

SUPERMASSIVE BLACK HOLES

December 7-11, Chile

PROGRAM

Monday, December 07 2020

Session 1: Formation mechanisms of supermassive black holes

- 09:45–10:00 **Welcome and introduction to the conference.**
- 10:00–10:20 **Invited talk Z. Haiman**, *The Initial Mass Function of Black Holes.*
- 10:20–10:40 **Invited talk T. Di Matteo**, *The first quasars in cosmological simulations.*
- 10:40–11:00 **Break in breakout rooms (informal).**
- 11:00–11:05 **Contributed talk A.C. Eilers**, *The Formation and Growth of Supermassive Black Holes at Early Cosmic Epochs.*
- 11:05–11:10 **Contributed talk A. Das**, *Nuclear star clusters as the birthplaces of Supermassive Black Holes: collisions and accretion in low-metallicity environments.*
- 11:10–11:15 **Contributed talk A. Escala**, *Observational Evidence for Massive Black Hole Formation Driven by Runaway Stellar Collisions in Galactic Nuclei.*
- 11:15–11:20 **Contributed talk G. Fragione**, *Repeated mergers and ejection of massive black holes within nuclear star clusters.*

Session 2: Black hole mass determinations

- 11:20–11:25 **Contributed talk A. Seth**, *Black Hole Demographics from Dynamical Studies.*
- 11:25–11:30 **Contributed talk B. Boizelle**, *Black Hole Mass Measurement in Luminous Early-type Galaxies with ALMA.*
- 11:30–11:50 **Another break.**
- 11:50–12:10 **Invited talk T. Davis**, *Black holes across the Hubble Sequence: Gaining wisdom with WISDOM.*
- 12:10–12:30 **Invited talk K. Gültekin**, *Black Hole Masses Past, Present, and Future.*
- 12:30–13:15 **Discussion session**, “Black hole formation”.
- 13:15–14:00 **Discussion session**, “Black hole mass determinations”.

Shotgun presentations and additional contributed talks in the free-afternoon

Tuesday, December 08 2020

Session 3: The search for intermediate-mass black holes

- 10:00 – 10:20 **Invited talk J. Greene**, *Intermediate-mass Black Holes*.
- 10:20 – 10:40 **Invited talk A. Reines**, *Intermediate-Mass Black Holes in Dwarf Galaxies*.
- 10:40–11:00 **Break in breakout rooms (informal)**.
- 11:00 – 11:05 **Contributed talk J. Cann**, *The Power of JWST in the Hunt for Intermediate Mass Black Holes*.
- 11:05 – 11:10 **Contributed talk A. Graham**, *Consistent predictions for intermediate mass black holes*.
- 11:10 – 11:15 **Contributed talk P. Cáceres**, *Search of Intermediate Mass Black Holes using Spectral Analysis*.
- 11:15 – 11:20 **Contributed talk R. Pechetti**, *An Intermediate-Mass black hole in a massive globular cluster*.
- 11:20 – 11:25 **Contributed talk I. Chilingarian**, *AGN powered by intermediate-mass black holes: fundamental relations and (often) rapid BH growth*.

Session 4: Black hole growth in the local Universe

- 11:25 – 11:30 **Contributed talk K. Tristram**, *Black hole growth on parsec scales revealed by interferometry*.
- 11:30 – 11:50 **Another break** .
- 11:50 – 12:10 **Invited talk M. Koss**, *Tending the Fire: Results from the BASS Survey on Black Hole Growth in the local Universe*.
- 12:10 – 12:30 **Invited talk S. Tremaine**, *Nuclear star clusters as maximum-entropy states*.
- 12:30 – 13:15 **Discussion session**, *The search for intermediate-mass black holes*.
- 13:15 – 14:00 **Discussion session**, *Black hole growth in the local Universe*.

Shotgun presentations and additional contributed talks in the free-afternoon

Wednesday, December 09 2020

Session 5: Accretion, jets and tidal disruption events close to the event horizon

- 10:00 – 10:40 **Invited talk N. Stone**, *Tidal Disruption Events: Questionnaires in the SMBH Census*.
- 10:40 – 11:00 **Break in breakout rooms (informal)**.
- 11:00 – 11:05 **Contributed talk B. Bandyopadhyay**, *Predicting observations of disk winds and jets for the EHT and the GMVA*.
- 11:05 – 11:10 **Contributed talk B. Mockler**, *Tidal disruption events*.

11:10 – 11:15 **Contributed talk P. Sánchez**, *AGN Variability Studies in the Context of the ALeRCE Project.*

11:15 – 11:20 **Contributed talk C. Ricci**, *The destruction and recreation of the X-ray corona in a accreting supermassive black hole.*

Continuation Session 4: Black hole growth in the local Universe

11:20 – 11:25 **Contributed talk P. Arévalo**, *The physics of feedback in M87.*

11:25 – 11:30 **Contributed talk A. Marconi**, *The physical properties of AGN outflows and star formation quenching.*

11:30 – 11:50 **Another break.**

Session 6: Black hole growth over cosmic history

11:50 – 12:10 **Invited talk T. Annana**, *Using the Cosmic X-ray background to constrain AGN population synthesis model and X-ray spectra.*

12:10 – 12:30 **Invited talk R. Hickox**, *The hidden and elusive growth of black holes over cosmic time.*

12:30 – 13:15 **Discussion session**, *Accretion, jets and tidal disruption events.*

13:15 – 14:00 **Discussion session**, *Black hole growth over cosmic history.*

Shotgun presentations and additional contributed talks in the free-afternoon

Thursday, December 10 2020

Session 7: Super-Eddington accretion

10:00 – 10:20 **Invited talk Y. Jiang**, *Radiation MHD Simulations of Super-Eddington Accretion Disks around Supermassive Black Holes.*

10:20 – 10:40 **Invited talk A. Lupi**, *Growing massive black holes via super-critical accretion.*

10:40 – 11:00 **Break in breakout rooms (informal).**

11:00 – 11:05 **Contributed talk M. Latif**, *Growth of massive black holes.*

Continuation Session 6: Black hole growth over cosmic history

11:05 – 11:10 **Contributed talk T. Costa**, *Powering galactic super-winds with AGN.*

11:10 – 11:15 **Contributed talk S. Bonoli**, *From the nuclei of dwarf galaxies to the rarest quasars: modelling black holes across a wide range of scales.*

11:15 – 11:20 **Contributed talk E. Lambrides**, *The Importance of Lower Luminosity Obscured AGN in the BH-Galaxy Co-Evolution Paradigm.*

11:20 – 11:25 **Contributed talk S. Marchesi**, *New insights on early black hole accretion from simulations of X-ray surveys with Athena and with the AXIS probe.*

Session 8: Supermassive black holes at $z > 6$

11:25 – 11:30 **Contributed talk F. Bian**, *The most massive supermassive black holes at early epoch of the University.*

- 11:30 – 11:50 **Another break.**
- 11:50 – 12:10 **Invited talk E. Bañados**, *Quasars in the epoch of reionization.*
- 12:10 – 12:30 **Invited talk C. Mazzucchelli**, *Feeding the earliest supermassive black-holes: High-redshift quasars and their environments.*
- 12:30 – 13:15 **Discussion session**, *Supermassive black holes at $z > 6$.*

Shotgun presentations and additional contributed talks in the free-afternoon

Friday, December 11 2020

Session 9: Black hole binaries from LIGO to LISA

- 09:00 – 09:45 **Discussion session**, *Super-Eddington accretion.*
- 10:00 – 10:20 **Invited talk A. Sesana.**
- 10:20 – 10:40 **Invited talk R. Valiante**, *Unveiling early BHs growth with multi-frequency gravitational wave observations .*
- 10:40 – 11:00 **Break in breakout rooms (informal).**
- 11:00 – 11:05 **Contributed talk M. Charisi**, *Pulsar Timing Array Limits on Supermassive Black Hole Binaries within 500 Mpc .*
- 11:05 – 11:10 **Contributed talk N. Sahu**, *New Morphology-Dependent Black Hole Scaling Relations and the Pursuit of Long-wavelength Gravitational Waves.*

Continuation Session 6: Black hole growth over cosmic history

- 11:10 – 11:15 **Contributed talk Y. Li**, *Direct Detection of Black Hole-Driven Turbulence in the Centers of Galaxy Clusters.*

Continuation Session 8: Supermassive black holes at $z > 6$

- 11:15 – 11:20 **Contributed talk M. Ononue**, *Black Hole Mass Measurements of Low-Luminosity Quasars at $z > 6$.*
- 11:20 – 11:25 **Contributed talk T. Woods**, *On the origin of the most massive high-redshift quasars.*

Session 10: The nearest SMBHs - M87 and the MW

- 11:25 – 11:30 **Contributed talk D. Calderón**, *Stellar Winds Pump the Heart of the Milky Way.*
- 11:30 – 11:50 **Another break.**
- 11:50 – 12:30 **Invited talk S. Doleman**, *The Event Horizon Telescope: Latest Results and Future Plans.*
- 12:30 – 13:15 **Discussion session**, *Black hole binaries from LIGO to LISA.*
- 13:15 – 14:00 **Discussion session**, *The nearest SMBHs – M87 and the MW.*
- 14:00 – 14:20 **Farewell.**

Additional contributed talks

(available via the conference webpage)

Session 2: Black hole mass determinations

Sabine Thater, *University of Vienna*, SMASHING - a homogenous sample of dynamical MBH measurements.

Session 3: The search for intermediate-mass black holes

Jorge Martínez-Palomera, *UC Berkeley*, Searching for Intermediate-mass Black Holes using variability.

Victoria Toptun, *SAI MSU*, X-ray confirmation of 14 new intermediate-mass black holes with XMM-Newton and Chandra.

Session 4: Black hole growth in the local Universe

Alejandra Rojas, *Universidad de Antofagasta*, Multiphase outflows in hard X-ray selected AGN.

Antoine Andre Neira, *University of Utah*, An excess of k-band dust emission in LLAGNs.

Caner Unal, *Czech Academy of Sciences / Ben Gurion University*, On Spin Dependence of the Fundamental Plane of Black Hole Activity.

Edgar Cortes-Suárez, *Instituto de Astronomía UNAM*, Host galaxies properties of 47 Type 1 AGN in MaNGA.

Elena López Navas, *Universidad de Valparaíso*, Understanding the vicinity of SBHs through X-ray variability.

Federica Ricci, *Pontificia Universidad Católica de Chile*, Peering into the hidden BLR: constraining the virial factor in obscured X-ray selected local AGN.

Giacomo Venturi, *Pontificia Universidad Católica de Chile*, Dissecting ionised gas outflows and feedback in nearby AGN.

Guang Yang, *Texas A&M University*, What drives the growth of black holes?.

Jeffrey McKaig, *George Mason University*, High Resolution X-Ray Spectra of the Polar Gas using RefleX.

Kirill Grishin, *SAI MSU*, Internal Properties and Environment of Galaxies Hosting AGN powered by low-mass Black Holes.

Kriti Kamal Gupta, *Universidad Diego Portales*, Scattered X-Ray Radiation in Obscured Active Galactic Nuclei.

Mallory Molina, *Montana State University*, Outflows from a Radio-Selected AGN in a Dwarf Galaxy.

Nicholas Ross, *University of Edinburgh*, So Long and Thanks For All the Fish... .

Núria Torres-Albà, *Clemson University*, A complete census of heavily obscured supermassive black hole accretion in the nearby Universe.

Paulina Lira, *Universidad de Chile*, Variability in dwarf AGN.

Rosamaria Carraro, *Universidad de Valparaíso*, Investigating the origin of the Lx-SFR relation by using SEMs.

Sandra Raimundo, *University of Copenhagen; UCLA*, Black holes fuelled by counter-rotating gas.

Santiago Bernal, *Universidad de Valparaíso*, Kinematical and physical properties of the ionized gas in the center of M87.

Seth Kimbrell, *Montana State University*, The Diverse Morphologies and Structures of Dwarf Galaxies Hosting Optically-Selected Active Massive Black Holes.

Swayamtrupta Panda, *Center for Theoretical Physics, Polish Academy of Sciences*, Optical Fe II and Near-Infrared Ca II triplet emission in active galaxies.

Taira Oogi, *Chiba University*, Semi-analytic modeling of AGNs: auto-correlation function and halo occupation.

Yaherlyn Diaz, *Universidad de Valparaíso*, Demystifying the powering mechanism of Low-Luminosity AGNs.

Yoshihiro Ueda, *Kyoto University*, Hard X-ray View of Heavily Obscured AGNs and FORCE Mission.

Session 5: Accretion, jets and tidal disruption events close to the event horizon

Alberto Rodríguez-Ardila, *Laboratório Nacional de Astrofísica*, A novel black-hole mass scaling relation based on Coronal lines and supported by accretion predictions.

Amy Rankine, *University of Cambridge*, Placing LOFAR-detected quasars in CIV emission space: implications for winds, jets and star formation.

Andrea Derdzinski, *University of Zurich*, AGN disks and the formation of milliHertz GW sources.

Demetra De Cicco, *Pontificia Universidad Católica de Chile*, Variable AGN Selection Toward the LSST Era.

Hugo Pfister, *Hong-Kong University*, Growing black holes with stars.

Jinyi Shangguan, *Max-Planck Institute for Extraterrestrial Physics*, The spatially resolved broad line region of IRAS 09149-6206.

Jiri Svoboda, *Astronomical Institute of the Czech Academy of Sciences*, AGN spectral states with XMM-Newton.

Jonathan Cohn, *Texas A&M University*, The black hole in the Compact Elliptical Galaxy UGC 2698.

Matthew Temple, *Universidad Diego Portales*, Exploring the link between quasar outflows and hot dust emission.

Myeong-Gu Park, *Kyungpook National University*, Rotating viscous Bondi accretion flow.

Ross Silver, *Clemson University*, The Identification and Classification of the 3FHL catalog.

Satoshi Yamada, *Kyoto University*, orus Properties and Supermassive Black Hole Growth in Ultra-/luminous Infrared Galaxies Revealed by X-ray and Mid-infrared Spectroscopy.

Shoji Ogawa, *Kyoto University*, Systematic Study of AGN Clumpy Tori with Broadband X-ray Spectroscopy.

Taro Shimizu, *MPE*, A complete characterisation of the sub-pc region around NGC 3783 with VLTI/Gravity.

Xiurui Zhao, *Clemson University/CfA*, A new observation-based clumpy torus model for active galactic nuclei.

Session 6: Black hole growth over cosmic history

Adi Foord, *University of Michigan*, Finding the Missing Population of Multi-AGN.

Andrea Silva, *National Astronomical Observatory of Japan*, The AGN incidence in merging galaxies up to $z < 2.5$.

Christopher Marsden, *The University of Southampton*, Modelling the total and ex-situ growth of SMBHs via Velocity Dispersion.

Elisa Bortolas, *University of Zurich*, Global torques and stochasticity as the drivers of massive black hole pairing at $z \sim 6$.

Fabio Vito, *Scuola Normale Superiore*, A luminous Compton thick QSO powering a Ly α blob in a $z=4$ starbursting protocluster.

Gabor Worseck, *University of Potsdam*, Dating Individual Quasars with the Hell Proximity Effect.

Henry Best, *CUNY Graduate Center*, Nano-arcsecond resolution of accreting black holes using gravitational microlensing.

Ilya Khrykin, *Kavli IPMU*, The First Measurement of the Distribution of Quasar Lifetimes.

Shenli Tang, *Kavli IPMU*, A spectroscopic study of dual quasars with the Hyper Suprime-Cam Subaru Strategic Survey.

Silvia Bonoli, *DIPC*, From the nuclei of dwarf galaxies to the rarest quasars: modelling black holes across a wide range of scales.

Tommaso Zana, *Scuola Normale Superiore*, High- z AGN feedback on galactic satellites : an insight from numerical simulations.

Victor Marian, *Max Planck Institute for Astronomy*, The role of major mergers in triggering AGNs with the highest Eddington ratios.

Session 7: Super-Eddington accretion

Alessia Tortosa, *Universidad Diego Portales*, Super-Eddington accretion onto supermassive black holes.

Junyao Li, *USTC IPMU*, Unveiling Host-Galaxy Structures of SDSS QSOs with HSC-SSP.

Lorena Hernandez-Garcia, *Instituto Milenio de Astrofísica*, Multiwavelength analysis of giant radio galaxies.

Matt O'Dowd, *CUNY Lehman College*, Mapping the Vicinity of 1000s of SMBHs with Gravitational Microlensing.

Session 8: Supermassive black holes at $z > 6$

Fabio Di Mascia, *Scuola Normale Superiore, Pisa*, Probing the growth of early SMBHs with radiative transfer cosmological simulations.

Feige Wang, *University of Arizona*, Evolution of Reionization-Era Supermassive Black Holes.

Jinyi Yang, *University of Arizona*, Exploring Reionization-era Quasars: Early SMBHs from a New Quasar Sample at $6.3 < z \leq 7.6$.

Riccardo Nanni, *UCSB*, Probabilistic $z > 6$ QSOs selection with extreme deconvolution model.

Shantanu Basu, *Western University*, The Mass Function of Supermassive Black Holes in the Direct Collapse Scenario.

Session 9: Black hole binaries from LIGO to LISA

Rafeel Riaz, *University of Concepcion*, Black hole binaries from Pop. III fragmentation in the H₂ line cooling phase.

POSTERS

(available via the conference webpage)

Session 1: Formation mechanisms of supermassive black holes

Marcelo Cortes Vergara, *Universidad de Concepción*, Impact of flattening and rotation on black hole formation in protostar clusters.

Vanesa Díaz, *Universidad de Concepción*, The role of radiation backgrounds in the direct collapse scenario.

Session 3: The search for intermediate-mass black holes

Jennifer Anguita, *Universidad de Chile*, Fast Optical Variability of Intermediate-Mass Black Holes Candidates in Local Galaxies.

Session 4: Black hole growth in the local Universe

Duccio Macconi, *University of Bologna*, Radio Galaxy Flavours: How accretion and environment can make the difference.

Session 5: Accretion, jets and tidal disruption events close to the event horizon

Alenka Negrete, *UNAM*, Optical properties of highly accreting quasars.

Alvaro Osorio, *Universidad de Chile*, Electron Acceleration by the Whistler Instability in Low-luminosity Accretion Disks.

Astor Sandoval, *Universidad Católica*, Fully kinetic stratified simulations of the collisionless magnetorotational instability.

H. A. Hewitt, *Queen's University Belfast*, Simulated Spectropolarimetry of Accretion Disk Winds.

Paola Marziani, *INAF – Padua Astronomical Observatory*, Radio properties of highly accreting massive black holes.

Ryosuke Uematsu, *Kyoto University*, Location of AGN Torus in Circinus Galaxy Estimated with XCLUMPY Model.

Session 6: Black hole growth over cosmic history

Kenta Setoguchi, *Kyoto University*, Multiwavelength analysis of Active Galactic Nuclei at $z \approx 1.4$ in SXDF.

Session 8: Supermassive black holes at $z > 6$

Jan-Torge Schindler, *Max Planck Institute for Astronomy*, Results of the X-SHOOTER/ALMA Sample of Quasars in the Epoch of Reionization.

Session 10: The nearest SMBHs - M87 and the MW

Alonso Luna, *UNAB*, Hypervelocity Red Clump Stars in the Galactic Bulge.

Gao-Yuan Zhang, *Universidad de Concepción*, The chemistry in the Galactic Center.