

THE 5TH NAOJ SYMPOSIUM / THE 7TH SUBARU SCIENTIFIC MEETING



SUBARU TELESCOPE
20TH ANNIVERSARY

Optical & Infrared Astronomy for the Next Decade

Waikoloa Beach Marriott Resort and Spa
November 17-22 2019



WELCOME

Welcome to the 20th anniversary science symposium of the Subaru Telescope.

We recognize and appreciate the very important cultural role and reverence that Maunakea has always had within the indigenous Hawaiian community. We are delighted to have the opportunity here on the Hawaii Island to celebrate the 20th anniversary of the Subaru Telescope.

The Subaru Telescope is the 8.2-meter flagship optical-infrared telescope of the National Astronomical Observatory of Japan, located atop Maunakea, Hawaii. Since its scientific first light in 1999, Subaru has been expanding our understanding of the universe with remarkable results in various research fields from our solar system all the way out to the earliest Universe. This symposium will celebrate the 20th anniversary of Subaru and highlight our recent scientific outcomes in parallel sessions. We also aim to share and discuss the on-going/future large programs (to be) conducted on the Subaru Telescope and international collaborations in the general session. The Subaru Users' Meeting FY2019 will also be combined with this symposium.

Prof. Michitoshi Yoshida
Director of Subaru Telescope

ORGANIZING COMMITTEE

SCIENTIFIC ORGANIZING COMMITTEE

SOLAR SYSTEM

Chair: Fumi Yoshida (CIT-PERC)

Dave Tholen (UH-Ifa), Konstantin Batygin (Caltech), Masateru Ishiguro (SNU), Meg Schwamb (Gemini)

Mike Brown (Keck), Shiang-Yu Wang (EAO), Tsuyoshi Terai (Subaru), Yasuhito Sekine (U. of Tokyo)

EXOPLANET AND STAR FORMATION

Chair: Norio Narita (U. of Tokyo/ABC)

Misato Fukagawa (NAOJ)

LOCAL GROUP AND NEARBY GALAXIES

Chair: Miho N. Ishigaki (Tohoku U.)

Alvio Renzini (INAF), Daisuke Kawata (U. College London), Evan Kirby (Caltech), Gang Zhao (NAOC)

Kohei Hayashi (U. of Tokyo), Jin Koda (Stony Brook U.), Noriyuki Matsunaga (U. of Tokyo), Raja Guhathakurta (UCSC),

Rosemary F. G. Wyse (Johns Hopkins U.), Sakurako Okamoto (Subaru), Wako Aoki (NAOJ), Yutaka Komiyama (NAOJ)

TIME DOMAIN

Chair: Masaomi Tanaka (Tohoku U.)

Giuliano Pignata (U. Andrés Bello), Tomoki Morokuma (U. of Tokyo), Tyler A. Pritchard (New York U.)

SUPERMASSIVE BLACK HOLES

Chair: Yoshiki Matsuoka (Ehime U.)

Masa Imanishi (NAOJ), Michael Strauss (Princeton U.), Masaomi Tanaka (Tohoku U.), Jong-Hak Woo (SNU)

GALAXY FORMATION

Chair: Masayuki Tanaka (NAOJ)

Kate Whitaker (UConn), Mariska Kriek (UC Berkeley), Masato Onodera (Subaru), Pascal Oesch (Yale U.), Yuichi Matsuda (NAOJ)

USER'S MEETING

Tohru Nagao (Ehime U.), Yuichi Matsuda (NAOJ), Takayuki Kotani (NAOJ)

LOCAL ORGANIZING COMMITTEE

Mari Endo, Yusei Koyama, Michitoshi Yoshida, Junichi Nomaru, Lucio Ramos, Hirofumi Okita, Nagayoshi Ohashi,

Yuko Kakazu, Rieko Murai, Etsuko Mieda, Ichi Tanaka, Masayo Nakajima, Eiji Kambe, Yoji Seto, Satoshi Sugawara, Ryoko Sur,

Yuka Niimi, Hiromi Chung, Keiko Formanek, Noriko Roth, Takashi Hattori, Tae-Soo Pyo, Olivier Guyon, Yoshito Ono,

Hyewon Suh, Shigeru Namiki, Jinshi Sai, Yuhei Takagi (Subaru)

CONFERENCE ORGANIZERS

Sakurako Okamoto, Rhythm Shimakawa (Subaru)

CONFERENCE GOODIES

- ▶ CONFERENCE BROCHURE (THIS ITEM)
- ▶ NAME TAG * You may also have another tag for your companion
- ▶ DRINK TICKETS FOR WELCOME DRINK ON SUNDAY
- ▶ BANQUET AND DRINK TICKETS * If you registered the conference banquet
- ▶ COMMEMORATIVE GOODS
 - ▶ SPECIAL CONFERENCE TOTE BAG * Exclusive for participants
 - ▶ SPECIAL CUTLERY SET * Exclusive for participants
 - ▶ NAOJ PEN
 - ▶ NAOJ CALENDAR 2020
 - ▶ CLEAR FILES FROM NAOJ AND IPMU
 - ▶ POSTCARDS FROM NAOJ AND TMT
 - ▶ ABC NOTE FROM ASTROBIOLOGY CENTER (ABC)
 - ▶ ULTIMATE-SUBARU PAPER FAN
 - ▶ SUBARU TELESCOPE 20TH ANNIVERSARY ECO BAG
 - ▶ SUBARU TELESCOPE 20TH ANNIVERSARY WRAPPING CLOTH
- ▶ OMKM MAUNAKEA BROCHURE
- ▶ TMT BROCHURE

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RESORT MAP

CONFERENCE ROOMS (NAUPAKA LAWN)

<https://www.marriott.com/hotels/event-planning/business-meeting/koamc-waikoloa-beach-marriott-resort-and-spa/>

- ▶ Naupaka I : Reception, LOC room, Childcare
- ▶ Naupaka II, III : Poster Room
- ▶ Naupaka IV : Plenary Session, Parallel Science Session (Galaxy Formation)
- ▶ Naupaka V-VII : Parallel Science Session

LUNCH BUFFET

- ▶ Paniolo I, II
- ▶ Paniolo Ocean Terrace

BANQUET AND SUNSET LU'AU

- ▶ Lu'au Grounds

BOARD MEETING ROOM

- ▶ Paniolo I

ACCOMMODATION

- ▶ Kamehameha Wing

INFORMATION

OFFICIAL EVENTS

- ▶ WELCOME DRINK AT PANIOLO OCEAN TERRACE ON SUN (18:00-19:30)
- ▶ CONFERENCE BANQUET AT LU'AU GROUNDS ON TUE (18:00-20:00)

SOCIAL EVENTS

- ▶ Waikoloa Beach Morning Walk at 7 AM on Tue and Thu (free for all, please come to the entrance of hiking trail)
- ▶ Stargazing event at 19:30 on Thu at Lu'au Grounds (free for all)
- ▶ Waikoloa Beach Resort Golf on Wed morning (by appointment only)

MARRIOTT SPECIAL CONCESSIONS AND EVENT

- ▶ Daily discounted parking (self - \$10 / valet - \$15)
- ▶ Free guest room Wi-Fi
- ▶ Discounted daily resort activity fee (\$15 per room plus tax), that includes two complimentary beverages
- ▶ Discounted daily buffet breakfast (\$25 inclusive tax & gratuity)
- ▶ 10% discount at Mandara Spa
- ▶ Discounted seating price at \$88 plus tax for Sunset Lu'au
- ABOUT SUNSET LU'AU (WWW.WAIKOLOABEACHRESORT.COM/LUAU/)
 - Held on Mon and Wed
 - Seating starts at 5:00 p.m. at the Lū'au Grounds
 - Tickets can be purchased in the hotel lobby at 4 pm on Mon and Wed
 - General seating prices are \$117 for adults, \$58.50 for keiki 6-12 years old





RESTAURANTS

<https://www.waikoloabeachresort.com/big-island-dining/>

WAIKOLOA BEACH MARRIOTT

<https://www.marriott.com/hotels/hotel-information/restaurant/koamc-waikoloa-beach-marriott-resort-and-spa/>

- ▶ Aka'ula Lanai (Lite Fare) - \$\$
- ▶ Hawai'i Calls Restaurant & Lounge (American) - \$\$\$
- ▶ Sunset Lū'au (Hawaiian) - \$\$\$

KING'S SHOPS

<http://www.kingsshops.com/directory>

- ▶ A-Bay's Island Grill (American) - \$\$
- ▶ Foster's Kitchen (American) - \$\$
- ▶ Island Fish & Chips (Lite Fare) - \$
- ▶ Roy's Waikoloa Bar & Grill (Hawaiian Inspired Euro-Asian) - \$\$\$

QUEEN'S MARKETPLACE

<https://www.queensmarketplace.net/dining/>

- ▶ Aloha Bol (Hawaiian) - \$\$
- ▶ Big Island Burritos (Mexican) - \$
- ▶ Bistro at the Cinemas (American and Vietnamese) - \$\$
- ▶ Charley's Thai Cuisine (Thai) - \$\$
- ▶ Daylight Mind Café & Restaurant (American) - \$\$
- ▶ Ippy's Hawaiian BBQ (Hawaiian) - \$
- ▶ Kuleana Rum Shack (Hawaiian) - \$\$
- ▶ Lemongrass Express (Thai) - \$\$
- ▶ Paradise Pizza & Grill (American) - \$\$
- ▶ Romano's Macaroni Grill (Italian) - \$\$
- ▶ Sansei Seafood (Asian) - \$\$\$
- ▶ Subway (Sandwiches and Wraps) - \$
- ▶ Starbucks (Coffee) - \$
- ▶ Island Gourmet Markets (Grocery Store) - \$

* Dining area is also located around Hilton Waikoloa Village (20 min walk)

* PDF version is available on the conference webpage



PROGRAM

CONFERENCE SCHEDULE

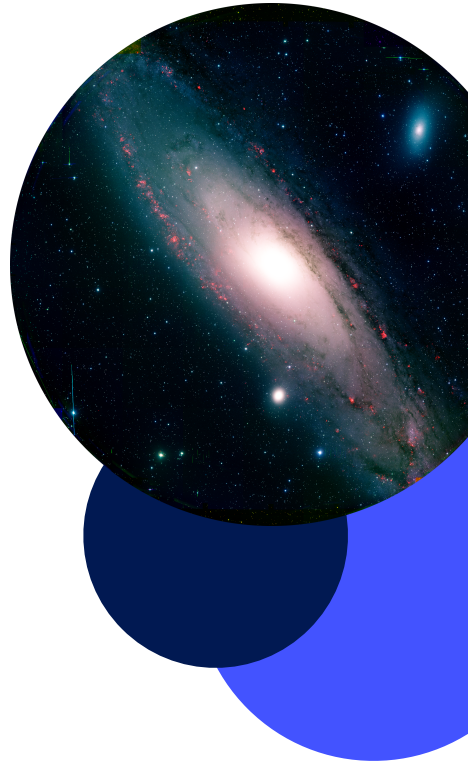
	11/17 SUNDAY	11/18 MONDAY	11/19 TUESDAY	11/20 WEDNESDAY	11/21 THURSDAY	11/22 FRIDAY
8:00 AM		Registration	Registration			
8:30 AM		Morning Coffee	Morning Coffee		Morning Coffee	Morning Coffee
9:00 AM						
9:30 AM		Synergy with TMT	Parallel Sessions & SMBH & Time Domain Joint Session	No Session	Parallel Sessions	Parallel Sessions & PFS Science Contributions
10:00 AM						
10:30 AM		Future Wide-Field Survey (LSST, Euclid, WFIRST)				
11:00 AM						
11:30 AM						
12:00 PM		Lunch	Lunch	Lunch at Leisure	Lunch	Lunch
12:30 PM	Registration					
1:00 PM		Registration	Registration			
1:30 PM	User's Meeting	Future Wide-Field Survey (LSST, Euclid, WFIRST)	Parallel Sessions	PFS Special Session	Parallel Sessions	Science Keynotes
2:00 PM						
2:30 PM	Coffee Break	Coffee Break	Coffee Break	InstSW Flash-talks	Coffee Break	Coffee Break
3:00 PM				Coffee Break		
3:30 PM		WFIRST-Subaru Synergy Workshop (by WFIRST WG)	Parallel Sessions		Parallel Sessions	Science Keynotes
4:00 PM	User's Meeting			ULTIMATE Special Session		
4:30 PM						Closing Remarks
5:00 PM						
5:30 PM		WFIRST-Subaru Discussion (by WFIRST WG)		Subaru Near Future Discussion		
6:00 PM	Welcome Reception		Banquet			End
6:30 PM						

PARALLEL SCIENCE SESSIONS

- SOLAR SYSTEM :** Progress and Perspective of Solar System Science using Subaru
- EXOPLANET & STAR FORMATION :** Past 20 Years and Future of Subaru's Role in Observations of Exoplanets and Disks
- LOCAL GROUP & NEARBY GALAXIES :** Wide-field-surveys of the Local Group and Nearby Galaxies
- TIME DOMAIN :** Time-Domain Astronomy in the Multi-Messenger Era
- SUPERMASSIVE BLACK HOLES :** Demographics of Supermassive Black Holes across the Universe
- GALAXY FORMATION :** KAIA•HÖ•KÜ: Towards Understanding the origin of the Complexity and Diversity

NAUPAKA IV

- 13:00-13:20 **Michitoshi Yoshida (Subaru)**
Welcome & Subaru Observatory Report
- 13:20-13:30 **Tae-Soo Pyo (Subaru)**
Science Operation Report for FY2019
- 13:30-13:45 **Takashi Hattori (Subaru)**
Status of Existing Facility Instruments
- 13:45-13:55 **Kiaina Schubert (Subaru)**
Computing
- 13:55-14:05 **Hisanori Furusawa (NAOJ)**
HSC Data Analysis System
- 14:05-14:15 **James Ferreira (Subaru Telescope)**
Day-time Operation Report
- 14:15-14:25 **Michael Letawsky (Subaru)**
Night-time Operation Report
- 14:25-14:35 **Hideaki Fujiwara (Subaru)**
PIO Report
- 14:35-14:50 **Taddy Kodama (Tohoku U.)**
SAC Report
- 14:50-15:05 **Kentaro Motohara (U. of Tokyo)**
TAC Report
- 15:05-15:40 **COFFEE BREAK**
- 15:40-15:50 **Hilton Lewis (W. M. Keck Observatory)**
W. M. Keck Observatory Update
- 15:50-16:00 **Atsuko Nitta (Gemini Observatory)**
Gemini Observatory Report
- 16:00-16:10 **Doug Simons (CFHT)**
Celebrating 40 Years of Discovery and a Bright Future at CFHT
- 16:10-16:20 **Bob McLaren (UH-IfA)**
The University of Hawaii Perspective
- 16:20-16:30 **Satoshi Miyazaki (NAOJ)**
Hyper Suprime-Cam SSP
- 16:30-16:40 **Bunei Sato (Tokyo Institute of Technology)**
Search for planets like Earth around late-M dwarfs: precise radial-velocity survey with IRD
- 16:40-16:50 **Sakurako Okamoto (Subaru)**
Subaru Near Field Cosmology Survey
- 16:50-17:00 **Masahiro Takada (Kavli IPMU)**
Status report on intensive program "Constraining $\sim 10M_{\odot}$ PBHs with HSC microlensing search of M31 stars"
- 17:00-17:10 **Norio Narita (U. of Tokyo/ABC)**
Progress report of Subaru IRD TESS Intensive Follow-up Project
- 17:10-17:20 **Yoshiki Matsuoka (Ehime U.)**
Subaru Intensive Searches for the Most Distant Quasars
- 18:00-19:30 **WELCOME DRINK AT PANIOLO OCEAN TERRACE**



NAUPAKA IV

SYNERGY WITH THIRTY METER TELESCOPE

- 09:00-09:15 Tomonari Usuda (NAOJ)
Thirty Meter Telescope (TMT)
- 09:15-09:40 Charles Beichman (NASA Exoplanet Science Institute (IPAC, JPL, Caltech))
Exoplanets in the Era of 30 m Telescopes
- 09:40-10:05 Mark Dickinson (NOAO)
Studying galaxy evolution with TMT and Subaru in the global era of Extremely Large Telescopes
- 10:05-10:30 Masashi Chiba (Tohoku U.)
Exploring the Local Universe with TMT
- 10:30-10:35 SHORT BREAK

FUTURE WIDE-FIELD SURVEY

- 10:35-10:50 Satoshi Miyazaki (NAOJ)
Introduction for this session
- 10:50-11:30 Michael Wood-Vasey (U. of Pittsburgh)
The LSST Dark Energy Science Collaboration
- 11:30-11:55 Jean-Charles Cuillandre (CEA Saclay/Obs. de Paris)
The Euclid Survey
- 11:55-13:30 LUNCH BUFFET AT PANIOLA OCEAN TERRACE
- 13:30-13:55 Mike Hudson (U. of Waterloo)
Euclid Science and Synergies
- 13:55-14:20 Jeffrey W Kruk (NASA/GSFC)
WFIRST: Project Overview and Status
- 14:20-14:45 Jason Rhodes (NASA JPL/Kavli IPMU)
WFIRST's General Observer and Coronagraph Instrument (CGI) Programs
- 14:45-15:30 COFFEE BREAK

WFIRST-SUBARU SYNERGY WORKSHOP III (HOSTED BY WFIRST WG)

- 15:30-15:50 Takahiro Sumi (Osaka U.)
Subaru-WFIRST Synergistic Observation white paper
- 15:50-16:15 Masahiro Takada (Kavli IPMU)
Synergetic cosmology program with Subaru and WFIRST
- 16:15-16:40 Masami Ouchi (NAOJ/U. Tokyo)
Subaru-WFIRST Deep Fields and Galaxy Evolution Studies
- 16:40-17:05 James Rhoads (NASA/GSFC)
Combining WFIRST and Subaru Observations to Study Cosmic Dawn
- 17:05-17:15 SHORT BREAK
- 17:15-19:00 WFIRST Special Discussion



* In parallel with the WFIRST discussion, a public event, Sunset Lu'au is scheduled (\$88 plus tax). See information page for details.

NAUPAKA IV

GALAXY FORMATION

- 09:00-09:25 (I) Ivo Labbe (Swinburne U. of Technology)
The first billion years of galaxy formation
- 09:25-09:40 Daichi Kashino (ETH Zurich)
Exploring the end tail of cosmic reionization with Subaru/HSC
- 09:40-09:55 Satoshi Yamanaka (Waseda U.)
CHORUS: Candidates of Lyman continuum galaxies at $z=3.3$ and 4.9 selected from CHORUS narrow-band data
- 09:55-10:10 Shotaro Kikuchihara (U. of Tokyo)
Early Low-Mass Galaxies and Star-Cluster Candidates at $z\sim 6-9$
- 10:10-10:25 SHORT BREAK
- 10:25-10:50 (I) Catlin Casey (UT Austin)
Rare galaxies in the early Universe
- 10:50-11:05 Ken-ichi Tadaki (NAOJ)
A sub-kiloparsec-view of the most massive star-forming galaxies at $z>4$
- 11:05-11:20 Seji Fujimoto (Waseda U.)
First Identification of 10-kpc Scale [CII] 158nm Halos around Star-Forming Galaxies at $z=5-7$
- 11:20-11:35 Ryota Kakuma (U. of Tokyo)
Cross-Correlation Ly α Intensity Mapping with Star-Forming Galaxies at $z = 5.7$ and 6.6
- 11:35-11:50 Poster Talks (1 min x 11)
- 11:50-13:30 LUNCH BUFFET
- 13:30-13:55 (I) Taddy Kodama (Tohoku U.)
Past 20 years of panoramic studies of distant clusters with Subaru and the Future
- 13:55-14:10 Satoshi Kikuta (SOKENDAI/NAOJ)
Lyman-alpha view around a $z = 2.84$ hyperluminous QSO at a node of the cosmic web
- 14:10-14:25 Michael Rich (UCLA)
Extended Lyman Alpha Nebulae associated with Radio Overdensities at $z\sim 3$
- 14:25-14:40 Hideki Umehata (RIKEN)
Gas filaments connecting galaxies and supermassive black holes in a proto-cluster
- 14:40-14:55 Andrew Newman (Carnegie Obs.)
LATIS: Mapping the IGM and Galaxy Environments at $z\sim 2.5$ with Magellan
- 14:55-15:30 COFFEE BREAK
- 15:30-15:45 Tomoko Suzuki (Tohoku U./NAOJ)
Dissecting star-forming region within galaxies in a proto-cluster at $z=2.53$ with Subaru/IRCS+AO188
- 15:45-16:00 Tao Wang (U. of Tokyo)
Environmental effects on massive galaxy formation from the most distant X-ray clusters
- 16:00-16:15 Shigeru Namiki (SOKENDAI/Subaru)
The environmental impacts on the mass-metallicity relation at $z=1.52$
- 16:15-16:30 Masao Hayashi (NAOJ)
Probing large-scale structures at $z<1.6$ by HSC wide-field survey
- 16:30-16:45 Mike Hudson (U. of Waterloo)
First weak lensing results from the UNION Survey
- 16:45-17:00 Takashi Kojima (U. of Tokyo)
Extremely Metal-poor Galaxies Probed with Subaru/HSC Deep Imaging and Optical Spectroscopy

NAUPAKA V

LOCAL GROUP AND NEARBY GALAXIES

- 09:00-09:35 (I) Michael Rich (UCLA)
New Surveys in the Galactic Bulge
- 09:35-09:55 Noriyuki Matsunaga (U. of Tokyo)
Near-infrared windows of precise and detailed chemical measurements for galactic archaeology
- 09:55-10:15 Daisuke Suzuki (ISAS/JAXA)
Extinction study toward the Inner Milky Way with Subaru HSC
- 10:15-10:35 Wenbo Wu (NAOC)
Mass segregation -- a new indicator of binary, IMBH, stellar-mass black hole
- 10:35-11:00 SHORT BREAK
- 11:00-11:20 Haining Li (NAOC)
LAMOST/Subaru exploration on the early evolution and formation of the Milky Way
- 11:20-11:40 Wako Aoki (NAOJ)
Mass estimates for early generation stars from detailed abundance patterns of Carbon- Enhanced Metal-Poor stars
- 11:40-12:00 Tadafumi Matsuno (SOKENDAI/NAOJ)
Combining spectroscopy and asteroseismology for halo stars
- 12:00-13:30 LUNCH BUFFET
- 13:30-13:50 Miho N. Ishigaki (Tohoku U.)
Interpreting spectroscopic survey data for metal-poor stars with supernova yield models
- 13:50-14:10 Takanobu Kirihiro (Chiba U.)
Effect of interstellar objects on metallicity of low-mass first stars formed in a cosmological model
- 14:10-14:45 (I) Kim Venn (U. of Victoria)
Spectroscopic Surveys of Stars in Dwarf Galaxies
- 14:45-15:05 Evan Kirby (Caltech)
Sub-Chandrasekhar Type Ia Supernovae in Dwarf Galaxies
- 15:05-15:35 COFFEE BREAK
- 15:35-15:55 Kohei Hayashi (U. of Tokyo)
Diversity of the dark matter distributions in the Galactic dwarf satellites
- 15:55-16:10 Poster Talks (3 min x 4)
- 16:10-16:45 (I) Masashi Chiba (Tohoku U.)
New Insights into the Stellar and Dark Halos in the Milky Way and Andromeda as Revealed from Subaru
- 16:45-17:05 Rosemary Wyse (Johns Hopkins U.)
The Old are Rich: Metallicity Distributions of Old Stars in the Milky Way and M31

NAUPAKA VI

EXOPLANET AND STAR FORMATION

- 09:00-09:40 (I) Misato Fukagawa (NAOJ)
Star Formation Science with Subaru
- 09:40-10:00 Hervé Bouy (U. of Bordeaux)
Combining 20 years of Subaru data to search for young brown dwarfs and planetary mass objects
- 10:00-10:20 Per Calissendorff (Stockholm U.)
Spectral characterization of newly detected young substellar binaries
- 10:20-10:40 Jinshi Sai (U. of Tokyo/NAOJ)
ALMA Observations of the Late-Phase Protostar L1489 IRS: Warped or Misaligned Disk Structure
- 10:40-10:50 SHORT BREAK
- 10:50-11:10 Yasunori Hori (ABC)
Are Planets Rare in Open Clusters?
- 11:10-11:30 Hiroyuki Ishikawa (SOKENDAI)
Detailed Chemical Analysis of M Dwarfs by High-Dispersion Near-Infrared Spectroscopy with IRD
- 11:30-11:50 Poster Talks (3 min x 5)
- 11:50-13:20 LUNCH BUFFET
- 13:20-14:00 (I) Mitsuhiko Honda (Okayama U. of Sci.)
Evolution of solids and planet formation revealed by Subaru
- 14:00-14:20 Garima Singh (Obs. de Paris)
Discovery of an azimuthal density gradient in a gas-rich debris disk possibly related to a massive collision
- 14:20-14:40 Riouhei Nakatani (RIKEN)
Radiation Hydrodynamics Simulations of Photoevaporating Protoplanetary Disks: Implications to Metallicity Dependence of Disk Lifetimes
- 14:45-15:00 Takayuki Muto (Kogakuin U.)
Multi-wavelength High Resolution Observations of Protoplanetary Disks
- 15:00-15:30 COFFEE BREAK
- 15:30-16:10 (I) Tyler Groff (NASA/GSFC)
Exoplanet Imaging with CHARIS and Future Synergies with WFIRST CGI
- 16:10-16:30 Julien Lozi (Subaru)
New NIR spectro-polarimetric modes for the SCEXAO instrument
- 16:30-16:50 Thayne Currie (NASA-Ames/Subaru)
Spectral Characterization of Directly-Imaged Planets with the Subaru Telescope

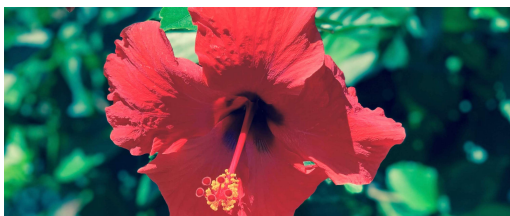
NAUPAKA VII

SMBH & TIME DOMAIN JOINT SESSION

- 09:00-09:40 (I) Shigeru Yoshida (Chiba U.)
Multi-messenger astronomy with high energy neutrinos
- 09:40-10:00 Haoning He (RIKEN)
Neutrinos from Choked Jets Accompanied by Type-II Supernovae
- 10:00-10:20 Tomoki Morokuma (U. of Tokyo)
Subaru+Gemini follow-up for IceCube high-energy neutrinos
- 10:20-10:40 Mitsuru Kokubo (Tohoku U.)
Properties of variability-selected AGNs in the HSC SSP Transient Survey in COSMOS
- 10:40-11:00 SHORT BREAK
- 11:00-11:20 Shintaro Koshida (Subaru)
Searching for hot dust surrounding SMBH with HSC transient survey catalog
- 11:20-11:40 Shunsuke Onishi (U. of Tokyo/ISAS/JAXA)
The line-of-sight velocity variation of CO ro-vibrational lines in the ULIRG IRAS 08572+3915
- 11:40-12:00 Chien-Hsiu Lee (NOAO)
ANTARES: a community broker for ZTF and LSST
- 12:00-13:30 LUNCH BUFFET

SUPERMASSIVE BLACK HOLES

- 13:30-14:00 (I) Jenny Greene (Princeton U.)
Mergers, Black Hole Binaries, and PFS
- 14:00-14:20 Maria Charisi (Caltech)
Searching for sub-parsec supermassive black hole binaries
- 14:20-14:40 Malte Schramm (NAOJ)
A potential high-z dwarf galaxy discovered by ALMA and SUBARU/IRCS
- 14:40-15:00 Tomo Goto (NTHU)
One step toward understanding cosmic re-ionization: absorption tests with a new QSO we discovered at $z=6.6$
- 15:00-15:30 COFFEE BREAK
- 15:30-16:00 (I) Chris Harrison (ESO)
AGN Outflows and Feedback Across Cosmic Time
- 16:00-16:20 Toru Misawa (Shinshu U.)
Properties of Narrow Absorption Line Systems in AGN Outflow
- 16:20-16:40 Tohru Nagao (Ehime U.)
High-z narrow-line regions in AGNs
- 16:40-16:52 Poster Talks (3 min x 4)



18:00-20:00 Conference Dinner
at Lu'au Grounds

SUBARU TELESCOPE OF THE FUTURE

NOTICE: NO LUNCH BUFFET ON WEDNESDAY

NAUPAKA VI

PFS SPECIAL SESSION

- 13:00-13:20 Naoyuki Tamura (Kavli IPMU)
PFS: The next generation Subaru's facility instrument under integration
- 13:00-13:40 Masahiro Takada (Kavli IPMU)
PFS SSP survey planning
- 13:40-14:00 David Schlegel (Lawrence Berkeley National Lab)
DESI Installation Challenges, First Light, and Survey Plan
- 14:00-14:20 Jeffrey Newman (U. Pittsburgh)
PFS and LSST: Stronger Together
- 14:20-14:40 Taddy Kodama (Tohoku U.)
Revealing the build-up of large scale structures and galaxy populations therein with PFS²
- 14:40-15:00 Hitoshi Murayama (Kavli IPMU/UC Berkeley)
Why PFS is exciting for fundamental physics
- 15:00-15:20 Instrument & Software Poster Flash-talks

15:20-15:50 COFFEE BREAK

ULTIMATE SPECIAL SESSION

- 15:50-16:00 Yousuke Minowa (Subaru)
ULTIMATE-Subaru: Project Overview and Current Status
- 16:00-16:15 Akio Inoue (Waseda U.)
ULTIMATE prospects for galaxy surveys beyond $z=10$
- 16:15-16:30 Kate Whitaker (UMass Amherst)
Tracing the Life Cycles of Massive Galaxies up to Cosmic Noon: Prospects with ULTIMATE-Subaru
- 16:30-16:45 Takashi Moriya (NAOJ)
Time domain astronomy with ULTIMATE-Subaru
- 16:45-17:00 Eric Peng (Peking U./KIAA)
Galaxy evolution in the local Universe with ULTIMATE
- 17:00-17:15 Daisuke Suzuki (ISAS/JAXA)
ULTIMATE microlensing survey
- 17:15-17:20 Yusei Koyama (Subaru)
ULTIMATE session summary/promotion
- 17:20-17:30 SHORT BREAK

SUBARU NEAR FUTURE DISCUSSION (LEAD BY SUBARU SCIENTIFIC ADVISORY COMMITTEE)

- 17:30-18:30 International Partnership
Instruments Decommission Plan
etc.

* In parallel with Subaru near future discussion, a public event, Sunset Lu'au is scheduled (\$88 plus tax). See information page for details.

THE BIG ISLAND SIGHTSEEING MAP

https://drive.google.com/open?id=14V-_IPPNXLOi-km7HoMAvi9OsvlO9Jrc&usp=sharing

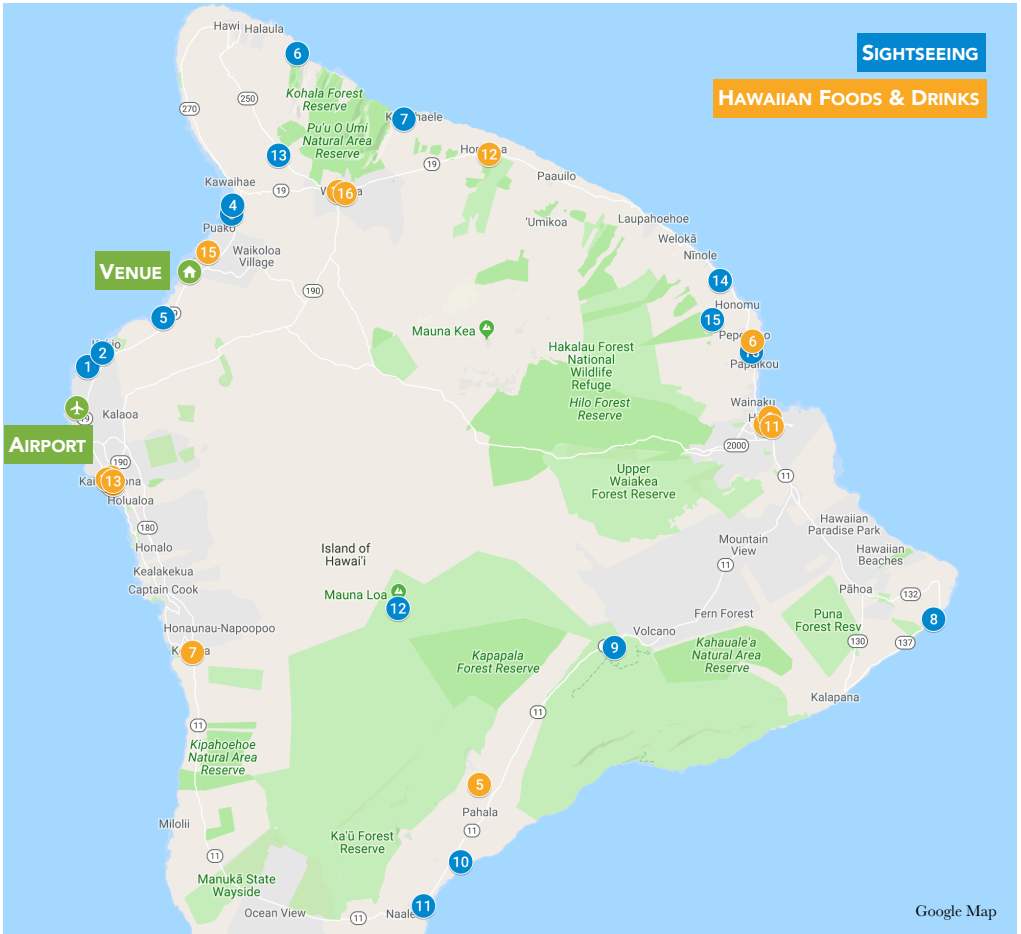
* PDF version is available on the conference webpage

SIGHTSEEING

1. Makalawena Beach (Best beach. 4WD required)
2. Kua Bay (Best beach with easy access)
3. Hapuna Beach (Largest beach in Hawaii Island)
4. Mauna Kea Beach (Most quiet. Limited parking space)
5. Kiholo Bay (Turtle bay)
6. Polulu Valley (Easy to hike)
7. Waipi'o Valley (Hard to hike)
8. Isaac Hale Beach Park (New black sand beach)
9. Volcano National Park (Famous spot. No visible lava for now)
10. Punalu'u Black Sand Beach (Best to see sunbathing turtles)
11. Scenic Point (Nice view spot)
12. Mauna Loa (Accessible summit. 4WD preferred)
13. Scenic Point (Great view spot)
14. Zipline Adventure
15. Akaka Falls
16. Tropical Botanical Garden

HAWAIIAN FOODS & DRINKS

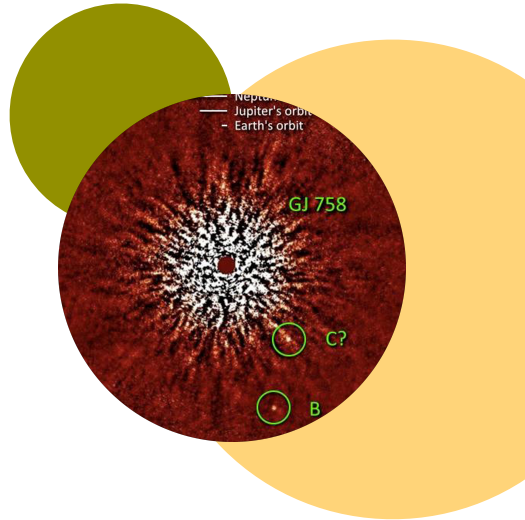
1. Kona Brewing Co. (Kona Beer)
2. Kona Coffee & Tea (Kona Coffee)
3. Kona Coffee Cafe (Kona Coffee)
4. Daylight Mind Coffee Company (Kona Coffee)
5. Kau Coffee Mill (Kau Coffee)
6. What's Shakin' (Smoothie)
7. The South Kona Fruit Stand (Smoothie)
8. Cafe 100 (Historical Loco Moco place)
9. Suisan Fish Market (Fresh Poke)
10. Umeke's Fish Market (Fresh Poke)
11. Big Island Candies (Chocolates and cookies)
12. Tex Drive-In (Malasada)
13. Big Island Grill (Hawaiian Restaurant)
14. Merriman's (Hawaiian Restaurant)
15. Tommy Bahama Restaurant (Nice burgers)
16. Village Burger (Nice burgers)



POSTERS

INSTRUMENT AND SOFTWARE

- P01 Naoyuki Tamura (Kavli IPMU)**
Prime Focus Spectrograph (PFS): Overview of the instrumentation and its current status
- P02 Shiang-Yu Wang (ASIAA)**
Prime Focus Spectrograph (PFS): The Metrology Camera System
- P03 Shiang-Yu Wang (ASIAA)**
Prime Focus Spectrograph (PFS): The Status of Prime Focus Instrument Integration and Test
- P04 Daniel Reiley (Caltech)**
Prime Focus Spectrograph (PFS): Delivery of subassemblies from Caltech
- P05 Brent Belland (Caltech)**
Prime Focus Spectrograph (PFS): FRD testing of individual Cobras and Cobra modules
- P06 David Le Mignant (LAM/CNRS)**
Prime Focus Spectrograph (PFS): integration and performance tests of the spectrograph modules
- P07 Ligia Souza de Oliveira (LNA - Brazil)**
Prime Focus Spectrograph (PFS): Fiber Optics System
- P08 Graham J. Murray (Durham U.)**
Fibre Cables from FMOS to PFS and beyond - Development of a Unique Fibre Cable Manufacturing Process for Subaru MOS Projects
- P09 Neven Caplar (Princeton U.)**
Prime Focus Spectrograph (PFS): Development of the 2D sky subtraction algorithm
- P10 Takuji Yamashita (NAOJ)**
Prime Focus Spectrograph (PFS): Development in flux calibration and sky subtraction
- P11 Vincent Le Brun (LAM)**
Prime Focus Spectrograph (PFS) : An overview of the automatic redshift measurement and spectral analysis pipeline
- P12 Maximilian Fabricius (MPE)**
Prime Focus Spectrograph (PFS): Fiber assignment and Survey Planning
- P13 Kiyoto Yabe (Kavli IPMU)**
Prime Focus Spectrograph (PFS): the SSP survey plan and simulations
- P14 Kiyoto Yabe (Kavli IPMU)**
Prime Focus Spectrograph (PFS): the expected performance
- P15 Masayuki Tanaka (NAOJ)**
Prime Focus Spectrograph (PFS): Science Database
- P16 Junko Furusawa (NAOJ)**
Current Status of SMOKA
- P17 Hisanori Furusawa (NAOJ)**
Hyper Suprime-Cam SSP Public Data Release 2
- P18 Stephen Gwyn (CADC)**
Stacking the Suprime-Cam image archive at the CADC
- P19 Masayuki Kuzuhara (ABC/NAOJ)**
Instrument, Software, and Operation Status of the InfraRed Doppler Spectrograph (IRD)
- P20 Kentaro Motohara (U. of Tokyo)**
Performance of New NIR Imager/MOS Spectrograph SWIMS on the Subaru Telescope
- P21 Sebastien Vievard (Subaru/Obs Paris/ABC)**
FIRST instrument at Subaru - Status and upgrades
- P22 Malte Schramm (NAOJ)**
A second generation astro-comb for SUBARU/HDS
- P23 Koki Terao (Tohoku U.)**
ULTIMATE-START I: Subaru Tomography Adaptive optics Research experiment overview
- P24 Yoshito Ono (Subaru)**
ULTIMATE-START II : Performance evaluation with AO simulations
- P25 Hajime Ogane (Tohoku U.)**
ULTIMATE-START III : Atmospheric turbulence profiling for a tomography AO
- P26 Yosuke Minowa (Subaru)**
ULTIMATE-Subaru: Project overview and current status
- P27 Yusei Koyama (Subaru)**
ULTIMATE-Subaru: science overview
- P28 Kentaro Motohara (U. of Tokyo)**
ULTIMATE-WFI : Wide Field Imager with 200 square arcmin FoV
- P29 Etsuko Mieda (Subaru)**
Laser Guide Star Facility upgrade for ULTIMATE: SCAO, LTAO, and GLAO at Subaru



POSTERS

EXOPLANET AND STAR FORMATION

- P30 Yasunori Hori (ABC)**
Do the TRAPPIST-1 Planets Have Primordial or Secondary Atmospheres?
- P31 Taichi Uyama (NExSci/Caltech/IPAC)**
Search for H α from Accreting Protoplanets with SCEAO+VAMPIRES
- P32 Mayuko Ozawa (U. of Tokyo)**
N-body simulations of accretion of ice giant cores in mean motion resonances with gas giants
- P33 Yuhei Tagaki (Subaru)**
High-resolution optical and near-infrared spectroscopy of FU Ori type star V960 Mon
- P34 Masashi Omiya (ABC)**
Precise radial velocity survey of late-M dwarfs in IRD-SSP : Observation status

GALAXY FORMATION

- P35 Shiro Mukae (U. of Tokyo)**
HETDEX-HSC: Wide-Field Imaging Survey for Hobby-Eberly Telescope Dark Energy Experiment
- P36 Akio Inoue (Waseda U.)**
CHORUS: Cosmic Hydrogen Reionization Unveiled with Subaru
- P37 Kazuyuki Ogura (Bunkyo U.)**
Semi-analytic examination for the cosmic variance on the H-alpha emitter distribution
- P38 Masanori Iye (NAOJ)**
Subaru Study on the Spin Parity Distribution of Galaxies and Structure Formation
- P39 Yongming Liang (SOKENDAI/NAOJ)**
Correlation between galaxy and IGM at $z \sim 2.2$ based on Subaru/HSC MAMMOTH overdensities and SDSS(e)BOSS quasar spectra

- P40 Hisanori Furusawa (NAOJ)**
A study of bright star-forming galaxies at redshift 7 using Subaru Telescope
- P41 Nozomu Tamada (Ehime U.)**
Hunting optical counterparts of high-z DLAs with Subaru/HSC
- P42 Yasunori Terao (U. of Tokyo)**
H alpha emitters at $z \sim 2.1 - 2.5$: selection from broad-band photometry
- P43 Naoaki Yamamoto (Tohoku U.)**
Various evolutionary stages of galaxy clusters at high redshifts
- P44 Makoto Ando (U. of Tokyo)**
Exploring Galaxy Proto-Cluster Cores at $z \sim 2$
- P45 Umi Kobayashi (SOKENDAI/NAOJ)**
Influence of galaxy mergers on AGN activities

LOCAL GROUP AND NEARBY GALAXIES

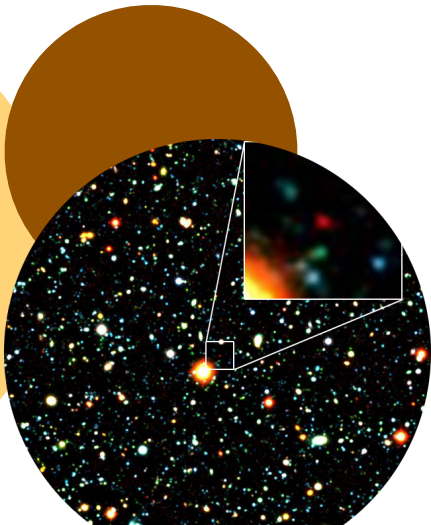
- P46 Kana Morokuma (U. of Tokyo)**
Multi-phase ISM properties of a nearby radio galaxy NGC1316
- P47 Kumiko Morihana (Nagoya U.)**
Identification of faint X-ray sources composing Galactic Ridge X-ray Emission by Subaru/MOIRCS
- P48 Rie Miura E. (NAOJ)**
Embedded Massive Young Stellar Objects in the Giant Molecular Clouds of M33
- P49 Ichi Tanaka (Subaru)**
A Hidden Past of NGC 720 as Revealed from the Deep HSC Imaging Supermassive Black Holes

SUPERMASSIVE BLACK HOLES

- P50 Kazuma Joh (Ehime U.)**
Influence of the AGN activity on ionized gas clouds in narrow-line regions of AGNs
- P51 Daisuke Itoh (Shinshu U.)**
Estimating a distance of intrinsic NAL absorbers
- P52 Shenli Tang (Kavli IPMU)**
The study of dual QSOs as tracers of galaxy mergers
- P53 Kohei Iwashita (Ehime U.)**
CHORUS: A new search for type-2 AGNs at high-z by focusing on dual-NB emitters with HSC-SSP and CHORUS

TIME DOMAIN

- P54 Yen-Chen Pan (NAOJ)**
Probing the Progenitor Metallicity of SNe Ia with Ultraviolet Spectra
- P55 Kengo Takagi (Hiroshima U.)**
Structure of circumstellar matter in helium nova V445 Puppis and its time evolution



NAUPAKA IV

GALAXY FORMATION

- 09:00-09:25 (I) **Gwen Rudie (Carnegie Obs.)**
The Circumgalactic Medium of Star-Forming Galaxies at $2 < z < 3$
- 09:25-09:40 **Yuma Sugahara (U. of Tokyo)**
Fast Outflows Identified in Early Star-Forming Galaxies at $z = 5-6$
- 09:40-10:05 (I) **Annalisa Pillepich (MPIA)**
Universe(s) in a box: insights from the TNG simulations and needed steps forward
- 10:05-10:20 **SHORT BREAK**
- 10:20-10:45 (I) **Camilla Pacifici (STScI)**
Synergy between galaxy models and observations to unveil the high-redshift Universe
- 10:45-11:00 **Ken Mawatari (U. of Tokyo)**
Balmer Break Galaxy candidates in the Reionization Epoch: Hint on Star-Formation Activity at $z > 10$
- 11:00-11:15 **Tomo Goto (NTHU)**
Revealing cosmic star formation history and black hole accretion history with AKARI and the HSC
- 11:15-11:30 **Andrea Silva (NAOJ)**
The star formation properties of merging galaxies at $0.3 < z < 2.5$
- 11:30-11:45 **Erin Kado-Fong (Princeton U.)**
Integrated Light Tidal Features Across the Mass Spectrum: Results from HSC-SSP
- 11:45-13:30 **LUNCH BUFFET**
- 13:30-13:55 (I) **Sirio Belli (MPE/CfA)**
The Star Formation Histories of Massive Quiescent Galaxies at $z \sim 2$
- 13:55-14:10 **Danilo Marchesini (Tufts U.)**
A Complete and Unbiased Photometric View of Ultra-massive Galaxies in the First 2 Gyr of Cosmic History
- 14:10-14:25 **Masayuki Tanaka (NAOJ)**
Stellar velocity dispersion of a massive galaxy with suppressed star formation at $z=4.01$
- 14:25-14:40 **Francesco Valentino (Cosmic Dawn Center)**
Quiescent galaxies at $z \sim 4$: formation and evolution
- 14:40-14:55 **Kate Whitaker (UConn)**
The REQUIEM Survey: REsolving QUIEscent Magnified Galaxies
- 14:55-15:30 **COFFEE BREAK**
- 15:30-15:55 (I) **Takahiro Morishita (STScI)**
Probing evolution and quenching histories of massive galaxies at high redshift
- 15:55-16:20 (I) **David Sanders (UH-IfA)**
The Hawaii Two-0 Survey: The Evolution of Massive Galaxies at $3 < z < 7$
- 16:20-16:35 **Po-Feng Wu (MPIA/NAOJ)**
Multiple paths from star-forming to quiescence: tracing galaxy formation with deep spectroscopic survey

NAUPAKA V

LOCAL GROUP AND NEARBY GALAXIES

- 09:00-09:20 **Yutaka Komiyama (NAOJ)**
Subaru Hyper Suprime-Cam Wide-Field Imaging Survey of the Local Group Galaxies: Andromeda and the Seven Dwarfs
- 09:20-09:55 (I) **Karoline Gilbert (STScI)**
The Power of Wide Field Surveys for Revealing the Past, Present and Future of the Andromeda System
- 09:55-10:15 **Ivanna Escala (Caltech)**
Iron and Alpha Element Abundances in the Outer Disk, Giant Southern Stream, and Inner Halo of Andromeda
- 10:15-10:45 **SHORT BREAK**
- 10:45-11:05 **Jennifer Wojno (Johns Hopkins U.)**
The Chemical Evolution of Andromeda's Satellites from Coadded Spectra
- 11:05-11:25 **Masayuki Tanaka (NAOJ)**
The Missing Satellite Problem Outside Of The Local Group
- 11:25-12:00 (I) **Eric W. Peng (Peking U./KIAA)**
Wide-field imaging and spectroscopy of the nearest galaxy cluster
- 12:00-13:30 **LUNCH BUFFET**
- 13:30-13:50 **Jin Koda (Stony Brook U.)**
Star Formation and the IMF in the Outskirts of Nearby Galaxies
- 13:50-14:25 (I) **Laura Ferrarese (NRC)**
Super-massive black holes in nearby galaxies
- 14:25-14:45 **Aaron Romanowsky (San Jose State U./UC)**
Chemodynamics and dark matter in galaxies beyond the Local Group
- 14:45-15:05 **Zehao Zhong (NAOC)**
The mass-to-light ratios and dark matter fractions of the dwarf ETGs from IFU galaxy surveys
- 15:05-15:35 **COFFEE BREAK**
- 15:35-15:55 **Raja GuhaThakurta (UCSC)**
Keck Spectroscopy of the Resolved Stellar Populations of Local Group/Local Volume Galaxies
- 15:55-16:30 (I) **Brent Tully (UH-IfA)**
Galaxy Distances and Peculiar Velocities
- 16:30-16:50 **Nobuo Arimoto (NAOJ)**
An HSC View of M81 Group of Galaxies
- 16:50-17:10 **Shany Danieli (Yale U.)**
The Nature of Low Mass Galaxies Beyond the Local Group with the Dragonfly Telephoto Array
- 17:10-17:30 **Scott Carlsten (Princeton U.)**
Studying Nearby Satellite Galaxy Systems with Wide-field Surveys and Surface Brightness Fluctuations

NAUPAKA VI

TIME DOMAIN

- 09:00-09:40 (I) **Marcelle Soares-Santos (Brandeis U.)**
Cosmology in the era of multi-messenger astronomy with gravitational waves
- 09:40-10:00 **Masaomi Tanaka (Tohoku U.)**
Optical/infrared counterparts of gravitational wave sources
- 10:00-10:20 **Mahito Sasada (Hiroshima U.)**
J-GEM Optical and NIR Follow-Up in Gravitational-Wave Third Observing Run
- 10:20-10:40 **Takayuki Ohgami (Konan U.)**
Subaru/Hyper Suprime-Cam survey for finding gravitational wave counterpart
- 10:40-11:00 **SHORT BREAK**
- 11:00-11:40 (I) **Francisco Forster (U. of Chile)**
High cadence surveys and the future ecosystem of time domain astronomy
- 11:40-11:50 **Poster Talks (x 2)**
- 12:20-13:50 **LUNCH BUFFET**

SOLAR SYSTEM

- 13:30-14:00 (I) **Fumi Yoshida (Chiba Institute of Tech.)**
Solar System sciences with Subaru Telescope
- 14:00-14:30 (I) **Hideyo Kawakita (Kyoto Sangyo U.)**
Cometary Science from the Subaru Telescope
- 14:30-15:00 (I) **Tadafumi Ootsubo (ISAS/JAXA)**
Mid-infrared observations and mineralogy of comet dust grains with Subaru/COMICS
- 15:00-15:30 **COFFEE BREAK**
- 15:30-16:00 (I) **JJ Kavelaars (NRC)**
Observing the distant solar system with Subaru and the New Horizons spacecraft
- 16:00-16:30 (I) **Glenn Orton (JPL/Caltech)**
Ground-Based Thermal-Infrared Investigations of Planetary Atmospheres
- 16:30-17:00 (I) **Ruobing Dong (U. of Victoria)**
Observing the Formation of Solar System Planet Analogs

19:30-21:00 **Stargazing Event
at Lu'au Grounds**



NAUPAKA VII

SUPERMASSIVE BLACK HOLES

- 09:00-09:30 (I) **Silvia Mateos (IFCA)**
Uncovering highly obscured SMBH growth
- 09:30-09:50 **Masatoshi Imanishi (NAOJ)**
Luminous buried AGNs in merging ultraluminous infrared galaxies revealed with Subaru and ALMA
- 09:50-10:10 **Yoshiki Toba (Kyoto U.)**
Multi-wavelength view of dust-obscured galaxies
- 10:10-10:30 **Akatoki Noboriguchi (Ehime U.)**
Discovery of blue-excess dust-obscured galaxies viewed with Subaru Hyper Suprime-Cam
- 10:30-10:50 **SHORT BREAK**
- 10:50-11:20 (I) **Kohei Ichikawa (Tohoku U.)**
Obscured SMBH assembly using multi-wavelength and wide-field surveys
- 11:20-11:40 **Takuji Yamashita (NAOJ)**
Wide and Deep Exploration of Radio Galaxies with Subaru HSC (WERGS)
- 11:40-12:00 **Kianhong Lee (U. of Tokyo)**
The radio-loud fraction and the mean radio-loudness of high- z low-luminosity HSC quasars
- 12:00-13:30 **LUNCH BUFFET**
- 13:30-14:00 (I) **Stephanie LaMassa (STScI)**
Demographics of X-ray and Mid-Infrared Selected AGN from the Wide-Area Stripe 82X Survey
- 14:00-14:20 **Hyewon Suh (Subaru)**
The most obscured phase of accreting black holes at high redshift: First accreting black hole candidates
- 14:20-14:40 **Masafusa Onoue (MPIA)**
Probing the early SMBH evolution at the frontiers: deep NIR observations of $z=6-7$ quasars
- 14:40-15:00 **Nanako Kato (Ehime U.)**
A search for high- z red quasars with the Subaru HSC and WISE data
- 15:00-15:30 **COFFEE BREAK**
- 15:30-16:00 (I) **Luis Ho (Peking U./KIAA)**
Fundamental Physical Properties of Quasar Host Galaxies
- 16:00-16:20 **Toru Ishino (Ehime U.)**
Subaru Hyper Suprime-Cam View of Quasar Host Galaxies at $z < 1$
- 16:20-16:40 **Yuya Saeda (Ehime U.)**
Stacking analysis of quasar host galaxies at $z > 1$ with Subaru HSC
- 16:40-17:00 **John Silverman (Kavli IPMU)**
The growth of supermassive black holes and their host galaxies from HST to HSC

NAUPAKA IV

PFS SCIENCE CONTRIBUTIONS

- 09:00-09:15 **Hironao Miyatake (Nagoya U.)**
Cosmological constraints from galaxy-galaxy lensing and clustering with the Subaru HSC and SDSS BOSS data
- 09:15-09:30 **Ryu Makiya (Kavli IPMU)**
Forecast for PFS cosmology survey
- 09:30-09:45 **Naonori Sugiyama (NAOJ)**
Will galaxy bispectrum measurements enhance the science return from PFS?
- 09:45-10:00 **Sune Toft (Cosmic Dawn Center)**
The epoch of reionization with the Prime Focus Spectrograph
- 10:00-10:15 **Masanori Iye (NAOJ)**
Subaru Study on the SPin Parity Distribution of Galaxies and Structure Formation
- 10:15-10:30 **Khee-Gan Lee (Kavli IPMU)**
3D Tomographic Mapping of the z~2-3 IGM with Subaru PFS
- 10:30-10:45 **Yoshiki Matsuoka (Ehime U.)**
Shedding New Light on the AGN Demographics with Prime Focus Spectrograph
- 10:45-11:00 **Rieko Momose (U. of Tokyo)**
What can we learn about the IGM-galaxy connection from 3D tomography map?
- 11:00-11:15 **Rosemary Wyse (Johns Hopkins U.)**
The Disequilibrium State of the Milky Way Disk
- 11:15-11:30 **Brent Belland (Caltech)**
NGC 6822 as a probe of morphological evolution of dwarf galaxies
- 11:30-11:45 **Kohei Hayashi (U. of Tokyo)**
Dark matter in dwarf galaxies in the Subaru-PFS era
- 11:45-12:00 **Evan Kirby (Caltech)**
Stellar Abundances in the Local Group: Keck Now, PFS Soon
- 12:00-13:30 LUNCH BUFFET

NAUPAKA V

SOLAR SYSTEM

- 09:00-09:30 **(I) Dave Tholen (UH-Iifa)**
Asteroids Near and Far
- 09:30-10:00 **(I) Rosemary Pike (ASIAA)**
Mapping Surface Colors of TNOs through Large Surveys
- 10:00-10:30 **Shuya Tan (Tokyo Institute of Tech.)**
Observations of Europa's surface materials with Subaru/IRCS and its comparison with laboratory experiments
- 10:30-11:00 **Stefanie Milam (NASA/GSFC)**
Detailed Studies on Small Bodies in the Solar System with Subaru and WFIRST synergies
- 11:00-12:00 DISCUSSION
- 12:00-13:30 LUNCH BUFFET

THE BIG ISLAND TIPS

COMMON LOCATIONS FOR SEA TURTLES

BY VEHICLE

- ▶ KIHOLO BAY (TURTLE BAY) : 20 MIN + 30 MIN WALK
- ▶ 49 BLACK SAND BEACH : 15 MIN
- ▶ MAHA'I'ULA BEACH : 30 MIN WITH 4WD OR 20 MIN + 30 MIN WALK
- ▶ KAHALU'U BEACH : 50 MIN
- ▶ HONAUNAU BAY : 70 MIN
- ▶ PUNALU'U BLACK SAND BEACH : 150 MIN

BY FOOT

- ▶ WAIKŌLOA BEACH : 1 MIN
- ▶ WAIKŌLOA ANCHIALINE POND PRESERVATION AREA : 15 MIN

NOTICE

Under Hawaii state law, you need to stay at least 15 feet away from turtles



NAUPAKA VI

EXOPLANET AND STAR FORMATION

- 09:00-09:20 **Mayuko Mori (U. of Tokyo)**
Transmission Spectroscopy of the Atmosphere of TRAPPIST-1g using Subaru/MOIRCS and Gemini/GMOS-N
- 09:20-09:40 **John Livingston (U. of Tokyo)**
Spitzer observations of the young planet V1298 Tau b
- 09:40-10:00 **Noriharu Watanabe (SOKENDAI)**
Doppler Tomographic Analysis for Planetary Orbital Precession of WASP-33b
- 10:00-10:20 **Taichi Uyama (NASA/Caltech/IPAC)**
Characterizing a directly-imaged planet Kappa And b with SCEXAO
- 10:20-10:40 **Ruben Asensio-Torres (Stockholm U./MPIA)**
First results from BEAST: The B-star Exoplanet Abundance Study
- 10:40-10:50 **SHORT BREAK**
- 10:50-11:30 **(I) Masahiro Ikoma (U. of Tokyo)**
Progress in and prospects for understanding of planet formation
- 11:30-12:10 **(I) Olivier Guyon (Subaru)**
Imaging Giant Exoplanets with SCEXAO and Habitable Planets on TMT
- 12:10-13:30 **LUNCH BUFFET**

NAUPAKA VII

TIME DOMAIN

- 09:00-09:40 **(I) Takashi Moriya (NAOJ)**
High-redshift supernova surveys with Subaru
- 09:40-10:00 **Ji-an Jiang (Kavli IPMU)**
Unveiling the Nature of Type Ia Supernovae with Early-phase Information Obtained from Subaru Deep Imaging Surveys
- 10:00-10:20 **Sei Saito (Tohoku U.)**
Spectropolarimetry of Superluminous Supernova
- 10:20-10:40 **Masahiro Matsuda (Tohoku U.)**
Luminous Supernovae from Subaru HSC
- 10:40-11:00 **SHORT BREAK**
- 11:00-11:20 **Ichiro Takahashi (Kavli IPMU)**
Photometric Classification of the HSC Transients through Machine Learning
- 11:20-11:40 **Nozomu Tominaga (Konan U.)**
High-cadence transient surveys with Subaru/Hyper Suprime-Cam
- 11:40-12:00 **Nao Suzuki (Kavli IPMU)**
Progress Report on HSC SNIa Cosmology Program
- 12:00-13:30 **LUNCH BUFFET**

THE BIG ISLAND TIPS

POPULAR HAWAIIAN FOODS

LOCO MOCO



SAIMIN



MANGO



POKE



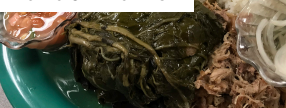
SHAVE ICE



PAPAYA



LAULAU & KALUA PORK



MALASADAS



LYCHEE



SPAM MUSUBI



HAUPIA PIE



MORE FRUITS



SCIENCE KEYNOTES FOR THE NEXT DECADE

DAY 6 PM (FRI)

12:00-13:30 LUNCH BUFFET

NAUPAKA IV

13:30-14:00 Mike Brown (Caltech)

The search for Planet Nine

14:00-14:30 Motohide Tamura (U. of Tokyo/ABC/NAOJ)

Exploring Exoplanet and Star/Planet Formation Studies with Subaru

14:30-15:00 Vasily Belokurov (U. of Cambridge)

The Milky Way halo revolution

15:00-15:30 COFFEE BREAK

15:30-16:00 Jeff Cooke (Swinburne U.)

Transient Astronomy and the role of Subaru

16:00-16:30 Sandra Faber (UCSC)

Galaxy Formation and Evolution: What Is Simple, and What Remains Mysterious

16:30-17:00 Masayuki Akiyama (Tohoku U.)

Tracing the accretion growth history of super massive black holes with wide-field surveys

17:00-17:15 CLOSING REMARKS

Taddy Kodama (Tohoku U.)



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*Mahalo,
Sakurako Okamoto and Rhythm Shimakawa on behalf of organizing committee*

ETHICS AND ANTI-HARASSMENT POLICY

The organizers consider this symposium to be a privileged opportunity for free and active exchanges of scientific ideas, as well as for nurturing and creation of professional and social contacts. Any abuse of power or inappropriate behavior has no place at this symposium. We specifically refer to the NINS Researcher Code of Conduct (www.nins.jp/en/site/rule/1024.html#a), which will apply during the symposium. By registering for this symposium, all participants confirm that they have read the documents and that they will follow its recommendations.

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