

# 9th East-Asia School and Workshop on Laboratory, Space, and Astrophysical Plasmas

July 29- August 2, 2019 Nagoya University, Nagoya, Japan

## EASW9 Agenda Time Table

(ver. 5, July 10, 2019)

	Jul 29 (Mon)	Jul 30 (Tue)	Jul 31 (Wed)	Aug 1 (Thu)	Aug 2 (Fri)
08:00-	<b>Registration</b>				
08:45-09:00	<b>Opening</b>				
09:00-10:30	<b>L1</b> Q. Lu (USTC)	<b>L3</b> S. Liu (PMO)	<b>L5</b> A. Lazarian (UW)	<b>L7</b> Y. Idomura (JAEA)	<b>L9</b> K. Shiokawa (NU)
Break					
11:00-12:45	<b>S-1</b> J. Yoo Y. Kuramitsu Jun Lin 1 contributed <b>Photo</b>	<b>S-2</b> S. J Tanaka D. Ryu X. Zhou 2 contributed	<b>S-3</b> Y. Asahina J. Zhao Y. Shen 2 contributed	<b>S-5</b> Y. Ren S. Yi K. Nagaoka 2 contributed	<b>L10</b> S. Inutsuka (NU) <b>(~12:30)</b>
Lunch break					<b>Adjourn</b>
14:00-15:30	<b>L2</b> Y. In (UNIST)	<b>L4</b> T. Takeuchi (NU)	<b>L6</b> A. Fujisawa (Kyushu U)	<b>L8</b> H. Hotta (Chiba U)	
Break					
16:00-18:00	<b>Poster Session (~18:30)</b>	<b>L4 continue (~17:30)</b>	<b>S-4</b> J.-M. Kwon Y. Masada S. Zenitani 3 contributed	<b>S-6</b> S. Xu T. Inoue H. Tanabe 3 contributed	
18:00-20:00		<b>Banquet</b>			

The conference is held under the auspices of Graduate School of Science and Institute for Space-Earth Environmental Research (ISEE), Nagoya University.



The conference is also supported by Society of Geomagnetism and Earth, Planetary and Space Sciences (SGEPSS), Project for Solar-Terrestrial Environment Prediction (PSTEP), International Research Collaboration Center (IRCC) of National Institutes of Natural Science (NINS), and Daiko Foundation.



## Monday, July 29, 2019

8:00	-	8:45	<b>Registration</b>			
8:45	-	9:00	<b>Opening session</b>			
			<b>Opening address</b>			
			<b>Logistics</b>			
			<b>Lecture L1</b>			
9:00	-	10:30	L-1	Quanming Lu (USTC, China)	90	Collisionless Magnetic Reconnection
10:30	-	11:00	<b>Coffee Break</b>			
			<b>Session S1</b>			
11:00	-	12:30	<b>Chair: K. Ida (NIFS, Japan)</b>			
11:00	-	11:25	I-1	Jongsoo Yoo (PPPL, USA)	20+5	Whistler and lower-hybrid wave during magnetic reconnection in space and laboratory plasmas
11:25	-	11:50	I-2	Yasuhiro Kuramitsu (Osaka Univ., Japan)	20+5	Energetic Ion Acceleration by Irradiating a Large-Area Suspended Graphene with Intense Lasers
11:50	-	12:15	I-3	Jun Lin (YNAO, China)	20+5	Turbulent Properties of Magnetic Reconnection in the CME/Flare Current Sheet
12:15	-	12:30	O-1	K. Kusano (Nagoya Univ., Japan)	10+5	Predictability of imminent giant solar flares based on the triggered instability model
12:30	-	12:45	<b>Group photo</b>			
12:45	-	14:00	<b>Lunch</b>			
			<b>Lecture L2</b>			
14:00	-	15:30	L-2	L-2 Yongkyoon In (UNIST, Korea)	90	Magnetohydrodynamics (MHD) in Fusion Plasmas
15:30	-	16:00	<b>Coffee Break</b>			
16:00	-	18:30	<b>Poster Session</b>			

## Tuesday, July 30, 2019

			<b>Lecture L3</b>			
9:00	-	10:30	L-3	Siming Liu (PMO, China)	90	Particle Acceleration in Astrophysics
10:30	-	11:00	<b>Coffee Break</b>			
			<b>Session S2</b>			
11:00	-	12:45	<b>Chair: T. Amano (U. Tokyo, Japan)</b>			
11:00	-	11:25	I-4	Shuta J Tanaka (Aoyama Gakuin Univ., Japan)	20+5	Induced Compton Scattering in Pulsar Magnetospheres and Up-to-date Laser Facilities
11:25	-	11:50	I-5	Dongsu Ryu (UNIST, Korea)	20+5	Proton Acceleration at Shocks in High-beta Plasmas of Galaxy Clusters
11:50	-	12:15	I-6	Xiaowei Zhou (PMO, China)	20+5	Coherent emission driven by energetic ring-beam electrons in the solar corona

12:15	-	12:30	O-2	N. K. Walia (Univ. Tokyo, Japan)	10+5	A Statistical Study of Slow-Mode Shocks Observed by MMS in the Dayside Magnetopause
12:30	-	12:45	O-3	T. Igarashi (Chiba Univ., Japan)	10+5	Global Three-dimensional Radiation Magnetohydrodynamic Simulations of the Time Variabilities of X-ray Emitting Region in Seyfert Galaxies
<b>12:45 - 14:00</b>			<b>Lunch</b>			
<b>Lecture L4</b>						
14:00	-	15:30	L-4	Tsutomu Takeuchi (Nagoya Univ., Japan)	90	Astroinformatics: Data Science in Astrophysics
<b>15:30 - 16:00</b>			<b>Coffee Break</b>			
<b>Lecture L4</b>						
16:00	-	17:30	L-4	Tsutomu Takeuchi (Nagoya Univ., Japan)	90	Astroinformatics: Data Science in Astrophysics (continued)
<b>18:00 -</b>			<b>Banquet</b>			

### Wednesday, July 31, 2019

<b>Lecture L5</b>						
9:00	-	10:30	L-5	Alex Lazarian (Univ. Wisconsin, USA)	90	MHD Turbulence in Astrophysical Fluids
<b>10:30 - 11:00</b>			<b>Coffee Break</b>			
<b>Session S3</b>						
<b>11:00 - 12:45</b>			<b>Chair: Dongsu Ryu (UNIST, Korea)</b>			
11:00	-	11:25	I-7	Yuta Asahina (Kyoto Univ., Japan)	20+5	General Relativistic RMHD simulations of Accretion Flows
11:25	-	11:50	I-8	Jinsong Zhao (PMO, China)	20+5	Nonlinear wave evolution and application to solar-terrestrial environment
11:50	-	12:15	I-9	Yuandeng Shen (YNAO, China)	20+5	Generation mechanisms of low-frequency waves in the solar corona
12:15	-	12:30	O-4	T. Katou (U. Tokyo, Japan)	10+5	Stochastic Shock Drift Acceleration Model with Finite Pitch-Angle Anisotropy
12:30	-	12:45	O-5	Z.-D. Shi (PMO, China)	10+5	Origin of Cosmic Ray Electrons and Positrons
<b>12:45 - 14:00</b>			<b>Lunch</b>			
<b>Lecture L6</b>						
14:00	-	15:30	L-6	Akihide Fujisawa (Kyushu Univ., Japan)	90	Turbulence in fusion and laboratory plasmas
<b>15:30 - 16:00</b>			<b>Coffee Break</b>			
<b>Session S4</b>						
<b>16:00 - 18:00</b>			<b>Chair: Quanming Lu (USTC, China)</b>			
16:00	-	16:25	I-10	Jae-Min Kwon (NFRI, Korea)	20+5	Global Structures of Flows in Tokamak Plasmas
16:25	-	16:50	I-11	Yohei Masada (Aichi Univ. Education, Japan)	20+5	Generation of Large-scale Field in Stars and Supernova Cores

16:50	-	17:15	I-12	Seiji Zenitani (Kobe Univ., Japan)	20+5	Asymmetric magnetic reconnection at the dayside magnetopause
17:15	-	17:30	O-6	H. Wang (NIFS, Japan)	10+5	Nonlinear simulation of energetic particle driven geodesic acoustic mode channeling using MEGA code
17:30		17:45	O-7	Y. Kawazura (Tohoku Univ., Japan)	10+5	Ion versus electron heating in astrophysical gyrokinetic turbulence
17:45	-	18:00	O-8	B. J. Kang (SNU, Korea)	10+5	Fast ion driven drift instability in reversed shear plasmas

## Thursday, August 1, 2019

### Lecture L7

9:00	-	10:30	L-7	Yasuhiro Idomura (JAEA, Japan)	90	Gyrokinetic simulation of fusion plasma
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### 10:30 - 11:00 Coffee Break

### Session S5

#### 11:00 - 12:45 Chair: Jae-Min Kwon (NFRI, Korea)

11:00	-	11:25	I-13	Yang Ren (PPPL, USA)	20+5	Experimental Observation of Electron-scale Turbulence Evolution across the L-H Transition in National Spherical Torus Experiment
11:25	-	11:50	I-14	Sumin Yi (NFRI, Korea)	20+5	Zonal flow generation by potential vorticity mixing in rotating tokamak plasmas
11:50	-	12:15	I-15	Kenichi Nagaoka (NIFS, Japan)	20+5	Energetic particle transport induced by wave-particle interactions in a torus plasma
12:15	-	12:30	O-9	Y.W. Cho (SNU, Korea)	10+5	Influence of Energetic Ions on Residual Zonal Flow
12:30	-	12:45	O-10	S. Maeyama (Nagoya Univ., Japan)	10+5	Subgrid-scale modeling based on Mori-Zwanzig formalism

### 12:45 - 14:00 Lunch

### Lecture L8

14:00	-	15:30	L-8	Hideyuki Hotta (Chiba Univ., Japan)	90	Solar and stellar dynamos
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### 15:30 - 16:00 Coffee Break

### Session S6

#### 16:00 - 18:00 Chair: Siming Liu (PMO, China)

16:00	-	16:25	I-16	Siyao Xu (Univ. Wisconsin, USA)	20+5	Turbulent Dynamo in a Weakly Ionized Medium
16:25	-	16:50	I-17	Tsuyoshi Inoue (Nagoya Univ., Japan)	20+5	Plasma Dynamics in Interstellar Molecular Clouds
16:50	-	17:15	I-18	Hiroshi Tanabe (Univ. Tokyo, Japan)	20+5	Experimental study of reconnection heating/transport process and its application to high temperature spherical tokamak formation
17:15	-	17:30	O-11	R. Enokiya (Nagoya Univ., Japan)	10+5	Molecular clouds associated with magnetic features in the Galactic Center

17:30	17:45	O-12	J.-H. Ha (UNIST, Korea)	10+5	Electron Pre-acceleration at Shocks in High-beta Plasmas of Galaxy Clusters
17:45	- 18:00	O-13	M. Shi (Shandong Univ., China)	10+5	Synthetic Ultraviolet Emissions from Coronal Loops Supporting Fast Sausage Modes

## Friday, August 2, 2019

<b>Lecture L9</b>						
<b>9:00</b>	-	<b>10:30</b>	L-9	Kazuo Shiokawa (Nagoya Univ., Japan)	90	Ionospheric Plasma
<b>10:30</b>	-	<b>11:00</b>	<b>Coffee Break</b>			
<b>Lecture L10</b>						
11:00	-	12:30	L-10	Shu-ichiro Inutsuka (Nagoya Univ., Japan)	90	Phase Transition Dynamics of ISM: The Formation of Molecular Clouds and Galactic Star Formation
<b>12:30</b>	<b>Adjourn</b>					

## EASW9 Poster Sessions Program

### Poster Session

**P-1 – P-20: Laboratory Plasmas**

**P-21 – P-37: Space Plasmas**

**P-38 – P-51: Astrophysical Plasmas**

**P-52 – P-57: Interdisciplinary Topics**

**O-1 – O-13: Posters of Contributed Oral Talks**

Poster Board ID	Presentation ID	Presenter	Title
1	P-1	M. Megalingam (VIT Univ., India)	Formation of Virtual Anode and potential well along with its fluctuation characteristics in presence of plasma bubbles in unmagnetized and magnetized plasma
2	P-2	K. Ida (NIFS, Japan)	A change of parity at the MHD collapse event of tongue in magnetically confined laboratory plasma
3	P-3	L. Chang (Sichuan Univ., China)	Wave Physics Computations in Helicon Plasmas
4	P-4	J. Bak (U. Tokyo, Japan)	Electron cross-field drift by an induced electric-field in Hall thrusters: from plasma density and potential correlation
5	P-5	Z. Shaikh (Saurashtra Univ., India)	Multi-cusp Plasma Device (MPD) for confining contact ionized alkali ions: source for the experimental studies
6	P-6	C. H. Wu (NCKU, Taiwan)	Measurement of high frequency fluctuations in Langmuir wave supercontinuum phenomenon
7	P-7	Z. Lee (NCKU, Taiwan)	Experimental Demonstration of Langmuir Wave Supercontinuum Generation in Laboratory Plasma
8	P-8	Y.-T. Lin (NCKU, Taiwan)	Experimental verification of entropy cascade in gyro-kinetic turbulence by velocity space measurement
9	P-9	A. D. Patel (IPR, India)	Study of plasma state in a versatile multi-pole cusp magnetic field
10	P-10	Y. J. Kim (SNU, Korea)	Eigenmode Analysis of the Fast Ion Driven Drift Instability in Reversed Shear Plasmas
11	P-11	K. Ueda (U. Tokyo, Japan)	Modeling of high-beta plasma equilibria in RT-1 by anisotropic-pressure MHD model
12	P-12	M. Nunami (NIFS, Japan)	Gyrokinetic Simulations for Turbulent Particle Transport of Multi-Species Plasmas in Toroidal Systems
13	P-13	H. Igami (NIFS, Japan)	Excitation and propagation of waves in ion cyclotron harmonics and lower hybrid wave frequency range originated from high energy and low pitch angle ions in a magnetically confined fusion oriented device
14	P-14	K. Nishioka (Nagoya Univ., Japan)	Dependency of turbulent transport on various local parameters in high temperature tokamak plasmas by using the analysis of electromagnetic micro-instability
15	P-15	Y. Maeshima (Nagoya Univ., Japan)	MHD Nonlinear Simulation of ELM current and pressure profile relaxation in a tokamak pedestal
16	P-16	Y. Takemura (Nagaoka Univ. Tech., Japan)	Experimental study of plasma response to pulsed magnetic field
17	P-17	K. Kondo (QST, Japan)	Plasma Shape Reconstruction by M-CCS Method in Plasma Merging Experimental Device

18	P-18	H. Kaneko (U. Tokyo, Japan)	Simultaneous measurement of high frequency magnetic fluctuation and the slowly-changing magnetic field during reconnection
19	P-19	K. Kusano (U. Tokyo, Japan)	Local Potential Measurement during High-Guide-Field Reconnection by using Langmuir Probe in UTST
20	P-20	T. Mihara (U. Tokyo, Japan)	Measurement of Soft X-ray emission spatial distribution during high guide field reconnection in UTST
21	P-21	P. Devi (Kumaun Univ., India)	Dynamics of an M3.7 Class Solar Flare on 02 March, 2015
22	P-22	K. Fan (USTC, China)	The effects of thermal electrons on whistler-mode waves excited by anisotropic hot electrons: Linear theory and 2-D PIC simulations
23	P-23	C. Umegaki (U. Tokyo, Japan)	Spatial structure of coherent whistler mode wave packets in Earth's bow shock: MMS observation
24	P-24	K. Takahashi (Kyoto Univ., Japan)	Relativistic electron acceleration by whistler-mode chorus waves in 1D, 2D, and 3D magnetic field models
25	P-25	T. Sekine (Kyoto Univ., Japan)	Relativistic acceleration of energetic protons by electromagnetic ion cyclotron waves in the Jovian magnetosphere
26	P-26	S. Sebastian (MGU, India)	Solitary Wave in a Pair Ion Plasma
27	P-27	T. Amano (U. Tokyo, Japan)	Observational Evidence for Stochastic Shock Drift Acceleration at Quasi-perpendicular Earth's Bow Shock
28	P-28	H. Ito (ISEE, Japan)	Flux decrease of outer radiation belt electrons associated with solar wind pressure pulse: A Code coupling simulation of GEMSIS-RB and GEMSIS-GM
29	P-29	P. H. Lin (JAEA, Japan)	Critical Parameters of Photospheric Magnetic Field to Produce Eruptive Flares in Solar Active Regions
30	P-30	T.-H. Watanabe (Nagoya Univ., Japan)	Auroral Growth and Transition to Alfvénic Turbulence in the Magnetosphere-Ionosphere Coupling
31	P-31	K. M. Girgis (Kyushu Univ., Japan)	Solar Storm Effects on South Atlantic Anomaly: Test Particle Simulations
32	P-32	Y. Nishida (Tohoku Univ., Japan)	Dependence of the Dipole Component Dominancy on the Rayleigh Number and Inner Core Size in Geodynamo Simulations
33	P-33	K. Shimomura (Nagoya Univ., Japan)	Electron beam instability in the inhomogeneous field on the collisionless magnetic reconnection with a strong guide field
34	P-34	J. Hiwatari (Nagoya Univ., Japan)	Auroral Cavity Mode with Ionospheric Inhomogeneity
35	P-35	H. Sato (Nagoya Univ., Japan)	Application of Contour Dynamics Method to the Vlasov-Poisson Plasma with the Periodic Boundary
36	P-36	K. Nakatani (ISEE, Japan)	Modeling of solar active regions using local linear force-free fields to estimate magnetic twist
37	P-37	Y. Ito (ISEE, Japan)	Dependence of whistler wave amplitudes on scattering process of relativistic electrons in the Earth radiation belts
38	P-38	S. Roh (UNIST, Korea)	Turbulence in clusters of galaxies

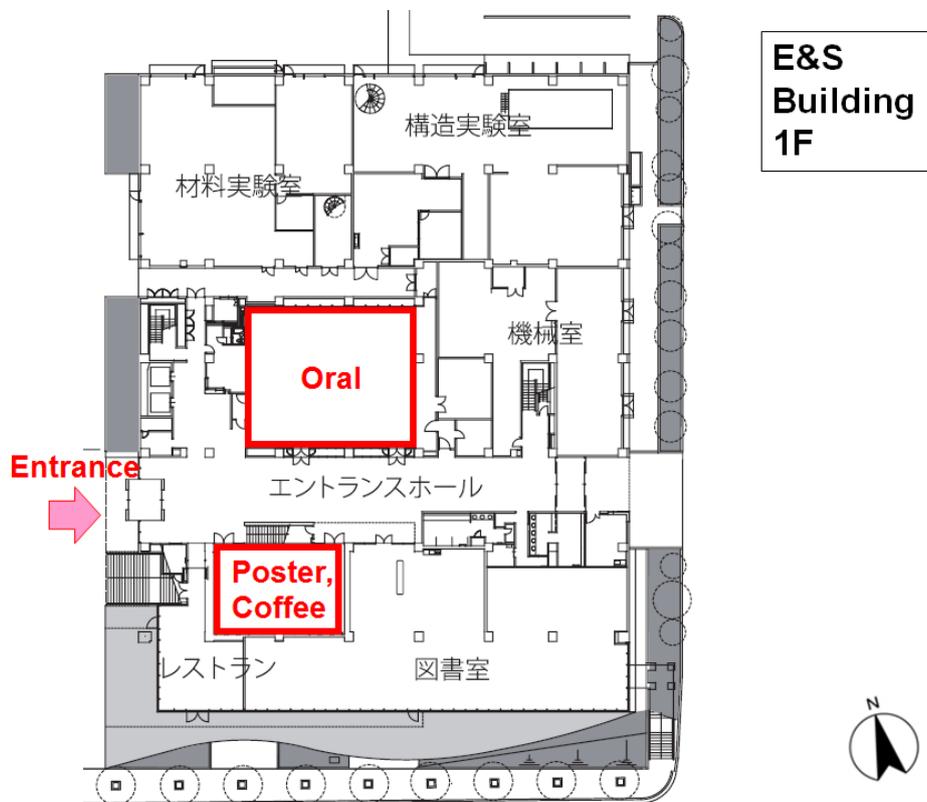
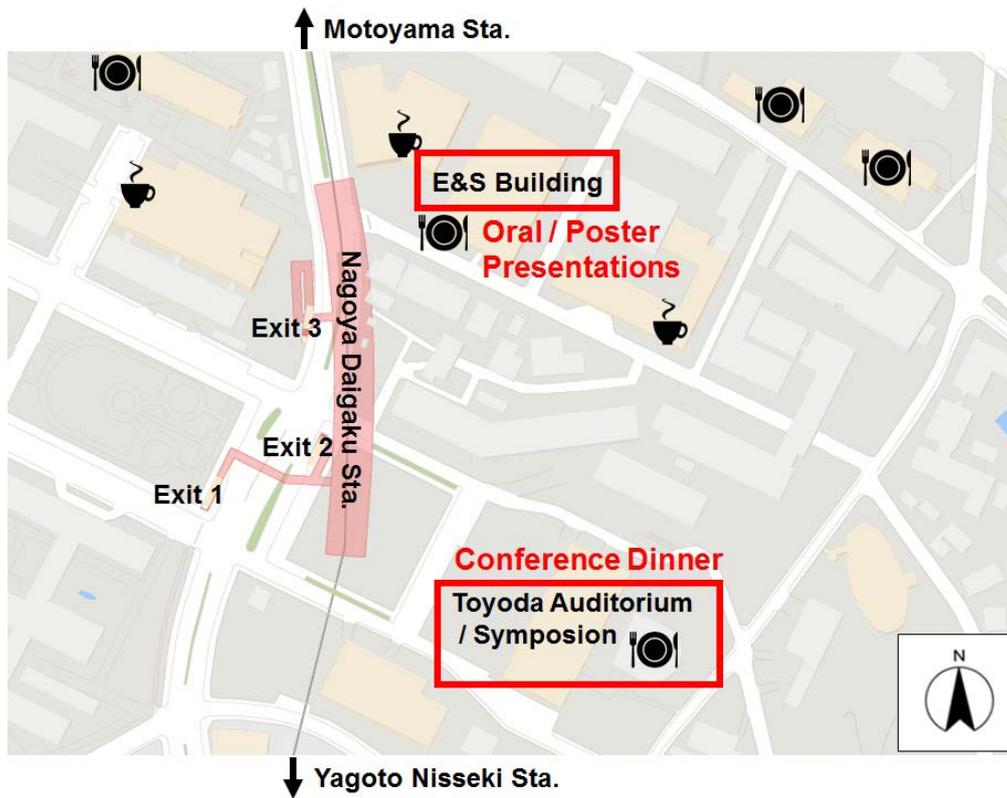
39	P-39	S. Kim (UNIST, Korea)	Firehose instability in Astrophysical and Space Environments
40	P-40	D. Abe (Nagoya Univ., Japan)	The MHD simulation towards a solution of filament formation and the initial condition of star formation in molecular clouds
41	P-41	R. Maeda (Nagoya Univ., Japan)	Formation of Massive Star Clusters by Fast HI Gas Collision
42	P-42	D. Mandel (IPR, India)	Tracking the linear stage of instability in finite beam plasma System
43	P-43	A. Lladrovci (Chiba Univ., Japan)	Oscillations of Accretion Disks around a Supermassive Black Hole
44	P-44	T. Kotani (Kyoto Univ., Japan)	PIC simulation on nonlinear development of lower-hybrid instabilities driven by energetic ions
45	P-45	H. Yoon (CNU, Korea)	Effect of Turbulence and sonic Mach number on Davis-Chandrasekhar-Fermi method
46	P-46	T. Tomiyoshi (Chiba Univ., Japan)	3D-MHD Simulation of Prominences Formation in the Galactic Center
47	P-47	Y. Nakanishi (Nagoya Univ., Japan)	THE FORMATION OF OVER-IONIZED PLASMA BY SUPERNOVA EXPLOSION
48	P-48	S. Masuda (ISEE, Japan)	Twenty-seven years of Nobeyama Radioheliograph: Contribution to space weather/climate researches
49	P-49	N. Nishida (Nagoya Univ., Japan)	Kinetic analysis of the interaction between high temperature plasma and low temperature gas
50	P-50	S. Nishimoto (NDA, Japan)	Construction of Solar Flare Emission Spectral Prediction Model
51	P-51	K. Matsunaga (Nagoya Univ., Japan)	Cloud-cloud collisions in a foot point of a magnetic flotation loop in the Galactic Center
52	P-52	A. Kumari (IIA, India)	Estimates of Solar Coronal Magnetic Fields with Full Stokes Observations of the Sun using LOFAR
53	P-53	Y. He (USTC, China)	A Brief Introduction of AWs and KAWs in Plasma
54	P-54	Y. Lee (Hanyang Univ., Korea)	Investigation of the parallel dynamics to determine poloidal inhomogeneity in a tokamak
55	P-55	G. Lin (NAOC, China)	A New Online Database of Filament
56	P-56	K. Deguchi (Monash Univ., Australia)	Subcritical magneto-hydrodynamic instabilities
57	P-57	T. Ito (Nagoya Univ., Japan)	Experimental research on turbulent transport in non-uniform turbulence field
58	O-1	K. Kusano (Nagoya Univ., Japan)	Predictability of imminent giant solar flares based on the triggered instability model
59	O-2	N. K. Walia (Univ. Tokyo, Japan)	A Statistical Study of Slow-Mode Shocks Observed by MMS in the Dayside Magnetopause

60	O-3	T. Igarashi (Chiba Univ., Japan)	Global Three-dimensional Radiation Magnetohydrodynamic Simulations of the Time Variabilities of X-ray Emitting Region in Seyfert Galaxies
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## Location & Maps

Engineering and Science (E&S) Building, Nagoya University (Higashiyama Campus)

Furo-cho, Chikusa-ku, Nagoya, 464-8602, Japan



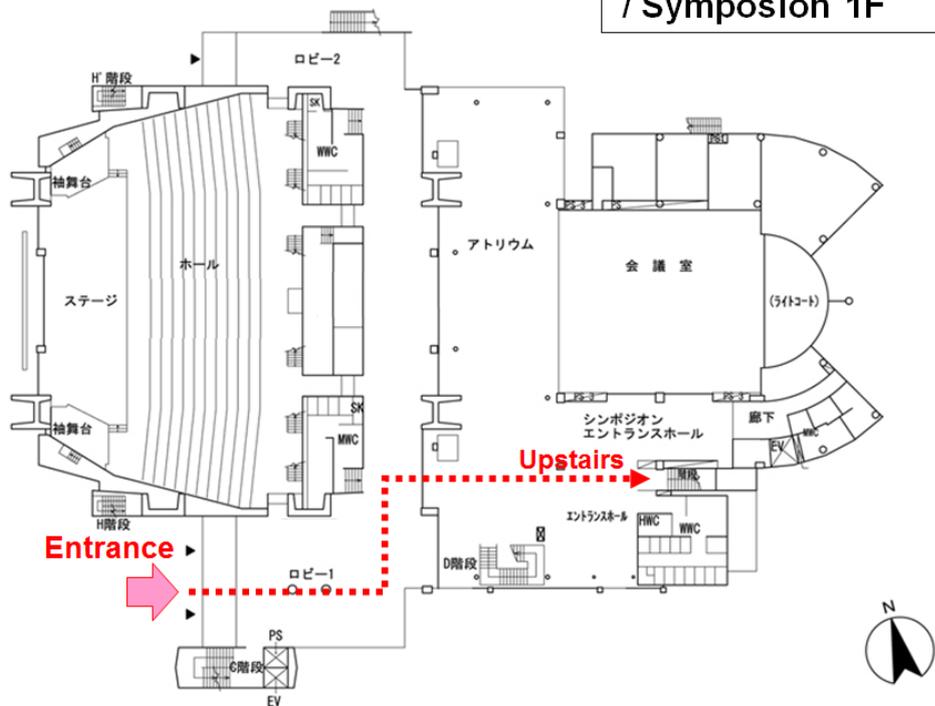
# Conference Dinner

18:00 – 20:00, Tuesday, July 30, 2019

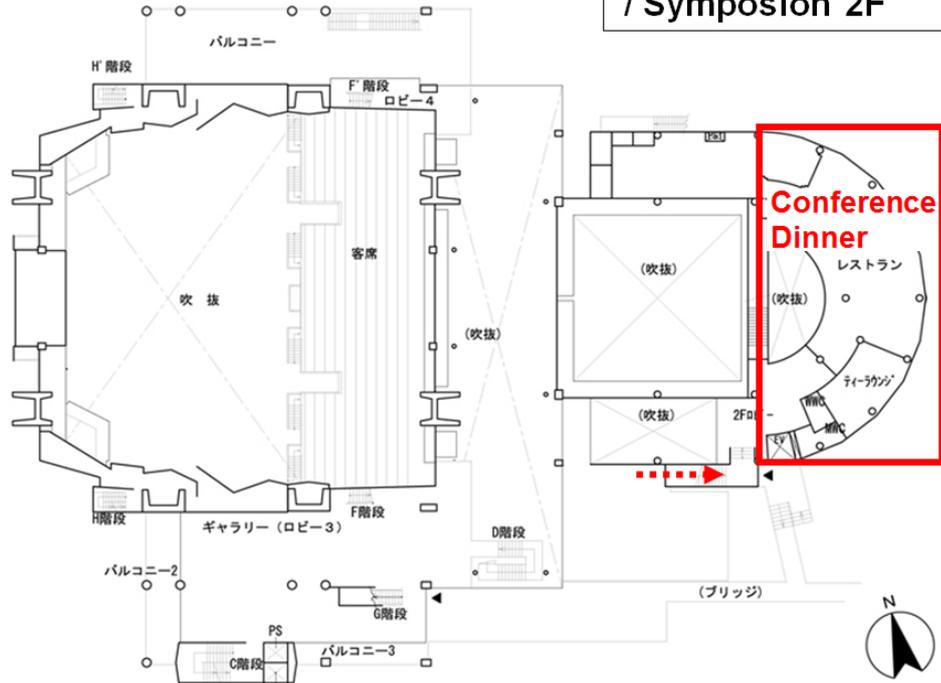
Restaurant Universal Club (located in Toyoda Auditorium / Symposion)

All of participants you are cordially invited to the conference dinner. Please wear your conference badge.

**Toyoda Auditorium / Symposion 1F**



**Toyoda Auditorium / Symposion 2F**



## Refreshments

During coffee breaks refreshments will be offered free of charge at the same place for the registration.

**No drink and no food in the Conference Hall.**

## Wireless LAN

Nagoya University Wireless Network (NUWNET) and Eduroam will be available. Your guest account of NUWNET will be issued at the registration desk.

## Instructions for presentation

The conference consists of lectures, invited talks, contributed oral talks and contributed poster presentations. Allocated time for presentation and discussion will be shown in the conference program. The projector only has VGA (D-Sub 15 pin) input. The default aspect ratio of the projector is 16:9 while 4:3 is also acceptable.

We ask for presentation at a poster session also for contributed oral speakers (except for lecturers and invited speakers). The poster board size is 90 cm width and 170 cm height which accepts A0 portrait size.

## Contact

If you have any questions, send e-mail to [easw9@p.phys.nagoya-u.ac.jp](mailto:easw9@p.phys.nagoya-u.ac.jp)