

Session Program

6-10 Sept 2021

**Alternative Gravities and Fundamental
Cosmology - ALTECOSMOFUN'21 [VIRTUAL]**

Regular Sessions

Monday 6 September

12:30

Regular Sessions: Alternative gravity phenomenology

Session | **Location:** Institute of Physics @ University of Szczecin, ul. Wielkopolska 15, 70-451 Szczecin (Poland) | **Convener:** Mariusz Dabrowski

12:30–12:50

New applications of unparticles: Inflation, dark energy, bouncing cosmologies, and the Hubble tension

Speaker

Dr Michał Artymowski

12:50–13:10

Thermodynamics of scalar-tensor gravity

Speaker

Andrea Giusti

13:10–13:30

Entanglement Entropy at Critical Points in the Multiverse

Speaker

Mr Samuel Barroso Bellido

13:30

14:30

Regular Sessions: Alternative gravity phenomenology

Session | **Location:** Institute of Physics @ University of Szczecin, ul. Wielkopolska 15, 70-451 Szczecin (Poland) | **Convener:** Marek Biesiada

14:30–14:50

Linking the lithium problem and the H_0 tension: the gravitational constant at BBN

Speaker

Sebastián Franchino-Viñas

14:50–15:10

Superfluid vacuum theory predictions for astrophysics

Speaker

Dr Konstantin Zloshchastiev

15:10–15:30

Can dark energy emerge from a varying G and spacetime geometry?

Speaker

Ekim Taylan Hanimeli

15:30

15:30

Regular Sessions: Alternative gravity and fundamental theories

Session | **Location:** Institute of Physics @ University of Szczecin, ul. Wielkopolska 15, 70-451 Szczecin (Poland) | **Convener:** Marek Biesiada

15:30–15:50

Early universe cosmology in fundamentally motivated alternative theories of gravity and the principle of finite amplitudes

Speaker

Jerome Quintin

15:50–16:10

Dynamical String Tension Theories: New possibilities for Gravity Cosmology, Thermodynamics and Brane world Scenarios.**Speaker**

Prof. Eduardo Guendelman

16:10–16:30

Global portraits of nonminimal inflation**Speaker**

Dr Laur Järv

16:30

17:50

Regular Sessions: Alternative gravity and fundamental theories**Session** | **Location:** Institute of Physics @ University of Szczecin, ul. Wielkopolska 15, 70-451 Szczecin (Poland) |**Convener:** Marek Rogatko

17:50–18:10

The 3+1 Formalism in the Geometric Trinity of Gravity**Speaker**

Mr Andrew Finch

18:10–18:30

Modified Teleparallel Gravity induced by quantum fluctuations in semi-classical approach**Speaker**

Yu-Hsien Kung

18:30–18:50

Baryogenesis in $f(P)$ Gravity**Speaker**

Mr SNEHASISH BHATTACHARJEE

18:50

Tuesday 7 September

14:30

Regular Sessions: Alternative gravities, gravitational waves and compact objects

Session | **Location:** Institute of Physics @ University of Szczecin, ul. Wielkopolska 15, 70-451 Szczecin (Poland) | **Convener:** Miguel Zumalacarregui

14:30–14:50

Modified gravity effects on non-compact spherical-symmetric objects

Speaker

Dr Aneta Wojnar

14:50–15:10

CGHS Moving Mirror

Speaker

Aizhan Myrzakul

15:10–15:30

Axionlike clouds in the vicinity of compact objects

Speaker

Bartłomiej Kiczek

15:30–15:50

Alternative Gravity and Gravastars

Speaker

Muhammad Sharif

15:50–16:10

Effective Quantum Black Hole Collapse via Surface Matching

Speaker

Johannes Münch

16:10–16:30

Scattering Amplitudes for Binary Systems beyond GR

Speaker

Mariana Carrillo Gonzalez

16:30

16:50

Regular Sessions: Quantum gravity as alternative gravity

Session | **Location:** Institute of Physics @ University of Szczecin, ul. Wielkopolska 15, 70-451 Szczecin (Poland) | **Convener:** Piotr Sułkowski

16:50–17:10

Cosmological dynamics from LQG

Speaker

gioele botta

17:10–17:30

Is quantumTEGR equivalent to quantum GR?

Speaker

Dr Igor Kanatchikov

17:30–17:50

Curvature for quantum gravity

Speaker

Zbigniew Drogosz

17:50–18:10

Quantum Effects in Higher Order Theories of Gravity

Speaker

Mr Yannick Kluth

18:10–18:30

Effects of a scalar field potential on primordial perturbations in Hybrid (Loop) Quantum Cosmology.

Speaker

Rafael Jiménez

18:30–18:50

Renormalization Group in Six-derivative Quantum Gravity

Speaker

Prof. Lesław Rachwał

18:50

Wednesday 8 September

12:30

Regular Sessions: Alternative gravities and dark energy

Session | **Location:** Institute of Physics @ University of Szczecin, ul. Wielkopolska 15, 70-451 Szczecin (Poland) | **Convener:** Jackson Levi Said

12:30–12:50 **Modified gravity in light of cosmic tensions**

Speaker
Noemi Frusciante

12:50–13:10

Application of the Broad Line Region radius-luminosity relation in cosmology

Speaker
Michał Zajacek

13:10–13:30

Phantom-like dark energy from quantum gravity

Speaker
Xiankai Pang

13:30–13:50

Towards a Λ CDM Universe in $f(R)$ gravity

Speaker
Saikat Chakraborty

13:50

14:30

Regular Sessions: Alternative gravities and dark energy

Session | **Location:** Institute of Physics @ University of Szczecin, ul. Wielkopolska 15, 70-451 Szczecin (Poland) | **Convener:** Noemi Frusciante

14:30–14:50

Simple-graduated dark energy and spatial curvature: Do the simplest negative energy densities alleviate the H_0 tension?

Speaker
Nihan Katırcı

14:50–15:10

A resolution to Hubble tension

Speaker
Eoin O Colgain

15:10–15:30

Existence of bulk viscous universe in $f(R,T)$ gravity and confrontation with observational data

Speaker
Prof. Pradyumn Kumar Sahoo

15:30–15:50

Nonparametric Techniques to Reconstructing Cosmological Data

Speaker
Jackson Levi Said

15:50

17:10

Regular Sessions: Alternative gravities, gravitational waves and compact objects

Session | **Location:** Institute of Physics @ University of Szczecin, ul. Wielkopolska 15, 70-451 Szczecin (Poland) |
Convener: Andrzej Krolak

17:10–17:30 Gravitational Wave lensing beyond Einstein's General Relativity**Speaker**

Dr Miguel Zumalacarregui

17:30–17:50 Vector fields and gravitational wave propagation**Speaker**

Alfredo Delgado Miravet

17:50–18:10 Shadow cast by rotating black hole with a cosmological constant**Speaker**

MISBA AFRIN

18:10–18:30**Gravitational Wave Propagation and Polarizations in the Teleparallel analog of Horndeski Gravity****Speaker**

Maria Caruana

18:30

Thursday 9 September

14:30

Regular Sessions: Alternative gravity phenomenology

Session | **Location:** Institute of Physics @ University of Szczecin, ul. Wielkopolska 15, 70-451 Szczecin (Poland) | **Convener:** Michal Artymowski

14:30–14:50 Matter Bounce Scenario in $f(Q,T)$ Gravity

Speakers

Prof. Bivudutta Mishra, Bivudutta Mishra

14:50–15:10

Theoretical Constraints on Boostless Amplitudes and Cosmological Correlators

Speaker

Jakub Supel

15:10–15:30

Is asymptotically safe inflation eternal?

Speaker

Jan Kwapisz

15:30–15:50

Inflation From The MSSM. $N=1$ Supergravity Setup

Speaker

Zurab Tavartkiladze

15:50–16:10

On the emergence of cosmic space and the first law of thermodynamics in a non-flat universe

Speaker

Hareesh Thuruthipilly

16:10–16:30

Inflationary universe in deformed phase space Sáez-Ballester theory

Speaker

Seyed Meraj Rasouli

16:30

16:50

Regular Sessions: Alternative gravities and dark matter

Session | **Location:** Institute of Physics @ University of Szczecin, ul. Wielkopolska 15, 70-451 Szczecin (Poland) | **Convener:** Antonio L. Maroto

16:50–17:10

Affine gravitational scenario for dark-matter decays

Speaker

Dr Adil Jueid

17:10–17:30

Progress within the Scale Invariant Vacuum (SIV) Paradigm

Speaker

Dr Vesselin Gueorguiev

17:30–17:50

Dark Matter from quantum Dark Energy

Speaker

Roberto Casadio

17:50

17:50

Regular Sessions: Alternative gravities, gravitational waves and compact objects

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17:50–18:10

Quasinormal frequencies and black hole shadow radius: an analytical correspondence**Speaker**

Bertha Cuadros-Melgar

18:10–18:30

Probing black holes without Z_2 symmetry: A theory-agnostic approach**Speaker**

Dr Che-Yu Chen

18:30–18:50

Gravitational lensing by a black hole in Poincaré gauge theory**Speaker**

Saboura sadat Zamani

18:50

Friday 10 September

12:30

Regular Sessions: Alternative gravities and dark energy

Session | **Location:** Institute of Physics @ University of Szczecin, ul. Wielkopolska 15, 70-451 Szczecin (Poland) | **Convener:** Emmanuel N. Saridakis

12:30–12:50

Observational constraints on cosmological solutions of $f(Q)$ theories

Speaker

Ruth Lazkoz

12:50–13:10

Impact of H_0 priors on $f(T)$ late time cosmology

Speaker

Rebecca Briffa

13:10–13:30

Covariant effective actions for bouncing cosmology in fourth-order gravity

Speaker

Dr Daniele Vernieri

13:30

14:30

Regular Sessions: Alternative gravities and dark matter

Session | **Location:** Institute of Physics @ University of Szczecin, ul. Wielkopolska 15, 70-451 Szczecin (Poland) | **Convener:** Tessa Baker

14:30–14:50

Testing screening mechanisms with mass profiles of galaxy clusters

Speaker

Lorenzo Pizzuti

14:50–15:10

Distinguishing cores from cusps in the dark matter density profile using the proper motions measurements

Speaker

IVAN DE MARTINO

15:10–15:30

On the Viability of Chameleon Gravity in Galaxy Clusters and Cosmic Voids

Speaker

Andrius Tamosiunas

15:30–15:50

The quasi-static approximation in Horndeski models

Speaker

Francesco Pace

15:50–16:10

Nonlinear structure in general modified gravity models

Speaker

Ashim Sen Gupta

16:10

16:30

Regular Sessions: Alternative gravity and fundamental theories

Session | **Location:** Institute of Physics @ University of Szczecin, ul. Wielkopolska 15, 70-451 Szczecin (Poland) |
Convener: Giulia Gubitosi

16:30–16:50 **Quantum gravitational decoherence from minimal length**

Speaker

Dr Luciano Petruzziello

16:50–17:10 **Modified bimetric-like gravity from spectral geometry.**

Speaker

Andrzej Sitarz

17:10–17:30 **Graviton mass in the era of multi-messenger astronomy**

Speaker

Aleksandra Piórkowska-Kurpas

17:30–17:50 **Freely-falling bodies in standing-wave spacetime**

Speaker

Syed Umair

17:50