

# Planet2/RESCEU Symposium 2019

## From Protoplanetary Disks through Planetary System Architecture to Planetary Atmospheres and Habitability

14-18 October 2019  
Bankoku Shinryokan, Okinawa, Japan

Session 1		15 Tue	8:50-10:30	Lower atmosphere (Chair: A. Fukui)
8:50	8:55	Yasushi	SUTO (Director of RESCEU)	Welcome address
8:55	9:00	Masahiro	IKOMA (Chair of SOC/LOC)	Goal of the conference
9:00	9:30	Jean-Michel	DESERT	Characterizing Exoplanets' Atmospheres to Unveil Planetary Origins and Climate
9:30	10:00	Vivien	PARMENTIER	Understanding the Diversity of Exo-atmospheres, From Hot to Ultra-hot Jupiters
10:00	10:15	Kazumasa	OHNO	Clouds of Fluffy-Aggregates: How They Form in Exoplanetary Atmospheres and Influence Transmission Spectra
10:15	10:30	Kensuke	NAKAJIMA	Effect of Cloud Formation on the Structure and Transport Properties in Planetary Atmospheres

Session 2		15 Tue	11:00-12:30	Lower atmosphere (Chair: H. Kawahara)
11:00	11:30	Ingo	WALDMAN	Understanding Atmospheric Retrievals with Machine Learning
11:30	11:45	Yui	KAWASHIMA	<b>Effect of Disequilibrium Chemistry on the Spectra of Exoplanet Atmospheres</b>
11:45	12:15	Jeremy	LECONTE	When retrieving 3D atmospheres with 1D algorithms goes south!
12:15	12:30	Takeshi	KURODA	<b>Simulation of the Water Environment on the Present and Past Mars Using a Global Climate Model</b>

Session 3		15 Tue	14:00-15:30	Upper atmosphere and escape (Chair: D. Ehrenreich)
14:00	14:30	Enric	PALLE	Ultra Hot Jupiter Atmospheres and Atmospheric Escape
14:30	14:45	Guo	CHEN	A Peek View of Irradiated Atmospheres with Alkali Lines at Low- and High-resolution
14:45	15:00	Stevanus K.	NUGROHO	Probing the Atmosphere of Ultra Hot Jupiters using High-resolution Spectroscopy
15:00	15:15	Kiyoe	KAWAUCHI	Studies of Very Hot Jupiter Atmosphere with High Resolution Transmission Spectroscopy
15:15	15:30	Nuria	CASASAYAS-BARRIS	Atmospheric Characterisation of the Ultra Hot Jupiter MASCARA-2b/KELT-20b Combining HARPS-N and CARMENES Observations

<b>Session 4</b>		<b>15 Tue</b>	<b>16:00-17:30</b>	<b>Upper atmosphere and escape (Chair: K. Seki)</b>
16:00	16:30	Shingo	KAMEDA	WSO-UV/UVSPEX for Earth-like Exoplanets
16:30	16:45	Julia Victoria	SEIDEL	Wind of Change: Revealing Thermospheres of Exoplanets from High-resolution Spectroscopy
16:45	17:00	Leonardo	DOS SANTOS	An Extensive Search for Metallic Ions in the Exosphere of GJ 436 b
17:00	17:15	John	LIVINGSTON	GJ9827: Mass Constraints of a Benchmark System from Spitzer Transit Timing Measurements
17:15	17:30	Ilaria	CARLEO	GJ9827 b: Constraints on Atmospheric Loss Using HST Data

**Poster Session** **17:30-19:00**

<b>Session 5</b>		<b>16 Wed</b>	<b>9:00-10:30</b>	<b>Upper atmosphere and escape (Chair: M. Ikoma)</b>
9:00	9:30	Colin	JOHNSTONE	The Aeronomy of Terrestrial Planetary Atmospheres around Active Stars
9:30	9:45	Naoki	TERADA	DSMC Simulation of Slow Hydrodynamic Escape from Earth-like Exoplanets
9:45	10:15	Kanako	SEKI	Atmospheric Escape from Mars and Its Relation to Habitability
10:15	10:30	Shotaro	SAKAI	Effects of a Weak Intrinsic Magnetic Field on Atmospheric Escape from Mars

<b>Session 6</b>		<b>16 Wed</b>	<b>11:00-12:30</b>	<b>Climate and Habitability (Chair: J. Leconte)</b>
11:00	11:30	Jun	YANG	Transition from Eyeball to Snowball Driven by Sea-ice Drift on Tidally Locked Terrestrial Planets
11:30	12:00	Ravi	KOPPARAPU	Atmospheric Characterization of Habitable Worlds in The Next Decade and Beyond (via ZOOM)
12:00	12:15	Masaki	ISHIWATARI	<b>Numerical Experiments on Climate of Land Planets Using an Atmospheric General Circulation Model</b>
12:15	12:30	Tiziano	ZINGALES	<b>Deep Convolutional Neural Networks to Better Understand Exoplanets</b>

**Excursion** **13:30-**

Session 7		17 Thu	9:00-10:30	Evolution, Tectonics, & Climate (Chair: M. Ikoma)
9:00	9:30	Masaki	OGAWA	A Numerical Model of Evolution of the Wet Mantle Caused by Magmatism and Mantle Convection: Implication for the Surface Environment of Mars
9:30	10:00	Diana	VALENCIA	Tectonics and Climates of Super-Earths
10:00	10:15	Yuichi	ITO	Photo-evaporation of Mineral Atmosphere from Hot Rocky Exoplanets
10:15	10:30	Martin	TURBET	The Runaway Greenhouse Radius Inflation Effect and Observational Impacts

Session 8		17 Thu	11:00-12:30	Disk & Delivery (Chair: Y. Suto)
11:00	11:30	Ruobing	DONG	Observational Planet Formation
11:30	12:00	Shogo	TACHIBANA	Hayabusa2: Sample Return Mission from C-type Asteroid Ryugu
12:00	12:15	Takahiro	UEDA	Formation of the Building Blocks of the Terrestrial Planets at the Dead-zone Inner Edge
12:15	12:30	Yuhiko	AOYAMA	Theoretical Modeling of Spectral Profile from the Two Protoplanets PDS70b and c

### Conference Photo

Session 9		17 Thu	14:00-15:30	Planet Formation (Chair: Y. Hori)
14:00	14:30	André	IZIDORO	Water Delivery and Terrestrial Planet Formation
14:30	15:00	Shigeru	IDA	Rocky Planetesimal Formation and Volatile Delivery to the Earth During Pebble Accretion
15:00	15:15	Nader	HAGHIGHIPOUR	Accurate and Quantitative Modeling of the Formation of Terrestrial Planet and the Origin of Earth's Water
15:15	15:30	Mohamad	ALI-DIB	Limit to Protoplanet Growth by Accretion of Small Solids

Session 10		17 Thu	16:00-17:30	Planet Formation (Chair: T. Guillot)
16:00	16:30	Nikku	MADHUSUDHAN	Constraints on Planet Formation Mechanisms from Exoplanetary Spectroscopy
16:30	16:45	Kazuhiro	KANAGAWA	Termination of an Inward Migration of a Gap-opening Planet due to the Dust Feedback
16:45	17:00	Shangfei	LIU	The formation of Jupiter's Diluted Core by a Giant Impact
17:00	17:15	Yuki	TANAKA	Possibility of Giant Planet Formation by Pebble Accretion in Class 0/I Phases

**Banquet**

**18:30-20:30**

Session 11		18 Fri	9:00-10:25	Planetary System Architecture (Chair: K. Kanagawa)	
9:00	9:20	Yasushi	SUTO	Spin-orbit Architecture of Planetary Systems	
9:20	9:35	Shu-ichiro	INUTSUKA	An Origin of Misaligned Planets: Angular Momentum Accretion in Star Formation Process	
9:35	9:50	Eiichiro	KOKUBO	Orbital Architecture of Planetary Systems Formed by Gravitational Scattering and Collision	
9:50	10:05	Matthieu	LANEUVILLE	Observational Strategies to Answer Exoplanet Population Questions	
10:05	10:25	Hajime	KAWAHARA	Transiting Planets near the Snow Line	

Session 12		18 Fri	10:40-12:40	Future Prospects (Chair: M. Ikoma)	
10:40	11:10	Monika	LENDL	Observing Exoplanet Atmospheres with CHEOPS	
11:10	11:25	Norio	NARITA	MuSCAT 1 to 3 for a global multi-color transit photometry network	
11:25	11:55	Giovanna	TINETTI	ARIEL (TBD)	
11:55	12:10	Billy	EDWARDS	The Ariel Mission Reference Sample	
12:10	12:40	Tristan	GUILLOT	Lessons from Juno & Cassini: linking atmosphere and interior of Jupiter and Saturn & SUMMARY	

**Poster Session**

1	Ryoya	SAKATA	Effects of an intrinsic magnetic field on the ion loss from ancient Mars
2	Takahito	SAKAUE	Stellar atmosphere and wind model for cool main-sequence stars
3	Tadahiro	KIMURA	Effects of water vapor contamination on accumulation of primordial atmospheres of terrestrial planets
4	Yuki	MORI	Study of proton escape from Mars based on MAVEN observations
5	Kotaro	SAKAKURA	Composition of the ion escape from Mars: Polar plume observations by MAVEN
6	Shungo	KOYAMA	Stability of atmospheric redox states of Mars-like planets inferred from time response of the regulation of H and O losses
7	Tatsuya	YOSHIDA	Hydrodynamic escape of a reduced Martian proto-atmosphere
8	Yasunori	HORI	Do the TRAPPIST-1 Planets Have Hydrogen-rich Atmospheres?
9	Quentin	CHANGEAT	Towards a more complex description of chemical profiles in exoplanet retrievals: A 2-layer parameterisation
10	Kai Hou	YIP	Integrating light-curve and atmospheric modelling of transiting exoplanets
11	Adam	JAZIRI	Photochemistry of planetary atmospheres with 3D Global Climate Model
12	Konstantinos	KALOGERAKIS	Understanding the OH Meinel Band Emissions in Planetary Atmospheres
13	Monika	STANGRET	FeI and FeII in the atmosphere of MASCARA-2b/KELT-20b
14	Rafael	LUQUE	GJ 357: a planetary trio including a transiting, hot, Earth-sized planet optimal for atmospheric characterization
15	Mayuko	MORI	Ground-based Transmission Spectroscopy of the Atmosphere of TRAPPIST-1g
16	Yuka	TERADA	Multi-band observations of the transiting warm Jupiter WASP-80b with MuSCAT/MuSCAT2
17	Felipe	MURGAS	Stellar spots versus Rayleigh scattering: the case of HAT-P-11b
18	Akihiko	FUKUI	A New Approach to Find Planets around the Snow Line: Galactic-disk Microlensing
19	Akifumi	NAKAYAMA	Geochemical carbon cycle and climate of ocean terrestrial planets in the habitable zone
20	Sarah	MCINTYRE	Planetary magnetism as a parameter in exoplanet habitability
21	Yuta	NAKAGAWA	Obliquity of an earth-like exoplanet from frequency modulation of its directly imaged light curves: analysis of the GCM data for the Earth
22	Riouhei	NAKATANI	Radiation Hydrodynamics Simulations of Photoevaporating Protoplanetary Disks: Metallicity Dependence
23	Seongjoong	KIM	Deriving the dust properties using the synthetic ALMA multiband analysis

24	Chenen	WEI	Comparing the complex organic molecules in protoplanetary disks with comet 67P/C-G
25	Sheng	JIN	New constraints on the dust and gas distribution in the LkCa 15 disk
26	Daisuke	TAKAISHI	Star-disk alignment in the protoplanetary disks: SPH simulation of the collapse of turbulent molecular cloud cores
27	Hideko	NOMURA	Modelling Infrared Line Spectra of Complex Organic Molecules in Protoplanetary Disks
28	Masanobu	KUNITOMO	Dispersal of Protoplanetary Disks with Magnetically-driven and Photoevaporative Winds
29	Stuart	TAYLOR	Unexpected Peak-Gap-Peak Shape of the Main Pileup of the Log-Periods of Planets of Metal-Rich Sunlike Single Stars and its Influence on Correlations of Eccentricity with Five Parameters
30	Natalia	ENGLER	The VIBES Exoplanet Survey with SPHERE
31	Jerome	DE LEON	Systematic search for young planets in nearby clusters with TESS
32	Yuting	LU	Systematic comparison of photometric and asteroseismic rotation periods of 33 Kepler stars with transiting planets
33	Toshinori	HAYASHI	A strategy to search for an inner binary black hole from the motion of the tertiary star
34	Kenji	KUROSAKI	Giant impact on a rotating planet: Implication of the origin of the Uranus's obliquity
35	Takehiro	MIYAGOSHI	Thermal convection with adiabatic compression and its applications to mantle convection in super-Earths
36	Cong	YU	In Situ Formation of Super-Earths in Dispersing Protoplanetary Disk
37	Yuji	MATSUMOTO	Formation of Close-in Super-Earths by Giant Impacts around M dwarfs: Effects of Planet Ejection
38	Yuhito	SHIBAIKE	Formation of the Galilean satellites by pebble accretion
39	Ngan	NGUYEN	The effect of disc instabilities on migrating planets
40	Mayuko	OZAWA	Study of solid accretion in mean motion resonances with gas giants via N-body simulations: Toward understanding the formation of Uranus and Neptune
41	Shijie	WANG	Effects of Planetary migration on the long-term orbital stability of a multi- planetary system: case of HL Tau
42	Su	WANG	Formation and Stability of Planetary systems in Mean Motion Resonances
43	Gang	ZHAO	Planetesimal Dynamics in Inclined Binary Systems
44	Masahiro	MORIKAWA	Variety of Planets from the Outer-Edge of the Inner Hole