



FOREWORD

Held regularly since 1993, the “Hellenic Astronomical Conference”, organized by the Hellenic Astronomical Society (Hel.A.S.), is the major scientific event of the Greek astronomical community. The Conference, which takes place every two years in a different part of Greece, typically brings together over 100 scientists with research interests in Astronomy, Astrophysics, and Space Physics. The 15th Conference of Hel.A.S. was to be hosted in Patras, between July 5 and 8, 2021. However, due to the restrictions of the pandemic it is taking place virtually.

PLENARY SPEAKERS

F. Colomer, JIVE, The Netherlands – Session 2
A. Coustenis, Paris Observatory, France – Session 1
A. Gal-Yam, Weizmann Institute, Israel – Session 4
K. Kokkotas, University of Tuebingen, Germany – Session 3
D. Giannios, Purdue University, USA – Public Outreach
G. Valogiannis, Harvard University, USA – “E. Harlaftis” Best PhD Thesis 2021

INVITED SESSION SPEAKERS

V. Archontis, University of St Andrews, UK
G. Balasis, IAASARS, National Observatory of Athens, Greece
T. Diaz Santos, Institute of Astrophysics, FORTH, Greece
O. Malandraki, IAASARS, National Observatory of Athens, Greece
I. Papadakis, University of Crete, Greece
D. Rigopoulou, Oxford University, UK
K. Tsiganis, University of Thessaloniki, Greece
A. Tsiaras, University College London, UK

SCIENTIFIC ORGANIZING COMMITTEE

V. Charmandaris, University of Crete, Greece (Chair)
M. Chatzopoulos, Louisiana State University, USA
K. Dasyra, University of Athens, Greece
A. Georgakakis, National Observatory of Athens, Greece
C. Gontikakis, RCAAM, Academy of Athens, Greece
E. Hatziminaoglou, European Southern Observatory, Greece
P. Kalas, University of California Berkeley, USA
S. Patsourakos, University of Ioannina, Greece
V. Pavlidou, University of Crete, Greece
M. Petropoulou, University of Athens, Greece
A. Solomonidou, Caltech/JPL, USA
K. Tassis, University of Crete, Greece
N. Vlahakis, University of Athens, Greece

LOCAL ORGANIZING COMMITTEE

K. Goyrgouliatos, University of Patras, Greece (Chair)
Ch. Anastopoulos, University of Patras, Greece
V. Kalogeropoulos, University of Patras, Greece
V. Loukopoulos, University of Patras, Greece

15th Hellenic Astronomical Conference

5-8 July 2021 (Virtual)

Final Program – 5 July 2021



Monday, July 5 2021

Time (UTC+3:00)	Sessions			
12:00 - 12:05	Welcome V. Charmandaris, President of HelAS			
12:05 - 12:50	"John H. Seiradakis" Plenary Lecture F. Colomer: "Radio astronomy at the highest spatial resolution"			
13:00 - 14:00	Session 1	Session 2	Session 3	Session 4
14:00 - 14:30	Lunch Break			
14:30 - 16:30	Session 1	Session 2	Session 3	Session 4
16:30 - 17:00	Coffee Break			
17:00 - 18:40	Session 1	Session 2	Session 3	Session 4
18:40	End of Day 1			

Tuesday, July 6 2021

Time (UTC+3:00)	Sessions			
12:00 - 12:45	Plenary Lecture A. Coustenis: "Space exploration of the solar system in search of habitable worlds"			
13:00 - 14:30	Poster Discussion Sessions 1 & 4		Poster Discussion Sessions 2 & 3	
14:30 - 15:00	Lunch Break			
15:00 - 16:00	"Emilios Harlaftis" Best PhD Thesis Lecture G. Valogiannis: "Testing gravity with cosmology: efficient simulations, novel statistics and analytical approaches."			
16:00 - 17:30	Session 1	Session 2	Session 3	Session 4
17:30 - 17:40	Coffee Break			
17:40 - 19:10	"40th General Assembly of Hel.AS."			
19:10	End of Day 2			

Wednesday, July 7 2021

Time (UTC+3:00)	Sessions			
12:00 - 12:45	Plenary Lecture K. Kokkotas: "Neutron Star Physics 4 years after GW170817"			
13:00 - 14:00	Session 1	Session 2	Session 3	Session 4
14:00 - 14:30	Lunch Break			
14:30 - 16:30	Session 1	Session 2	Session 3	Session 4
16:30 - 17:00	Coffee Break			
17:00 - 18:20	Session 1	Session 2	Session 3	Session 4
18:20 - 19:20	Round table discussion on topics related to the Hellenic Space Center – Coordinated by Prof. I.A. Daglis			
19:20	End of Day 3			

Thursday, July 8 2021

Time (UTC+3:00)	Sessions			
12:00 - 12:45	Plenary Lecture A. Gal-Yam: "Observing stars as they explode: new results and future prospects"			
13:00 - 14:20	Session 1	Session 2	Session 3	Session 4
14:20 - 15:00	Lunch Break			
15:00 - 16:00	Discussion on topics related to the Greek National Committee for Astronomy – Coordinated by Dr. S. Basilakos			
16:00	End of Day 4 - End of Conference			

15th Hellenic Astronomical Conference

5-8 July 2021 (Virtual)

Final Program – 5 July 2021



Sunday July 4, 2021		
Start	End	Speaker/Title
21:00	22:00	Public Talk (in Greek) D. Giannios, "The marvels of general relativity: from black holes to gravitational waves" https://www.facebook.com/elaset.astro/videos/183548330401338

Monday July 5, 2021		
Start	End	Speaker/Title
12:00	12:05	Welcome V. Charmandaris, President of HelAS
12:05	12:50	J.H. Seiradakis Plenary Lecture F. Colomer, "Radio astronomy at the highest spatial resolution"
Session 1		
Chair: A. Anastasiadis		
13:00	13:30	V. Archontis, "Magnetic flux emergence and eruptive activity in the Sun" (Invited)
13:30	13:50	G. Chintzoglou, "A Mechanism Driving Recurrent Eruptive Activity on the Sun"
13:50	14:10	M. K. Georgoulis, "Solar Flare Forecasting: a Brief How-To, Including Progress and Challenges"
14:10	14:30	Lunch Break
Chair: G. Tsiropoula		
14:30	14:50	K. Moraitis, "Relative field line helicity of active region 11158"
14:50	15:10	K. Tziotziou, "The vortical Sun at small scales"
15:10	15:30	I. Kontogiannis, "High-resolution spectroscopy of a minifilament eruption"
15:30	15:50	E. Zhuleku, "EUV and X-ray loops above active regions of different activity levels"
15:50	16:10	K. Karampelas, "Decay-less coronal loop oscillations as self-oscillatory processes"
16:10	16:30	I. Dakanalis, "Automated Chromospheric Swirl Detection method: evaluation and results"
16:30	17:00	Coffee Break
Chair: M. K. Georgoulis		
17:00	17:20	S.K. Antiochos, "The Nature of 3D Magnetic Reconnection in Solar Flares"
17:20	17:40	C. Gontikakis, "Study of the solar transition region using IRIS observations of a solar flare"
17:40	18:00	E. Paouris, "A comparison of the Effective acceleration Model with ENLIL and DBEM models: Further testing with heliospheric imaging observations"
18:00		Session 1 – End of Day 1
Session 2		
Chair: A. Georgakakis		
13:00	13:20	K. Dasyra, "How the passage of a radio jet changes the pressure, mass, and other properties of dense gas clouds: the case for shocks vs. cosmic rays"
13:20	13:40	C. Fotopoulou, "Cold clouds in a very high resolution simulated dwarf starburst"
13:40	14:00	T. Bisbas, "[CII] synthetic observations of dwarf galaxy mergers"
14:00	14:30	Lunch Break

15th Hellenic Astronomical Conference

5-8 July 2021 (Virtual)

Final Program – 5 July 2021



Monday July 5, 2021		
Start	End	Speaker/Title
Chair: A. Georgakakis		
14:30	15:00	T. Diaz Santos, “Hot Dust Obscured Galaxies and the Most Luminous Galaxy Known as seen by ALMA” (Invited)
15:00	15:20	A. Audibert, “Molecular Gas Content in the CO ALMA Radio-source Catalogue”
15:20	15:40	M. Papachristou, “CO kinematics unveil outflows likely driven by a young jet in the warped disk of NGC6328”
15:40	16:00	J. K. Barrera Ballesteros, “The EDGE-CALIFA survey: self-regulation of star formation at kpc scales”
16:00	16:20	E. Hatziminaoglou, “Towards an Atacama Large Aperture Submillimeter Array (AtLAST)”
16:30	17:00	Coffee Break
Chair: T. Diaz Santos		
17:00	17:30	I. Papadakis, “From the X-rays to the optical/UV: clues about the nature of the central source in AGN” (Invited)
17:30	17:50	P. Charalampopoulos, “A detailed spectroscopic study of Tidal Disruption Events”
17:50	18:10	A. Georgakakis, “Forward Modeling the Ensemble Variability of AGN populations”
18:10		Session 2 – End of Day 1
Session 3		
Chair: M. Petropoulou		
13:00	13:20	I. Myserlis, “F-GAMMA / QUIVER : Full-Stokes, multi-frequency radio monitoring of Fermi blazars”
13:20	13:40	D. Blinov, “Revealing the mechanism behind optical polarization plane rotations in blazars”
13:40	14:00	S. Kiehlmann, “Rotations of the polarization angle in blazars”
14:00	14:30	Lunch Break
14:30	14:50	I. Liodakis, “Origin of the optical emission in Tidal Disruption Events through polarization”
14:50	15:10	S. Kerasioti, “Modeling of Polarized Synchrotron Radiation in GRBs”
15:10	15:30	I. Florou, “An expanding hadronic supercritical model for gamma-ray burst emission”
15:30	15:50	S. Stathopoulos, “Multimessenger emission from hadronic X-ray Blazar Flares”
15:50	16:10	D. Kantzas, “Black-hole X-ray binaries in the new era of γ -ray astronomy”
16:10	16:30	S. Boula, “A two-zone emission model for Blazars and the role of Accretion Disk MHD winds”
16:30	17:00	Coffee Break
17:00	17:20	V. Pelgrims, “Evidence for line-of-sight frequency decorrelation of polarized dust emission in Planck data”
17:20	17:40	N. Kylafis, “The “corona” in black-hole X-ray binaries: what is it?”
17:40	18:00	M. Chatzis, “Radio emission from high-mass X-ray binaries with strongly magnetized neutron stars”
18:00		Session 3 – End of Day 1

15th Hellenic Astronomical Conference
5-8 July 2021 (Virtual)
Final Program – 5 July 2021



Monday July 5, 2021		
Start	End	Speaker/Title
Session 4		
Chair: K. Tassis		
13:00	13:20	O. Dionatos, "Novel Evolutionary Model for the Early stages of Stars with Intelligent Systems (NEMESIS)"
13:20	13:40	K. Anastasopoulou, "Very hot plasma in the central degrees of the Milky-Way? An XMM-Newton view"
13:40	14:00	S. Derlopa, "Revealing the complex 3D morphology of the Planetary Nebula NGC 2818"
14:00	14:30	Lunch Break
14:30	14:50	G. Panopoulou, "Galactic spurs of synchrotron emission: new distance constraints"
14:50	15:10	A. Tsouros, "Magnetic field tomography in the interstellar medium using advanced statistical tools"
15:10	15:30	A. Konstantinou, "Polarization power spectra and dust cloud morphology"
15:30	15:50	R. Skolidis, "High-accuracy estimation of magnetic field strength in the interstellar medium from dust polarization"
15:50	16:10	I. Psaradaki, "Mineralogy of interstellar dust: What can we learn from the X-rays?"
16:10	16:30	T. Bisbas, "Photodissociation region diagnostics across galactic environments"
16:30	17:00	Coffee Break
17:00	17:20	D. Millas, "Compressibility of the Jovian magnetosphere"
17:20	17:40	D. Karydis, "Computing 3D Periodic Orbits around an ellipsoid and any irregular-shaped asteroid"
17:40	18:00	E. Kyritsis, "A new automated tool for the spectral classification of OB stars"
18:00	18:20	G. Maravelias, "Studying evolved massive stars in nearby galaxies using a photometric machine-learning classifier"
18:20	18:40	S. De Wit, "Spectral analysis of evolved massive stars in the SMC and LMC"
18:40		Session 4 – End of Day 1

15th Hellenic Astronomical Conference

5-8 July 2021 (Virtual)

Final Program – 5 July 2021



Tuesday July 6, 2021		
Start	End	Speaker/Title
12:00	12:45	Plenary Lecture A. Coustenis, “Space exploration of the solar system in search of habitable worlds”
13:00	14:30	Poster Session (2 which will run in parallel)
14:30	15:00	Lunch Break
15:00	16:00	“E. Harlaftis Best PhD Thesis Lecture” G. Valogiannis, “Testing gravity with cosmology: efficient simulations, novel statistics and analytical approaches.”
Session 1		
Chair: S. Patsourakos		
16:00	16:20	A. Solomonidou, “A chemical composition map for Titan’s surface”
16:20	16:40	C. Avdellidou, “Identification and characterisation of asteroid families.”
16:40	17:10	K. Tsiganis, “Solar system science in the era of asteroid exploration” (Invited)
Session 2		
Chair: K. Dasyra		
16:00	16:20	E. Vardoulaki, “The effect of the large-scale environment to FR-type radio AGN in the COSMOS field”
16:20	16:40	K. Kolokythas, “A glimpse on MeerKAT’s first discoveries in clusters: Diffuse radio emission in MeerKAT Galaxy Cluster Legacy Survey (MGCLS)”
16:40	17:00	E. Koulouridis, “The X-CLASS survey: A catalogue of 1646 X-ray-selected galaxy clusters up to $z \sim 1.5$ ”
17:00	17:20	E. Drigga, “Properties of Active Galactic Nuclei in galaxy clusters”
Session 3		
Chair: N. Vlahakis		
16:00	16:20	K. Migkas, “Is the local Universe anisotropic? Galaxy clusters seem to think so”
16:20	16:40	M. Chira, “Using a Simulated Annealing algorithm to identify coherent cosmological structures”
16:40	17:00	G. Korkidis, “Turnaround radius of galaxy clusters in N-body simulations”
17:00	17:20	L. Koutoulidis, “Clustering of X-ray selected AGN in the local Universe”
Session 4		
Chair: I. Leonidaki		
16:00	16:30	A. Tsiaras, “Population Studies of exoplanets in the 2020s: Building on the legacy of HST” (invited)
16:30	16:50	P. Kalas, “A Planet Nine Analog Gravitationally Sculpting the Outer Structure of the HD 106906 Planetary System”
16:50	17:10	S. Savvidou, “The growth of super-Earths: the importance of a self-consistent treatment of disc structures and pebble accretion”
17:10	17:30	A. Kokori, “The ExoClock Project: an open integrated platform for maintaining the Ariel target ephemerides with contributions from the public”
17:30	17:40	Coffee Break
17:40	19:10	“40th General Assembly of Hel.AS.”
19:10		End of Day 2

15th Hellenic Astronomical Conference

5-8 July 2021 (Virtual)

Final Program – 5 July 2021



Wednesday July 7, 2021		
Start	End	Speaker/Title
12:00	12:45	Plenary Lecture K. Kokkotas, “Neutron Star Physics 4 years after GW170817”
Session 1		
Chair: C. Gontikakis		
13:00	13:30	G. Balasis, “Information Theory Perspectives for Geospace Research” (Invited)
13:30	13:50	I. A. Daglis, “Improving nowcasting and forecasting of the Sun-to-Belts space weather chain through the H2020 SafeSpace project”
14:00	14:30	Lunch Break
Chair: I.A. Daglis		
14:30	14:50	Ch. Katsavrias, “On the generation of Pi2 pulsations due to plasma flow patterns around magnetosheath jets”
14:50	15:10	K. Papadimitriou “Indices of geomagnetic activity derived from space-born magnetic data from the Swarm mission”
15:10	15:30	A. Nasi, “Coordinated observations of the effect of consecutive HSS pulses on relativistic electron enhancement”
15:30	15:50	S. Raptis, “Magnetosheath Jets Close to the Bow Shock: Generation Mechanisms Using MMS Fast and Burst Data”
15:50	16:10	S. Dimitrakoudis, “North-South Inter hemispheric Asymmetry in Geomagnetic Disturbance (GMD) and Pc5 wave power: Solar Cycle and MLT Variations”
16:30	17:00	Coffee Break
Chair: C. Avdellidou		
17:00	17:20	A. Liakos, “NELIOTA: A stats update”
17:20	17:40	A. Toliou, “Minimum perihelion distances and associated dwell times for NEAs”
17:40	18:00	G. Tsirvoulis, “Space simulator of the near -sun environment”
18:00		Session 1 – End of Day 3
Session 2		
Chair: E. Vardoulaki		
13:00	13:20	M. Harsoula, “The building blocks of the spiral arms in galaxies”
13:20	13:40	P. Patsis, “Orbital patterns supporting X-shaped galactic bulges”
13:40	14:00	K. Zouloumi, “Manifold spirals in an N-body model with two pattern speeds”
14:00	14:30	Lunch Break
Chair: E. Hatziminaoglou		
14:30	15:00	D. Rigopoulou, “The ISM properties of Ultraluminous IR galaxies through cosmic time” (Invited)
15:00	15:20	A. Katsianis, “What we know and what we do not know for galaxy star formation rates”
15:20	15:40	E. Paspaliaris, “The physical properties of (U)LIRGs and their place in the local Universe”
15:40	16:00	A. Camps Farina, “Evolution of the Chemical Enrichment and Mass Metallicity Relation for local galaxies”
16:00	16:20	A. Nersersian, “Modelling the cold dust in nearby spirals galaxies with radiative transfer”
16:30	17:00	Coffee Break
Chair: A. Zezas		
17:00	17:20	I. Myserlis “An underlying universal magnetic field component in the halos of spiral galaxies”
17:20	17:40	C. Casadio, “SMILE: Search for Milli-Lenses”
17:40	18:00	A. Chaturvedi, “Kinematical signatures of interactions between Fornax cluster galaxies”
18:00	18:20	A. Strantzalis, “Identification of Star Clusters in the central region of the SMC”
18:20		Session 2 – End of Day 3

15th Hellenic Astronomical Conference
5-8 July 2021 (Virtual)
Final Program – 5 July 2021



Wednesday July 7, 2021		
Start	End	Speaker/Title
Session 3		
Chair: V. Pavlidou		
13:00	13:20	P. Pnigouras, "Gravitational-wave-driven tidal secular instability in neutron star binaries"
13:20	13:40	G. Lioutas, "Gravitational wave frequency deviations in universal relations of isolated neutron stars and postmerger remnants"
13:40	14:00	M. Kalomenopoulos, "Clustering effects on GWs Dark Sirens determination of H_0 "
14:00	14:30	Lunch Break
14:30	14:50	N. Caballero, "The current state of Pulsar Timing Array search for a Gravitational-wave Background"
14:50	15:10	T. Soultanis, "Semi-analytic model of the spectral properties of gravitational waves from neutron star merger remnants"
15:10	15:30	P. Iosif, "Insights into binary neutron star merger remnants with equilibrium modeling"
15:30	15:50	A. Nathanail, "Estimating the Hubble constant with gravitational waves and afterglow observations from neutron star mergers"
15:50	16:10	M. Charisi, "Supermassive black hole binaries--gravitational-wave limits and prospects for multi-messenger detections"
16:30	17:00	Coffee Break
17:00	17:20	V. Mpisketzis, "Plasmoid formation in 3D GRMHD simulations"
17:20	17:40	D. I. Kalpa, "Jets, disc-winds, and oscillations around Kerr black hole"
17:40	18:00	C. Sinnis, "Stability analysis of relativistic magnetized astrophysical jets"
18:00	18:20	S. Acharya, "Impact of Kink Instability on the Emission Signatures of AGN Jets"
18:20		Session 3 – End of Day 3
Session 4		
Chair: G. Panopoulou		
13:00	13:20	N. Georgakarakos, "Dynamically Informed Habitable Zones in Circumbinary Planetary Systems"
13:20	13:40	A. Liakos, "The EngAstros project: Enhanced modelling and Asteroseismology of δ -Scuti stars in close binary systems"
13:40	14:00	A. Antoniadis-Karnavas, "ODUSSEAS: a machine learning tool to derive effective temperature and metallicity for M dwarf stars"
14:00	14:30	Lunch Break
Chair: P. Kalas		
14:30	14:50	K. Gazeas, "Contact Binaries Towards Merging - CoBiToM project"
14:50	15:10	G. Vasilopoulos, "To beam or not to beam? ULX pulsars hold the answer"
15:10	15:30	M. Zapartas, "Binary population synthesis with POSYDON: a next-generation code that employs detailed stellar structure and binary evolution calculations"
15:30	15:50	D. R. Aguilera-Dena, "Evolution of helium stars at different metallicities: classification, populations, supernovae and compact remnants"
15:50	16:10	S. Akas, "Machine learning as a tool for discovering Symbiotic Stars"
16:10	16:30	E. Lalounda, "Progenitors of Red novae"
16:30	17:00	Coffee Break

15th Hellenic Astronomical Conference
5-8 July 2021 (Virtual)
Final Program – 5 July 2021



Wednesday July 7, 2021		
Start	End	Speaker/Title
17:00	17:20	Y. Ming, “Evolved Massive Stars in the Magellanic Clouds”
17:20	17:40	D. Veras, “The entry geometry and velocity of planetary debris into the Roche sphere of a white dwarf”
17:40	18:00	D. Souropanis, “Linking the properties of accreting white dwarfs with the ionization state of their ambient medium”
18:00	18:20	Z. Spetsieri, “Discovery of an optical cocoon tail behind the post-AGB HD 185806”
18:20		Session 4 – End of Day 1
18:20	19:50	Round table discussion “Hellenic Space Center, national space programs and participation in ESA space missions” Coordinator: Prof. I.A. Dagleis (NKUA, Greece) Panel: Prof. V. Angelopoulos (UCLA, USA), Dr. I. Dandouras (IRAP, France), Prof. T. Sarris (DUTH), Dr. A. Solomonidou (Caltech/JPL, USA)
19:50		End of Day 3

15th Hellenic Astronomical Conference

5-8 July 2021 (Virtual)

Final Program – 5 July 2021



Thursday July 8, 2021		
Start	End	Speaker/Title
12:00	12:45	Plenary Lecture A. Gal-Yam, “Observing stars as they explode: new results and future prospects”
Session 1		
Chair: Y. Zouganelis		
13:00	13:30	O. Malandraki, “Energetic particle observations near the Sun by Solar Orbiter and Parker Solar Probe” (Invited)
13:30	13:50	A. Papaioannou, “The Probabilistic Solar Particle Event foRecasting (PROSPER) Model”
13:50	14:10	E. Lavasa, “Solar Energetic Particle event forecasting with the use of Machine Learning Techniques”
14:00	14:20	S. Aminalragia-Giamini, “Solar Energetic Particle Event Occurrence prediction using Solar Flare Soft X-ray measurements and Machine Learning”
Session 2		
Chair: I. Myserlis		
13:00	13:20	A. Zezas, “Galactic activity diagnostics based on WISE photometry and machine learning methods”
13:20	13:40	V. Masoura, “Stellar populations in high-redshift galaxies and their role in the dust heating”
13:40	14:00	Ch. Politakis, “Vertical distribution of HMXBs in NGC 55: Constraining their centre of mass velocity”
14:00	14:20	I. Psomas, “Examining the properties of the BNS Merger GW170817 and their implications on the maximum mass using a Bayesian MCMC approach.”
Session 3		
Chair: N. Vlahakis		
13:00	13:20	K. Gourgouliatos, “Plastic Flows in Neutron Star Crusts”
13:20	13:40	S. Romanopoulos, “What if new physics sets in above 50 TeV? Cosmic-ray air-shower simulations with increased cross-section and multiplicity”
13:40	14:00	D. Papadopoulos, “Spinning Particles In McVitte Spce Time”
14:00	14:20	C. Anastopoulos, “Singular solutions to the Tolman-Oppenheimer-Volkoff equation:classification and properties”
Session 4		
Chair: K. Gazeas		
13:00	13:20	I. Leonidaki, “Investigating the evolutionary paths of Supernova Remnants through their multi-wavelength emission”
13:20	13:40	M. Kopsacheili, “Multi-wavelength Study of Supernova Remnants”
13:40	14:00	A. Chiotellis, “On the Origin of Mixed Morphology Supernova Remnants”
14:00	14:20	S. Chanlaridis, “Type Ia supernovae from non-accreting progenitors”
14:20	14:50	Lunch Break
15:00	16:00	Discussion on topics related to the Greek National Committee for Astronomy – Lead by Dr. S. Basilakos
16:00		END OF DAY 4 –End of Conference