

JGRG29 Program (as of November 27)

Centennial Hall, Rokkodai-2nd campus, Kobe University

- Presentation awards: Those who are eligible are marked with an asterisk (*).

Monday, November 25

- 9:00 – 9:50 **Registration**
- 9:50 – 10:00 **Opening** by Jiro Soda
- 10:00 – 10:45 **Invited Talk 1** (Chair: Ken-ichi Nakao)
Alexander Vikman *Prague, Inst. Phys.*
“Weyl Symmetry for Dark Matter and Dark Energy”
- 10:45 – 11:15 **5-Minute Talks 1**
- [S01] **Rampei Kimura** *Waseda University*
“On linearized massive bigravity”
- [S02] **Katsuki Aoki** *YITP, Kyoto University*
“Ghostfree quadratic curvature theories with massive spin-2 and spin-0 particles”
- [S03] **Kei Yamada** *Kyoto University*
“Testing Parity Violation of Gravity via Gravitational Waves”
- [S04] **Tomohiro Fujita** *Kyoto University*
“Hunting Axion Dark Matter with New Techniques”
- [S05] **Shi Pi** *Kavli IPMU*
“Scaling of Stochastic Gravitational Wave Background”
- 11:15 – 11:30 **Break**
- 11:30 – 12:30 **Session 1A** (Chair: Shinji Mukohyama)
- [T01*] **Aya Iyonaga** *Rikkyo University*
“Extended Cuscuton as Dark Energy”
- [T02*] **Shintaro Nakamura** *Tokyo University of Science*
“Coupled vector dark energy”
- [T03*] **Sirachak Panpanich** *Chulalongkorn University*
“Cosmological dynamics and double screening of DBI-galileon gravity”
- [T04*] **Sergey Mironov** *INR RAS*
“Superluminality in stable cosmological models beyond Horndeski”
- 12:30 – 13:30 **Lunch**
- 13:30 – 14:15 **Invited Talk 2** (Chair: Takahiro Tanaka)
Sabino Matarrese *University of Padova*
“Anisotropies and non-Gaussianity: from the Cosmic Microwave Background to the Gravitational Wave Background”
- 14:15 – 15:15 **Session 1B**
- [T05*] **Katsuya Abe** *Nagoya University*
“Small-scale CMB anisotropy due to PBH”

- [T06*] **Akira Matsumura** *Nagoya University*
 “Detectability of quantumness of the primordial gravitational wave through the CMB observation”
- [T07*] **Hsu-Wen Chiang** *National Taiwan University*
 “Could large scale inhomogeneity explain recent H0LiCOW result?”
- [T08*] **Masroor C. Pookkillath** *YITP, Kyoto University*
 “Baryon Physics and Tight Coupling Approximation in Boltzmann Code”

15:15 – 15:30 **Poster Talks 1**

15:30 – 16:30 **Coffee & Poster**

16:30 – 17:15 **Invited Talk 2** (Chair: Tetsuya Shiromizu)

Cédric Deffayet *IHÉS*

“Massive and partially massless gravitons on curved space-times”

17:15 – 18:45 **Session 1C**

[T09*] **Zhi-Bang Yao** *Sun Yat-Sen University*

“Spatially covariant gravity with two tensorial degrees of freedom”

[T10*] **Yu-Min Hu** *Sun Yat-Sen University*

“The covariant theory of spatially covariant gravity in ϕ language”

[T11*] **Che-Yu Chen** *LeCosPA, National Taiwan University*

“Testing Gravity Theories with Gravitational Waves: Quasinormal Modes”

[T12*] **Justin Christopher Feng** *Instituto Superior Técnico*

“Generalized Coupling Theories”

[T13*] **Reginald Christian Bernardo** *University of the Philippines*

“Hairy black holes in kinetic gravity braiding”

[T14*] **Jorge Delgado** *University of Aveiro*

“Spinning Black Holes in Shift-Symmetric Horndeski Theory”

Tuesday, November 26

9:00 – 9:45 **Invited Talk 4** (Chair: Misao Sasaki)

Manuela Campanelli *Rochester Institute of Technology*

“Simulations of Binary Black Hole Mergers in the Multi-Messenger Astrophysics Era”

9:45 – 10:45 **5-Minute Talks 2**

[S06] **Hayato Motohashi** *YITP, Kyoto University*

“Exact black hole solutions in modified gravity”

[S07*] **Kazufumi Takahashi** *Kobe University*

“Linear stability analysis of hairy black holes in quadratic DHOST theories”

[S08*] **Rio Saitou** *Daido University*

“Inflationary spectral tilts as a result of the dilatation symmetry breaking”

[S09*] **Daisuke Yoshida** *Kobe University*

“Birth of de Sitter Universe from time crystal”

[S10*] **Naoya Kitajima** *Tohoku University*

“Gravitational waves from axionic gauge field production”

[S11*] **Yun-Long Zhang** *YITP, Kyoto University*

“Hyperbolic Field Space and Swampland Conjecture for DBI Scalar”

- [S12*] **Kunihito Uzawa** *Kwansei Gakuin University*
 “Slow-roll inflation and the swampland”
- [S13*] **Takashi Hiramatsu** *ICRR*
 “Testing gravity with CMB”
- [S14*] **Hiroki Matsui** *Tohoku University*
 “Non-singular Bounce of Closed Universe”
- 10:45 – 11:15 **Coffee & Poster**
- 11:15 – 12:30 **Session 2A** (Chair: Tomohiro Harada)
- [T15*] **Victoria Volkova** *INR RAS*
 “Stable wormholes in Horndeski theories and beyond: current status”
- [T16*] **Yu-Hsien Kung** *National Taiwan University*
 “Modifying Hawking temperature by time-dependent supertranslation”
- [T17*] **Yasutaka Koga** *Rikkyo University*
 “Stability of null orbits on photon spheres and photon surfaces”
- [T18*] **Taishi Ikeda** *Instituto Superior Técnico*
 “The physics of black hole binaries: geodesics, relaxation modes and energy extraction”
- [T19*] **Pritam Banerjee** *Indian Institute of Technology Kanpur*
 “Tidal effects away from the equatorial plane in Kerr backgrounds”
- 12:30 – 13:30 **Lunch**
- 13:30 – 14:15 **Invited Talk 5** (Chair: Hideki Asada)
Alexander Dolgov *Novosibirsk State University*
 “Electromagnetic phenomena in the process of black hole coalescence”
- 14:15 – 15:30 **Session 2B**
- [T20*] **Takuya Katagiri** *Rikkyo University*
 “Instabilities of small charged Anti-de Sitter black holes”
- [T21*] **Daisuke Yoshida** *Kobe University*
 “Quasinormal modes of p -forms in spherical black holes”
- [T22*] **Kodai Ueda** *Kindai University*
 “Massive tensor field perturbations on extremal and near-extremal static black holes”
- [T23*] **Tomohiro Nakamura** *Nagoya University*
 “Spontaneous Scalarization in Scalar-Vector-Tensor theory”
- [T24*] **Alexandre Mira Pombo** *Aveiro University*
 “Spontaneous scalarisation of charged black holes: coupling dependence and dynamical features”
- 15:30 – 16:15 **Coffee & Poster**
- 16:15 – 17:00 **Invited Talk 6** (Chair: Hideki Ishihara)
Alexei A. Starobinsky *Landau Institute for Theoretical Physics*
 “Evolution of the mixed R^2 -Higgs inflationary model”
- 17:00 – 18:00 **Session 2C**
- [T25*] **Soichiro Hashiba** *The University of Tokyo*
 “Gravitational production of right-handed neutrinos after quintessential inflation”

- [T26*] **Seiga Sato** *Waseda University*
 “Reheating after the hybrid Higgs inflation”
- [T27*] **So Okano** *Waseda University*
 “Gravitational Wave production in a helical magnetogenesis model”
- [T28*] **Keitaro Tomikawa** *Rikkyo University*
 “On the gauge dependence of gravitational waves generated at second order from scalar perturbations”

Wednesday, November 27

- 9:00 – 9:45 **Invited Talk 7** (Chair: Yasusada Nambu)
Silke Weinfurtner *Nottingham University*
 “The hydrodynamic rotating black hole: superradiance, ringdown and backreaction”
- 9:45 – 10:45 **5-Minute Talks 3**
- [S15*] **Tatsuya Ogawa** *Osaka City University*
 “Charge Screened Boson Stars In a Spontaneously Broken U(1) Gauge Theory”
- [S16*] **Ippeii Obata** *ICRR, University of Tokyo*
 “Generation of Primordial BHs and GWs from Dilaton-Gauge Field Dynamics”
- [S17*] **Nami Uchikata** *Niigata University*
 “Reanalysis of GW170817 using several waveform models”
- [S18] **Norihiro Tanahashi** *Kyushu University*
 “Invertible transformation in scalar-tensor theories and wave propagation”
- [S19*] **Takaaki Ishii** *Kyoto University*
 “Black resonators and geons in AdS_5 ”
- [S20*] **Ryoko Yahagi** *Tokyo University of Science*
 “Papapetrou equation and its non-linear connection”
- [S21*] **Masashi Kimura** *Rikkyo University*
 “Black holes in an effective field theory extension of general relativity”
- [S22*] **Atsushi Naruko** *YITP, Kyoto University*
 “On metric transformations with a U(1) gauge field”
- [S23*] **Yuichiro Tada** *Nagoya University*
 “Stochastic inflation with an extremely large number of e-folds”
- 10:45 – 11:00 **Poster Talks 2**
- 11:00 – 11:45 **Coffee & Poster**
- 11:45 – 12:30 **Session 3A** (Chair: Masahide Yamaguchi)
- [T29*] **Kohei Fujikura** *Tokyo Institute of Technology*
 “A more attractive scheme for modulus stabilization”
- [T30*] **Kai Murai** *ICRR, University of Tokyo*
 “Formation of supermassive primordial black holes by Affleck-Dine mechanism”
- [T31*] **Minxi He** *RESCEU, University of Tokyo*
 “Rotation and Formation Threshold of Primordial Black Holes”
- 12:30 – 12:45 **Photo**
- 12:45 – 13:30 **Lunch**

- 13:30 – 14:15 **Invited Talk 8** (Chair: Sugumi Kanno)
Alexander Vilenkin *Tufts University*
 “Black holes from vacuum bubbles”
- 14:15 – 15:30 **Session 3B**
 [T32*] **Shingo Akama** *Rikkyo University*
 “Tensor non-Gaussianities from inflation with non-Bunch-Davies initial states”
 [T33*] **Manuel Krämer** *KU Leuven*
 “Quantum Gravity in the CMB: Semiclassical effects and imprints of an interacting multiverse”
 [T34*] **Hsiao-Heng Yeh** *National Taiwan University, LeCosPA*
 “Classicalizable Euclidean wormhole solution as an initial condition of the universe”
 [T35*] **Junsei Tokuda** *Kyoto University*
 “Suppression mechanism of large infrared quantum effects on inflationary observables”
 [T36*] **Toshiaki Takeuchi** *Kobe University*
 “String Regge trajectory on de Sitter space and implications to inflation”
- 15:30 – 16:15 **Coffee & Poster**
- 16:15 – 17:30 **Session 3C** (Chair: Teruaki Suyama)
 [T37*] **Yosuke Mishima** *Rikkyo University*
 “Revisiting slow-roll dynamics and the tensor tilt in general single-field inflation”
 [T38*] **Keito Takeuchi** *Kobe University*
 “Perturbative Unitarity in Quasi-Single Field Inflation and New Physics”
 [T39*] **Suro Kim** *Kobe University*
 “Heavy Spinning Particles from Signs of Primordial Non-Gaussianities: Beyond the Positivity Bounds”
 [T40*] **Kazuhiro Kogai** *Nagoya University*
 “Probing higher spin fields from galaxy alignment”
 [T41*] **Mai Yashiki** *Yamaguchi University*
 “Unified Models of Inflation and Dark Energy in $f(R)$ Gravity: constraints from solar system experiments”
- 18:00 **Bus**
 19:00 – **Banquet**

Thursday, November 28

- 9:00 – 9:45 **Invited Talk 9** (Chair: Ken-ichi Oohara)
Yosuke Itoh *Osaka City University*
 “Status of KAGRA”
- 9:45 – 10:45 **Session 4A**
 [T42*] **Asuka Ito** *Kobe University*
 “Probing GHz gravitational waves with magnons”
 [T43*] **Ryo Kato** *Kobe University*
 “Search for polarization in gravitational wave with pulsar timing arrays”

- [T44*] **Alvin Chua** *Jet Propulsion Laboratory*
 “Neural networks in gravitational-wave astronomy: The rigorous approach”
- [T45*] **Takahiro S. Yamamoto** *Kyoto University*
 “Estimation of QNM frequency of ringdown gravitational wave by neural network”
- 10:45 – 11:15 **Coffee & Poster**
- 11:15 – 12:30 **Session 4B** (Chair: Takeshi Chiba)
- [T46] **Jose J. Blanco-Pillado** *IKERBASQUE, UPV/EHU*
 “Stochastic gravitational wave background from Cosmic Strings”
- [T47*] **Leo Tsukada** *RESCEU, University of Tokyo*
 “A search for stochastic gravitational-wave background from ultralight vectors”
- [T48*] **Yuka Matsui** *Nagoya University*
 “Gravitational wave background from kink-kink collisions on cosmic superstrings with Y-junctions”
- [T49] **Elena Arbuzova** *Dubna State University, Novosibirsk State University*
 “Supersymmetric dark matter in $R + R^2$ gravity”
- [T50*] **Taishi Miura** *Kyoto University*
 “The Hubble tension in the inhomogeneous universe”
- 12:30 – 13:30 **Lunch**
- 13:30 – 14:15 **Invited Talk 10** (Chair: Akihiro Ishibashi)
- Stefan Hollands** *University of Leipzig*
 “Determinism and Quantum Theory inside Black Holes”
- 14:15 – 15:30 **Session 4C**
- [T51*] **David Kofroň** *Charles University*
 “Debye potentials and Teukolsky-Starobinsky identities”
- [T52*] **Ales Flandera** *Charles University*
 “Kerr-Newman Black Hole in the Formalism of Isolated Horizons”
- [T53*] **Keisuke Nakashi** *Rikkyo University*
 “Effect of a second compact object on stable circular orbits”
- [T54*] **Kazuma Takahashi** *Osaka City University*
 “Imaging of gravitationally collapsing star by numerical calculation”
- [T55*] **João Miguel da Silva Oliveira** *University of Aveiro*
 “About the inexistence of solitons in Einstein-Maxwell-Axion models”
- 15:30 – 16:15 **Coffee & Poster**
- 16:15 – 17:30 **Session 4D** (Chair: Tsutomu Kobayashi)
- [T56*] **Polina Dyadina** *Moscow State University*
 “Test of hybrid $f(R)$ -gravity in binary pulsars”
- [T57*] **Sofya Labazova** *Moscow State University*
 “Post-Newtonian limit of hybrid metric-Palatini $F(R)$ -gravity”
- [T58*] **Ulbossyn Ualikhanova** *University of Tartu*
 “Parameterized post-Newtonian limit of general teleparallel gravity theories”
- [T59] **Shin’ichi Hirano** *Rikkyo University*
 “Non-linear corrections of large scale structure in Degenerate Higher-Order Scalar-Tensor theories”
- [T60] **Ryo Namba** *Tsung-Dao Lee Institute, Shanghai Jiao Tong University*
 “Gravitating $U(1)$ theory beyond the Einstein-Maxwell”

Friday, November 29

- 9:00 – 9:45 **Invited Talk 11** (Chair: Hideyuki Tagoshi)
 Salvatore Vitale *MIT*
 “Status update of LIGO/Virgo’s third observing run”
- 9:45 – 10:30 **Session 5A**
 [T61] **Masato Minamitsuji** *CENTRA, IST, University of Lisbon*
 “Spontaneous scalarization in a broad class of scalar-tensor theories”
 [T62] **Andrei Frolov** *Simon Fraser University*
 “Near-horizon echoes in real time”
 [T63] **Eliska Polaskova** *Charles University*
 “Equal-Spin Limit of the Kerr-NUT-(A)dS spacetime”
- 10:30 – 10:45 **Break**
- 10:45 – 11:30 **Invited Talk 12** (Chair: Kazuhiro Yamamoto)
 Kentaro Miuchi *Kobe University*
 “Direct Dark Matter Detection Review”
- 11:30 – 12:00 **Session 5B**
 [T64] **Shun Arai** *Nagoya University*
 “Can we solve the Hubble tension in the framework of Horndeski theory?”
 [T65] — *Canceled* —
 [T66] **Amin Nassirirad** *Institute for Research in Fundamental Sciences*
 “Stochastic Process in Ultra Slow Roll Inflation”
- 12:00 – 12:15 **Presentation Awards**
12:15 – 12:30 **Closing** by Kei-ichi Maeda