TRAVERSING THE GALACTIC CENTER

IN SPACE AND TIME



BRNO

CZECH REPUBLIC

18-22 MAY 2026

Organizer's impressions

Tatra Astro Summit 2026
October 7th, 2026

Michal Zajaček

Galactic Center Newsletter

- Every day new issue was published on zenodo (link on the gc2026 website); editor-in-chief: Václav Pavlík
- Some printed versions were available at the main entrance door



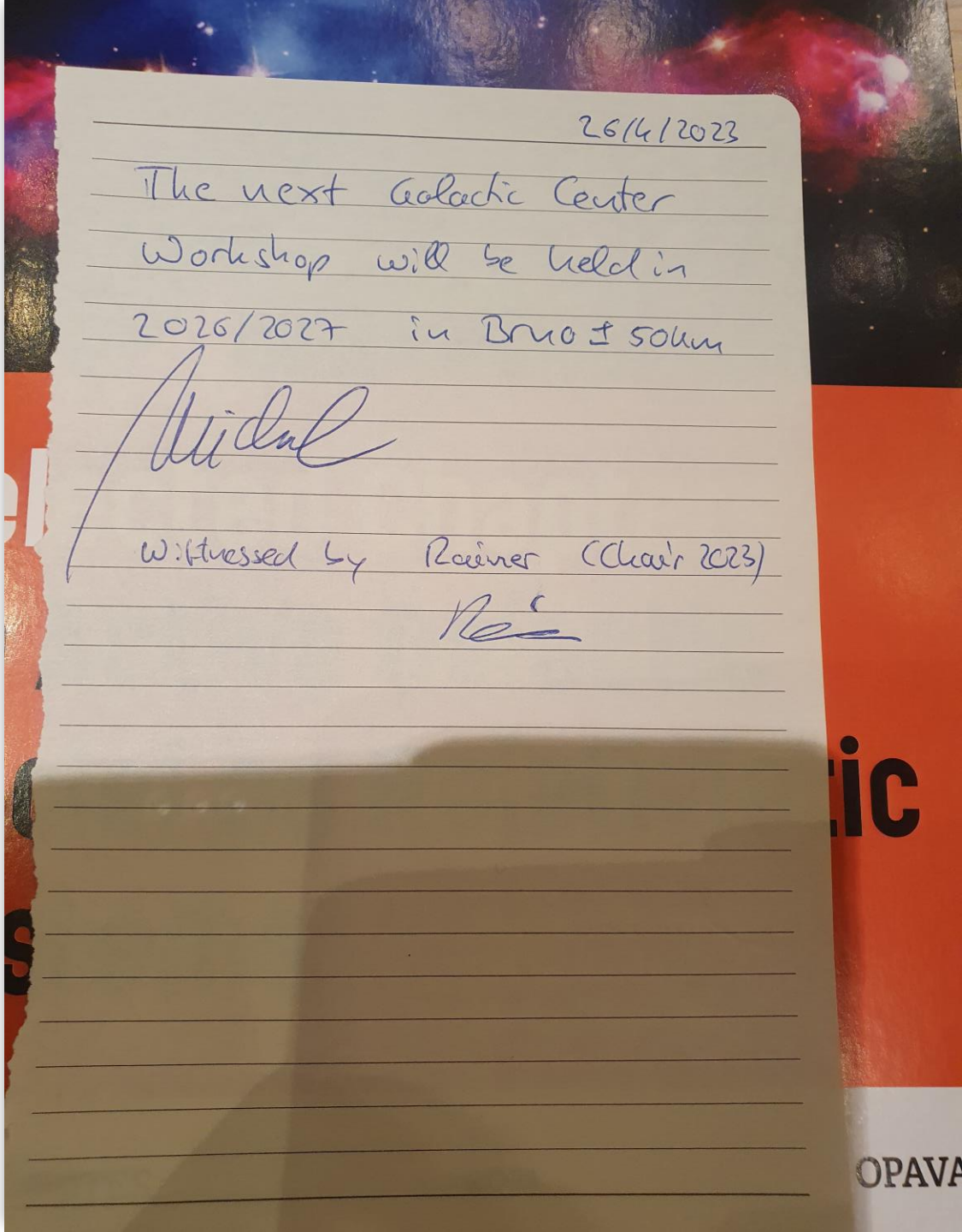
DOI: 10.5281/zenodo.19606193

Galactic Center Newsletter

IAUS405: Traversing the Galactic Center in Space and Time, Brno (https://gc2026.muni.cz/) Vol.XXIX / No.1
Editor-in-Chief: Václav Pavlík — Editorial Board: Vladimír Karas, Petra Suková, and Maitrayee Gupta May 18, 2026

Why Brno?

- Because we were sitting at the right (wrong) place at the GC workshop conference dinner in Granada in 2023…
- But there are more (historical) aspects…



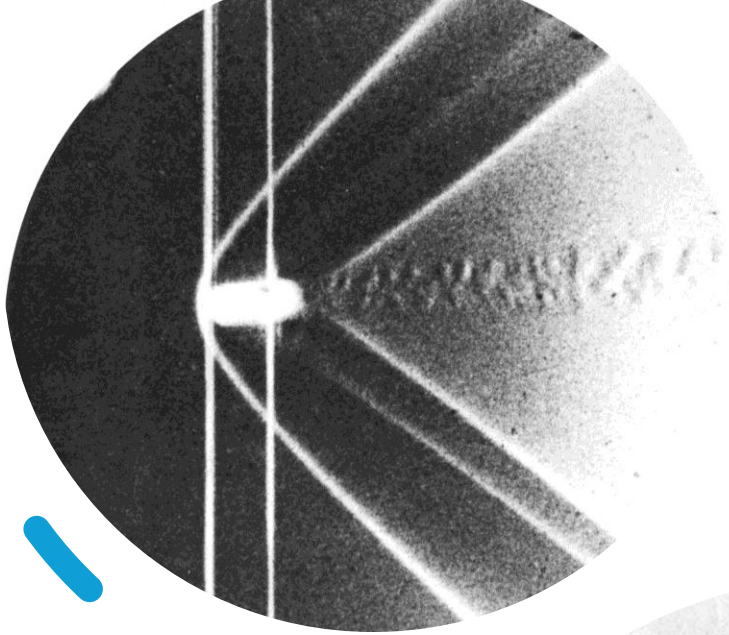




Gregor Johann Mendel (1822-1884)

- the “father of genetics”
- carried out groundbreaking experiments with pea plants in Brno in the 19th century
- used mathematics and statistics in biology in an unusually modern way

Ernst Mach (1838-1916)



- Born in Chirlitz (now part of Brno)
- pioneer in the study of motion and shock waves (Mach number)
- Mach's principle influenced Einstein: *the inertia of an object is determined by the presence and distribution of all other matter in the Universe*
- 110 years since his death



Kurt Gödel (1906-1978)

- 120 since his birth in Brno (April 28)
- Born on Bäckergasse 5 (now Pekařská 5) -> later they lived in Spielberggasse
- The most influential logician of the modern era
- Incompleteness theorems
- Goedel's spacetimes: an exact solution to Einstein’s equations describing a rotating universe with possible closed timelike curves, theoretically allowing time travel.



Notable astrophysicists/astronomers of 20th century associated with Brno

- František Link (1906-1984) - born and studied in Brno, pioneer of gravitational lensing (1936)
- Luboš Kohoutek (1935-2023) - studied in Brno, discoverer of the comet Kohoutek in 1973, observed by astronauts on Skylab
- Luboš Perek (1919-2020) - published an extensive catalogue of Galactic planetary nebulae co-authored with Kohoutek in 1967; worked extensively on the space-elevator concept (featured in Arthur C. Clarke's novel The Fountains of Paradise)
- Jiří Grygar (1936-) - influential science educator; famous for his TV series Okná vesmír dokořán (Wide open windows of the Universe, 1982-1990)







Center of the Universe in Brno

- One of infinite centers...

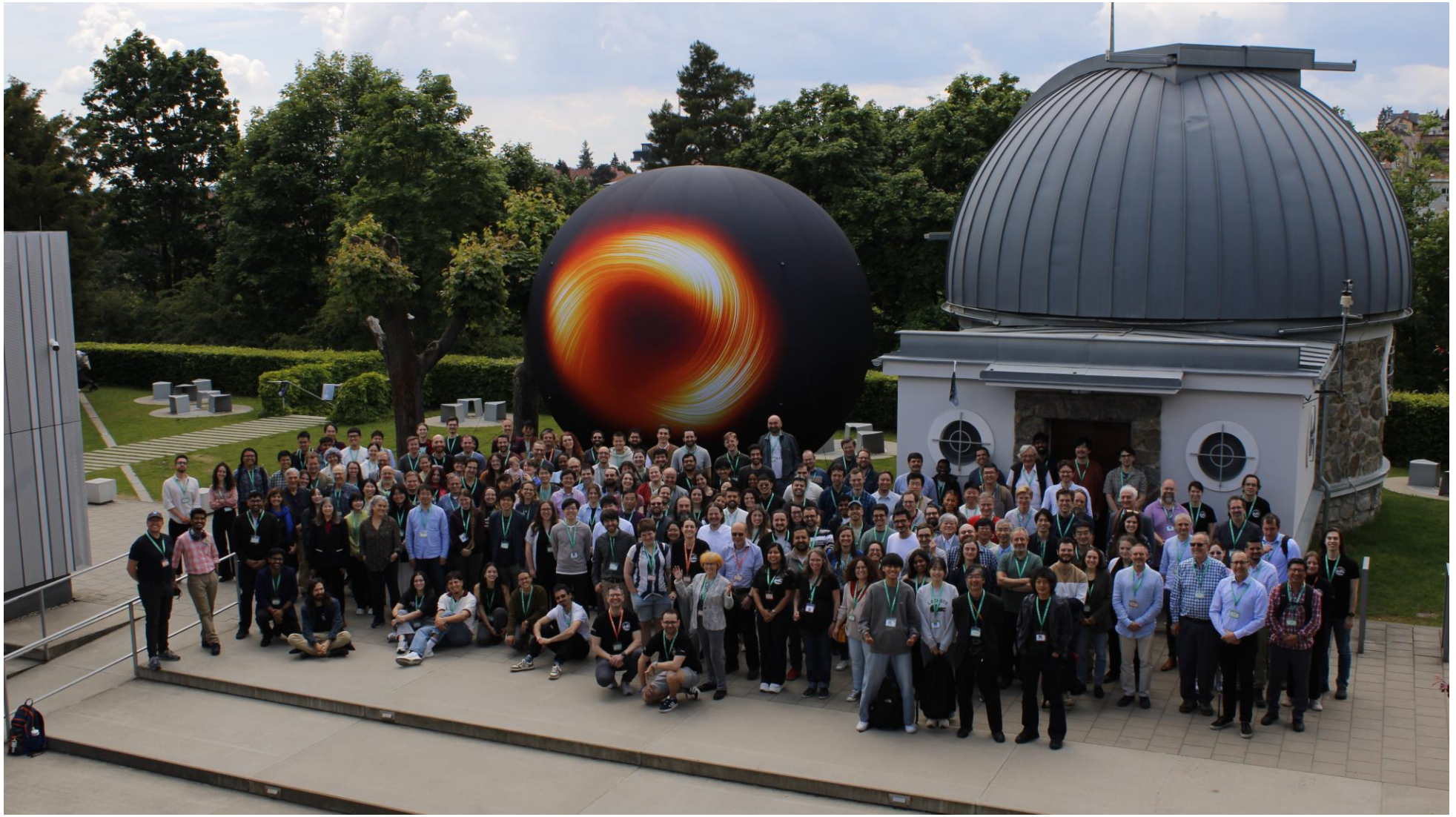
IAU Symposium 405 dedication to **Luboš Perek** (1919-2020)

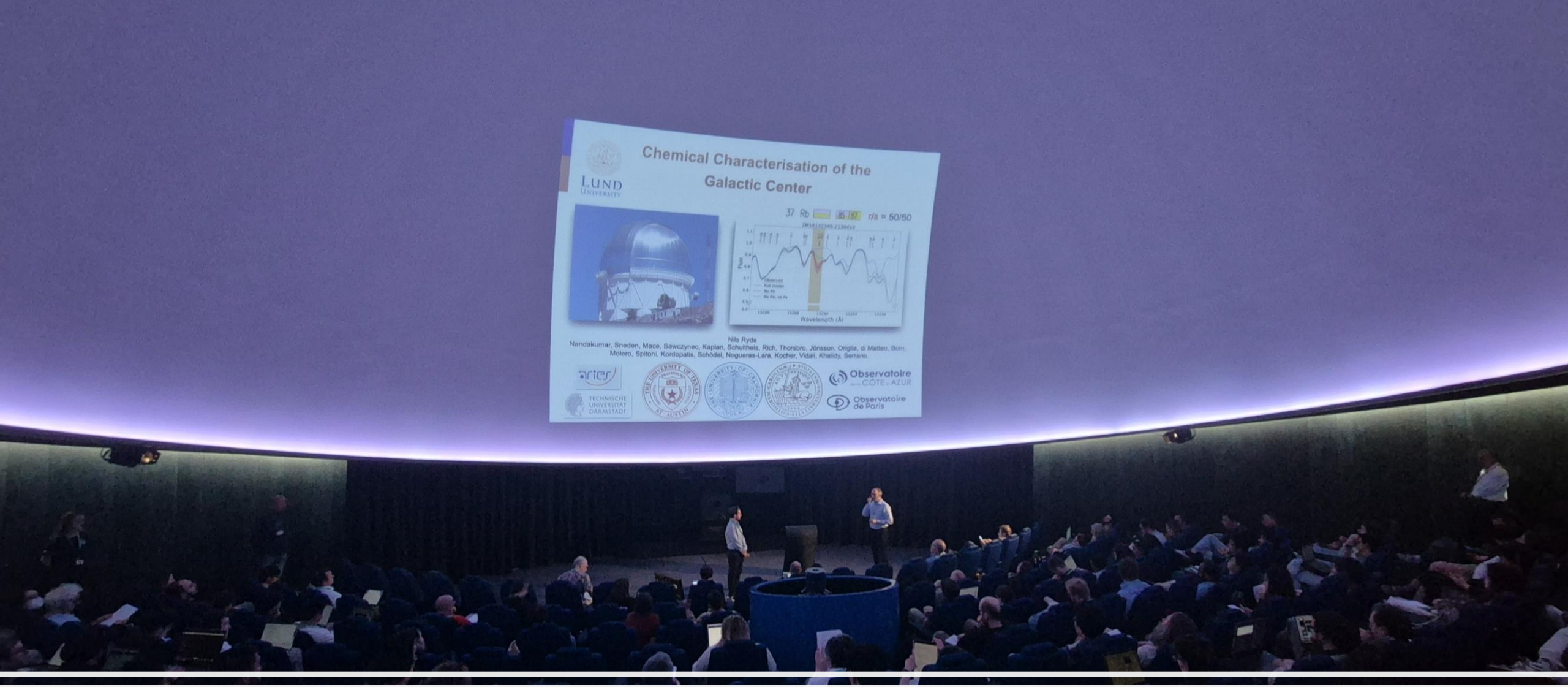


- IAU Assistant General Secretary 1964-1967
- IAU General Secretary 1967-1970
- Born two days before the foundation of IAU in 1919
- Started his studies at Masaryk University in 1946
- Led the construction of the 60-cm telescope on Kraví hora
- With IAUS 405 the circle somehow closes…



Group photo




Chemical Characterisation of the
Galactic Center
LUND
UNIVERSITY
37 Rb
r/s = 50/50
Wavelength (Å)
Nils Ryde
Nandakumar, Sneden, Mace, Sawczynec, Kaplan, Schultheis, Rich, Thorsbro, Jönsson, Origlia, di Matteo, Boin, Molero, Spitoni, Kordopatis, Schödel, Nogueras-Lara, Kocher, Vidali, Khalidy, Serrano
Observatoire de la CÔTE d'AZUR
Observatoire de Paris
TECHNISCHE UNIVERSITÄT DARMSTADT

Lectures

Welcome cocktail



Sightseeing







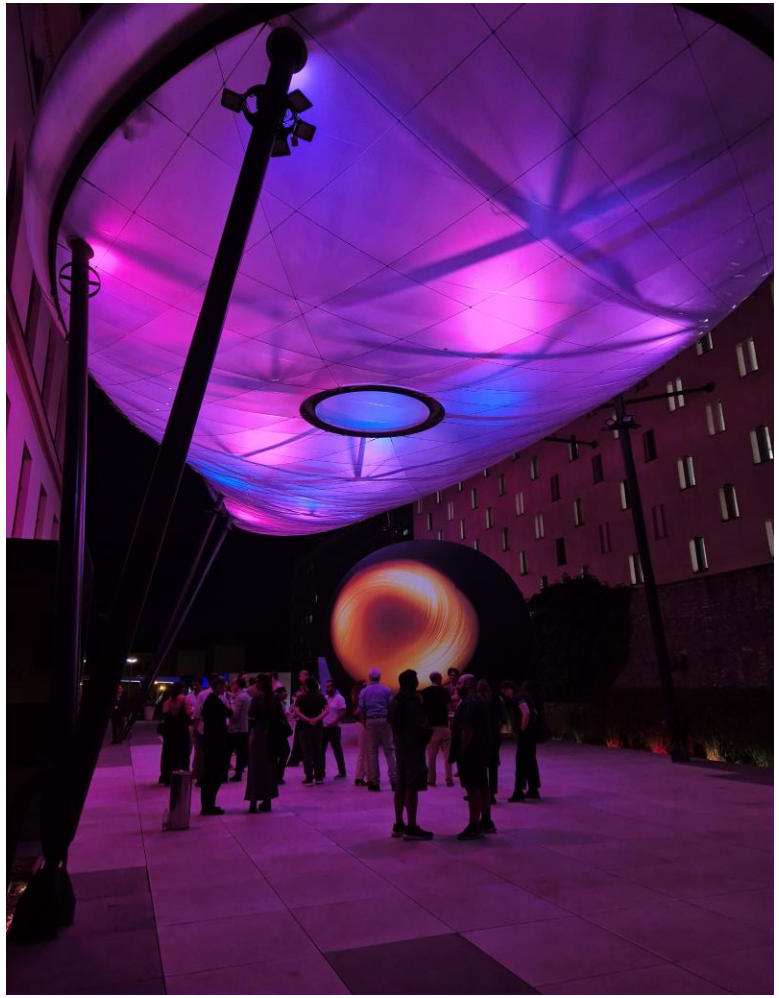
Concert

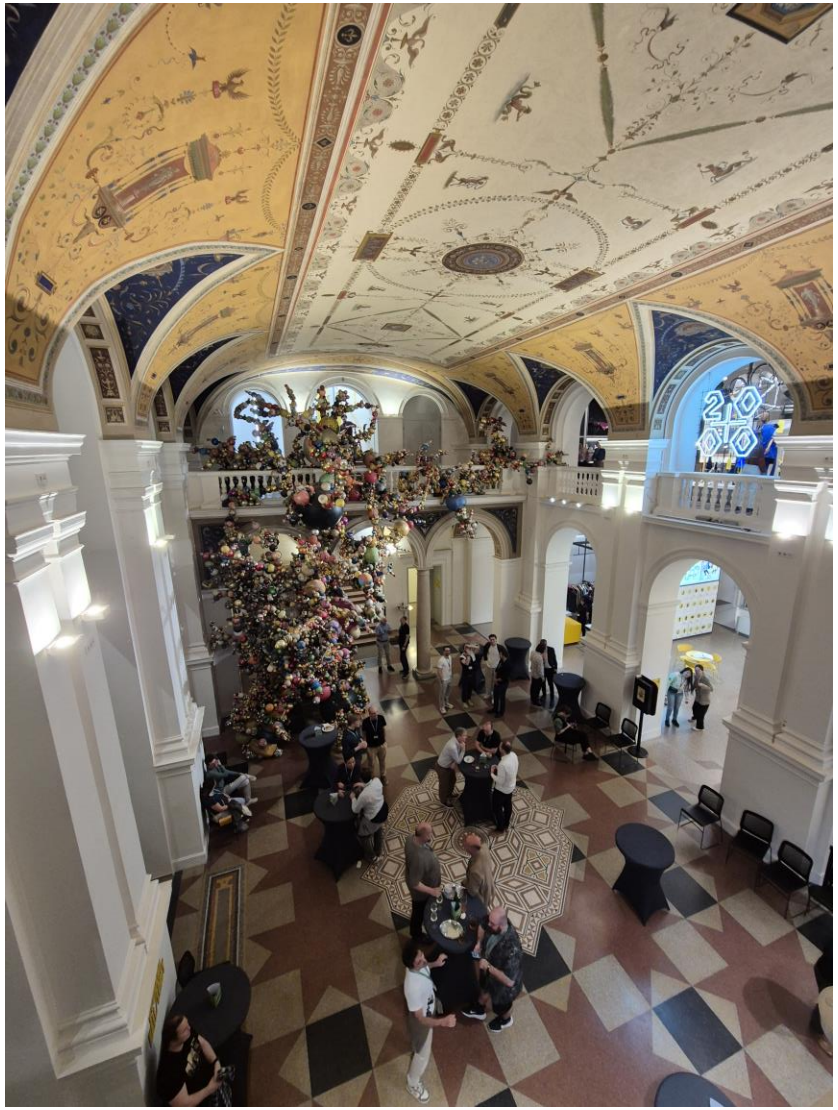
Specialized meetings

- Meeting of the Czech National Astronomical Committee



Conference dinner





Scientific summary of IAUS 405

- 7 review talks
- 15 invited talks
- 89 contributed talks
- 81 + 1 poster
- 193 actively contributing researchers, more than 200 participants
- **Very difficult to summarize concisely**
- Proceedings are coming

IAUS 405 proceedings

- **Editors:** M. Zajaček (editor-in-chief, MUNI), T. Jeřábková (MUNI), V. Karas (AsU AV), R. Schödel (IAA CSIC), P. Suková (AsU AV)
- Page limits:

  Review talks <=10 pages

  Invited talks <= 7 pages

  Contributed talks <= 4 pages

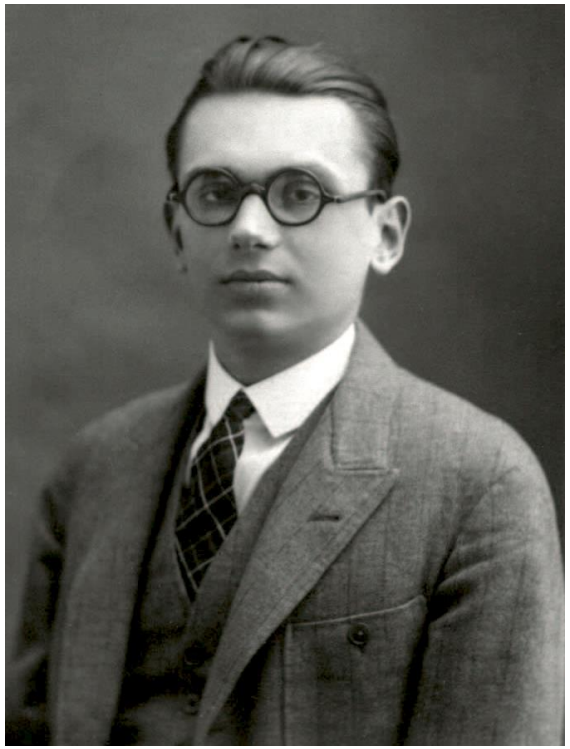
  Posters <= 2 pages

Deadline was August 16th, 2026

Main results

- IAU GA in Prague: Pluto lost the status of the planet
- IAUS405: new scale and unit of theory incompleteness

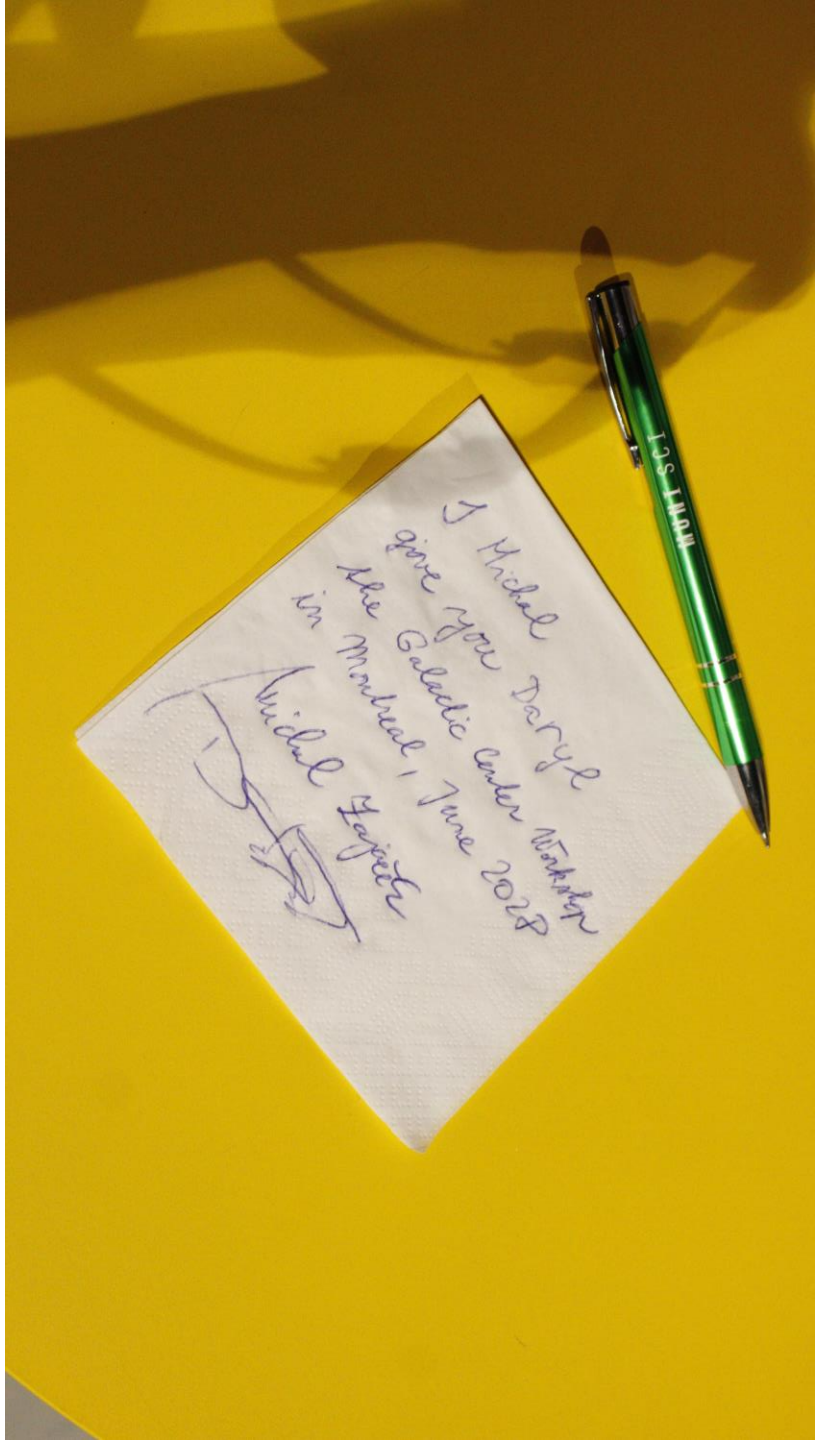
Gödel-Schödel unit





Next GC workshop





GC Workshop 2028 – Montreal, Canada





Concise meeting report published in *Nature Astronomy (September issue)*

nature astronomy

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Meeting Report | Published: 07 September 2026

Traversing the Galactic Centre in space and time

Michal Zajaček, Bożena Czerny, Martin Mondek, Samik Mitra, Matúš Labaj, Tomáš Ondro, Jan Janík & Jiří Dušek

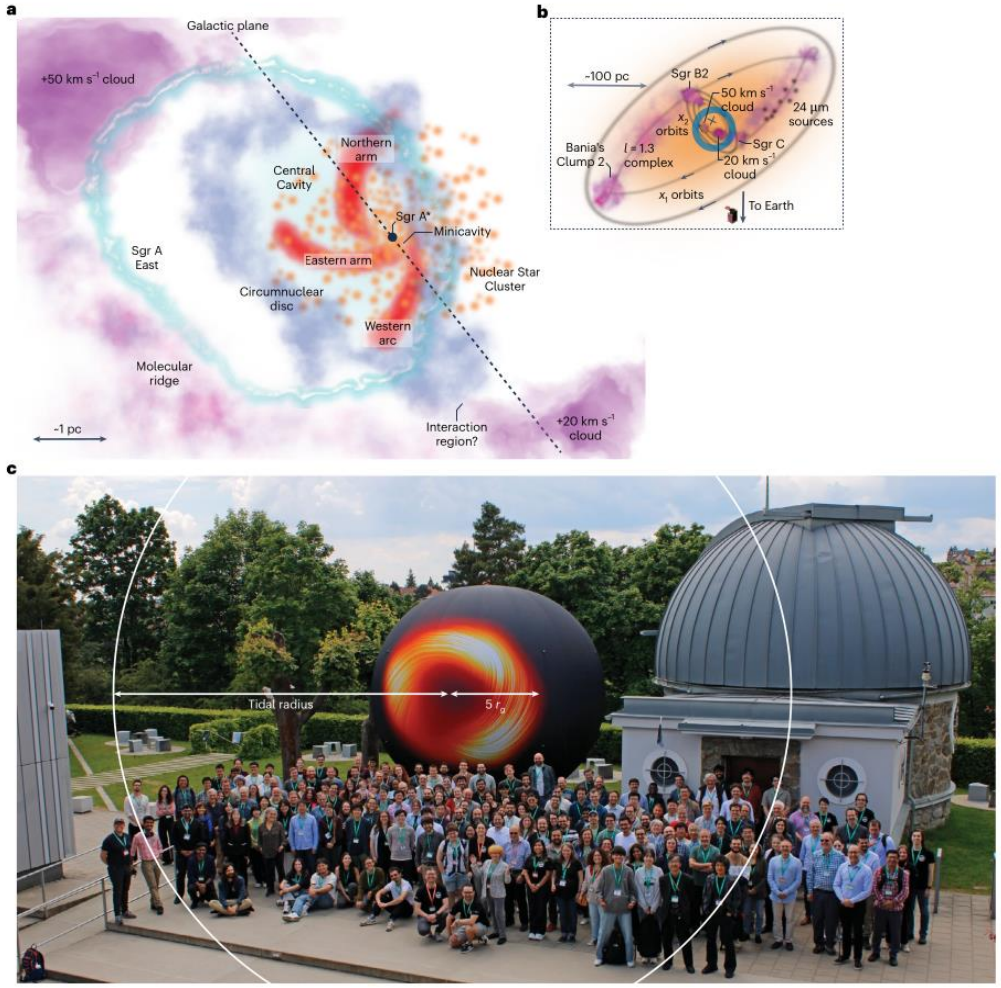
Nature Astronomy **10**, 1252–1254 (2026) | Cite this article

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291 Accesses | **6** Altmetric | Metrics

At IAU Symposium 405 in Brno, Czech Republic, the Galactic Centre emerged as a nearby laboratory for galactic nuclei, which links the central supermassive black hole, dense stellar populations and multiphase gas into a connected ecosystem across space and time.

The Galactic Centre is often identified with its central supermassive black hole, Sgr A*. Yet the black hole governs gravitationally only the innermost few parsecs of the Milky Way, while the surrounding Nuclear Star Cluster, Nuclear Stellar Disc and Central Molecular Zone (CMZ) shape the dynamics of stars and gas on progressively larger scales. Understanding how these components interact is essential not only for reconstructing the history of our own Galaxy, but also for interpreting galactic nuclei more generally.





Big thanks to all LOC members and the whole GC Crew!!!