maestro, Cirrus,  
American Express, Diners Club, JCB, China Unionpay and DISCOVER

can make withdrawals at Japan Post Bank ATMs. The ATMs on campus (Figure A).

## **Sightseeing**

Please consult the brochures you received at the registration desk and the following webpages for other sight seeing spots in and around Nagoya.

<http://www.nagoya-info.jp/en/see/pickup/>

is a good place to start.

# MAPS

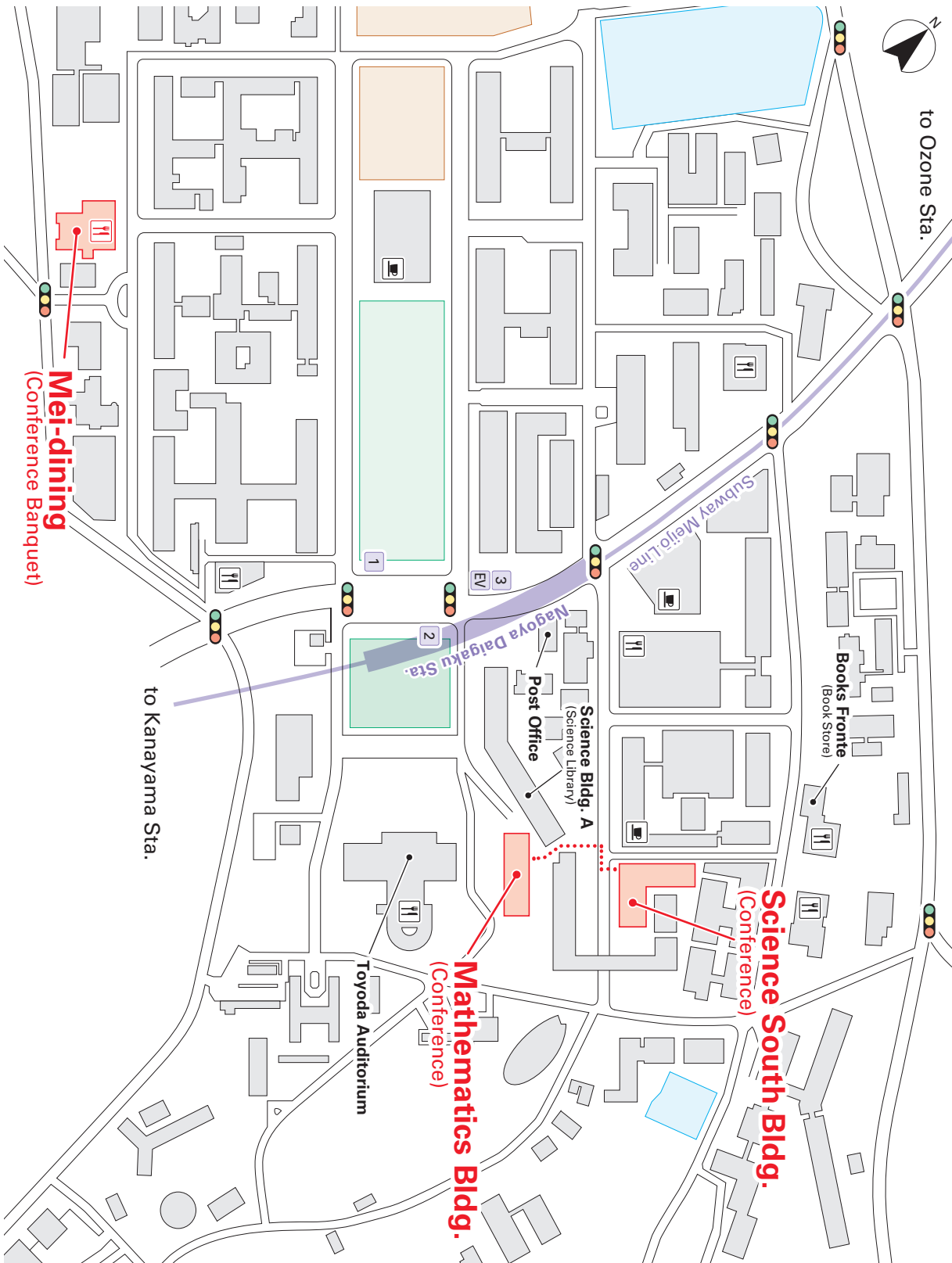


Figure A: Campus map

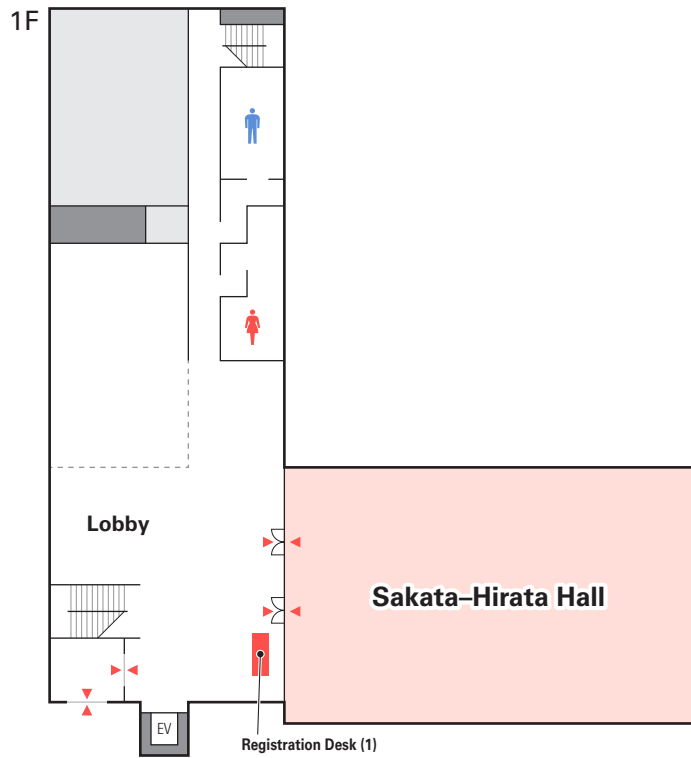


Figure B: Floor map of Science South Bldg.

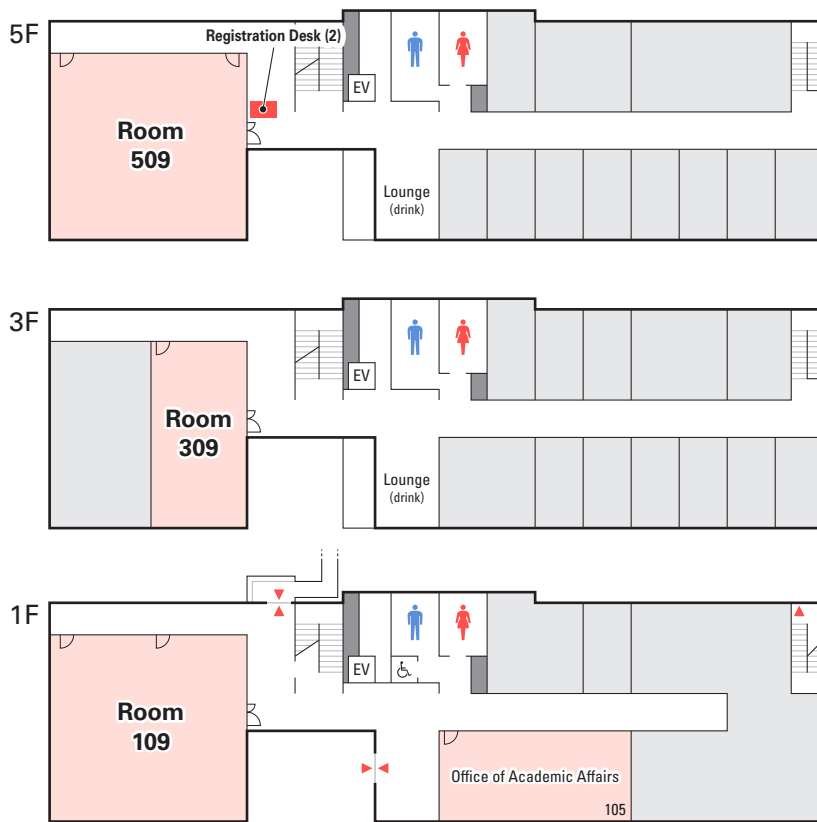


Figure C: Floor map of Mathematics Bldg.



Figure D: Lunch Map