



**TRAVERSING THE GALACTIC CENTER**  
**IN SPACE AND TIME**

**BRNO**  
**CZECH REPUBLIC**  
**MAY 18-22 2026**

IAU Symposium 405

Brno Observatory and Planetarium

MUNI

## Preliminary Symposium Program

### Sunday (May 17th)

18:00-20:30 Registration at the Brno Observatory and Planetarium (Main Hall)

### Monday (May 18th)

7:30-8:45 Registration at the Brno Observatory and Planetarium (Main Hall)

Opening talks (Digitarium)

9:00-9:30 **Michal Zajaček** (SOC/LOC chair), **Jiří Dušek** (Brno O&P director) & guests, [Welcome notes](#), [IAUS405: First IAU Symposium in Brno](#) (30)

*Chair: Michal Zajaček*

9:30-10:15 **Andrea Ghez** (Nobel Prize Laureate), (35+10)

10:15-10:45 [Coffee break](#) (Main Hall)

Session 1: **Sgr A\*** and its interaction with the environment (Digitarium)

*Chair: Farhad Yusef-Zadeh*

10:45-11:15 **Frank Eisenhauer**, [Review: A Decade of Galactic Center Discoveries with GRAVITY](#) (25+5)

11:15-11:45 **Angelo Ricarte**, [Review: Resolving Sgr A\\* with the Event Horizon Telescope](#) (25+5)

11:45-12:05 **Marianna Foschi**, [Invited: Horizon-scale dynamics of Sgr A\\* resolved in space and time](#) (17+3)

- 12:05-12:17 **Daryl Haggard**, *Sgr A\* X-ray Flare Census: 25 Years with Chandra* (10+2)
- 12:17-12:29 **Mark Gorski**, *A Glimpse into The Cool Molecular Gas Around Sgr A\** (10+2)
- 12:29-14:00 **Lunch (Upper Terrace)**
- Chair: Bożena Czerny*
- 14:00-14:20 **Sebastiano von Fellenberg**, *Invited: First Mid-infrared Detection and Modeling of a Flare from Sgr A\** (17+3)
- 14:20-14:32 **Braden Seefeldt-Gail**, *Dynamics & Energetics of Magnetic Flux Tubes Near Sgr A\* and Their Connection to Observed Flares* (10+2)
- 14:32-14:44 **Tintin Nguyen**, *Sgr A\* Polarimetry with Spatially and Temporally Resolved Rotation Measure Maps* (10+2)
- 14:44-14:56 **Diego Calderón**, *Interacting stellar winds feeding Sgr A\*: from the system of mass-losing stars to the binary IRS 16SW* (10+2)
- 14:56-15:08 **Joseph Michail**, *Mid-IR Spectral Energy Distribution and Submm Polarimetry of a Sgr A\* Flare with JWST/MIRI and SMA* (10+2)
- 15:08-15:40 **Coffee break (Main Hall)**
- Chair: Bożena Czerny*
- 15:40-15:52 **Farhad Yusef-Zadeh**, *JWST, NuSTAR, and VLA Monitoring of Sgr A\*: Flare Production due to Magnetic Field Reconnection* (10+2)
- 15:52-16:04 **Tomoharu Oka**, *A Face-on Accretion Disk Geometry Revealed by Millimeter-wave Periodicity in Sgr A\** (10+2)
- 16:04-16:16 **Aylecia Lattimer**, *Challenging Magnetic Reconnection as a Flaring Mechanism in Sgr A\* Using Local Plasma Properties* (10+2)
- 16:16-16:28 **Ruth Daly**, *How Rapidly is Sgr A\* Spinning?* (10+2)
- 16:28-17:00 **Coffee break (Main Hall)**
- Chair: Petr Kurfürst*
- 17:00-17:35 **Vladimír Šlapeta** (Jean Tschumi Prize Laureate), *Invited: Brno as an architectural laboratory* (30+5)
- 19:00-21:00 **Welcome Cocktail at the Brno New Townhall - Gothic cloister**

## Tuesday (May 19th)

*Session 1: Sgr A\* and its interaction with the environment (Digitarium)*

*Chair: Izzy Garland*

- 9:00-9:20 **Michal Dovčiak**, *Invited: Probing the Flares of Sgr A\*: Hot-Spot Models and Orbital Signatures Near the Event Horizon* (17+3)
- 9:20-9:32 **Maciek Wielgus**, *Dissecting the variability of Sagittarius A\** (10+2)
- 9:32-9:44 **Bram van den Berg**, *Imaging Sgr A\* dynamics with Resolve* (10+2)

- 9:44-9:56 **Diogo C. Ribeiro**, [A constraint on the electric charge of SgrA\\* from the orbit of S2](#) (10+2)
- 9:56-10:08 **Dominik Černý**, [Gravitational lensing of Sgr A\\*](#) (10+2)
- 10:08-10:20 **Eleni Antonopoulou**, [Modeling the Multi-Wavelength Signatures of Sagittarius A\\*](#) (10+2)
- 10:20-10:50 **Coffee break (Main Hall)**
- Session 2: Central parsec: stars and gaseous-dusty content, stellar dynamics, star formation (Digitarium)**
- Chair: Vladimír Karas**
- 10:50-11:20 **Mark Morris**, [Review: Outstanding Questions About Phenomena Unique to the Galaxy's Central Parsec](#) (25+5)
- 11:20-11:40 **Alessandra Mastrobuono Battisti**, [Invited: The Formation and Dynamical Evolution of the Galactic Nuclear Star Cluster](#) (17+3)
- 11:40-11:52 **Matthew Hosek**, [Probing Dynamical Interactions Near Sgr A\\* Using Proper Motions from the HST-NSC Survey](#) (10+2)
- 11:52-12:04 **Mark Dodici**, [Stellar binaries orbiting Sgr A\\* should often shrink to near-contact separations](#) (10+2)
- 12:04-12:16 **Matteo Sadun Bordoni**, [Probing the mass distribution around Sagittarius A\\* with stellar orbits](#) (10+2)
- 12:16-12:28 **Shifra Mandel**, [A comprehensive study of the Galactic center X-ray sources and their distributions](#) (10+2)
- 12:28-14:00 **Lunch (Upper Terrace)**
- Chair: Sebastiano von Fellenberg**
- 14:00-14:20 **Ladislav Šubr**, [Invited: In-Situ Star Formation in the Galactic Center - Testing the Hypothesis](#) (17+3)
- 14:20-14:32 **Tuan Do**, [Revealing the binary star population at the Galactic center from 20 years of data](#) (10+2)
- 14:32-14:44 **Joanna Berteaud**, [Probing the population of millisecond pulsars in the inner Galaxy](#) (10+2)
- 14:44-14:56 **Manuel Cavieres**, [Discovery of a hypervelocity star in DESI DR1](#) (10+2)
- 14:56-15:08 **Florian Peißker**, [Peculiar bow shock sources in the inner parsec](#) (10+2)
- 15:08-15:20 **Zoë Haggard**, [New Insights into the Dynamics of the Young Stars at the Galactic Center](#) (10+2)
- 15:20-15:45 **Coffee break (Main Hall)**
- Chair: Sebastiano von Fellenberg**
- 15:45-15:57 **Eulalia Gallego-Cano**, [New insights on stellar populations around SgrA\\*](#) (10+2)
- 15:57-16:09 **Anna Ciurlo**, [What we know and don't know about the evasive G objects](#) (10+2)
- 16:09-16:21 **Myank Singhal**, [Binary Mergers and the Formation of Dusty Objects in the Galactic Center](#) (10+2)
- 16:21-16:33 **Sean Granados**, [Evolution of G2 a decade after its closest encounter with Sgr A\\*](#) (10+2)

- 16:33-16:45 **Monika Viskotová**, [Simulating Tidal Effects of Sgr A\\* on G2 Object](#) (10+2)
- 16:45-16:57 **Maria Melamed**, [The Mystery of the G Objects](#) (10+2)
- 16:57-17:30 [Coffee break \(Main Hall\)](#)
- Chair: Anna Ciurlo*
- 17:30-17:42 **Petr Kurfürst**, [What is the reason for the lack of cool evolved stars near the centre of the Galaxy?](#) (10+2)
- 17:42-17:54 **Taras Panamarev**, [Dynamical Fingerprints of an IMBH in the Central Parsec of the Milky Way](#) (10+2)
- 17:54-18:06 **Ziqian Hua**, [Chandra X-ray measurement of heavy element abundances of Wolf–Rayet stars in the Galactic Centre](#) (10+2)
- 18:06-18:18 **Alex Gormaz-Matamala**, [Revisiting the Evolutionary Status of Massive Stars at the central parsec of the Milky Way](#) (10+2)
- 18:18-18:30 **Masayoshi Nobukawa**, [Resolving the Velocity Structure of the Galactic Center X-ray Emission with XRISM](#) (10+2)
- 18:30-19:30 [Poster session \(Main Hall\)](#)
- 19:30-20:30 **Andrea M. Ghez**, [From the Possibility to the Certainty of a Supermassive Black Hole \(Public Talk, Brno Observatory and Planetarium - Digitalium\)](#)

## Wednesday (May 20th)

Session 2: Central parsec: stars and gaseous-dusty content, stellar dynamics, star formation (Digitalium)

*Chair: Rainer Schödel*

- 9:00-9:12 **Felix Mang**, [Discovery of a star sensitive to the spin of SgrA\\*](#) (10+2)
- 9:12-9:24 **María Álvarez Santiago**, [Revisiting IRS 13N with JWST: Hot Stars Irradiating Dust Rather Than a Stellar Nursery](#) (10+2)
- 9:24-9:36 **Matúš Labaj**, [Hunting the Invisible: MHD Predictions for Hidden Black Holes in the Galactic Center](#) (10+2)
- 9:36-9:48 **Emma Bordier**, [First successful mid-infrared interferometric observations of IRS 13 E1 and E2 with VLTI/MATISSE](#) (10+2)
- 9:48-10:00 **Nadeen B. Sabha**, [Low-mass Star Formation in the Inner Parsec of our Galaxy? A JWST MIRI MRS Investigation](#) (10+2)
- 10:00-10:30 [Coffee break \(Main Hall\)](#)

Session 3: Galactic Center in the multi-messenger era (cosmic rays, gravitational waves, neutrinos, dark matter) (Digitalium)

*Chair: Norbert Werner*

- 10:30-11:00 **Shuo Zhang**, [Review: Traces of the Galactic Center PeVatron](#) (25+5)

- 11:00-11:20 **Ruizhi Yang**, *Invited: Invited talk on the LHAASO collaboration results: Gamma rays and Cosmic rays in the Galactic centre* (17+3)
- 11:20-11:32 **Helena Ren**, *3D cosmic-ray mapping in the CMZ with clustered gas clouds* (10+2)
- 11:32-11:44 **Régis Terrier**, *VHE gamma-ray emission of the inner 200 pc after 15 years of H.E.S.S. observations* (10+2)
- 11:44-11:56 **Sruthiranjani Ravikularaman**, *Constraints on cosmic-ray-driven ionisation in the Galactic Centre* (10+2)
- 11:56-12:08 **Charlie Sharpe** *Evaporation of Dark Matter Spikes around SMBHs by EMRIs* (10+2)
- 12:08-12:20 **Petra Suková** *Are Electromagnetic Signatures of Small-Mass-Ratio Inspirals Observable?* (10+2)
- 12:20-12:32 **Konstantina Anastasopoulou**, *Disentangling the Galactic centre X-ray reflection signal using XMM-Newton data* (10+2)
- 12:32-12:50 *Conference Group Photo*
- 12:50-14:00 *Lunch (Upper Terrace)*  
*Chair: Petra Suková*
- 14:00-14:20 **Emmanuel Moulin**, *Invited: Very-high-energy gamma emission at the base of the Fermi Bubbles detected by H.E.S.S.* (17+3)
- 14:20-14:32 **Samik Mitra**, *Gravitational wave emission from turbulent accretion disks around black holes* (10+2)
- 14:32-14:44 **Jakub Jurysek**, *SST-1M Cherenkov telescopes - recent results and prospects for observation of the Galactic center* (10+2)
- 14:44-14:56 **Vladimir Karas**, *Particle acceleration by frame dragging near a magnetized black hole* (10+2)
- 14:56-15:08 **Zephyr Penoyre**, *Disruptions and diving orbits in axisymmetric galactic nuclei* (10+2)
- 15:08-15:20 **Jaroslav Haas**, *The star grinder in the Galactic center* (10+2)
- 15:20-15:32 **Václav Pavlík**, *Does IRS13 require an intermediate-mass black hole?* (10+2)
- 16:30-18:30 *Sightseeing tour in Brno*
- 19:00-19:30 *Cocktail before the concert (Brno Observatory & Planetarium)*
- 19:30-20:30 *Classical Music Concert (Brno Observatory & Planetarium)*
- 20:30-21:30 *Refreshment after the concert (Brno Observatory & Planetarium)*

## Thursday (May 21st)

*Session 4: Central Molecular Zone (star-formation history, kinematics and dynamics, astrochemistry, magnetic fields) (Digitarium)*

*Chair: John Bally*

- 9:00-9:30 **Steven Longmore**, *Review: Recent advances in understanding the 3D structure, star and planet formation, and feedback in the Central Molecular Zone* (25+5)

- 9:30-9:50 **Laura Colzi**, *Invited: Unveiling the origin of the molecular gas in the Galactic center through isotopic ratios* (17+3)
- 9:50-10:02 **Bijas Najimudeen**, *3D Magnetic Fields Regulate Star Formation in the Western CMZ: A BISTRO & ACES Analysis* (10+2)
- 10:02-10:14 **Xu Zhang**, *First Results from JACKS: A VLA Ammonia View of Gas Heating and Star-Forming Cores in the CMZ* (10+2)
- 10:14-10:26 **Zixuan Feng**, *Gas Inflow Simulations of the Milky Way - From Central Molecular Zone to Circumnuclear Disk* (10+2)
- 10:26-10:50 *Coffee break (Main Hall)*  
*Chair: Tereza Jeřábková*
- 10:50-11:10 **Isabella Rammala**, *Invited: The radio view of the Galactic Center with the MeerKAT telescope*
- 11:10-11:22 **Xing Lyu**, *The CONCERT Campaign Revealing a Crazy Noisy Bizarre Central Molecular Zone* (10+2)
- 11:22-11:34 **Suinan Zhang**, *A Multiscale View of Three Massive Molecular Clouds in the Central Molecular Zone* (10+2)
- 11:34-11:46 **Robin Tress**, *Feedback coupling in the CMZ – differences to the Solar Neighbourhood* (10+2)
- 11:46-11:58 **David San Andrés**, *The Galactic Centre G+0.633-0.0604 Molecular Cloud: A New Gold Mine for Astrochemistry* (10+2)
- 11:58-12:10 **Janik Karoly**, *The Central Molecular Zone in Polarized Submillimetre Dust Emission: Results from BISTRO* (10+2)
- 12:10-12:22 **Kensuke Kakiuchi**, *Magnetic Field Distribution and the Origin of Vertical Structure in the Galactic Center Region* (10+2)
- 12:22-12:34 **Adam Ginsburg**, *Ice, dust, and metallicity in the Galactic Center* (10+2)
- 12:34-14:00 *Lunch (Upper Terrace)*
- 13:00-14:00 *Czech National Astronomical Committee Meeting (Small Planetarium)*  
*Chair: Steven Longmore*
- 14:00-14:12 **Alexandre Legault**, *JWST's View of Massive Stars in the Arches Cluster* (10+2)
- 14:12-14:24 **Natalie Butterfield**, *Investigating the Initial Conditions of Dense Gas that is Feeding the CMZ* (10+2)
- 14:24-14:36 **Q. Daniel Wang**, *A Multi-Wavelength Study of Nonthermal Radio Filaments - Galactic Center's Magnetic Mysteries* (10+2)
- 14:36-14:48 **H Perry Hatchfield**, *A comprehensive 3-D CMZ model and its implications for nuclear activity and star formation* (10+2)
- 14:48-15:00 **John Bally**, *The CMZ Asymmetries: Feeding or Feedback?* (10+2)
- 15:00-15:12 **Gabriele Ponti**, *Hot plasma at the Galactic center* (10+2)
- 15:12-15:30 *Coffee break (Main Hall)*

Session 5: Nuclear Stellar Cluster and Nuclear Stellar Disc (Digitarium)

*Chair: Francisco Nogueras-Lara*

- 15:30-16:00 **Mattia Carlo Sormani**, *Review: The Nuclear Stellar Disc & Cluster* (25+5)
- 16:00-16:20 **Nils Ryde**, *Invited: Chemical abundances and chemical evolution in the Nuclear Stellar Cluster and Nuclear Stellar Disk* (17+3)
- 16:20-16:32 **Mathias Schultheis**, *Chemical analysis of the Milky Way's Nuclear Star Cluster: Evidence of a metallicity gradient* (10+2)
- 16:32-16:44 **Brian Thorsbro**, *Surprising results from spectroscopic analysis of stars close to the supermassive black hole* (10+2)
- 16:44-16:56 **R. Michael Rich**, *Compositions and Ages of stars in the Galactic Nuclear Star Cluster: contradictions and challenges* (10+2)
- 16:56-17:08 **Shoko Sakai**, *Statistical Search for a Cusp in the Galactic Center Nuclear Star Cluster* (10+2)
- 17:08-17:20 **Katja Fahrion**, *The Complexity of Nuclear Star Cluster Formation* (10+2)
- 19:00-24:00 *Conference dinner at the Moravian gallery – the Museum of Applied Arts*

## Friday (May 22nd)

Session 5: Nuclear Stellar Cluster and Nuclear Stellar Disc (Digitarium)

*Chair: Farhad Yusef-Zadeh*

- 9:00-9:20 **Alvaro Martinez-Arranz**, *Invited: The GALACTICNUCLEUS Proper Motions Catalog - Revealing Star Clusters in the NSD* (17+3)
- 9:20-9:32 **Francisco Nogueras-Lara**, *VVVX-GalCen: A Groundbreaking Spectroscopic Survey of the Galactic Centre* (10+2)
- 9:32-9:44 **Eugene Vasiliev**, *Dynamical modelling of the Milky Way Nuclear Star Cluster* (10+2)
- 9:44-9:56 **Julia Lamprecht**, *From LOSVDs to Orbits: Nuclear Star Cluster Dynamics* (10+2)
- 9:56-10:08 **Stefano Torriamenti**, *Black Holes on the move: from star clusters to galactic nuclei* (10+2)
- 10:08-10:20 **Richard Wünsch**, *Winds of Nuclear star clusters feeding supermassive black holes* (10+2)
- 10:20-10:32 **Karl Fiteni**, *A Nuclear Bar in the Milky Way? Kinematic hints from the Galactic Centre* (10+2)
- 10:32-11:00 *Coffee break (Main Hall)*

Session 6: Tracing the Galactic Center past activity and comparison with other nuclei (Digitarium)

*Chair: Jiří Svoboda*

- 11:00-11:30 **Anja Feldmeier-Krause**, *Review: The Milky Way Center - a galactic center like any other(?)* (25+5)
- 11:30-11:50 **Frederic Marin**, *Invited: Light echoes from past Sgr A\* activity revealed by X-ray polarimetry* (17+3)

- 11:50-12:02 **Fulai Guo**, *Blowing the eROSITA and Fermi Bubbles in the Milky Way with Galactic Feedback* (10+2)
- 12:02-12:14 **Rei Enokiya**, *Discovery of Peculiar Molecular Cloud Complexes: Survival from a Past Jet-Driven Disruption Event?* (10+2)
- 12:14-12:26 **Maïca Clavel**, *X-ray echoes: a link between Sgr A\*'s past activity and the CMZ's 3D structure* (10+2)
- 12:26-12:38 **Qingzheng Yu**, *Hidden HI Clouds in the Milky Way's Nuclear Wind* (10+2)
- 12:38-14:00 **Lunch (Upper Terrace)**  
*Chair: Taj Jankovič*
- 14:00-14:20 **Hiromasa Suzuki**, *Invited: XRISM X-ray spectroscopy of the supernova remnant Sgr A East and implication for the past activity of Sgr A\** (17+3)
- 14:20-14:40 **Sergio Martín**, *Invited: Chemistry here and there - Comparison between the CMZ of the Milky Way and NGC 253* (17+3)
- 14:40-14:52 **Kaitlyn Sheriff**, *JWST Observations of Cluster Feedback in NGC 253: Implications for the GC* (10+2)
- 14:52-15:04 **Barnabas Barna**, *Mass flows in the Galactic Center by supernovae of the circumnuclear disk* (10+2)
- 15:04-15:26 **Debangana Maji**, *HI Absorption and Association of the 7' Halo with the Galactic Center* (10+2)
- 15:26-15:38 **Iker Millan Irigoyen**, *The uniqueness of the Milky Way Nuclear Star Cluster* (10+2)
- 15:38-15:50 **Valentina Rosa**, *General relativistic effects at the heart of accreting black hole light curve asymmetry* (10+2)
- 15:50-16:02 **Anje Yoshimoto**, *Decomposition of the Galactic Center X-ray Emission by High-Resolution spectroscopy with XRISM* (10+2)
- 16:02-16:30 **Coffee break (Main Hall)**
- 16:30-17:00 **LOC & SOC, IAUS405 Summary, closing remarks, and the next GC workshop**