

GH\_2015

GUILERMO HARO WORKSHOP 2015  
on FORMING AND FUELING SUPERMASSIVE BLACK HOLE SEEDS  
SCIENTIFIC PROGRAM

WEEK 1

AFTERNOON: DISCUSSIONS IN WORKING GROUP(S) --- 3:00 pm

MONDAY, July 6, 9:30 am (Formation of SMBH Seeds)

8:00-9:00 am BREAKFAST

9:30 am Alberto Carramiñana (Director INAOE) Opening Remarks (10 min)

9:40 am Roberto Terlevich (Head of Guillermo Haro Program) Opening Remarks (10 min)

9:55 Isaac Shlosman Proto-AGN: SMBH Seeds Formation and Associated Processes (1 hour)

11:00 am COFFEE BREAK

11:30 am David Hughes The Event Horizon Telescope: VLBI observations of SMBHs with the LMT (1 hour)

1:30 pm LUNCH

7:00 pm WELCOME RECEPTION

TUESDAY, July 7, 9:30 am (Seed SMBHs and Host Galaxies)

8:00-9:00 am BREAKFAST

9:30 am Dominik Schleicher Formation of SMBHs via Direct Collapse: Successes and Problems (1 hour)

10:35 am COFFEE BREAK

11:05 am John Wise Effects of a Direct Collapse to SMBHs on Early Galaxy properties (1 hour)

12:10 pm Vivienne Wild The incidence of AGN in Post-Starburst Galaxies at  $1 < z < 2$  (1 hour)

1:30 pm LUNCH

WEDNESDAY, July 8, 9:30 am (Formation of SMBH Seeds)

## GH\_2015

8:00-9:00 am BREAKFAST

9:30 am Jun-Hwan Choi      Formation of SMBHs at High-Redshifts in Cosmological Simulations (45 min)  
10:20 am Muhammad Latif      Formation of SMBHs in Early Universe by A Direct Collapse (45 min)

11:10 am COFFEE BREAK

11:40 pm Aycin Aykotalp      Seed BH Growth and Stellar Populations (30 min)  
12:15 pm Melanie Habouzit      Massive BH Formation in Cosmological Simulations (30 min)  
12:50 pm Yang Luo      Formation of SMBHs by a Direct Collapse: Comparison Study (30 min)

1:30 pm LUNCH

THURSDAY, July 9, 9:30 am (Formation and Growth of SMBHs)

8:00-9:00 am BREAKFAST

9:30 am Massimo Gaspari      Chaotic Cold Accretion onto SMBHs (1 hour)

10:35 am COFFEE BREAK

11:05 am Alessandro Lupi      Formation of BHs in Stellar Clusters (30 min)  
11:40 am Aycin Aykotalp      Effects of X-Rays on a Direct Collapse (30 min)  
12:15 pm Eric Jiménez-Andrade      AGN-Driven Winds and Ionized Clouds Moving Along the Jet in PKS 0521-365 (30 min)

1:30 pm LUNCH

FRIDAY, July 10, 9:30am (AGN and Host Galaxies)

8:00-9:00 am BREAKFAST

9:30 am Cristina Ramos-Almeida      Are Luminous QSOs Formed by Galaxy Interactions? (1 hour)

10:35 COFFEE BREAK

11:05 am Andreas Schulze      The cosmic growth of the active black hole population (1 hour)  
12:10 pm Shane O'Sullivan      The Relation Between Magnetic Field Properties of Radio Galaxies in Different Accretion States (45 min)

GH\_2015

1:30pm LUNCH

WEEK 2

AFTERNOON: DISCUSSIONS IN WORKING GROUP(S) --- 3:00 pm

Monday, July 13, 9:30 am (AGN: Accretion and Feedback, Gamma-Ray View)

8:00-9:00 am BREAKFAST

9:30 am Moshe Elitzur            Structure and Evolution of the AGN Torus and Broad Line Region (1 hour)

10:35 COFFEE BREAK

11:05 am Paola Marziani        A Main Sequence for Quasars (45 min)

11:55 am Alberto Carramiñana The HAWC Gamma-Ray Observatory (45 min)

1:30 pm LUNCH

TUESDAY, July 14, 9:30 am (Gravitational Collapse: Physical Processes)

8:00-9:00 am BREAKFAST

9:30 am Christoph Federrath    Role of Turbulence, Magnetic Fields and Feedback for Star Cluster Formation (1 hour)

10:35 COFFEE BREAK

11:05 am Daniel Angles-Alcazar Torque-Limited Growth of Massive BHs (45 min)

12:10 pm Kambiz Fathi           Analytical models of Observed Velocity Fields in Galactic Disks

1:30 pm LUNCH

WEDNESDAY, July 15 (FULL DAY TRIP): TOUR (to be announced)

THURSDAY, July 16, 9:30 am (SMBHs and Galaxy Interactions)

8:00-9:00 am BREAKFAST

## GH\_2015

9:30 am Takamitsu Miyaji X-Ray Luminosity Function of AGN and Implications for Two Modes of AGN Evolution (1 hour)

10:35 COFFEE BREAK

11:05 am Sebastian Sanchez Effect of AGN on Star Formation History of Galaxies (1 hour)

1:30 pm LUNCH

FRIDAY, July 17, 9:30 am (SMBHs, X-Ray/Optical View of AGN)

8:00-9:00 am BREAKFAST

9:30 am Omar López-Cruz How Big Can Supermassive Black Holes Grow? (1 hour)

10:35 am COFFEE BREAK

11:05 am Ka-Wah Wong Resolving Gas Flow within the Bondi Accretion Radius of the SMBH in NGC 3115 with Chandra (30 min)

11:40 am Paola Marziani Quasars at Extremely High Accretion Rates: Potential Distance Indicators? (30 min)

12:15 pm Mary Martínez Aldama O I and Ca II Observations in Intermediate Redshift Quasars (30 min)

1:30 pm LUNCH

WEEK 3

AFTERNOON: DISCUSSIONS IN WORKING GROUP(S) --- 3:00 pm

MONDAY, July 20, 9:30 am (Galaxies at High and Low Redshifts)

8:00-9:00 am BREAKFAST

9:30 am Kentaro Nagamine Formation of Galaxies at High Redshifts (1 hour)

10:35 COFFEE BREAK

11:05 am Emilio Romano-Diaz The Gentle Growth of Massive Monsters at High-Redshifts (1 hour)

12:10 pm Alejandro Olguín-Iglesias The Host Galaxies of AGN with Highly-Beamed Synchrotron Emission (30 min)

## GH\_2015

12:45 pm Mariela Martínez-Paredes Nuclear IR Emission in the Nearby ULIRG UGC 5101 with CanariCam/GTC Data (30 min)

1:30 pm LUNCH

TUESDAY, July 21, 9:30 am (Seed SMBH Formation, AGN Feedback, Starbursts)

8:00-9:00 am BREAKFAST

9:30 am Bhaskar Agarwal      Paradigm of SMBH Formation in a Direct Collapse (1 hour)

10:35 COFFEE BREAK

11:05 am Sergiy Silich      Starving SMBHs in the Starburst Environment (1 hour)

11:40 am Hidenobu Yajima      Formation of Massive Black Hole Seeds in First Galaxies (30 min)

12:15 pm Fernando Romero      Formation of SMBHs in Nearby Universe (30 min)

1:30 pm LUNCH

WEDNESDAY, July 22 (FULL DAY TRIP): VISIT to the Large Millimeter Telescope

THURSDAY, July 23, 9:30 am (AGN: X-Ray/Optical Views, Accretion and Feedback)

8:00-9:00 am BREAKFAST

9:30 am Yutaka Fujita      Gas Accretion onto Black Holes, Jet Power and Feedback in Galaxy Clusters (1 hour)

10:35 am COFFEE BREAK

11:05 am Itziar Aretxaga      AGN Tori (1 hour)

12:10 pm Zeus Valtierra      Reverberation Mapping on QSO's using RATIR (30 min)

12:45 pm Francisco Mueller-Sanchez      Impact of AGN Feedback on the Evolution of Seyfert Galaxies (30 min)

1:30 pm LUNCH

FRIDAY, July 24, 9:30 am (GENERAL DISCUSSION)

8:00-9:00 am BREAKFAST

GH\_2015

9:30 AM GENERAL DISCUSSION: SMBHs and AGN Across Time and Associated Processes (with coffee)

1:30 pm LUNCH