

PHAROS Conference 2020

30 March – 3 April

Porto Rio Hotel, Patras, Greece

Preliminary Programme



Monday, March 30th

Room 1				
Invited Talks				
	Speaker	Title		
9:00	Cole Miller	A NICER view of neutron stars		
9:30	Sam Lander	Magnetic-field evolution in the presence of superconductivity		
10:00	Daniele Vigano	How giant magnets shine and slowly fade away		
10:30	Silvia Zane	Magnetars and other classes of Isolated neutron stars in X-rays		
11:00	Coffee Break			
Room 1			Room 2	
Parallel 1A			Parallel 1B	
	Speaker	Title	Speaker	Title
11:30	Nicolas Chamel	Unified equations of state of cold dense matter in nonaccreted neutron stars	Nanda Rea	New results on magnetar outbursts: the Galactic center magnetar and other outliers
11:45	Dany Page	Studying the Neutron Star Interior in Transient Low-Mass X-Ray Binaries	Alice Borghese	The tireless magnetar
12:00	Adriana Raduta	Finite temperature equation of state with exotic degrees of freedom	Aloy Miguel Ángel	The formation of “massive” proto-magnetars
12:15	Helena Pais	A new low-density equation of state from an experimental data analysis including in-medium effects	Matteo Bugli	Complex magnetic field topologies in core-collapse supernovae
12:30	Prasanta Char	Dense Matter Phases inside Neutron Stars: Constraints from Observations	Niccolo' Bucciantini	Numerical models for the amplification and growth of magnetic field in compact objects.
12:45	Valery Suleimanov	How model atmospheres help us to investigate neutron star interiors	Sinem Şaşmaz Muş	The First Day in the Life of a Magnetar
13:00	Lunch Break			
Parallel 2A			Parallel 2B	
	Speaker	Title	Speaker	Title
14:30	Márcio Ferreira	Neutron stars properties and the EoS: a supervised machine learning approach	Jerome Guilet	Magnetorotational instability in protoneutron stars: the regime of high magnetic Prandtl numbers

Room 1			Room 2	
Parallel 2A			Parallel 2B	
	Speaker	Title	Speaker	Title
14:45	Silvia Traversi	Bayesian Inference of the Neutron Star Equation of State from Astrophysical Observations	Reboul-Salze Alexis	A global model of the magnetorotational instability in proto-neutron stars
15:00	Clara Dehman	Hot-Neutron Rich Nuclear Matter Studied with the BCPM Nuclear Energy Density Functional	Raphaël Raynaud	Magnetar formation through convective dynamo in protoneutron stars
15:15	Jonas Pereira	Tidal deformations of hybrid stars with sharp phase transitions and elastic crusts	Andrei Igoshev	Thermal spots and light curves of magnetars: 3D MHD simulations
15:30	Jan-Erik Christian	Tidal Deformability, Phase Transitions and Stiffness of the Nuclear Equation of State	Michela Rigoselli	X-ray emission from magnetized rotation-powered pulsars
15:45	Kirill Kraav	Effect of particle diffusion on damping of neutron star oscillations	Ankan Sur	Magnetic field instabilities in neutron stars
16:00	Coffee Break			
Parallel 3A			Parallel 3B	
	Speaker	Title	Speaker	Title
16:30	Stefano Carignano	Crystalline condensates in compact stars	Vanessa Graber	Superconducting phases in a two-component microscale model of neutron star cores
16:45	Chiranjib Mondal	Equation of state of inner crust of neutron stars with finite range Gogny forces	Francisco Castillo Andahur	Simulations of the magnetic field evolution in neutron star cores in the strong-coupling regime
17:00	Guilherme Grams	Pasta phases within the QMC and QMC ω - ρ models	Jens Mahlmann	Instability of twisted magnetar magnetospheres
17:15	Oleksii Ivanytskyi	Second look to the Polyakov loop Nambu–Jona-Lasinio model of quark matter in hybrid stars	George Chouliaras	Crust-Magnetosphere Feedback
17:30	Jinbiao Wei	Cooling of Hybrid stars	Vasileios Karageorgopoulos	Current closure through the neutron star crust
17:45	Violetta Sagun	Dark-matter admixed neutron stars	Jacopo Soldateschi	Axisymmetric equilibrium models for magnetised neutron stars in Scalar-Tensor Theories
18:00			Prasanta Bera	Perturbation to a magnetic neutron star with shear modulus
18:30	Reception			

Tuesday, March 31st

Room 1				
Invited Talks				
	Speaker	Title		
9:00	Anatoly Spitkovsky	Kinetic simulations of pulsar magnetospheres		
9:30	Benoit Cerruti	A new look at the high-energy emission in pulsars from kinetic plasma simulations		
10:00	Nathalie Degenaar	Probing the interior of transiently accreting neutron stars		
10:30	Alexander Potekhin	Crust structure and thermal evolution of neutron stars in soft X-ray transients		
11:00	Cofee Break			
Room 1			Room 2	
Parallel 1A			Parallel 1B	
	Speaker	Title	Speaker	Title
11:30	Ioannis Contopoulos	Hybrid modeling of high-energy emission in pulsars	Petr Shternin	Model-independent constraints on the superfluidity of superdense nuclear matter from the analysis of the cooling neutron star in Cassiopeia A supernova remnant.
11:45	Andrey Timokhin	How pair pair formation in polar caps fills magnetosphere with plasma, heats NS surface, and generates radio emission.	Aurélien Pascal	Modeling the cooling phase of proto neutron stars
12:00	Claire Guepin	Proton acceleration in pulsar magnetospheres	Anthea Francesca Fantina	Crystallization of the outer crust of non-accreting neutron stars
12:15	Fabio Cruz	Particle-in-cell simulations of pair discharges at pulsar polar caps	Vasiliy Dommes	Constraining critical temperature profiles with r-mode instability in neutron stars
12:30	George Melikidze	A Single spark model for PSR J2144–3933	Yuliya Mutafchieva	Unified description of magnetar crusts
12:45	Dyks Jarek	Distortions of polarization angle curve in radio pulsars	Fabian Gittins	Deformations of neutron stars with elastic crusts
13:00	Lunch Break			
Parallel 2A			Parallel 2B	
	Speaker	Title	Speaker	Title
14:30	Constantinos Kalapotharakos	From Fermi and NICER data to Pulsar Magnetosphere Models	Lami Suleiman	Partially accreted crusts of neutron stars

Room 1		Room 2		
Parallel 2A		Parallel 2B		
Speaker	Title	Speaker	Title	
14:45	Diego F Torres	Introducing a novel approach for modelling pulsar light curves together with their spectral energy distribution	Mikhail Gusakov	Thermodynamically consistent equation of state for an accreted crust
15:00	Jérôme Pétri	Joint radio and X-ray modelling of PSR~J1136+1551	Nikolay Shchepochin	The crust of accreting neutron stars within simplified reaction network
15:15	Lucy Oswald	Understanding the radio beam of PSR J1136+1551 through its single pulses	Mikhail Beznogov	Carbon burning in the envelopes of neo-neutron stars
15:30	Dmitry Zyuzin	Very cool gamma-ray pulsar J1957+5033	Jérôme Chenevez	Unusually long thermonuclear bursts from neutron stars
15:45	Tridib Roy	Some Glimpses of Plasma Process Involved on Modelling of Radio Pulsar's Power spectra		
16:00	Coffee Break			
Parallel 3A		Parallel 3B		
Speaker	Title	Speaker	Title	
16:30	Rahul Basu	Subpulse Drifting in Pulsar Radio emission	Zorawar Wadiasingh	Predicting Broadband Emission from Millisecond Pulsar Binaries
16:45	Ali Arda Gencali	Intermittent Pulsars and their ON/OFF Transitions	Alessandro Corongiu	Radio pulsations from the *Fermi*-LAT source 3FGL J2039.6-5618
17:00	Pavankumar Kadaladi	Estimation of Absolute Emission Altitude of Multi-component Pulsars	Colin Clark	The Variable Redback PSR J2039-5617
17:15	Mateusz Malenta	Investigating the multi-component emission of RRAT J1819-1458	Lars Nieder	Does the black widow PSR J1555-2908 have an additional planetary companion?
17:30	Wojciech Lewandowski	Mullti-frequency observations of single pulse properties of two bright pulsars.	Brice Nabil	The Magnetic Field Structure of Pulsating Ultra-Luminous X-ray Sources
17:45	Sk Minhajur Rahaman	On the estimation of realistic growth rates for Langmuir instability in Pulsar plasma	Alejandro Vigna Gomez	Common-Envelope Episodes that lead to Double Neutron Star formation

Wednesday, April 1st

Room 1				
Invited Talks				
	Speaker	Title		
9:00	Nikolaos Stergioulas	Neutron star EOS constraints through gravitational-wave observations		
9:30	Albino Perego	Modelling multimessenger signals from compact binary mergers		
10:00	Eleonora Troja	Neutron star mergers across the electromagnetic spectrum		
10:30	Patrick Weltevrede	Radio emission as a probe for pulsar magnetospheres		
11:00	Cofee Break			
Room 1		Room 2		
Parallel 1A		Parallel 1B		
	Speaker	Title	Speaker	Title
11:30	Andrea Sanna	Observational updates on accreting millisecond X-ray pulsars	David Keitel	Long-duration gravitational wave transients - recent results and future prospects
11:45	Unal Ertan	On the torque reversals of accreting neutron stars	Timothy Pennucci	Recent Results from the North American Nanohertz Observatory for Gravitational Waves
12:00	Alessandro Papitto	Do transitional millisecond pulsars power dwarf pulsar wind nebulae?	Luciano Burderi	GrailQuest & HERMES: Hunting for Gravitational Wave Electromagnetic Counterparts and Probing Space-Time Quantum Foam
12:15	James Stringer	Are tMSP Companions Roche-Lobe Filling In Their Pulsar State?	Cori Fletcher	The Search for Gamma-ray Counterparts to Binary Neutron Star Mergers with Fermi
12:30	Francesco Coti Zelati	A successful quest for a transitional pulsar: the case of CXOU J110926.4-650224	Pablo Cerdá-Durán	Understanding GWs from core-collapse supernovae
12:45	Domitilla de Martino	Transitional millisecond pulsar binaries during active radio pulsar state	Ian Jones	Building mountains on accreting neutron stars
13:00	Lunch Break			

	Room 1		Room 2	
	Parallel 2A		Parallel 2B	
	Speaker	Title	Speaker	Title
14:30	Bettina Posselt	Is there a pulsar wind nebula or a disk around RX J0806.4-4123?	Margherita Fasano	Distinguishing double neutron star from neutron star-black hole binaries with gravitational wave observations
14:45	Barbara Olmi	An HD numerical model of the G21.5-0.9 Pulsar Wind Nebula	Antonio Figura	BSN mergers with microscopic equations of state
15:00	Federico Vincentelli	Discovery of subsecond jet variability in an accreting neutron star	Danat Issa	Using a realistic equation of state in neutron star post-merger simulations.
15:15	Alexander Mushtukov	Dramatic spectral changes at very low luminosity state of X-ray pulsars	Debades Bandyopadhyay	Probing binary neutron star merger components and remnant using isentropic equations of state
15:30	Alessio Marino	The puzzling NS LMXB 1RXS J180408.9-342058 in intermediate state	Aretaios Lalakos	Post-Merger Magnetic Field Geometries and their Effect on Long-Term Afterglows
15:45	Manoneeta Chakraborty	Investigation of emission and variability behavior of accreting neutron star LMXB 4U 1724-30	Federico Guercilena	The contribution of r-process heating on the dynamics of ejecta in binary neutron star mergers
16:00	Coffee Break			
	Parallel 3A		Parallel 3B	
	Speaker	Title	Speaker	Title
16:30	Amir Sharon	Towards an accurate description of an accretion induced collapse and the associated ejected mass	Stoytcho Yazadjiev	New neutron star solutions in tensor-multi-scalar theories
16:45	Martin Urbanec	Measuring mass of neutron star in LMXBs using QPO observations	Daniela Doneva	Scalarized neutron stars with a massive scalar field – astrophysical implications
17:00	Ali Taani	Assessing orbital parameters of binary pulsars produced by kick velocity	Beverly Lowell	Radiation Transport in First-Principles Simulations of Merger Remnant Accretion Disks
17:15	Constanza Echiburú	Spectral analysis of the quiescent low-mass X-ray binary in the globular cluster M30	Giovanni Camelio	Rotating neutron stars with non-barotropic thermal profile
17:30	Arianna Miraval Zanon	Ultraviolet pulsed emission from an accreting millisecond pulsar during its outburst	Christian Krueger	Fast Rotating Relativistic Stars: Spectra and Stability without Approximation
17:45	Yago Herrera	Simulations of stellar winds from X-ray bursts: Characterization of solutions and observable variables.	Pantelis Pnigouras	Gravitational-wave-driven tidal secular instability in neutron star binaries

	Room 1		Room 2	
	Parallel 3A		Parallel 3B	
	Speaker	Title	Speaker	Title
18:00			Daniel Suárez	Cracking and convective stability of self-gravitating anisotropic polytropic spheres in general relativity
19:30	Conference Dinner			

Thursday, April 2nd

Room 1				
Invited Talks				
	Speaker	Title		
9:00	Ali Alpar	Superfluidity and Superconductivity in Neutron Stars		
9:30	Danai Antonopoulou	The rotational dynamics of young, isolated pulsars		
10:00	Yuri Levin	What happened during 2016 Vela glitch?		
10:30	Manisha Caleb	The Fast Radio Burst Phenomenon		
11:00	Coffee Break			
Room 1		Room 2		
Parallel 1A		Parallel 1B		
	Speaker	Title	Speaker	
	Title		Title	
11:30	Aris Karastergiou	The observed evolution of pulsar rotation on human timescales	Peter Gonthier	Population Synthesis of Young and Millisecond Pulsars from the Galactic Disk
11:45	Cristóbal Espinoza	The glitch size distribution of the Vela pulsar and small pulsar glitches	Vincent Morello	The Fast Folding Algorithm for large-scale pulsar surveys
12:00	Erbil Gügerçinoğlu	The 2016 Vela Glitch and Implications for Neutron Star Structure and Dynamics	Bezuidenhout Mechel	First results of reprocessing LOTAAS data with a Fast Folding Algorithm
12:15	Alessandro Montoli	Core and crust contributions in overshooting glitches: the Vela pulsar 2016 glitch	Benjamin Stappers	FRBs and other transients with MeerTRAP
12:30	Aleksandr Burtovoi	High-resolution phase coherent optical timing of the Vela pulsar and PSR J1023+0038 with Aqueye+ and Iqueye	Michele Ronchi	The luminosity-volume test for cosmological fast radio bursts
12:45	Onur Akbal	Braking indices of the glitching pulsars	Fabrice Mottez	FRBs triggered by asteroids interacting with pulsar winds
13:00	Lunch Break			

	Room 1		Room 2	
	Parallel 2A		Parallel 2B	
	Speaker	Title	Speaker	Title
14:30	Brynmor Haskell	Observational signatures of superfluid neutron star turbulence	Guillermo Andres Rodriguez Castillo	High Performance Computing in High-energy Astrophysics: the case of the Pulsating Ultra Luminous X-ray sources (PULXs)
14:45	Marcus Lower	The impact of glitches on the rotational evolution of young pulsars	Crispin Agar	A FAST study of the slowest pulsar
15:00	Aurélien Sourie	Vortex pinning in the superfluid core of neutron stars and the rise of pulsar glitches	Alex Wright	A resistive extension for GRMHD
15:15	Marco Antonelli	Vortex dynamics in neutron stars	Jay Vijay Kalinani	Spritz: a new fully general relativistic magnetohydrodynamics code
15:30	Gabriel Wlazłowski	Quantum vortices in ultracold atomic gases and in neutron stars: similarities and differences	Vivek Venkatraman Krishnan	Gravitational dynamics of relativistic binary pulsar systems
15:45	Daniel Pęczak	Modeling superfluidity in neutron stars with Brussels-Montreal functionals	Quentin Giraud	General-relativistic corrections to pulsar radio and high-energy emission
16:00	Lorenzo Gavassino	Universality of the relativistic correction to glitch rise-times		
16:15	Coffee Break			
	Room 1		Room 2	
	Parallel 3A			
	Speaker	Title		
16:30	Aditya Parthasarathy	Understanding the long-term spin evolution of young radio pulsars.	MC Meeting	
16:45	Garvin Yim	Transient gravitational waves from pulsar post-glitch relaxations		
17:00	Poster Session			

Friday, April 3rd

Room 1		
Invited Talks		
	Speaker	Title
9:00	Lina Levin Preston	Populations of Neutron Stars
9:30	Laura Tolos	The Hadronic Equation of State for Neutron Stars
10:00	David Tsang	Resonant Shattering Flares as Multimessenger Probes of Neutron Star Physics
10:30	Coffee Break	
Room 1		
	Speaker	Title
11:00	Simon Johnston	The Thousand Pulsar Array programme on MeerKAT
11:15	David Smith	The Third Fermi LAT Pulsar Catalog, 3PC
11:30	Émilie Parent	The Arecibo PALFA survey and the observed population of Galactic millisecond pulsars
11:45	Chia Min Tan	The CIRADA slow pulsar survey using CHIME
12:00	Inés Pastor-Marazuela	Finding extragalactic neutron stars through transient searches with EXOD
12:15	Nectaria Gizani	The Hellenic Radio telescope - Opportunities for pulsar monitoring
12:30	Closing remarks - Prizes	