

The New Era of Multi-Messenger Astrophysics

All abstracts are available on <http://multi-messenger.asterics2020.eu/abstracts.php>

19:00 – 20:00 **Welcome reception** at the 'Spiegelzaal' in the [Academy Building](#) (F. Smit)

This reception is offered to you by the University of Groningen, the Municipality of Groningen and the Province of Groningen.

Tuesday 26 March

09:00 -- 09:30 Welcome to ASTERICS: Multi-messenger astrophysics and ASTERICS results (C. Jackson and ASTERICS leaders)

Convener: Eric Chassande-Mottin

09:30 -- 10:00 Gravitational waves and the birth of Multi-Messenger Astrophysics (S. Nissanke) **INVITED**

10:00 -- 10:15 Machine learning classification for gravitational-wave triggers in single-detector periods ([M. Bejger](#))

10:15 -- 10:30 Hunting for elusive multi-messenger transients with INTEGRAL ([V. Savchenko](#))

10:30 -- 11:00 COFFEE BREAK

11:00 -- 11:30 Short Gamma Ray Bursts: what we have learnt from GW170817 ([G. Ghirlanda](#)) **INVITED**

11:30 -- 11:45 Multi-messenger characterization of BH-NS mergers ([O. Salafia](#))

11:45 -- 12:00 The binary neutron star merger rate via the luminosity function of gamma-ray bursts ([D. Paul](#))

12:00 -- 12:15 Joint gravitational wave - gamma-ray burst detection rates in the aftermath of GW170817 ([E. Howell](#))

12:15 -- 12:30 Neutron Star Merger Afterglows: Population Prospects for the Gravitational Wave Era ([R. Duque](#))

12:30 -- 13:30 LUNCH

Convener: T. Murphy

13:30 -- 13:45 Do some millisecond pulsars emit gravitational waves? ([S. Bhattacharyya](#))

13:45 -- 14:15 Multi-messenger Astroparticle Physics in the Gravitational-wave Era (I. Bartos) **INVITED**

14:15 -- 14:30 Searches for counterparts of Gravitational Waves with VHE gamma-ray observatories ([M. Seglar-Arroyo](#))

14:30 -- 14:45 Identifying EM counterparts to NS-NS mergers: an Optimized Radio Follow-up Strategy ([D. Carbone](#))

14:45 -- 15:00 LOFAR triggered observations of gravitational wave merger events and GRBs ([K. Gourdij](#))

15:00 -- 15:30 COFFEE BREAK

Convener: Z. Paragi

15:30 -- 16:00 Fast Radio Bursts ([J. Hessels](#)) **INVITED**

16:00 -- 16:15 Observing a Fast Radio Burst from radio wavelengths to very high energy gamma-rays ([B. Marcote](#))

16:15 -- 16:30 Rapid-response radio telescopes in the era of multi-messenger astrophysics ([G. Anderson](#))

16:30 -- 16:45 A VEvent Standard for Fast Radio Bursts ([E. Petroff](#))

16:45 -- 17:00 VLITE-Fast: VLA's commensal FRB search engine ([S. Bethapudi](#)) - Speaker: M. Kerr)

17:00 -- 17:30 **DISCUSSION**

18:30 -- 21:30 [Conference Dinner \(Het Feithuis\)](#)

Multi-messenger.asterics2020.eu | locasterics@astron.nl

You can reach the LOC at Martini Plaza on: +31(0)50 – 5222 853

In case of emergencies call: 112

Wednesday 27 March

Convener: F. Pasian (INAF)

09:00 -- 09:30 Access, Discovery and Interoperability of multi-wavelength/multi-messenger data ([F. Genova](#))

INVITED

09:30 -- 09:45 All-sky astrophysics enabled by innovative systems for indexing the sky ([M. Allen](#))

09:45 -- 10:00 Exploring Time Domain Multi-Messenger Astronomy through the Virtual Observatory ([A. Nebot](#))

10:00 -- 10:15 Coordinating observations among ground and space-based telescopes in the multi-messenger era ([E. Kuulkers](#))

10:15 -- 10:30 Working with Gravitational-Wave sky localizations: new methods and implementations ([G. Greco](#))

10:30 -- 11:00 COFFEE BREAK

11:00 -- 11:15 ESFRIs & VO: networking and discussing ([M. Molinaro](#))

11:15 -- 11:30 GWOSC: Gravitational Wave Open Science Center ([A. Trovato](#))

11:30 -- 11:45 Archiving data from a software telescope ([C. Boisson](#))

11:45 -- 12:00 The benefits of public engagement ([J. Jarvis](#))

12:00 -- 12:30 Public engagement as a scientific tool to implement multi-messenger strategies with the Cosmic-Ray Extremely Distributed Observatory ([P. Homola](#)) **INVITED**

12:30 – 13:30 LUNCH

Convener: D. Mourard (CNRS) and S. Matheussen (NWO)

13:30 -- 13:45 About policies for multi-wavelengths/multi-messengers astrophysics ([D. Mourard](#))

13:45 -- 14:00 SKA science and multi-messenger synergies (A. Bonaldi)

14:00 -- 14:15 Science with the CTA ([U. Barres de Almeida](#))

14:15 -- 14:30 ELT science and its potential for multi-messenger astrophysics (M. Sterzik)

14:30 -- 14:45 KM3NeT science and multi-messenger synergies (D. Dornic)

14:45 -- 15:00 Multi-messenger science in the European Astroparticle Physics Strategy 2017-2026 ([J. de Kleuver](#))

15:00 -- 15:30 COFFEE BREAK

15:30 -- 16:00 Future NASA Missions for Multi-Messenger Astrophysics ([J. Racusin](#)) **INVITED**

16:00 -- 16:15 A Platform for Multi-Messenger Observing ([J. Lightfoot](#))

16:15 -- 16:30 Multi-messenger science with VIRGO (S. Antier)

16:30 -- 16:45 ENGRAVE: Gravitational Wave Follow-up at the European Southern Observatory ([A. Levan](#))

16:45 -- 17:00 The Athena X-ray mission and its synergy with the next generation of multi-messenger facilities ([J. Vink](#))

17:00 -- 17:15 J-GEM collaboration: an optical-infrared follow-up observation network ([M. Yoshida](#))

17:15 -- 17:30 **DISCUSSION**

20:00 -- 21:00 [Public Lecture \(Aula, Academy Building\)](#)

Thursday 28 March

Convener: A. Franckowiak

09:00 -- 09:30 Astrophysical Neutrinos (E. Bernardini) **INVITED**

09:30 -- 09:45 On the sources of high energy neutrinos ([A. Palladino](#))

09:45 -- 10:00 Neutrinos on ice - Blazars as counterparts to neutrinos above 100 TeV ([F. Krauss](#))

10:00 -- 10:15 Neutrinos from TXS 0506+056 ([S. Britzen](#))

10:15 -- 10:30 Constraints on neutrino emission in the local universe using 2MASS redshift survey with IceCube ([S. Sclafani](#))

10:30 – 11:00 COFFEE BREAK

11:00 -- 11:15 Multi-messenger real-time analysis framework of the KM3NeT neutrino telescope ([D. Dornic](#))

11:15 -- 11:30 Searching for Optical Counterparts to High-Energy Neutrino Sources with ZTF ([L. Rauch](#))

11:30 -- 11:45 Search for High-Energy Neutrinos from Populations of Optical Transients ([R. Stein](#))

11:45 -- 12:00 Multimessenger searches with the ANTARES and KM3NeT neutrino telescopes ([M. Colomer Molla](#))

12:00 -- 12:15 Supernova detection and real-time alerts with the KM3NeT neutrino telescopes ([M. Lincetto](#))

12:15 -- 12:40 Multi-messenger Astroparticle Physics in the Gravitational-wave Era (I. Bartos) **INVITED**

12:40 – 13:30 LUNCH

Convener: R. van der Meer

13:30 -- 13:45 Searches for ultra-high-energy photons at the Pierre Auger Observatory ([P. Ruehl](#))

13:45 -- 14:00 Follow-up observations of multi-messenger alerts with H.E.S.S. ([H. Prokoph](#))

14:00 -- 14:15 The H.E.S.S. transients alert system ([C. Hoischen](#))

14:15 -- 14:30 Glowbug, a Gamma-Ray Telescope for Bursts and Other Transients ([M. Kerr](#))

14:30 -- 14:45 Gemini Operations for Multi-Messenger Astronomy ([B. Miller](#))

14:45 -- 15:00 Discovering electromagnetic counterparts with ZTF, DECam, and GROWTH facilities ([I. Andreoni](#))

15:00 – 15:30 COFFEE BREAK

15:30 -- 15:50 Observatory e-environments linked by common challenges (T. Vuillaume)

15:50 -- 16:00 High Performance Computing applied to the Cherenkov Telescope Array data analysis ([T. Vuillaume](#))

16:00 -- 16:15 Simulation of fluorescence radiation for Cherenkov observatories ([D. Morcuende](#))

16:15 -- 16:30 pLISA: a parallel Library for Identification and Study of Astroparticles and its application to KM3NeT ([C. Bozza](#))

16:30 -- 16:45 Open data and tools for gamma-ray astronomy ([L. Jouvin](#))

16:45 -- 17:00 Telescope and space mission scheduling towards a multi-observatory framework ([P. Colomé](#))

17:00 -- 17:15 White rabbit time and frequency transfer in SURFnet8 network for VLBI purposes ([C. van Tour](#))

17:15 -- 17:30 Dwingeloo telescope VLBI with a remote maser ([P. Boven](#))

17:30 -- 17:45 Efficient remote interactive pipelines using CASA and Jupyter ([A. Keimpema](#))

17:45 -- 18:00 Are you up for faster dissemination of your data? ([H. Verkouter](#))

Friday 29 March

Convener: G. Anderson

09:00 -- 09:15 **Joint Observation planning and Follow-ups** ([G. Anderson](#))

09:15 -- 09:30 AMON: Multimessenger alerts from high-energy gamma rays and neutrinos ([H. Ayala](#))

09:30 -- 10:30 **DISCUSSION**

How to implement more flexible operating models for joint observations or ToOs?

10:30 – 11:00 COFFEE BREAK

Convener: E. Petroff

11:00 -- 11:15 **Standardizing of VOEvent and archives** (E. Petroff)

11:15 -- 11:30 VOEvents and standards (D. Morris)

11:30 -- 12:30 **DISCUSSION**

VOEvents contain information that is useful for later analysis; how do we store that information in a way that can be easily extracted and interpreted later?

12:30 -- 13:30 LUNCH

Convener: S. Matheussen

13:30 -- 13:45 **Facilitating Data sharing** (S. Matheussen)

13:45 -- 14:00 Towards a framework for multi-messenger data sharing (D. Berge – Speaker: M. Kowalski)

14:00 -- 14:30 **DISCUSSION**

How to reconcile the data practices of facilities with the needs of information sharing policies of the multi-messenger landscape?

15:00 – 15:30 COFFEE BREAK

15:30 -- 15:45 **Facilitating Joint Analysis** (C. Boisson)

15:45 -- 16:00 AMPEL: a streaming data analysis framework (L. Rauch)

16:00 -- 17:00 **DISCUSSION**

How can we best facilitate joint analysis of MM alerts/events?

17:00 -- 17:15 **Conclusions and Final remarks (ASTERICS, SOC, LOC)**

POSTERS

1. Operational Concepts of the CTA Observatory in the Time Domain Astronomy ([M. Fuessling](#))
2. Data and Software Preservation through Containerisation in KM3NeT ([T. Gal](#))
3. The Rate of Short Duration Gamma-Ray Bursts in the Local Universe ([S. Mandhai](#))
4. Prospects for kilonova signals in the gravitational wave era ([R. Mochkovitch](#))
5. The detection of high energy spectral cutoff of bright GRBs detected via Fermi telescope ([E. Moneer](#))
6. MAGIC follow-up of gravitational wave events in the third LIGO/Virgo observation run ([M. Ribó](#))
7. MAGIC as a Neutrino Follow-Up Instrument ([M. Ribó](#))
8. The limited contribution of gamma-ray bursts to ultra-high energy cosmic rays ([F. Samuelsson](#))
9. Astrophysical Online Data Analysis powered by provenance data model ([V. Savchenko](#))
10. The ASTERICS VO schools. Getting closer to the astronomical community ([E. Solano](#))
11. The SVO Discovery Tool ([E. Solano](#))
12. ROast (ROot extension for Astronomy) ([B. Spisso](#))
13. CORELib: COsmic Ray Event Library ([S. Stellacci](#))
14. RISCAPe: European Research Infrastructures in the International Landscape ([R. van der Meer](#))
15. LOFAR's fast response capabilities ([S. ter Veen](#))
16. Continuous gravitational waves from axion clouds ([S. Zhu](#))