21st International Conference on General Relativity and Gravitation: Schedule

Columbia University

July 10th - 15th, 2016

All poster sessions will be held on Thursday morning, after the coffee break at 10:10. Posters are to be no larger than 60 inches tall by 36 inches wide, in portrait orientation. Oral presentations are to be 15 minutes each, unless otherwise noted in the list below.

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1 Session A1: Exact solutions and their interpretation (*Chair: Jiri Podolsky*)

Monday, 2 - 4 pm

This session will be held in Pupin Hall, Room 301.

- Virginia Trimble: General Relativity and the Great War
- Nora Breton: Ergosphere of the Born-Infeld black hole
- Yuan K. Ha: Quasi-local Energy for Black Holes
- David Kubiznak: Thermodynamics of Accelerating Black Holes
- Cedric Musema Sinamuli: Super-Entropic Black Holes: the Kerr-CFT Correspondence
- Mohammad Akbar: Lie point symmetries, vacuum Einstein equations, and Ricci solitons
- Norbert Van den Bergh: Non-aligned Einstein-Maxwell fields
- Antonio C. Guierrez-Piñeres: Equatorial circular orbits of test particles in a conformastatic background

Tuesday, 4:30 - 6:30 pm

This session will be held in Pupin Hall, Room 428.

- Vojtech Pravda: Algebraic classification of spacetimes - recent developments (30 minutes)
- Robert Svarc: Explicit algebraic classification of Robinson-Trautman and Kundt geometries
- David McNutt: The Cartan Algorithm in Higher Dimensions with Applications
- Harvey Reall: Algebraically special solutions in five dimensions
- Alena Pravdova: Universal metrics in modified theories of gravity.
- Pavel Krtous: Various limits of Kerr-NUT-AdS spacetimes
- Ivan Kolar: Higher dimensional spacetimes with a separable Klein-Gordon equation

Wednesday, 2 - 4 pm

This session will be held in Pupin Hall, Room 301.

- Marcello Ortaggio: Electromagnetic fields with vanishing scalar invariants
- Eric Hirschmann: Towards a charged Myers-Perry black hole
- Gonzalo J. Olmo: Geodesically complete black hole space-times in arbitrary dimension
- Kunihito Uzawa: Violation of cosmic censorship in dynamical p-brane systems
- Yota Watanabe: Caustic-singularity-free scalar field theory with shift-symmetry
- Marcos Ramirez: Vacuum thin shells in EGB brane-world cosmology
- Anthony Lun: On Stability of the Static Charged Brans-Dicke Spacetimes
- Muhammad Sharif: Study of Thin-Shell Wormholes Stability

Thursday, 2 - 4 pm

This session will be held in Pupin Hall, Room 329.

- Brien Nolan: Particle and photon orbits in flat and non-flat McVittie spacetimes
- Brett Bochner: Solving the Einstein-Maxwell Equations for the Propagation of Relativistic Energy during Kasner and other Anisotropic Early-Universe Models
- Sunil K. Tripathy: Late time Cosmic Acceleration with Unified Dark Fluid and a Hybrid Scale Factor
- Woei Chet Lim: Non-orthogonally transitive G_2 spike solution
- Daniel Guariento: Causal structure of cosmological black holes under scalar-field accretion
- Khalid Saifullah: Hawking radiation from magnetized black holes
- Sushant Ghosh: Rotating black hole and quintessence
- Helgi Freyr Rúnarsson: The effects of self-interactions on spinning boson stars and Kerr black holes with scalar hair

Thursday, 4:30 - 6:30 pm

This session will be held in Pupin Hall, Room 329.

- Ambrish Raghoonundun: Viability of some classes of static spherically symmetric exact interior solutions as models for compact objects.
- Irene Brito: Elastic waves in spherically symmetric elastic spacetimes
- Filip Hejda: Kinematic restrictions on particle collisions near extremal black holes–a unified analysis
- Gezahegn Zewdie Abebe: A group theoretic approach to shear-free radiating stars
- Pedro Mafa Takisa: Stellar objects in the quadratic regime
- Daniele Malafarina: On the conditions for the formation of exotic compact objects from gravitational collapse
- Sergiu Vacaru: Interpretation of Generic Off-Diagonal Exact Solutions in Einstein Gravity and Modifications
- Tomas Malek: Universal Walker metrics

Poster Session

This session will be held in Lerner Hall, Roone Arledge Auditorium, on Thursday morning.

- Gezahegn Zewdie Abebe: Separable metrics and radiating stars
- Andrew Beckwith: Open Access Non-Linear Electrodynamics Gedanken Experiment for Modified Zero Point Energy and Planckś Constant
- Iryna Bormotova: Geodesic motion of test particles in Korkina-Grigoryev metric
- Irene Brito: Cylindrically symmetric inhomogeneous dust collapse
- Karan Fernandes: The Inverse spatial Laplacian of spherically symmetric backgrounds
- Tehani Finch: Coordinate families for the Schwarzschild geometry based on radial timelike geodesics
- Megandren Govender: The Role of an Equation of State in Modeling Relativistic Compact Stars
- Antonio Gutierrez-Piñeres: Rotating fields and the Newman-Janis algorithm in conformastatic spacetimes
- Daniel Guariento: Rotating fields and the Newman-Janis algorithm in conformastatic spacetimes
- Timur Kamalov: Short-Distance Gravity Interaction and Ostrogradski Formalism
- Jafar Khodagholizadeh: The Effect of Gravitational Waves on the Nearby Particles in Closed Spacetimes
- Pavlina Jaluvkova: The solution for the black hole on the cosmological background
- Colin MacLaurin: Black Holes: Hovering vs falling perspectives
- Bivudutta Mishra: Anisotropic dark energy cosmological model with a hybrid scale factor
- Rakesh Mohanlal: Radiating stars with exponential Lie symmetries
- Rivendra Narain: Stellar models generated via the horizon function
- Seung Hun Oh: Exact solutions to Einsteinś equations in the (2+2) Hamiltonian reduction formalism
- Robert Scott: Visualizing spacetime curvature for teaching/interpreting GR
- Muhammad Ziad: Cylindrically Symmetric Static Perfect Fluid Solution of Petrov Type D

2 Session A2: Mathematical relativity and classical gravitation (*Chair: Marc Mars*)

Monday, 2 - 4 pm

This session will be held in Pupin Hall, Room 329.

- Arthur Fischer: The Space of Gravitational Degrees of Freedom
- Philippe G. LeFloch: The global nonlinear stability of Minkowski space for the f(R) theory of modified gravity
- Harvey Reall: Causality and hyperbolicity of Lovelock theories of gravity

- Jérémie Joudioux: The vector field methods for the relativistic transport equations
- David Fajman: The Einstein flow on closed surfaces
- Håkan Andréasson: Models for self-gravitating photon shells and geons
- Katharina Radermacher: Strong Cosmic Censorship in cosmological Bianchi class B perfect fluids and vacuum
- Carsten Gundlach: Scalar field critical collapse in 2+1 dimensions

Tuesday, 2 - 4 pm

This session will be held in Pupin Hall, Room 329.

- James Vickers: Causality theory for $C^{1,1}$ metrics
- Michael Kunzinger: Singularity theorems in regularity $C^{1,1}$
- Susan Scott: The Abstract Boundary Singularity Theorem and its Generalizations
- Lode Wylleman: The threefold classification of spacetime tensors
- Eric Gourgoulhon: Exploring black hole spacetimes with SageManifolds
- Alfonso García-Parrado Gómez-Lobo: New conserved currents for vacuum space-times in dimension four with a Killing vector
- Kentaro Tanabe: Charged rotating black holes at large D
- J. Erik Baxter: New ́hairy ́black hole and soliton solutions to anti de-Sitter Einstein-Yang-Mills theories

Wednesday, 2 - 4 pm

This session will be held in Pupin Hall, Room 329.

- Jerzy Lewandowski: When near horizon geometries meet non-expanding horizons
- James Lucietti: Transverse deformations of extremal horizons
- Ilia Musco: Causal Nature and Dynamics of Trapping Horizons in Black Hole Collapse and Cosmology
- José Senovilla: Shear-free surfaces and distinguished dynamical horizons
- Netta Engelhardt: A New Area Law in General Relativity
- Emma Jakobsson: A toy Penrose inequality and its proof
- Volker Perlick: Influence of a plasma on light propagation in general relativity
- Abraham Harte: Gravitational lensing beyond geometric optics

Wednesday, 4:30 - 6:30 pm – Dedicated to the Memory of Sergio Dain (*Chair: José Luis Jaramillo*)

This session will be held in Pupin Hall, Room 329.

- Helmut Friedrich: Sharp asymptotics for Einstein-lambda-dust flows
- Marcus Khuri: Geometric Inequalities Involving Mass, Angular Momentum, and Charge
- Gilbert Weinstein: A lower bound for the mass of multiple charged rotating black holes
- Maria Eugenia Gabach-Clement: Size and angular momentum of axisymmetric objects
- Gustavo Dotti: Black hole nonmodal linear stability: the Schwarzschild (A)dS cases
- Andrés Aceña: Extremal black hole initial data deformations
- Istvan Racz: Constraints as evolutionary systems
- Nishanth Gudapati: On Asymptotic Behavior of 2+1 Einstein-Wave Map System

Thursday, 2 - 4 pm

This session will be held in Pupin Hall, Room 329.

- David Garfinkle: Gravitational wave memory in the expanding universe
- Alexander Tolish: The Cosmological Memory Effect
- Maciej Maliborski: The (in)stability of anti-de Sitter spacetime–resonant approximation

- Stephen Green: Superradiant instabilities of asymptotically anti-de Sitter black holes
- Jorge Rocha: Dynamics of confined double-shells systems, critical behavior and chaos
- Peter Zimmerman: Nonaxisymmetric horizon instability of extremal black holes
- Claudio Paganini: Mode Stability on the Real Axis
- Kartik Prabhu: First Law for fields with Internal Gauge Freedom

Poster Session

This session will be held in Lerner Hall, Roone Arledge Auditorium, on Thursday morning.

- Sajid Ali: A study of positive energy condition in Bianchi universes via Noether symmetries
- Muhammad Zaeem Ul Haq Bhatti: Energy Density Irregularities in Self-gravitating systems
- Ugur Camci: On first integrals of the geodesic equations for spacetimes via Noether symmetry
- Alejandro Cárdenas-Avendaño: Wormholes and nonsingular space-times in Palatini $f(R)$ gravity
- Sarani Chakraborty: Deflection of Light in Kerr-Taub-NUT space time
- Mariateresa Crosta: The dawn of Relativistic Astrometry: what can we learn from Gaia
- Anuj Kumar Dubey: Gravitational Redshift in Kerr-Newman Geometry
- Karan Fernandes: Constrained field theories on backgrounds with horizons
- Sijie Gao: Static spherically symmetric thin shell wormhole colliding with a spherical thin shell
- Sushant Ghosh: Shapes of rotating nonsingular black hole shadows
- Alfonso Garca-Parrado Gmez-Lobo: vacuum type D initial data
- Daniele Gregoris: Discrete cosmological models are piecewise silent
- Peter Huf: Investigations of the shear-free conjecture: the roles of acceleration and the use of algebraic software
- Olga Kichakova: Hairy black holes in the general Skyrme model
- Paul Klinger: Non-chaotic vacuum singularities without symmetries
- Eugene Kur: Multisymplectic Perspective on ADM Momentum and Black Hole Entropy
- Gheorghe Adrian Lupu: Some applications of the theory of g-conjugation in the speeds space , relativity , cosmology and the phases space
- Nadja Magalhaes: Gravity, time and motion
- David McNutt: Event Horizon Detection for the Supersymmetric Five Dimensional Black Ring
- Oscar Mauricio Pimentel Díaz (two changes): The Energy Conditions for Relativistic Magneto-Fluid Dynamics
- Maria Quevedo: Geometrothermodynamics of black holes with cosmological constant
- Paola Rioseco: Accretion of a Relativistic Kinetic gas, into a Schwarzschild black hole
- Miguel Sabido: On 2+1 Gravity, Topological M-Theory and Black Holes
- Yafet Sánchez: Generalised Hyperbolicity for Singular Spacetimes
- Sergey Tegai: Averaging of the Schwarzschild spacetime

3 Session A3: Alternative and modified theories of gravity (*Chair: Shinji Mukohyama*)

Monday, 2 - 4 pm

This session will be held in Pupin Hall, Room 428.

- Gregory Gabadadze: The Cost to Cancel the Cosmological Constant (30 minutes)
- Alexander Zakharov: Bounding the graviton mass with observations of S2 like stars near the Galactic Center
- Shuang-Yong Zhou: The $Lambda_2$ limit of massive gravity
- Laura Bernard: Partially massless gravitons on space-times beyond Einstein
- Yasuho Yamashita: Constraint on ghost-free bigravity from Cherenkov radiation

- Katsuki Aoki: Bigravitons as dark matter and gravitational waves
- Gustavo Niz: Black Holes and Abelian Symmetry Breaking

Monday, 4:30 - 6:30 pm

This session will be held in Pupin Hall, Room 428.

- Amanda Weltman: Testing the Dark Universe
- Tsutomu Kobayashi: Primordial non-Gaussianities of gravitational waves beyond Horndeski
- Raissa Mendes: Testing scalar-tensor theories of gravity with highly compact neutron stars
- Nestor Ortiz: Spontaneous scalarization of neutron stars in the unconstrained parameter regime of scalar-tensor theories
- Takafumi Kokubu: Does the Gauss-Bonnet term stabilizes wormholes?
- Sudan Hansraj: Compact objects in Lovelock gravity theory
- Carlos Barceló: A conformally-invariant equal-footing description of Electromagnetism and Gravity
- Chris Vuille: The spacetime between Einstein and Kaluza-Klein

Tuesday, 2 - 4 pm

This session will be held in Pupin Hall, Room 428.

- Richard Woodard: Nonlocal Metric Realizations of MOND
- Roxana Rosca: Supernova core collapse in scalar-tensor theory with massive fields
- Leo Stein: Numerical black holes and mergers in dynamical Chern-Simons gravity
- Ilia Musco: Quasi-Static Solutions for Compact Objects in Chameleon Models
- Emre Kahya: Galactic Shapiro delay for Gravitational waves
- Emil Mottola: Scalar Gravitational Waves
- Manuel Hohmann: Cosmology based on Finsler geometry

Wednesday, 2 - 4 pm

This session will be held in Pupin Hall, Room 428.

- Bernard Carr: Sub-Planckian black holes as a link between microphysics and macrophysics
- David Kubiznak: Horizon thermodynamics and Lovelock black holes
- Riccardo March: Parametrized post-Newtonian plus Yukawa (PPNY) approximation of nonminimally coupled gravity
- Neo Mohapi: The Equivalence Principle in the Dark Sector
- Rhondale Tso: Reshaping the Dispersion & Polarization of Gravitational Waves to Test GR
- Kohji Yajima: Suppressing the primordial tensor amplitude without changing the scalar sector in quadratic curvature gravity
- Sakine Nishi: Growing tensor perturbations on super horizon scales in Generalized Galilean Genesis
- Pradyumn Kumar Sahoo: Scalar field and Cosmological constant in $f(R,T)$ gravity for Bianchi type-I Universe

Thursday, 4:30 - 6:30 pm

This session will be held in Pupin Hall, Room 329.

- Luigi Pilo: Self gravitating medium and modified gravity
- Atsushi Naruko: Gravitational scalar-tensor theory
- Michael Seifert: Bootstrapping a Lorentz-violating gravity theory
- Karan Fernandes: The Kaluza Ansatz in Eddington-inspired Born-Infeld gravity
- Borja Reina: Double layers in quadratic theories of gravity
- Hiromu Ogawa: Instability of hairy black holes in shift-symmetric Horndeski theories

- Remigiusz Durka: Semigroup expanded algebras and gravity

Poster Session

This session will be held in Lerner Hall, Roone Arledge Auditorium, on Thursday morning.

- Adriana Araujo: de Sitter special relativity and gravitation
- Andrew Beckwith: Gedanken Experiment for Refining the Unruh Metric Tensor Uncertainty Principle via Schwartz Shield Geometry and Planckian Space-Time with Initial Nonzero Entropy
- Andrew Beckwith: Gedanken Experiment Examining How Kinetic Energy Would Dominate Potential Energy, in Pre-Planckian Space-Time Physics, and Allow Us to Avoid the BICEP 2 Mistake
- John Bruce Davies: Antisymmetric Curvature 2-tensors correspond to Angular Momentum and Charge Currents
- Jonathan Dickau: Entropic Gravity and the Mandelbrot Set
- Manuel Hohmann: PPN parameter gamma for multiscalar-tensor gravity with a potential
- Laxman Katkar: A Non-Riemannian Space of Einstein-Cartan Theory of Gravitation
- Laxman Katkar: An Exact Solution of the Field Equations of Einstein-Cartan Theory of Gravitation
- Ryan McManus: Finding Horndeski theories with Einstein gravity limits
- Arpita Mitra: Non-relativistic fields on curved backgrounds and their applications
- Mohamed Fouad Mourad: On Dirac Equation and Angular Momentum of Axially Symmetric of Rotating Neutron Stars in the Teleparallel Gravity
- D. Phadatare: Einstein-Cartan Relativity in a 2-dimensional Non-Riemannian Space
- Alena Pravdova: Universal metrics - exact solutions to all theories of gravity
- Gustavo Rubio: Newton Chern–Simons Cosmology
- Hamidreza Saiedi: Modified f(R) Gravity and Thermodynamics of Time-Dependent Wormholes at Event Horizon
- Sebastian Salgado: AdS-Weyl algebra and gravity
- Sebastian Salgado: Extended gauge theories for (super)gravity
- Muhammad Farasat Shamir: Anisotropic Universe in $f(R)$ Gravity
- Zeeshan Yousaf: Dynamical instability and Cavity Evolution
- Ramin Zahedi: Derivation of the Gravitational Field Equations solely by First Quantization of the Relativistic Energy-Momentum Relation

4 Session A4: Complex and conformal methods in classical and quantum gravity (*Chair: Juan Valiente Kroon*)

Tuesday, 2 - 4 pm

This session will be held in Pupin Hall, Room 301.

- Todd Oliynyk: Future stability of the FLRW fluid solutions with a positive cosmological constant
- Filipe Mena: Conformal regularity and non-linear stability of spatially homogeneous spacetimes with a positive cosmological constant
- Beatrice Bonga: Asymptotics with a positive cosmological constant
- Tim-Torben Paetz: Characterization of (asymptotically) Kerr-de Sitter-like spacetimes at null infinity
- Edgar Gasperin Garcia: Conformal properties of the Schwarzschild-de Sitter spacetime
- Joerg Hennig: The conformally invariant wave equation near the cylinder at spacelike infinity
- Aruna Kesavan: New tensorial charge for BMS symmetries
- David Nichols: Conserved charges of the extended Bondi-Metzner-Sachs algebra
- George Sparling: The structure of spaces of null geodesics

Tuesday, 4:30 - 5:45 pm

This session will be held in Pupin Hall, Room 301.

- Michael Cole: A geometric characterisation of black hole spacetimes using Killing spinors
- Joerg Frauendiener: Using the generalised conformal field equations to study the 'ringing' of a Schwarzschild black hole
- Jarrod Williams: The conformal constraints as an evolution system
- Juan Margalef: Parametrized theories, making EM even gaugier
- Jose Luis Jaramillo: Complexified MOTS-stability operator: an approach to the spectral problem

Poster Session

This session will be held in Lerner Hall, Roone Arledge Auditorium, on Thursday morning.

- Maro Cvitan: Parity-odd surface anomalies and correlation functions on conical defects
- Jeffrey Hazboun: Comparing transverse-traceless decompositions of symmetric tensors
- Adem Hursit: Conformal Wave Equations for the Einstein Trace-free Matter System
- Jose Luis Jaramillo: Gravitational Spinning Particle and Gravitational Radiation
- Gonzalo Damian Quiroga: Center of Mass and spin for isolated sources of gravitational radiation

5 Session B1: Relativistic astrophysics (*Chair: Alessandra Corsi*)

Monday, 2 - 4 pm

This session will be held in Lerner Hall Cinema.

- Anna Watts: From Relativity to QCD: the Equation of State of Neutron Stars (30 minutes)
- Katerina Goluchova: ISCO frequencies for rotating neutron stars - simple and accurate formulae
- Scott Lawrence: Approximating waveforms of rapidly rotating neutron stars
- Jose de Araujo: Gravitational waves from pulsars with measured braking index
- John Friedman: Can magnetic-field windup kill the r-mode instability of neutron stars?
- Cole Miller: An Upper Bound on Neutron Star Masses from Models of Short Gamma-Ray Bursts
- Matthias Hanauske: Relativistic Hydrodynamics in the Context of the Hadron-Quark Phase Transition in Compact Stars

Monday, 4:30 - 6:30 pm

This session will be held in Lerner Hall Cinema.

- Huan Yang: Crustal dynamics of magnetars and its connection to magnetar bursts
- Alice Harpole: Relativistic burning on neutron stars
- Brynmor Haskell: Modeling gravitational wave emission from LMXBs
- Alejandro Cruz: CAFE relativistic astrophysics code
- Ian Hawke: Beyond ideal MHD: resistive, reactive and relativistic plasmas
- Scott Field: A Task-based Discontinuous Galerkin Code for Solving Multiphysics Problems in General Relativity
- Vladimir Karas: Accretion of gaseous clumps from the Galactic Centre Mini-spiral onto Milky Way's supermassive black hole

Wednesday, 2 - 4 pm

This session will be held in Lerner Hall Cinema.

- Brian Metzger: Signatures of Neutron Star Mergers in the Era of Gravitational Wave Astronomy (30 min)
- David Radice: Dynamical ejecta from binary neutron star mergers

- Riccardo Ciolfi: Short gamma-ray bursts from binary neutron star mergers forming long-lived neutron stars
- Eric Van Oeveren: Limits set by causality on neutron-star deformability and on the tidally induced change in inspiral waveform (John Friedmanś submission)
- Scott Noble: Lighting Up Inspiraling Binary Black Hole Systems
- Dennis Bowen: Astrophysical Mini-Disks during General Relativistic Black Hole Binary Inspiral
- Takamitsu Tanaka: Electromagnetic Signatures of Supermassive Black Hole Binaries?

Wednesday, 4:30 - 5:30 pm

This session will be held in Lerner Hall Cinema.

- Gabriel Torok: Constraining models of twin peak quasi-periodic oscillations with realistic neutron star equations of state
- Imre Bartos: Rapid and Bright Stellar-mass binary Black Hole Mergers in AGNs
- John VanLandingham: The Role of the Kozai-Lidov Mechanism in Black Hole Binary Mergers in Galactic Centers
- Nathan Leigh: The Origins of Stellar-Mass Black Holes in the Milky Way

Thursday, 2 - 4 pm

This session will be held in Lerner Hall Cinema.

- Anslyn John: Viewing the shadow of a black hole through a magnetized plasma
- Oleg Tsupko: Influence of a plasma on the shadow of a spherically symmetric black hole and other chromatic effects of gravitational lensing in presence of plasma
- Dmitri Lebedev: Cosmological Constant and Gravitational Lensing
- Pedro V.P. Cunha: Lensing by boson stars and shadows of Kerr black holes with scalar hair
- Yasaman Yazdi: Accretion in Radiative Equipartition (AiRE) Disks
- Alejandro Cardenas-Avendaño: A model for testing strong gravity via X-ray reflection spectroscopy
- Masha Baryakhtar: Discovering the QCD Axion with Black Holes and Gravitational Waves
- Daniele Gregoris: Friction forces: formulation and applications in general relativity

Poster Session

This session will be held in Lerner Hall, Roone Arledge Auditorium, on Thursday morning.

- Pavel Bakala: Life under a black sun
- Frederico Carrasco: A new numerical approach to force-free electrodynamics
- Pradip Kumar Chattopadhyay: Equation of State of Strange Quark Matter with Density dependent B parameter in pseudo-spheroidal space-time with anisotropy
- Pradip Kumar Chattopadhyay: : Maximum Mass of Relativistic Star in Higher Dimensions in presence of Anisotropy
- Hossein Ghaffarnejad: Statistical ensembles of Schwarzschild black holes and weak gravitational lensing
- Katerina Goluchova: Twin peak QPOs: modulation of accretion disc and boundary layer radiation by oscillating cusp torus
- Tomohiro Harada: Correspondence between sonic points of ideal photon gas accretion and photon spheres
- Michael Jasiulek: R-mode frequencies of differentially rotating relativistic neutron stars
- Vladimir Kara: Stable and chaotic motion near a magnetised black hole
- Martin Kološ: Ionized particles around Kerr black holes in the presence of uniform magnetic field
- Andrea Kotrlova: Super-spinning compact objects and models of high-frequency quasi-periodic oscillations
- Jiri Kovar: Charged fluid tori in spherically symmetric gravitational and dipolar magnetic fields

- Fabio Lora: Non Axisymmetric Relativistic Wind Accretion with Velocity and Density Gradients onto a Rotating Black Hole
- Walid Majid: Pulsars at the Center of the Galaxy
- Nolene Naidu: The Influence of Initial Conditions during Dissipative collapse
- Kota Ogasawara: High efficiency of collisional Penrose process requires heavy particle production
- Fabrícia Pereira: Supermassive Black Holes Binaries, Gravitational Waves, and the Dynamical Effects in the Host Galaxy
- Daniela Pugliese: Ringed accretion disks
- Gonzalo Damian Quiroga: Gravitational Spinning Particle and Gravitational Radiation
- Geoffrey Ryan: Minidiscs in Circumbinary Black Hole Accretion
- Jan Schee: Motion of Photons in Bardeen and ABG Regular Spacetimes
- Kris Schroven: A toy model for relativistic accretion ow in Kerr-Newman space-time
- Eva Sramkova: Black hole spin inferred from orbital models of high-frequency quasi-periodic oscillations
- Arman Tursunov: Bounded motion of charged particles near Kerr black hole in external magnetic field
- Ashwani Kumar Upadhyay: Physical Dynamics of Origin of Dark Energy and Dark Matter
- Alexander Zakharov: Possible alternatives to the supermassive black hole at the Galactic Center
- Oleg Zaslavskii: Collisional super-Penrose process

6 Session B2: Numerical relativity (*Session Program: Deirdre Shoemaker, Chair: Juan Bustillo Calderon*)

Monday, 2 - 4pm

This session will be held in Lerner Hall, Room 568.

- Chad Galley: Fast and accurate prediction of numerical Green?s functions in black hole spacetimes using surrogate models (30 min)
- Yosef Zlochower: Modeling the Remnant Black Hole from the Merger of Precessing Black-Hole Binaries
- Matthew Giesler: Nearly extremal binary black hole simulations
- Daniel Hemberger: Binary black hole simulations for surrogate modeling
- Ian Hinder: An eccentric binary black hole inspiral-merger-ringdown gravitational waveform model from post-Newtonian and numerical relativity
- Xisco Jimenez: Systematic numerical relativity fits to gravitational-wave peak luminosity and final states of binary black hole mergers
- Jam Sadiq: Comparing Space-time using Geometric Scalars

Monday, 4:30 - 6:30 pm

This session will be held in Lerner Hall, Room 568.

- Sebastiano Bernuzzi: How Loud are Neutron Star Mergers in the Gravitational Window? (30 min)
- Berndt Bruegmann: Solving 3D relativistic hydrodynamical problems with WENO discontinuous Galerkin
- Tim Dietrich: Generic Binary Neutron Stars Systems
- Matthias Hanauske: Gravitational waves and rotational properties of hypermassive neutron stars from binary mergers
- Wolfgang Kastaun: Merger of spinning neutron stars with nuclear physics EOS
- Steven Liebling: Unequal mass binary neutron star mergers and multimessenger signals
- Riccardo Ciolfi: Binary neutron star mergers in GRMHD: the case of long-lived neutron star remnants

Wednesday, 5:30 - 6:30 pm

This session will be held in Lerner Hall Cinema.

- Ulirch Sperhake: Matter does not matter: Universality in ultra-relativistic black-hole collisions (30 min)
- Jose Antonio Font Roda: Explosion and final state of the charged black hole bomb
- Alex Vano-Vinuales: Free hyperboloidal evolution of strong field initial data in spherical symmetry

Thursday, 4:30 - 6:30 pm

This session will be held in Lerner Hall, Room 555.

- Eloisa Bentivegna: Cosmological modelling with numerical relativity (30 min)
- William East: Dynamics of the Inflationary Higgs Vacuum Instability
- Juan Barranco: Schwarzschild scalar wigs: spectral analysis and late time behavior
- Maria Okounkova: Numerical Tests of Cosmic Censorship
- Carsten Gundlach: Critical collapse of rotating radiation fluids
- Dumsani Ndzinisa: Co-moving frames for BSSNOK evolutions of dynamical spacetimes
- Jonah Miller: A Discontinuous Galerkin Method Compatible with the BSSN Formulation of the Einstein Equations

Poster Session

This session will be held in Lerner Hall, Roone Arledge Auditorium, on Thursday morning.

- Argelia Bernal: Schwarzschild black holes can wear scalar wigs
- Leo Brewin: Recent results in Smooth Lattice Relativity methods
- William Cook: Gravitational Wave Emission in Higher Dimensional Black Hole Collisions
- Mariateresa Crosta: Global Sphere Reconstruction (GSR) of the Astrometric Verification Unit at the Italian data center (DPCT)
- Juan Carlos Degollado: Final dynamical state of unsestable charged black holes
- Joerg Frauendiener: A numerical implementation of the Corvino-Schoen gluing method in spherical symmetry
- David Garrison: Gravitational Waves Induced by Plasma Turbulence in the Early Universe: Nonlinear and Linear Calculations
- Saran Tunyasuvunakool: Simulating higher dimensional black holes with GRChombo
- Vijay Varma: Computing Binary Black Hole Initial Data in the Damped Harmonic Gauge

7 Session B3: Approximations, perturbation theory, and their applications (*Chair: Leonardo Gualtieri*)

Monday, 4:30 - 6:30 pm

This session will be held in Lerner Hall, Party Space.

- Davide Gerosa: Averaging the average: multi-timescale analysis of precessing black-hole binaries
- Michael Kesden: Precession of the total angular momentum of binary black-hole systems
- Nicolas Yunes: Analytic, Frequency-Domain Waveform Models for Generic, Spin-Precessing, Compact Binary Inspirals
- Laura Bernard: Dynamics of non-spinning compact binaries at the fourth post-Newtonian order
- Michele Levi: An effective field theory for gravitating spinning objects in the PN scheme
- Alejandro Bohé: An updated Effective-One-Body model for non-precessing binary black holes
- Marc Favata: Modeling and detectability of the gravitational wave memory
- Aaron Zimmerman: Measuring the redshift factor in binary black hole simulations

Wednesday, 3:30 - 4 & 4:30 - 6:30 pm

This session will be held in Lerner Hall, Party Space.

- Hajime Sotani: Gravitational waves of core-collapse supernova at post-bounce phase
- Philippe Landry: Dynamical Tidal Response of a Rotating Neutron Star
- Paolo Pani: Tidal deformations of compact objects and their impact for gravitational-wave astronomy
- Kent Yagi: Gravitational Wave Physics with Binary Love Relations
- Jan Steinhoff: Analytic models for compact binaries: spin and dynamic tides
- Justin Vines: Hamiltonian for an extended test body in curved spacetime: To quadratic order in spin
- Ryan Lang: Gravitational radiation from compact binaries in scalar-tensor gravity
- Noah Sennett: Modeling dynamical scalarization of neutron-star binaries
- Richard Brito: Interaction between bosonic dark matter and stars

Thursday, 4:30 - 6:30 pm

This session will be held in Lerner Hall Cinema.

- Adam Pound: Second-order self-force calculations: a progress report
- Takahiro Tanaka: Adiabatic approach to the second order orbital evolution in black hole spacetime
- Peter Diener: Progress on the numerical calculation of the self-force in the time domain.
- Niels Warburton: Inspiral into Gargantua
- Shahar Hadar: Gravity waves from plunges into rapidly rotating black holes via Kerr/CFT
- Alexandra Le Tiec: Orbital dynamics of eccentric compact binaries
- Bernard F Whiting: Gauge invariant perturbations of Petrov type D space-times
- Kei Yamada: Evolution of Lagrangeś orbit in the three-body problem due to gravitational radiation reaction

Poster Session

This session will be held in Lerner Hall, Roone Arledge Auditorium, on Thursday morning.

- Nigel Bishop: Gravitational waves in de Sitter spacetime
- Jose de Araujo: Master equation solutions in the linear regime of characteristic formulation of general relativity
- Jean Douçot: Post-Newtonian tidal dynamics of a rotating neutron star
- Soichiro Isoyama: Conservative self-force dynamics: Beyond bound orbit
- Adam Lewis: Building an Analytic-Numeric Bridge with Eccentric Binary Black Hole Simulations
- Tanguy Marchand: Tail-of-tail-of-tail terms in the 4.5 Post-Newtonian radiative mass quadrupole moment
- Zachary Mark: A Model for Quasinormal Mode Excitation
- Zachary Mark: Quasinormal Mode Excitation in Extreme Mass Ratio Inspirals
- Balazs Mikoczi: Spin supplementary conditions for spinning compact binaries
- Claudia Moreno: Gravitational and electromagnetic responses from a charged black hole
- Takashi Nakamura: How close can we approach the event horizon of the Kerr black hole from the detection of the gravitational quasinormal modes?
- Dennis Philipp: Applicability of the geodesic deviation equation in GR
- Michal Pirog: Dynamic anti-dragging effect in post-newtonian description of stationary, self-gravitating disks
- Raül Vera: Revisiting Hartleś model using perturbed matching theory to second order: amending the mass of rotating stars

8 Session B4: Cosmology: Theory and observations (*Session Program by: Joanne Dunkley*)

Monday, 4:30 - 6:30 pm (*Chair: Jonathan Braden*)

This session will be held in Pupin Hall, Room 329.

- David Daverio: On our way to a full GR n-body code, gevolution and LAtfield2
- David Wiltshire: Differential expansion of space and the Hubble flow anisotropy
- Matthew Johnson: Observable effects of general relativistic non-linearities in cosmology, primordial and present
- Julien Larena: Stochastic cosmological lensing
- Viraj Sanghai: Relativistic cosmological modelling for non-linear structure formation
- Tonatiuh Matos: Galaxies Simulations with Scalar Field Dark Matter
- Roberto Sussman: A fully relativistic Zeldovich approximation to describe multiple structures
- Ilia Musco: Curvature perturbation, gravitational collapse and primordial black hole formation

Tuesday, 4:30 - 6:30 pm (*Chair: Matt Johnson*)

This session will be held in Pupin Hall, Room 329.

- Richard Woodard: Fine Tuning May Not Be Enough
- Jonathan Braden: Superhorizon effects on the observable universe using numerical relativity
- Anne-Sylvie Deutsch: Cosmic variance in inflation with two light scalars
- Antonino Marciano: Chern-Simons Inflation: Inflation from fermionic matter interacting with a gauge field
- Zhi Yang: Gauge inflation with Chern Simons term - 1
- Antonio Romano: Adiabaticity and gravity theory independent conservation laws for cosmological perturbations
- Anja Marunovic: Graceful exit in Topological Inflation
- Chandrima Ganguly: Anisotropic pressures in cyclic universes

Wednesday, 4:30 - 6:30 pm (*Chair: David Wiltshire*)

This session will be held in Pupin Hall, Room 428.

- Bernard Carr: Primordial black holes and the Galactic gamma-ray background
- Atsushi Nishizawa: Anisotropies of Gravitational-Waves from Black-Hole Binaries as a Tracer of Dark Matter
- Nicola Tamanini: Late time cosmology with eLISA
- David Edwards: The Phase Space of a Cosmological Scalar Field
- Daniele Gregoris: Cosmological applications of the Shan-Chen equation of state
- Mahmoud Hashim: Degeneracy between primordial non-Gaussianity and interaction in the dark sector
- Alejandro Perez: Dark energy from non-unitarity in quantum theory
- Victor Hugo Robles: Constraining the mysterious dark matter with recent cosmological and galactic observations

Thursday, 4:30 - 6:30 pm (*Chair: David Daverio*)

This session will be held in Pupin Hall, Room 428.

- Jailson Alcaniz: Baryon Acoustic Oscillations from the SDSS galaxies angular correlation function
- Maria Elidaiana da Silva Pereira: Density profiles of galaxy clusters in the CFHT Stripe 82 survey from weak gravitational lensing
- Brajesh Gupt: Inflationary perturbations in a closed FLRW universe and CMB anomalies

- Nelson Pinto-Neto: Quantum Cosmological Perturbations of Multiple Fluids and Application to Bouncing Models
- Daniel Sudarsky: Inflationary Models? Viability and the Quantum-Classical Transition.
- Emre Onur Kahya: Time-Dependent Scalar Mode Functions effect to Non-Gaussianity

Poster Session

This session will be held in Lerner Hall, Roone Arledge Auditorium, on Thursday morning.

- Andrew Beckwith: Gedanken Experiment Examining How Kinetic Energy Would Dominate Potential Energy, in Pre-Planckian Space-Time Physics, and Allow Us to Avoid the BICEP 2 Mistake
- Stefano Bianco: The CMB spectrum, inflation and quantum-gravity modified dispersion relation
- Suddhasattwa Brahm (presented by Zhi Yang) : Gauge inflation with Chern Simons term - 2
- Daniel Brooker: Precision Predictions for Primordial Power Spectra
- Claudio Castro: Coalescence of Supermassive Black Holes Binaries in AGNs
- Po-Wen Chang: Rapid oscillation of gravitational constant G in scalar-tensor theory of gravity: Cosmic evolution and constraints on its early properties
- Po-Wen Chang: Rapid Oscillation of Gravitational Constant in the Scalar-Tensor Theory of Gravity: the early-time constraints on its induced energy density from cosmology
- Patrick Das Gupta: On the possibility of forming Supermassive Black Holes from Bose-Einstein condensation of dark bosons
- John Bruce Davies: Intrinsic Initial Inflation Defines the Finite Mass of a Flat Universe
- Balendra Kumar Dev Choudhury: Unified DE-DM Laden Cosmology in LQC Perspective
- Pietro Dona: Semiclassical theory of cosmological perturbation
- Maxim Eingorn: First-order cosmological perturbations engendered by point-like masses: all scales covered
- Jun Zheng: Black holes from cosmic inflation
- Ramon Herrera: Approach to exact solutions of cosmological perturbations: Tachyon field inflation
- Michael Jones: The Rotation Problem
- Mikhail Katanaev: On homogeneous and isotropic universe
- Jadar Khodagholizadeh: The effect of cosmic Neutrinos on the Gravitational waves in Matter and Vacuum dominated era
- Antonino Marciano: On the semi-classicallity of cosmological perturbations and the non- Bunch-Davies vacua
- Antonino Marciano: Toward a unification between standard particle physics inspired models for Dark Energy and Dark Matter
- Ariadna Montiel: Possible geometrical origin of the accelerated expansion of the universe
- Suvodip Mukherjee: Litmus Test for Cosmic Hemispherical Asymmetry from CMB B-mode polarization
- Malsawmtluangi N: Slow roll inflation and BB mode angular power spectrum of CMB
- Bikash Chandra Pau: On the Creation of Emergent Universe with Dynamical Wormhole
- Luigi Pilo: DE as self gravitating medium
- Joel Saavendra: Cosmological Model and Higher Deritatives for the scalar field
- Rabia Saleem: Cosmic Inflation with and without Viscous Pressure
- Ibrahim Semiz: What do the cosmological supernova data really tell us?
- Minglei Tong: Explore the early universe via relic gravitational waves constrained by pulsar timing arrays, cosmic microwave background and big bang nucleosynthesis
- Branislav Vlahovic: A Geometric Non-Inflationary Interpretation of Cosmic Microwave Background Uniformity
- Winfried Zimdahl: Cosmic bulk viscosity through backreaction

9 Session C1: Pulsar Timing Arrays (*Chair: Gemma Janssen*)

Wednesday, 4:30 - 6:30 pm

This session will be held in Lerner Hall, Room 568.

- Andrea Lommen: The International Pulsar Timing Array
- Robert Ferdman (Lommen will present): A Gravitational Wave Processing-Enabled Archive
- Gilles Theureau: Gravity tests with the Square Kilometre Array
- Joseph Simon: Linking Galaxy Evolution Parameters and Pulsar Timing Array Observations
- Maria Charisi: A population of periodic quasars from PTF as milliparsec supermassive black hole binaries-Prospects for PTA discovery
- Nicolas Caballero: Developments in low-frequency gravitational-wave searches in the European Pulsar Timing Array
- Yan Wang: Detection and parameter estimation of continuous GW signals in pulsar timing arrays
- Dustin Madison: Pulsar Timing Arrays Beyond the Stochastic GW Background
- Vikram Ravi: Current predictions for GWs from binary SMBHs in light of PPTA results

Thursday, 3 - 4 pm

This session will be held in Lerner Hall, East Ramp Lounge.

- Joel Weisberg: Measurements of Gravitational Waves and other Relativistic Parameters in the Binary Pulsar PSR B1913+16
- Gemma Janssen: Peculiar results of long-term millisecond pulsar timing
- David Nice: NANOGrav High-Precision Pulsar Timing and the Search for Nanohertz Gravitational Waves
- Shami Chatterjee: Fast Radio Bursts: Searching for needles in a very large haystack

10 Session C2: Gravitational waves: Searches, data analysis, parameter estimation, and multimessenger astronomy (*Session Program by: Laura Cadonati, Chair: Imre Bartos*)

Monday 2 - 4 pm

This session will be held in Lerner Hall, Party Space.

- Swetha Bhagwat: Accuracy of gravitational-wave models for coalescing Black-hole Neutron-star systems
- Sylvain Marsat: Fourier-domain modulation and delay of gravitational wave signals: application to the response of LISA-type detectors and to precessing binaries
- Didier Verkindt: Advanced Virgo Data Quality and Online Monitoring
- Serena Vinciguerra: Accelerating CBC parameter estimation with multi-band frequency domain waveforms
- Karl Wette: Building the next Einstein@Home search code for continuous gravitational waves
- Miriam Cabero Mueller: Prospects for observing multiple ringdown modes in a binary black hole detection and testing the Kerr nature of the final black hole
- Jeroen Meidam: Tests of General Relativity in the Advanced Detector Era

Wednesday 2 - 3:30 pm

This session will be held in Lerner Hall, Party Space.

- Jonathan Blackman: Surrogate Models of Precessing Binary Black Hole Waveforms from Numerical Relativity Simulations
- Juan Calderon Bustillo: Impact of higher order modes in gravitational wave searches for binary black holes
- Alvin Chua: An improved analytic extreme-mass-ratio inspiral waveform model
- Eliu Huerta: An inspiral-merger-ringdown waveform model for compact binaries on eccentric orbits
- Sascha Husa: Phenomenological waveform models for the advanced detector era
- Lionel London: Learning with Future Gravitational Wave Detections

Thursday 2 - 4 pm

This session will be held in Lerner Hall, Room 568.

- Barbara Patricelli: Prospects for joint GW and high-energy EM observations of BNS mergers
- Daniel Siegel: Electromagnetic counterparts from long-lived binary neutron star merger remnants
- Marek Szczepanczyk: Core-Collapse Supernova Science with Advanced LIGO and Virgo
- Miquel Oliver: Improved all-sky Hough search for continuous gravitational waves
- Avneet Singh: Search for Continuous Wave Transients: Toward Neutron Star Equation of State
- Sinead Walsh: First Einstein@Home all-sky search for continuous gravitational waves in advanced LIGO data
- Sylvia Zhu: A directed Einstein@Home search for continuous gravitational waves from Cassiopeia A

Poster Session

This session will be held in Lerner Hall, Roone Arledge Auditorium, on Thursday morning.

- Cecilia Chirenti: Did GW150914 produce a rotating gravastar?
- Javier M. Antelis: Gravitational waves detection from inspiral compact binaries injected during the science experiments of the Laser Interferometer Gravitational-wave Observatory (LIGO)
- Jose Antonio Font Roda: Denoising of gravitational wave signals via dictionary learning
- Krishnendu NV: Estimating spins of aligned-spin binary black holes using Gravitational Wave Observations

11 Session C3: Gravitational waves: Present and future of ground-based and space-based detectors (*Session Program by: David McClelland, Chair: Giles Hammond*)

Wednesday, 2 - 4 pm

This session will be held in Lerner Hall, Room 568.

- Stefano Vitale: LISA Pathfinder Results (30 minutes)
- John Conklin: Development of advanced gravitational reference sensor technologies for LISA
- Naoki Seto: Prospects of eLISA for Detecting Galactic Binary Black Holes Similar to GW150914
- Massimo Tinto: A geostationary Laser Interferometer Space Antenna
- Yoichi Aso and : R&D for the gravitational wave detector KAGRA
- Keiko Kokeyama: First Test Operation of Underground Gravitational-Wave Detector, iKAGRA, and future plans
- David McManus: Investigating Newtonian noise: TorPeDO and the LHO seismometer array

Thursday, 2 - 3 pm

This session will be held in Lerner Hall, East Ramp Lounge.

- Giles Hammond: Cryogenics for future GW detectors (30 minutes)
- Volker Quetschke: Status of laser for next generation cryogenic silicon optics
- Yiqui Ma: Arm cavity filter cavity via EPR entanglement

Thursday, 4:30 - 5:30 pm

This session will be held in Lerner Hall, East Ramp Lounge.

- Haixing Miao: Unstable white light cavity GW detectors (30 minutes)
- Bryan Barr: Progress on the demonstration of a quantum speed meter
- John Miller: Squeezed states of light for Advanced LIGO and beyond

Poster Session

This session will be held in Lerner Hall, Roone Arledge Auditorium, on Thursday morning.

- Alfredo Eduardo Dominguez: Fundamental Level of Noise in Electro-optic modulators of advance-LIGO
- Carlos Frajuca: Limitation of gravitational wave detector Niobe sensitivity by the frequency tracking noise
- David McManus: Torsion pendulum dual oscillator for Newtonian noise measurement
- John Miller: ALIGO+ squeezed light source

12 Session C4: Experimental gravitation(*Chair: Silke Weinfurtner*)

Monday, 2 - 4 pm: – Joint Session with D4: Analogue Gravity and Experimental Aspects

This session will be held in Lerner Hall, Room 555.

- Ralf Schuetzhold: Introduction
- Jeff Steinhauer: Observation of quantum Hawking radiation and its entanglement in an analogue black hole
- Richard Dudley: Undulations is a BEC black hole analog model
- Angus Prain: Analogue cosmology in thin sheets of metamaterial
- Andrei Lebed: Inequivalence between Active Gravitational Mass and Energy for a Composite Quantum Body
- Manu Paranjape: Gravitationally Induced Quantum Transitions
- Stefano Bianco: The CMB spectrum, inflation and quantum-gravity modified dispersion relation
- Christian Pfeifer: The geometry of spacetime from (modified) dispersion relations

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- David M. Lucchesi: Testing general relativity with satellite laser ranging
- Mariateresa Crosta: Relativistic Astrometry: The Gaia Experiment
- Meike List: MICROSCOPE - Testing the Weak Equivalence Principle in Space
- Benny Rievers: Solar Radiation Pressure Modeling for a Gravitational Redshift
- Giovanni A. Prodi: Experimental upper limits to generalized Heisenberg uncertainty relations using harmonic oscillators

- Niccolo Loret: Testing QG-modified laws of propagation for neutrinos with IceCube data
- Norman Gürlebeck: BOOST: Testing Lorentz Invariance in Space

Tuesday, 2 - 4 pm: – Joint Session with D4 : Cosmology and experimental aspects

This session will be held in Lerner Hall, Room 555.

- Stefano Liberati: Quantum Gravity Phenomenology with and without Lorentz
- Yuri Bonder: Using Effective Field Theory to test Lorentz invariance: self-consistency tests in curved spacetime
- Viqar Husain: Low energy Lorentz violation from modified dispersion at high energies
- Eugenio Bianchi: Entanglement entropy during inflation
- Shun-Pei Miao: Electrodynamic Effects from Inflationary Gravitons
- Enrico D. Schiappacasse: Graviton Creation by Small Scale Factor Oscillations in an Expanding Universe
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- Jan E. Åman: Thermodynamic Metrics for Black Hole Physics
- Yongwan Gim: Effective Tolman temperature induced by trace anomaly
- Daniel Sudarsky: The black hole information paradox in the light of quantum theories involving dynamical spontaneous state reduction
- Sebastian Schuster: Sparsity of the Hawking Flux
- Ko Sanders: Local vs. global temperature for QFT in curved spacetimes
- Ibrahim Semiz: Test matter fields, (near-)extremal black holes, and weak cosmic censorship
- Yuki Yokokura: Thermodynamic entropy as a Noether invariant

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- Marc Casals: Quantum dress for a naked singularity

- Deborah Konkowski: Quantum resolution of timeline, classical singularities
- Gonçalo Quinta: Quantum Vacuum polarization in Large Dimensional Spacetimes
- Adam Levi: Stress tensor regularization and BH evaporation
- Peter Taylor: A practical and efficient mode-sum renormalization scheme for computing vacuum polarization in black hole
- Birses Debir: Post Newtonian Approximation of Black Hole Entropy

Poster Session

This session will be held in Lerner Hall, Roone Arledge Auditorium, on Thursday morning.

- Mariateresa Crosta: Global Astrometry with Gaia as tool to prove dilation runway scenario
- Mariateresa Crosta: Differential astrometry with Gaia for Quadrupole light deflection detection
- Mariateresa Crosta: ASTRA
- Andrei Lebed: Breakdown of the Equivalence between Passive Gravitational Mass and Energy for a Quantum Body: Theory and Suggested Experiment
- James Overduin (presented by Alex Poyneer): Testing the MONDian alternative to GR with STEP
- Theo Torres Vicente: Hydrodynamic simulations of rotating black holes
- Vivek Venkatraman Krishnan: Strong Field Tests of Gravity Using the Pulsar – White Dwarf Binary PSR J1141-6545

13 Session D1: Loop quantum gravity and spin foams (*Co-chairs: Madhavan Varadarajan and Alejandro Perez*)

Monday, 2 - 4 pm

This session will be held in Lerner Hall, Room 569.

- Abhay Ashtekar: Loop Quantum Gravity: Some Recent Advances (30 min)
- Wolfgang Wieland: Angular momentum and centre of mass from generalised Witten equations
- Philipp Hoehn: Can chaos be observed in quantum gravity?
- Eugenio Bianchi: Entanglement and the architecture of spacetime
- Jonathan Guglielmon: Squeezed Vacua in Loop Quantum Gravity
- Nelson Yokomizo: Long range correlations in loop quantum gravity
- Suzanne Lanéry: Projective State Spaces for Quantum Gravity

Wednesday, 2 - 4 pm

This session will be held in Lerner Hall, Room 569.

- Carlo Rovelli: Computing black holeś lifetime with LQG
- Francesca Vidotto: Quantum-gravity signals from primordial black holes
- Alejandro Corichi: Black Hole Singularity Resolution: Lesson from LQC
- Javier Olmedo: Spherically symmetric quantum spacetimes coupled to a thin null-dust shell
- Parampreet Singh: On the relationship between the modifications to dynamical equations, and canonical Hamiltonian structures & polymerization
- Sahil Saini: Boundedness of curvature invariants and lack of strong singu- larities in loop quantization of Kantowski-Sachs spacetime
- Edward Wilson-Ewing: Bouncing cosmologies from quantum gravity condensates
- Ilya Vilensky: Cosmological transition amplitudes with Proper Vertex

Thursday, 2 - 4 pm

This session will be held in Lerner Hall, Room 569.

- Lee Smolin: The Thermodynamics of quantum spacetime histories
- Jerzy Lewandowski: Canonical Loop Quantum Gravity
- Seth Major: Quantization of Plane Gravitational Waves: An update
- Rodolfo Gambini: Conformal Loop quantization of gravity coupled to the standard model
- Ivan Agullo: Loop Quantum Cosmology and the CMB
- Mercedes Martin-Benito: Primordial fluctuations in Quantum Cosmology
- Brajesh Gupt: Phenomenology of loop quantum cosmology and CMB observations
- Sreenath Vijayakumar: Evolution of perturbations in anisotropic loop quantum cosmology

Thursday, 4:30 - 5:30 pm

This session will be held in Lerner Hall, Room 569.

- Seth Kurankyi Asante: Holography: From Discretum to Continuum
- Lin-Qing Chen: Bulk amplitude and degree of divergence in 4d spin foams
- Clement Delcamp: A new basis for Loop Quantum Gravity and application to coarse-graining
- Mike Kagan: Resistance distance in discretized gravity
- Saeed Rastgoo: Spacetime emergence through a geometric renormalization method
- Suddhasatwa Brahma: Covariance in midisuperspace models of LQG

Poster Session

This session will be held in Lerner Hall, Roone Arledge Auditorium, on Thursday morning.

- Andrzej Banburski: Vertex renormalisation in spin foams
- Ernesto Flores: Propagator in the rotor regimen of the scalar field through polymer path integral
- Alejandro Perez: Black hole entropy, 2d CFTs, and quantum geometry
- Juan Carlos Ruelas Vazquez: On the effective loop quantum FLRW model with positive cosmological constant

14 Session D2: Strings, branes, entanglement, AdS/CFT, and all that (*Chair: Veronika Hubeny*)

Monday, 4:30 - 5:30 pm

This session will be held in Lerner Hall, Room 569.

- Oscar Dias: AdS nonlinear instability: moving beyond spherical symmetry
- Benson Way: Black Resonators
- Jorge Eduardo Santos: Localised AdS_5S^5 Black Holes
- Lauren Greenspan: Polarised Black Holes in AdS

Tuesday, 2 - 4 pm

This session will be held in Lerner Hall, Room 569.

- Gary Horowitz: New Insights into Quantum Gravity from Gauge/gravity Duality (30 minutes)
- Sebastian Fischetti: Bulk Consequences of Boundary Causality
- Donald Marolf: Comments on Causal Holographic Information and the Coarse-grained Quantum Null Energy
- Xi Dong: Entanglement, Gravity, and Quantum Error Correction
- Lucas Hackl: Entanglement production and Lyapunov exponents
- Ryan Westernacher-Schneider: Crossing the duality: the turbulence and statistics of gravity
- Miguel Zilhao: Holographic Heavy Ion Collisions in Non-Conformal Theories

Wednesday, 4:30 - 6:30

This session will be held in Lerner Hall, Room 569.

- Roberto Emparan: Black holes at large D: Things we've learned so far
- Juan Maldacena: Quantum mechanical models for black holes
- James Lucietti: Black lenses
- Hari Kunduri: Black hole non-uniqueness from spacetime topology
- Harvey Reall: Instability of supersymmetric microstate geometries
- Gavin Hartnett: Thinking outside the truncation: new hair for holographic superconductors
- Eric Perlmutter: Holographic general relativity
- Eanna Flanagan: Infrared Effects in the Late Stages of Black Hole Evaporation

Poster Session

This session will be held in Lerner Hall, Roone Arledge Auditorium, on Thursday morning.

- Sharmila Gunasekaran: First law for solitons in five dimensional spacetime
- Shahar Hadar: Acoustics of a simple holographic model with momentum relaxation
- Yuichiro Hoshino: Quantum chaotic string in AdS geometry
- Markus Kunesch: Dynamics of Black Rings and Weak Cosmic Censorship
- Jen-Chi Lee: The Exact SL(K + 3;C) Symmetry of String Scattering Amplitudes
- Jerzy Lewandowski: The Dirac observables in general relativity
- Julija Markeviciute: Hairy Black Holes in AdS5S5
- Eric Mefford: Pulsar Timing Array Portal Online – The Bridge
- Eric Mefford: Entanglement Entropy of Jammed CFTs
- Sdeněk Stuchlík: String loop around black hole – applications

15 Session D3: Causal sets, causal dynamical triangulations, non-commutative geometry, asymptotic safety, and other approaches to quantum gravity (*Chair: Jan Ambjorn*)

Monday, 5:30 - 6:30 pm

This session will be held in Lerner Hall, Room 569.

- Steven Carlip: The dynamics of boundary diffeomorphisms
- Renate Loll: Causal Dynamical Triangulations - a progress report (30 min)
- Daniel Coumbe: Searching for a Continuum Limit in CDT Quantum Gravity

Tuesday, 4:30 - 6:30 pm

This session will be held in Lerner Hall, Room 569.

- Kevin Grosvenor: Phases of Gravity with Anisotropic Scaling
- Nicolai Christiansen: Non-Perturbative Renormalization of Graviton Vertex Functions
- Alejandro Perez: Dark energy from energy-momentum conservation violations
- Lisa Glaser: Spectral dimension in non-commutative geometry
- Lee Smolin: Energetic causal sets
- Sumati Surya: The Hartle Hawking Wave Function in Causal Set Quantum Gravity
- Viqar Husain: Ground state of the universe and the cosmological constant
- Dionigi Benincasa: Causal Sets and Nonlocality: Recent Developments

Poster Session

This session will be held in Lerner Hall, Roone Arledge Auditorium, on Thursday morning.

- Andrew Beckwith: Open question. Could a Causal Discontinuity Explain Fluctuations in the CMBR Radiation Spectrum?
- Luciano Burderi: The quantum clock: a critical discussion on space-time
- Joshua Cooperman: A finite-size scaling analysis of the spectral dimension in causal dynamical triangulations
- Michal Eckstein: Causal relation in the space of states
- Lucas Hackl: Entanglement time in causal sets
- Ashwani Kumar Upadhyay: Quantum Gravity: Gravity Yields Hadrons & Leptons
- Yasaman Yazdi: Entanglement Entropy in Causal Set Theory

16 Session D4: Quantum fields in curved space-time, semiclassical gravity, quantum gravity phenomenology, and analog models (*Chair: Ralf Shuetzhold*)

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- Gonçalo Quinta: Quantum Vacuum polarization in Large Dimensional Spacetimes
- Adam Levi: Stress tensor regularization and BH evaporation
- Peter Taylor: A practical and efficient mode-sum renormalization scheme for computing vacuum polarization in black hole
- Birses Debir: Post Newtonian Approximation of Black Hole Entropy

Thursday, 2 - 4 pm: – Quantum fields in curved space-times

This session will be held in Lerner Hall, Room 555.

- Larry Ford: Probability and Effects of Large Stress Tensor Fluctuations
- Beatriz Elizaga Navascués: Uniqueness of the Fock quantization of Dirac fields with unitary dynamics
- Cesar Uliana: On Symmetry Breaking and the Unruh Effect
- George Lavrelashvili: Towards solution of negative mode problem in quantum tunnelling with gravity
- Lucas Hackl: Entanglement production and Lyapunov exponents
- Breno Giacchini: Light bending in superrenormalizable higher-derivative gravity
- Shih-Yuin Lin: Radiation by an Unruh-DeWitt Detector in Oscillatory Motion
- André Landulfo: From quantum to classical instability in relativistic stars

Poster Session

This session will be held in Lerner Hall, Roone Arledge Auditorium, on Thursday morning.

- Sayantani Bera: A Stochastic Extension to the Schrodinger-Newton Equation in Semiclassical Gravity and its Role in Wavefunction Evolution
- Stefano Bianco: The CMB spectrum, inflation and quantum-gravity modified dispersion relation
- Claia Bryja: A Simple Model for Graviton Opacities through Astrophysical Media
- Luke Butcher: Traversable Wormholes and Scalar Fields
- John Bruce Davies: Quantised Curvature of Regge Calculus yields the Fundamental Particle Structure
- Birses Debir: Boundary Effects on the Thermodynamics of Quantum Fields Near a Black Hole
- Adrian del Rio Vega: Electromagnetic duality symmetry in curved space-times
- Christopher Duston: Including Exotic Smoothness in Semiclassical Gravity
- Graeme Gossel: Matching of the vacuum solution to spherically symmetric static interiors implies uniqueness of the black hole absorption cross section
- Eleni-Alexandra Kontou: Tunneling of squeezed states with an eye to evaporating black holes
- Partha Sarathi Majumdar: Inertial Frame Dragging in a Rotating Analogue Black Hole
- Anja Maraunovic: A massive vector propagator on accelerating spaces
- Edisom Moreira: Bounds on the curvature coupling parameter around a cosmic string
- Diego Felipe Muñoz Arboleda: Thermo Field Dynamics, Boulware and Hartle-Hawking States
- Christian Pfeifer: The geometry of spacetime from (modified) dispersion relations
- Christian Pfeifer: The Potential in General Linear Electrodynamics: Causal Structure, Propagators and Quantization
- Tomislav Prokopec: Dark Energy from inflationary perturbations
- Gonalo Quinta: Vacuum polarization near Lifshitz black holes
- Dennis Rätzel: How light gravitates: a brief exploration
- Joseph Rudmin: Quantum Unitarity Preservation for General Relativity
- Ashwani Kumar Upadhyay: Unification of Gravity with Standard Model of Particles
- Changlong Wang: Excitation of Photons by Inflationary Gravitons
- Yuki Yokokura: A Self-consistent Description of Black Hole Evaporation

17 Other Topics

Poster Session

This session will be held in Lerner Hall, Roone Arledge Auditorium, on Thursday morning.

- William Ballik: The Vector Volume of Black Holes
- Byron Brassel: Dynamical radiating stars with equations of state
- Alvin Chua: Gravitational-wave parameter estimation with Gaussian process regression
- Paulino Javier Domnguez Chvez: Special relativistic rotating electromagnetic fields

- Andrea Lommen: Pulsar Timing Array Portal Online: The Bridge
- Viridiana Pineda Reyes: Statistical Geometrothermodynamics of Black Holes

18 Special Session: Gravitational Waves Highlights (*Chair: Alessandra Corsi*)

Tuesday, 2 - 4 pm

This session will be held in Lerner Hall Cinema.

- Collin Capano: Results of searching for binary black holes in the first observing run of Advanced LIGO (30 min)
- Dave Reitze: The Impact of GW150914 on Interferometer Design (30 minutes)
- Thomas Dent: The mass distribution of coalescing binary black holes from ground-based GW observations
- Tomoya Kinugawa: Binary black hole remnants of First stars for the gravitational wave source
- Bernard F. Whiting: A stochastic gravitational-wave background from binary black hole mergers
- Nicolas Yunes: Theoretical Physics Implications of the Binary Black-Hole Merger GW150914: Gravitational-wave Generation and Propagation

Tuesday, 4:30 - 6:30 pm

This session will be held in Lerner Hall Cinema.

- Mark Hannam: Zooming in on black holes: numerical-relativity follow-up to GW observations
- Geoffrey Lovelace: Modeling merging black holes with numerical relativity in the era of first gravitational-wave observations
- Carlos Lousto: Black Hole Simulations for Gravitational Waves Modeling
- Paolo Pani: Is the gravitational-wave ringdown a probe of the event horizon?
- Carlos Palenzuela: Merger of weakly-interacting compact objects
- Kent Yagi: Theoretical Physics Implications of the Binary Black-Hole Merger GW150914: Kerr Hypothesis and Smaller-confidence Observations
- Emanuele Berti: Complementarity of Earth- and space-based detectors: binary populations and tests of strong gravity