

# RENCONTRES DU VIETNAM

Qui Nhon, Vietnam December 17-22, 2011

## Xth International Conference on Gravitation, Astrophysics and Cosmology (ICGAC10) PROGRAM

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### Saturday 17 December 2011

07:30 - 12:00 : Arrival of participants  
12:00 - 14:00 : Lunch  
14:30 - 18:30 : Registration  
18:30 - 19:15 : Welcome cocktail  
19:15 - 21:00 : Dinner

### Sunday 18 December 2011

07:30 - 10:00 : Ground breaking of the International Center of Interdisciplinary Science Education ([ICISE](#))  
Departure to ICISE (07:30) from Seagull Hotel — Ceremony (08:00 - 09:15) — Departure to Seagull Hotel  
(09:15)

### — PLENARY SESSION —

09:45 - 10:30 : Opening of ICGAC10 & [EDS](#)  
10:30 - 11:00 : **Refreshment** — Coffee Break  
11:00 - 11:40 : Viscosity and black holes | Dam Thanh Son — *Institute for Nuclear Theory, University of Washington*  
11:40 - 12:30 : Comparison of Hadronic Interaction Models with LHC Data | Tanguy Pirog — *Karlsruhe Institute of Technology*  
12:30 - 13:00 : Discussion about [ICISE](#)  
13:00 - 14:00 : **Lunch**  
14:00 - 14:30 : Did the universe have a beginning ? | Alex Vilenkin — *Tufts University*  
14:30 - 15:00 : G-inflation | Masahide Yamaguchi — *Tokyo Institute of Technology*  
15:00 - 15:30 : Confronting Inflation with Observations | Viatcheslav Mukhanov — *Ludwig Maximilians Universität*  
15:30 - 16:00 : **Coffee Break**  
16:00 - 16:30 : Cosmic Microwave Background | Naoshi Sugiyama — *Nagoya University*  
16:30 - 17:00 : Recent results on measurements and interpretation of the CMB fluctuations | Andrey Doroshkevich — *Astro Space Center of the Lebedev Physical Institute*  
17:00 - 17:30 : Measurements of the CMB with WMAP and ACT | Mark Halpern — *University of British Columbia*  
17:30 - 18:00 : Gravitational Lensing in Plasma | Oleg Tsupko — *Space Research Institute of Russian Academy of Sciences*  
18:00 - 18:30 : The Primordial Abundance of  $4^{\text{He}}$  | Evidence for Non-Standard Big Bang Nucleosynthesis | Trinh Xuan Thuan — *Univ. Virginia*  
18:30 - 19:30 : **Free time for Discussions**  
19:30 - 21:00 : Dinner

### Monday 19 December 2011

08:30 - 09:00 : Exact Solutions in Gravity and Cosmology with Extra Dimensions | Vitaly Melnikov — *Center for Gravitation and Fundamental Metrology*  
09:00 - 09:30 : Radiation in theories with extra dimensions | Dmitry Gal'tsov — *Moscow State University*  
09:30 - 10:00 : On M2 and M5 | Kimyeong Lee — *Korea Institute for Advanced Study*  
10:00 - 10:30 : **Coffee Break**  
10:30 - 11:00 : The origin of Cosmic Fireworks - a New Look at GRB Progenitors | Tsvi Piran — *The Hebrew University of Jerusalem*  
11:00 - 11:30 : Highlights of GeV and TeV gamma-ray astronomy | Eric Nuss — *LUPM Université Montpellier 2*  
11:30 - 12:00 : Recent results from the Pierre Auger Observatory on Ultra-High Energy Cosmic rays | Tuyet Nhung Pham — *Institute for Nuclear Science and Technology*

12:00 - 13:30 : **Lunch**  
13:30 - 18:00 : **Excursion**  
19:30 - 23:00 : **Conference Dinner**

### Tuesday 20 December 2011

08:30 - 09:00 : Accretion into Black Holes, and Relativistic jets | Gennady Bisnovaty-Kogan — *Space Research Institute*  
09:00 - 09:30 : Regular Black Holes and the stability problem | Kirill Bronnikov — *Russian Research Institute for Metrological Service*  
09:30 - 10:00 : Theory and Observations of Relativistic Poynting Flux Jets | Richard V. E. Lovelace — *Cornell University*  
10:00 - 10:30 : **Coffe Break**  
10:30 - 12:30 : [Parallel session A](#) : Astroparticle Physics, Cosmic rays  
10:30 - 12:30 : [Parallel session B](#) : Gravitational waves - Astronomy  
10:30 - 12:30 : [Parallel session C](#) : Experimental studies of gravity  
12:30 - 14:00 : **Lunch**  
14:00 - 14:30 : Gravitation theory and Dark Matter | Luc Blanchet — *Institut d'Astrophysique de Paris*  
14:30 - 15:00 : Weyl gravity and Cosmology | Nathalie Deruelle — *Laboratoire APC*  
15:00 - 15:30 : Cosmological Perturbation of Expanding Universe with a Black Hole | Sumg-Won Kim — *Ewha Womans University*  
15:30 - 16:00 : **Coffee Break**  
16:00 - 16:30 : Lessons from Schwinger Effective Action for Black Hole | Sang Pyo Kim — *Kunsan National University*  
16:30 - 17:00 : Revisit to Bubbles and Walls | Bum-Hoon Lee — *Sogang University*  
17:00 - 17:30 : On the unitarity and renormalizability of higher derivative gravity in 3D and higher | Nobuyoshi Ohta — *Kinki University*  
17:30 - 18:00 : The Present Status of LCGT Project | Shinji Miyoki — *University of Tokyo*  
18:00 - 19:30 : **Free time for Discussions**  
19:30 - 21:00 : **Dinner**

### Wednesday 21 December 2011

08:30 - 09:00 : Open inflation in the string landscape | Misao Sasaki — *Yukawa Institute for Theoretical Physics*  
09:00 - 09:30 : Cosmology and GR limit of Horava-Lifshitz gravity | Shinji Mukohyama — *IPMU, Univ. of Tokyo*  
09:30 - 10:00 : Black holes in loop quantum gravity | Hanno Sahlmann — *Asia Pacific Center for Theoretical Physics*  
10:00 - 10:30 : **Coffee Break**  
10:30 - 11:00 : Critical collapse and solitons in conformal field theory | Andrei Frolov — *Simon Fraser University*  
11:00 - 11:30 : Higgs boson as the main character in the early Universe | Dmitry Gorbunov — *Institute for Nuclear Research of the Russian Academy of Sciences*  
11:30 - 12:00 : Holographic QCD and nuclear symmetry energy | Sang-Jin Sin — *Hanyang University*  
12:00 - 14:00 : **Lunch**  
14:00 - 15:20 : [Parallel session D](#) : General Relativity  
14:00 - 15:20 : [Parallel session E](#) : Cosmology, Dark matter, Dark energy  
14:00 - 15:20 : [Parallel session F](#) : Quantum gravity, Strings, Branes and Extra dimensions  
15:20 - 15:50 : **Coffee Break**  
15:50 - 17:30 : [Parallel session D](#) : General Relativity  
15:50 - 17:30 : [Parallel session E](#) : Cosmology, Dark matter, Dark energy  
15:50 - 17:30 : [Parallel session F](#) : Quantum gravity, Strings, Branes and Extra dimensions  
17:30 - 19:30 : **Free time for Discussions**  
19:30 - 21:00 : Dinner

### Thursday 22 December 2011 : Departure

08:30 - 09:00 : Test of Newtonian inverse square law in short distance | Jun Luo — *Huazhong University of Science and Technology*  
09:00 - 09:30 : The Newtonian Gravitation Constant: Modern Status of Measurement | Vadim Milyukov — *Sternberg State Astronomical Institute of Moscow State University*  
09:30 - 10:00 : Equivalence Principle, Gravity Probe B Experiment, and Solar-System and Cosmological Tests of Modern Gravitational Theories | Wei-Tou Ni — *Shanghai United Center for Astrophysics, Shanghai Normal University, and Center for Gravitation and Cosmology, Department of Physics, National Tsing Hua University*  
10:00 - 10:30 : **Coffee Break**  
10:30 - 11:15 : Summary talk  
11:15 - 11:30 : **Concluding Remark**  
11:30 - 12:30 : Lunch  
13:00 Departure for the [Post-Conference Tour](#)

## — PARALLEL SESSIONS —

### Parallel session A : ASTROPARTICLE PHYSICS, COSMIC RAYS

- 10:30 - 10:50 : AMIGA infill of the Pierre Auger Observatory | Luis Del Peral — *Universidad de Alcalá*  
10:50 - 11:10 : The Tianshan Radio Experiment for Neutrino Détection | Olivier Martineau-Huynh — *IHEP & IN2P3*  
11:10 - 11:30 : Very high energy cosmic ray production in Historical Supernova remnants | Vera Georgievna Sinitsyna — *P.N. Lebedev Physical Institute RAS*  
11:30 - 11:50 : ANTARES and the status of high-energy neutrino astronomy | Véronique Van Elewyck — *Laboratoire APC*  
11:50 - 12:10 : The JEM-EUSO Space Mission: Frontier Astroparticle Physics @ ZeV range from Space | Maria Dolores Rodriguez Frias — *Space and Astroparticle Group, University of Alcalá*  
12:10 - 12:30 : The Telescope Array Project: Ultra High Energy Cosmic Ray Observations | John Matthews — *University of Utah*

### Parallel session B : GRAVITATIONAL WAVES - ASTRONOMY

- 10:30 - 10:50 : The fate of Cyg X-1: an empirical lower limit on BH-NS merger rate | Chris Belczynski — *Warsaw University*  
10:50 - 11:10 : Astrophysics, Cosmology and Fundamental Physics with ground-based gravitational wave detectors | Ilya Mandel — *School of Physics and Astronomy, University of Birmingham*  
11:10 - 11:30 : How to search for gravitational wave signals from rotating neutron stars? | Andrzej Krolak — *Institute of Mathematics, Polish Academy of Sciences*  
11:30 - 11:50 : Astrophysics, cosmology and fundamental physics with space-based gravitational wave detectors | Jonathan Gair — *Institute of Astronomy, University of Cambridge*  
11:50 - 12:10 : Double neutron stars as sources of gravitational waves: astrophysical point of view | Dorota Rosinska — *Institute of Astronomy, University of Zielona Gora*  
12:10 - 12:30 : talk-B6 The coldest stars in the Universe | Ngoc-Bao Phan — *International University-Vietnam National University HCMC*

### Parallel session C : EXPERIMENTAL STUDIES OF GRAVITY

- 10:30 - 10:50 : Proposed test of the equivalence principle with rotating cold polar molecules | Zhong Kun Hu — *School of Physics, Huazhong University of Science and Technology*  
10:50 - 11:10 : Search for axion with a torsion pendulum experiment at submillimeter range | Chenggang Shao — *Department of Physics, Huazhong University of Science and Technology*  
11:10 - 11:30 : G-Gran Sasso: an experiment for the terrestrial measurement of the Lense-Thirring effect by means of ring-lasers | Angelo Tartaglia — *Politecnico di Torino, DIFIS and INFN*  
11:30 - 11:50 : Some experimental evidences of long-range gravitational-like interaction in a neutral cold gas | David Wilkowski — *Nanyang Technological University*

### Parallel session D : GENERAL RELATIVITY

- 14:00 - 14:20 : Extended Bargmann-Wigner equations in flat and curved space-time | Masakatsu Kenmoku — *Nara Women's University*  
14:20 - 14:40 : A new theory of relativistic reference frames: the case of an accelerated observer in Minkowski's space-time | Olivier Minazzoli — *NASA-Jet Propulsion Laboratory*  
14:40 - 15:00 : On the choice of reference for the covariant Hamiltonian boundary term | James Nester — *Department of Physics, National Central University*  
15:00 - 15:20 : Generalized Peres plane wave-like solutions of the Einstein-Maxwell equations in the presences of null currents and null fluid | Ganesh Khapekar — *Jagadamb Mahavidyalaya*  
15:50 - 16:10 : A Proposal for Measuring the Speed of Propagation of Gravitational Phenomena | Manu Paranjape — *Département de physique, Université de Montréal*  
16:10 - 16:30 : Instanton Representation of Plebanski Gravity | Eyo Ita — *United States Naval Academy*

### Parallel session E : COSMOLOGY, DARK MATTER, DARK ENERGY

14:00 - 14:20 : On the theoretical description of dark matter's halo | Leonid Chechin — *V.G.Fessenkov Astrophysical Institute*  
 14:20 - 14:40 : An Ermakov Invariant And Temperature Fluctuations in the Early Universe | Debashis Gangopadhyay — *S.N.Bose National Centre For Basic Sciences*  
 14:40 - 15:00 : Dark energy in some integrable and nonintegrable FRW models | Ratbay Myrzakulov — *Eurasian National University*  
 15:00 - 15:20 : The Planck early results and perspective | Cyrille Rosset — *APC/CNRS*  
 15:50 - 16:10 : Isocurvature perturbation in extra radiation | Toyokazu Sekiguchi — *Nagoya University*  
 16:10 - 16:30 : Dark Universe or Twisted Universe? | André Tilquin — *Centre de Physique des Particules de Marseille (CPPM)*  
 16:30 - 16:50 : Characterizing the average properties of an inhomogeneous universe | Masaaki Morita — *Okinawa National College of Technology*  
 16:50 - 17:10 : Evolution of the equation of state parameters of cosmological tachyonic field components through mutual interaction | Murli Manohar Verma — *Department of Physics, Lucknow University*

Parallel session F : QUANTUM GRAVITY - STRINGS, BRANES AND EXTRA DIMENSIONS

14:00 - 14:20 : Spontaneous symmetry breaking in Horava-Lifschitz gravity | Subir Ghosh — *Indian Statistical Institute*  
 14:20 - 14:40 : A model of unified quantum chromodynamics and Yang-Mills gravity | Jong-Ping Hsu — *University of Massachusetts Dartmouth*  
 14:40 - 15:00 : A conflict of quantum predictions related to the equivalence principle | Steve Wilburn — *California State University, Fresno*  
 15:00 - 15:20 : New formulation of Horava-Lifshitz quantum gravity as a master constraint theory | Hoi-Lai Yu — *Institute of Physics, Academia Sinica*  
 15:50 - 16:10 : Computation of black hole entropy from Ashtekar-Wheeler-DeWitt field theory | Chopin Soo — *National Cheng Kung University*  
 16:10 - 16:30 : Superluminal neutrinos in the light of extra-dimension approach | Vo Van Thuan — *Institute for Nuclear Science and Technology (INST)*  
 16:30 - 16:50 : Can string theory resolve space-time singularities? | Martin O'Loughlin — *University of Nova Gorica*,  
 16:50 - 17:10 : Three limits to the physical world | Pierre Darriulat — *VATLY/INST*

— POSTER SESSIONS —

A. Poster 1 : CCD photometry | Vinh Nguyen — *Hanoi National University of Education*  
 Poster 2 : Detection of Superhumps in Cataclysmic Variable Stars | Gerald Rude — *California State University Fresno*  
 Poster 3 : Long Term Variability in Cosmic Rays Together With Solar Poloidal Magnetic Field | Sushil Kumar Dubey — *Govt Model Science College of Jabalpur*  
 Poster 4 : Nucleosynthesis in the R-Process: Impact of astrophysical and nuclear input parameters | Ilka Petermann — *University of Malaya, Department of Physics*

B. Poster 1 : Constrains of Extragalactic Background Light expected from observations of TeV extragalactic sources at distances from  $z=0.0179$  to  $z=1.375$  | Vera Yurievna Sinitsyna — *P.N. Lebedev Physical Institute RAS*  
 Poster 2 : Cold Hybrid Star Properties | Mohammad Dareh Moradi — *University of Tehran*  
 Poster 3 : Research into the influence of the sun on the status of the F2 layer of the equatorial ionosphere | Quoc Ha Tran — *Hanoi National Ho Chi Minh City University of Pedagogy*  
 Poster 4 : Hidden Markov Model of Solar Radiation Sequences | Van-Ly Tran — *Laboratoire MAPMO, Université d'Orleans*

C. Poster 1 : Gravitational Galaxy Clustering in an Expanding Universe | Manzoor Malik — *University of Kashmir*  
 Poster 2 : A Markov chain Monte Carlo analysis to constrain decaying dark matter | Lan Nguyen — *Department of Physics, Hanoi National University of Education*  
 Poster 3 : Cosmic formation and interacting dark matter | Khanh Nguyen — *Hanoi National University of Education*  
 Poster 4 : Energy spectrum estimation of axion radiation from topological defects | Toyokazu Sekiguchi — *Nagoya University*

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D. Poster 1 : Bianchi Type V String Cosmological Models With Constant Deceleration Parameter In General Relativity | Pramod Khade — *Vidyabharati Mahavidyalaya*  
Poster 2 : Quantum Gravity Contribution to the Cosmological Term | Yoji Koyama — *Chuo University*  
Poster 3 : Determination of the gravity anomaly sources in the Mekong delta using the wavelet transform with the optimal resolution | Dau Duong Hieu — *College of Natural Science, Can Tho University*  
Poster 4 : New Test of the Inverse-Square-Law at Millimeter ranges | Bifu Zhan — *Huazhong university of science and technology*

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E. Poster 1 : New determination of the gravitational constant G with time-of-swing method | Qing Li — *School of Physics, Huazhong University of Science & Technology*  
Poster 2 : Progress of Improved Test of Gravitational Inverse-Square-Law at Submillimeter Ranges | Qing Lan Wang — *Department of Physics, Huazhong University of Science and Technology*  
Poster 3 : A device to detect ultra small energy releases | Tran Quoc Khanh — *Moscow Aviation Institute - National Technological University*  
Poster 4 : Particular solutions of Einstein equation related with Ramanujan, Chazy and Lorentz oscillator equations and their cosmological applications | Kuralay Esmakhanova — *Eurasian National University*

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F. Poster 1 : Bianchi Type-III Space-Time with Bulk Viscosity and Magnetic Field | Sharad Kandalkar — *Government Institute of Science and Humanities, Amravati*  
Poster 2 : Thick domain walls coupled with viscous fluid and electromagnetic field in Lyra geometry | Vasudeo Patil — *Arts, Science And Commerce College*  
Poster 3 : String dust magnetised Cosmological model with Bulk viscosity in Lyra manifold | Dnyaneshwar Pawar — *Department of Mathematics, Govt. Vidarbha Institute of Science and Humanities*  
Poster 4 : Equations of motion of rotating bodies system with inner structure in GR mechanics | Medeu Abishev — *Al Farabi Kazakh National University*

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G. Poster 1 : Some interesting properties of white hole in the vector model for gravitational field | Vo Va On — *University of Thu Dau Mot*  
Poster 2 : Representing the Massive Graviton in the Metric Tensor  $g(u,v)$  | Andrew Beckwith — *Chongqing University*  
Poster 3 : Casimir Effect in Schwarzschild Metric | Munawar Karim — *St. John Fisher College*  
Poster 4 : Inhomogeneous loop quantum cosmology: Approximated FRW cosmologies from the hybrid Gowdy model with matter | Daniel Martin de Blas — *Instituto de Estructura de la Materia, IEM-CSIC*

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H. Poster 1 : AdS Black Hole Solutions in Dilatonic Einstein-Gauss-Bonnet Gravity | Yukinori Sasagawa — *Waseda University*  
Poster 2 : Inflating wormholes in the brane world models | Ki Cheong Wong — *The University of Hong Kong*  
Poster 3 : Plane Symmetric Strings and Domain Walls Cosmology in Brans-Dicke Theory of Gravitation | Subhash Tade — *Dep. of Math. Jawaharlal Nehru College*  
Poster 4 : The Background field method applied to cosmological phase transition | Lien Phan Hong — *Le Qui Don University - Military Academy of Technology*

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I. Poster 1 : Accelerated expansion of the Universe from f-essence and g-essence | Koblandy Yerzhanov — *Eurasian National University*