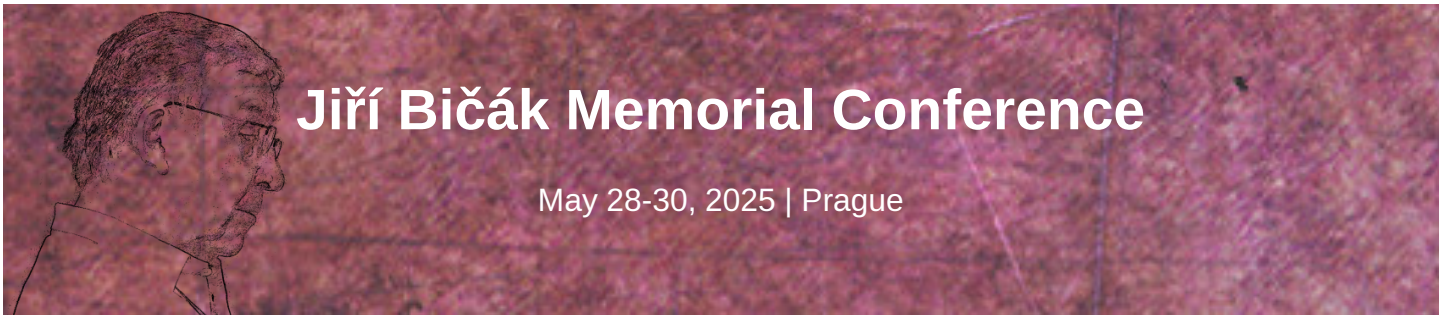

Conference Schedule

Day 1: Wednesday, May 28, 2025

Location: T1 Lecture room in Troja campus.

Time	
9^{00}–9^{35}	**Gerhard Schäfer**
	An Excursion of Jiří into Post-Minkowskian At the beginning of my talk I will provide some details from the scientific lives of Jiří and me which belong to us both. Then an overview will follow on our only publication, a Letter in the Physical Review, together with Tomáš Ledvinka, on the relativistic dynamics of many-body systems interacting gravitationally according to general relativity based on the canonical formalism by Arnowitt, Deser and Misner. The derived dynamics is given in form of a fully explicit analytical Hamiltonian valid through the first post-Minkowskian order, i.e. linear in the Newton gravitational constant without restrictions on the linear momenta of the involved bodies. Applications of the result will be summarized. An especially interesting development was the construction of an N-body solver for the 1PM-Hamiltonian equations of motion by Richard Matzner and his collaborators.
9^{35}–10^{10}	**Volker Perlick**
	Gravitational lensing by compact objects in the presence of a plasma I consider the simple model of a pressure-less ("cold") non-magnetised plasma. In such a medium, the equation of motion for light rays can be written in Hamiltonian form. While the influence of the plasma is usually negligibly small in the optical (and even more so in the X-ray and gamma-ray), this is not always true in the radio regime. This was demonstrated already in the 1960s when the influence of the Solar corona on light deflection by the Sun was investigated. More recently it has become an issue of interest whether the lensing by black holes and other compact objects could be influenced by a plasma in a palpable way. In this talk I will give an overview on results that have been achieved on this score. In particular, I will consider the situation that the equation of motion for light rays in a plasma admits a generalised Carter constant. This includes, among other things, certain plasma densities on Kerr spacetime. -- This talk is based on joint papers with Jiri Bicak, Barbora Bezdekova and Oleg Tsupko.
10^{10}–10^{30}	**Zdeněk Stuchlík**
	Charged Particle Dynamics in the Dipole Magnetosphere of Neutron Stars Charged particle dynamics is studied in the magnetosphere of neutron stars represented

	by a dipole magnetic field in the Schwarzschild spacetime. The circular orbits and their stability are determined both in and off the equatorial plane, which coincides with the symmetry plane of the dipole field. The off-equatorial circular orbits can exist only for magnetic repulsive forces. Frequencies of harmonic motion in small vicinity of the stable circular orbits are determined and related to high-frequency quasiperiodic oscillations observed in binary systems containing a neutron star. It is also shown that chaotic motion is possible in belts extending from the equatorial plane down to the neutron star surface at vicinity of the dipole axis. We show that additional radiative back-reaction force, treated in the approximation of the Landau-Lifshitz equation, can significantly influence the charged particle motion following both the in and off equatorial circular orbits, as well as the chaotic orbits confined to belts. We demonstrate that for an attractive Lorentz force the back-reaction causes fall of charged particles onto the neutron star's surface, while for an repulsive Lorentz force we observe a widening of stable equatorial circular orbits. The off-equatorial orbits shift toward the equatorial plane with subsequent widening, if they are sufficiently close to the equatorial plane. Otherwise, the off-equatorial orbits evolve toward the neutron star surface. The critical latitude, which separates orbital widening from falling onto the surface, is determined.
10^{30}–11^{00}	Coffee break
11^{00}–11^{35}	**Piotr Chrusciel***
	Who is afraid of a negative lapse? I will discuss various ways of solving Einstein equations, with emphasis on the Anderson-York equations, which are well posed even when the lapse has zeros or changes type.
11^{35}– 12^{10}	**Christian Klein**
	Visualization of exact solutions of the stationary axisymmetric Einstein equations via ray tracing Physical aspects of stationary axisymmetric vacuum spacetimes given by exact solutions of the Einstein equations are discussed via ray tracing. A detailed study of the spacetime generated by a disk of counter-rotating dust is presented. The spacetime is given in explicit form in terms of hyperelliptic theta functions. The numerical approach to ray tracing is set up for general stationary axisymmetric spacetimes and tested at the well-studied example of the Kerr and NUT solution. Similar features as in the case of a rotating black hole, are explored in the case of a dust disk. We also study the toron solution, a solution in terms of elliptic functions. This is work in collaboration with E. de Leon, J. Frauendiener and D. Korotkin.
12^{10}–12^{30}	**Barbora Bezděková**
	Optical Structure in the Kerr Spacetime and Its Applications to M87* In analogy to classical optics, a Kerr black hole can be viewed as a lens which forms its own optical structure. The Kerr-spacetime's optical structure can be completely derived from the equations of motion for a massless particle. It is uniquely given for a particular observer with a given inclination angle. This structure creates a broad variety of effects which could have direct consequences for currently available measurements of emissions near black holes, e.g., those provided by Event Horizon Telescope (EHT). This occurs due to the fact that, contrary to a Schwarzschild black hole, a Kerr black hole forms a non-degenerate structure which is more probable to affect a single emission. In my talk, I will introduce the main concepts of this formalism and show how they can be derived in the geometrical optics approximation. I will discuss limits of this approximation and relate the theoretical predictions to expected observations of the introduced phenomena. I will mainly focus on effects which could be detected due to the optical structure of the black hole in M87 and provide characteristic scales for such observations.

12^{30}–14^{00}	Lunch
14^{00}–14^{20}	**Latham Boyle**
	Black Mirrors: CPT-Symmetric Alternatives to Black Holes Einstein's equations imply that a gravitationally collapsed object forms an event horizon. But what lies on the other side of this horizon? In this talk, I will introduce our recent paper (https://arxiv.org/abs/2412.09558) in which we question the reality of the conventional solution (the black hole), and point out another, topologically distinct solution: the black mirror. In the black hole solution, the horizon connects the exterior metric to an interior metric which contains a curvature singularity. In the black mirror, the horizon instead connects the exterior metric to its own CPT mirror image, yielding a solution with smooth, bounded curvature. I will explain the general stationary (charged, rotating) black mirror solution, and also describe the general black mirror formed by gravitational collapse. The black mirror is the relevant stationary point when the quantum path integral is equipped with suitably CPT-symmetric boundary conditions, that we propose. It appears to avoid many vexing puzzles which plague the conventional black hole.
14^{20}–14^{40}	**Mokhtar Hassaine**
	Non-Noetherian conformal scalar field We will discuss the conformal invariance of certain equations derived from an action principle, even when the action itself is not necessarily conformally invariant. In particular, we will present the most general second-order scalar equation in four dimensions that is conformally invariant and can be obtained from an action principle.
14^{40}–15^{30}	Panel discussion
	Past & Future of Gravitational Physics V. Frolov, H. Nicolai, T. Piran, K. Thorne
15^{30}–16^{00}	Coffee break
16^{00}–16^{20}	**Sebastian Schuster**
	Primordial Black Holes, Charge, and Dark Matter: Rethinking Evaporation Limits Earlier studies investigating the allowed fraction of dark matter as primordial black holes (PBHs) tend to completely rule out PBHs with masses smaller than ~10^{-15} solar masses. This is due to the lack of evidence for Hawking radiation coming from the final evaporation stages of such small PBHs. These limits, however, make the key assumption that these PBHs can be modelled as uncharged, non-rotating Schwarzschild black holes. In this talk, we will present changes to these lower mass bounds when charge is included, i.e., by going to Reissner–Nordström black holes as models for PBHs. Concretely, we will add a ""dark"" U(1) charge, present in the early universe when the PBHs was formed; while not present in today's universe, it might still appear as a black hole charge. We use the Hiscock and Weems model of charged black hole evaporation, to correctly include the Schwinger effect. We then investigate and present the updated mass bounds for PBHs as dark matter candidates and their dependence on mass and charge of the corresponding ""dark"" electrons.
16^{20}–16^{40}	**Jiří Horák**

	Misalignment of the Lense-Thirring precession by an accretion torque The Lense–Thirring precession is a direct consequence of the frame-dragging effect predicted by general relativity. In accretion flows in the immediate vicinity of rotating black holes, the combined action of viscous and Lense–Thirring torques leads either to the alignment of the flow's angular momentum with the black hole's spin axis or to a nearly uniform precession. Interestingly, in the latter case, the flow does not necessarily precess around the black hole's spin axis, but rather around a new direction determined by the interplay of both torques. The astrophysical consequences of this result will be briefly discussed.
16^{40}–17^{00}	**Wlodek Kluźniak**
	Accretion onto a Reissner-Nordström naked singularity Hydrodynamic simulations of accretion in the Reissner-Nordström (RN) space-time show a striking difference between the black hole and naked singularity solutions. For a black hole, just as in the familiar Kerr case, matter overflowing the cusp plunges into the black hole horizon. For the naked singularity, the accreting matter forms an inner structure of toroidal topology and leaves the system via powerful outflows. It is an open question whether this inner structure can give rise to an image quantitatively similar to the ones reported by EHT for M87 and Sgr A*.

Public Lecture

Location: Blue auditorium in Prague center.

Time	Speaker	Title
19^{00}–20^{00}	**Kip Thorne**	
	Quantum Fluctuations in our Universe's Warped Side: Big Bang, Black Holes, Wormholes, Time Travel and Gravitational Waves.	

Day 2: Thursday, May 29, 2025

Location: T1 Lecture room in Troja campus.

Time	
9^{00}–9^{35}	**Hermann Nicolai**
	On a possible origin of primordial black holes It is proposed that stable fractionally charged supermassive gravitinos can serve as seeds for giant primordial black holes via the formation and subsequent gravitational collapse of 'gravitino lumps' in the early radiation era. The resulting mini-black holes can escape Hawking evaporation if the radiation temperature exceeds the Hawking temperature. Subsequently the black holes evolve according to an exact solution of Einstein's equations, to emerge as macroscopic black holes in the transition to the matter dominated era, with masses on the order of the solar mass or larger. The presence of these seeds at such an early time provides ample time for further accretion of matter and radiation, to produce black holes of almost any size up to the observed maximum.
9^{35}–10^{10}	**Wan Cong**
	Detection of rotation and conical deficit with UDW detectors In a series of works in collaboration with Jiri Bicak, David Kubiznak and Robert Mann, we have studied the response of Unruh-de Witt detectors placed in spherical and cylindrical shells. In both cases, the spacetime inside the shell is locally Minkowski. However as the quantum vacuum holds information about the global spacetime, detectors placed inside the shell is able to detect the shell and tell whether it is rotating (which we consider as a detection of inertial frame dragging), and is sensitive to the conical deficit of the exterior spacetime in the case of cylindrical shells. In this talk I will review the set-up of the problem and share details on our results.
10^{10}–10^{30}	**Vladimír Karas**
	On Stars and Tides: Way of Probing Dense Stellar Clusters? The immense influence of tidal forces near cosmic black holes is capable of morphing a spherical star into a string-like object in a process nicknamed "spaghettification". A portion of the star's material is ejected, while the rest remains gravitationally bound and accreted (Rees 1988). Only recently have scientists been able to study the rates of Tidal Disruption Events, the emerging radiation signal, and the corresponding duty cycle of transient (quasi-)periodicity through observations and computational modelling. An intriguing idea suggests that the electromagnetic signatures of Repetitive Nuclear Transients may help us measure parameters of the bodies spiraling into supermassive black holes even before we will be able to detect the final plunge in the gravitational waves domain (Suková et al. 2021). "On Stars, Oceans and Mankind" is a collection of essays initiated by Jiří Bičák and delivered in front of the Learned Society of the Czech Republic in May 2015: Lord Martin Rees spoke about astrophysics and cosmology, Sir Geoffrey Boulton explored oceans, and Sir Brian Heap delved into genetically modified crops. The written versions of the talks were commented on by J.B. and prepared for print in a bilingual Czech-English format (Bičák 2016). While Jiri's broad personality was inspired by an interplay of different topics relevant to scientists as well as the whole society, the present contribution focuses on a purely (astro)physical mechanism that is believed to operate at the end of stellar lives when they approach a massive black hole.
10^{30}–11^{00}	Coffee break

11^{00}–11^{35}	**Tsvi Piran**
	Memories - of Jiří and of Gravitational Waves Memory-type gravitational waves are spacetime perturbations that propagate at the speed of light, leaving a permanent signature on space-time after their passage. Among the different sources that produce memory gravitational waves are the so-called jet-gravitational waves (Jet-GWs) that arise when a relativistic jet is accelerated from rest to the speed of light. Jet-GWs are most easily detected from transient jets that operate on a short time scale. Such are the jets that arise in gamma-ray bursts. I will discuss the general characteristics of Jet-GWs, focusing on those arising from GRBs, and explore their detectability in current and future gravitational wave detectors.
11^{35}–12^{10}	**Valeri P. Frolov**
	Regular black holes inspired by quasitopological gravity Recently it was demonstrated that by adding to the Einstein-Hilbert action a series in powers of the curvature invariants with specially chosen coefficients one can obtain a theory of gravity which has spherically symmetric solutions describing regular black holes. Its reduced action depends on a function of one of the basic curvature invariants of the corresponding metric. In this paper we study a generalization of this model to the case when this function depends on all the basic curvature invariants. We show that the metrics which are solutions of such a model possess a universal scaling property. We demonstrate that there exists a special class of such models for which the “master” equation for a basic curvature invariant is a linear second-order ordinary differential equation. We specify a domain in the space of parameters of the model for which the corresponding solutions describe regular static, spherically symmetric black holes and study their properties.
11^{10}–12^{30}	**Roman Konoplya**
	Late time decay in black hole backgrounds This talk provides a review of studies on the late-time decay of perturbations near black holes, including historical developments and the contributions of Jiří Bičák to this field.
12^{30}–14^{00}	Lunch
14^{00}–14^{20}	**Vojtěch Pravda**
	History and Prehistory of VSI and Universal Spacetimes The task given to me by Jiri for my master's thesis was to prove that pp-waves are the only spacetimes with vanishing curvature invariants. The initial assumption behind this task turned out to be incorrect, but it was wrong in the right way and a shot in the right direction. I will briefly discuss my first paper with Jiri on curvature invariants and further development of the topic towards VSI and universal spacetimes.
14^{20}–14^{40}	**Jens Boos**
	Autoparallels in post-Riemannian spacetimes In gravitational theories with an independent connection, the notion of shortest curves (geodesics) and straightest curves (autoparallels) no longer coincide. We investigate this notion in the application to black hole spacetimes, with a special focus on conservation laws integrability.
14^{40}–14^{55}	**David Kubizňák**

	Carrollian Monarch Butterflies on the Black Hole Horizon I will talk about Jiri's explorations in Carrollian physics - namely about the migration of Carrollian particles on a black hole horizon immersed in Jirka's magnetic field.
14^{55}–15^{30}	**Robert Mann***
	Accelerating Black Holes from Three Perspectives One of the interests of Jiri Bicak was in the C-metric, and the accelerating black holes that this metric describes. In recent years there has been a resurgence of interest in accelerating black holes from a variety of perspectives. I will present in this talk three such perspectives – thermodynamic, quantum, and observational – and new results that have emerged from each.
15^{30}–16^{00}	Coffee break
16^{00}–16^{20}	**Michal Zajaček**
	Mapping circumnuclear media: From the Galactic center to distant quasars and beyond Stars and gas clouds in galactic nuclei have been one of the most productive “laboratories” for testing the supermassive black hole (SMBH) paradigm as well as theories of gravity in general. I will review our recent work shedding light on the formation and evolution of stars very close to the SMBH in our Galactic center. A large fraction of this work has revolved around dust-embedded “G” sources, which could either be young pre-main-sequence stars or binary merger products. A recent detection of the binary nature of the D9 source, which is one of the G sources, has strengthened the binary merger scenario. Moving towards more distant and active galaxies, which are complementary to the very quiescent Galactic center, we used continuum and spectroscopic measurements to infer radii of orbiting clouds around the SMBH (reverberation mapping). We confirmed that even for more distant, intermediate-redshift quasars, these radii are proportional to a specific power of the ionizing monochromatic luminosity, depending on the broad emission line used for monitoring. This radius-luminosity relation in principle allows us to turn quasars into standardizable candles since the measured radius can be used to infer the monochromatic luminosity of a quasar, while the measured flux density is directly available from observations. In summary, I will provide an overview of our attempts of constraining cosmological parameters using the sample of several hundred reverberation-mapped quasars. This work thus connects the accretion “microphysics” on the scale of several thousand gravitational radii with the “macrophysics” of the global cosmology.
16^{20}–16^{40}	**Finnian Gray & Gloria Odak**
	On a lower-dimensional Killing vector origin of irreducible Killing tensors Considering a spacetime foliated by co-dimension-2 hypersurfaces, in this talk I present conditions under which lower-dimensional symmetries of a base space can be lifted up to give rise to irreducible Killing tensors of the full spacetime. In this construction, the key ingredient for irreducibility is the non-commutativity of the underlying Killing vectors of the base space. It gives rise to a tower of growing rank irreducible Killing tensors determined by the structure constants of the corresponding Lie algebra. I present two examples of metrics with such emergent symmetries in all dimensions. The first is the rotating (off-shell) generalized Lense–Thirring spacetimes, where the irreducible Killing tensors arise from the underlying spherical symmetry of the base space. The second is of the emergence of the unitary symmetry group of equal spinning Myers–Perry spacetimes from a base space with the same symmetry.

16^{40}–17^{00}	**Rick Perche**
	Quantifying Vacuum Entanglement in Quantum Field Theory We will discuss two complementary approaches to estimating vacuum entanglement in quantum field theory, from an operational perspective, and from a phase space approach. Our goal is to show how recent results of Natalie Klco and collaborators can be used to classify the most entangled modes between two finite regions in a quantum field theory, leading to optimizations of vacuum entanglement extraction.
17^{00}–20^{00}	Transfer / Dinner
20^{15}–21^{00}	Organ concert
	Church of Our Lady of the Snows

Day 3: Friday, May 30, 2025

Location: Czech Academy of Sciences building in Prague center.

Time	
9^{00}–9^{35}	**Andres Anabalon**
	The Geometry of Meaning: Perfect Spacetime Representations of Hierarchical Structures We show that there is a fast algorithm that embeds hierarchical structures in three-dimensional Minkowski spacetime. The correlation of data ends up purely encoded in the causal structure. Our model relies solely on oriented token pairs---local hierarchical signals---with no access to global symbolic structure. We apply our method to the corpus of *WordNet*. We provide a perfect embedding of the mammal sub-tree including ambiguities (more than one hierarchy per node) in such a way that the hierarchical structures get completely codified in the geometry and exactly reproduce the ground-truth. We extend this to a perfect embedding of the maximal unambiguous subset of the *WordNet* with 82,115 noun tokens and a single hierarchy per token. We introduce a novel retrieval mechanism in which causality, not distance, governs hierarchical access. Our results seem to indicate that all discrete data has a perfect geometrical representation that is three-dimensional. The resulting embeddings are nearly conformally invariant, indicating deep connections with general relativity and field theory. These results suggest that concepts, categories, and their interrelations, namely hierarchical meaning itself, is geometric.
9^{35}–9^{55}	**Robie Hennigar**
	Evolution of creases on the event horizon of a black hole merger The event horizon of a dynamical black hole is generically nonsmooth. The types of nonsmooth structures that can arise on the event horizon of a dynamical black hole have been recently classified 2303.15512. The most important type of nonsmooth structures were found to be crease points and caustics. In this talk, I will discuss how creases and caustics arise and evolve on the event horizon of a black hole merger. The study is carried out in the (strict) extreme mass ratio limit, for which constructing the event horizon reduces to finding a null hypersurface that asymptotes to a Rindler horizon in the Kerr spacetime. The construction allows for a quantitive study of geometrical properties of the crease set and a comparison with the predictions of an exact local model. Based on 2407.07962 with Maxime Gadioux and Harvey Reall.
9^{55}–10^{10}	**Breno Giacchini**
	Black holes and other exact solutions in six-derivative gravity Higher-derivative terms are relevant to several approaches to quantum gravity; they occur in the perturbative quantization of Einstein gravity and can be used to construct (super-)renormalizable quantum gravity models. In this talk, we present the first results regarding the classification of exact, static spherically symmetric vacuum solutions of a generic six-derivative gravity (i.e., without assuming specific relations between the coupling constants). By using modified Schwarzschild coordinates and Frobenius analysis we are able to identify six main classes of solutions and determine their number of free parameters. We find novel solutions absent in four-derivative gravity, including those with extreme horizons (and their near-horizon limits) that exist without matter sources. We also find asymptotically (anti-)de Sitter spacetimes, giving rise to an effective cosmological constant. The solutions around the origin are contained in a single class, and they are necessarily regular. Together with the existence of double degenerate horizons, this may indicate the existence of regular black holes in six-

	derivative gravity. We shall also discuss how the exact solutions can be compared with the previously known linearised solutions.
10^{10}–10^{20}	**Alexander Vikman**
	Ghosts Can Do It Ghosts are particles and fields with kinetic energies unbounded from below. They propagate in the spacetime metric with the signature convention opposite to the one taken for gravity and usual matter fields. Ghosts appear very often in gravity modifications and are interesting for cosmology. However, ghosts are usually associated with runaway instabilities and the absence of the standard quantisation. Yet, in Phys.Rev.Lett. 128 (2022) 4, 041301 and JCAP 11 (2023) 031 we demonstrated that there are interacting systems with ghosts which are perfectly globally and locally stable. Thus, for these systems the motion is finite for all initial conditions. Moreover, in a recent work e-Print: 2504.11437 we showed that even classical field systems with ghosts may not reveal any substantial instability.
10^{20}–10^{30}	**Justin Feng**
	On background dependent formalisms for general relativity General relativity is background independent, i.e., the spacetime metric is defined without reference to an underlying geometric structure. This same background independence enables the choice of a convenient background on which to reformulate the equations of general relativity. In this talk, I discuss a few background dependent formalisms (including that of Katz, Bicak, and Lynden-Bell), and discuss the utility and tradeoffs in adopting a background dependent formalism in general relativity.
10^{30}–11^{00}	Coffee break
11^{00}–11^{20}	**Constantinos Skordis**
	Extensions of General Relativity and cosmological dark matter Assuming that gravity on cosmological scales is described by General Relativity (GR), observations indicate that 80% of matter is in the form dark matter. The underlying cosmological model, ΛCDM, provides a superb fit to the data on scales of around 1 Mpc or larger. However, the dark matter particle responsible is so far undetected. Moreover, galactic dynamics display an element of regularity, suggesting a fundamental description that is not easily provided by a dark matter particle. In this talk, I will present recent extensions of GR with additional degrees of freedom which are screened on smaller scales so that the success of GR is restored. These provide excellent fits to galactic data, propagate tensor mode gravitational waves at the speed of light and lead to an effective ΛCDM description on large scales reproducing observations of the cosmic microwave background and large-scale structure. I will briefly present the status of these models and discuss future directions.
11^{20}–11^{40}	**Marek Abramowicz**
	The optical geometry: when Einstein meets Hašek In static spacetimes which posses timelike Killing vector field q, the optical geometry one defines the optical 3D space H as a hypersurface orthogonal to q with the projected metric on H conformally rescaled by the norm of $\|q\|$. Traces of null-geodesics in spacetime are spacelike geodesics in the optical space. In particular, in the optical space associated with the Schwarzschild geometry, at $r<3m$, all spheres r=const inside any sphere $r=r\_out$=const are larger than the outer sphere.
11^{40}–12^{00}	**Vladimír Balek**

	Paper in the Tíme of Corona In the years 2020 to 2023 we were writing with Jiří Bičák and his doctoral student Bára Bezděková a paper about propagation of light in the field of a black hole surrounded by cold plasma. I will describe the long journey of the paper from the idea to completion, how it was rejected in the first journal and accepted in the second, where the two of us, me and Bára, have submitted it on the suggestion by Jiří, who wrote us three days before his sad departure “the referee didn’t seem to get our-Your intention, but now I guess it’s of no use to ‘fight’ with it in GRG…”
12^{00}–12^{20}	**Filip Hejda**
	Colliding with Bičák My interaction with Jiří Bičák has been a paradoxical one. Although I couldn't share that much time with him, the encounter essentially defined my scientific path for many years to come. In the autumn of 2011, while I was anxiously looking for a topic of my upcoming Master thesis, Bičák took me under his wing with characteristic grace and went on to offer me several possible topics. The fourth one was the charm; he told me about the possibility of near-horizon high-energy test-particle collisions recently described by Bañados, Silk and West (BSW), and suggested to generalise it to magnetised Kerr-Newman (MKN) black holes. As I took up work on this topic, Bičák always emphasised the importance of the black-hole Meissner effect, which led me to identify its manifestations for extremal MKN black holes. This formed the basis of our first paper [PhysRevD.92.104006]. However, the presence of the Meissner effect also rendered the extremal MKN black hole a rather uninteresting background for generalisations of the BSW effect, and so our second paper, which unified its two hitherto separate variants, focused on normal Kerr-Newman black holes [PhysRevD.95.084055]. In our third and final paper together, we also considered energy extraction from black holes via generalised BSW effect [PhysRevD.100.064041]. To conclude this talk, I would like to mention that I recently renewed my research of generalised BSW effect, striving to obtain new, advanced results, which I wish to dedicate to the memory of the great Jiří Bičák.
12^{20}–14^{00}	Lunch
14^{00}–14^{10}	The Ernst Mach Medal - Announcement
14^{10}–14^{20}	gathering - Martin Rees*
14^{20}–14^{50}	gathering - Oldřich Semerák
14^{50}–15^{20}	gathering - Petr Hadrava
15^{20}–15^{30}	gathering - Leoš Dvořák
15^{30}–16^{00}	Coffee break
16^{00}–16^{30}	gathering - Zdeněk Stuchlík
16^{30}–17^{00}	gathering - Václav Janiš
17^{00}	Final words & End of conference

* online