



INTERNATIONAL ASTRONOMICAL UNION
Union Astronomique Internationale

Meeting Report: IAUS406

IAU Symposium IAUS406

Future landscape of astronomical transients: novel approaches in theory and observations

May 18-22, 2026
Turku, Finland & Baltic Sea

Venue: Hotel Kakola, Turku, and MS Viking Grace

Coordinating IAU Division: D

Supporting IAU Division(s), if applicable: G

Meeting website: <https://iaus2026-transients.utu.fi/>

Meeting format (in-person, hybrid, online): hybrid

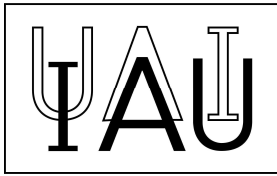
Report submitted by: Hanindyo Kuncarayakti, chair of SOC and LOC

Date and place of signature: 13.7.2026

Name and signature of the report author: Hanindyo Kuncarayakti

A handwritten signature in black ink, appearing to read 'Hindyo', with a stylized flourish at the end.





1. [Executive Summary of the Meeting](#)

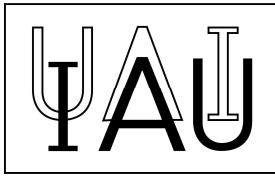
Transient astrophysics is experiencing significant advancements with the emergence of large surveys like the Legacy Survey of Space and Time (LSST) and other cutting-edge facilities designed for time-domain and multi-messenger astronomy. Simultaneously, extremely large telescopes, radio arrays, and advanced space missions are being developed, spanning gamma-rays, X-rays, optical, infrared, and radio wavelengths. These developments offer unprecedented opportunities to revolutionize our understanding of transients, including supernovae, tidal disruption events, gamma-ray bursts, and fast radio bursts, along with their progenitors, central engines, and mechanisms.

IAUS406 was thus proposed with the aim of discussing the opportunities provided by these advancements and preparing the transient community for its upcoming capabilities. This was the second IAU Symposium held in Finland, 66 years after the 1960 IAUS13 The Future of the International Latitude Service, held in Helsinki. IAUS406 addressed the challenges presented by this new era by gathering together a balanced ensemble of researchers worldwide, with expertise on transient phenomena including supernovae, kilonovae, tidal disruption events, gamma-ray bursts, X-ray transients, fast radio bursts and various types of rare transients with debated origins, over a wide range of wavelengths from radio to infrared, optical and UV to X-rays and gamma-rays as well as in the gravitational-wave and neutrino domains. Expert insights were discussed, on a range of observational techniques, as well as modelling and simulations to explain the observations and to anticipate future discoveries of new types of transient events. As the new facilities are bound to bring about a flood of data that mere humans will have a hard time sifting through to find the most interesting events, novel machine-learning methods and broker services that can optimize this process were also discussed.

Key topics:

- Multiwavelength and multimessenger observations of extragalactic transients
- Rates and physical mechanisms of supernovae, tidal disruption events, and related transients
- Physics of the transients and their progenitor systems, remnants, and host galaxies
- Transient surveys, statistical analyses and machine-learning techniques
- Opportunities and challenges offered by new ground-based and space instrumentation with time-domain coverage
- Strategies in rapid and multiwavelength observations of fast transients across all wavebands from gamma-ray bursts to fast radio bursts
- Novel theoretical approaches in multi-dimensional explosion modeling
- Central engine activities, accretions, and shocks as power sources in transients
- Citizen science and community involvement in transient science

IAUS406 was attended by 199 registered participants from 31 different countries (see Figure 1), in addition to a number of student volunteers and one exhibitor, Turku-based optical design company Incident Angle Ltd. Most of the participants attended on-site, and online streaming of the talks was provided for several registrants who had to cancel and SOC members who could not travel. The wide and timely topic of the meeting attracted 280 abstract submissions, almost twice the initially expected number of participants of 150. The Oxford Abstracts platform was used as the registration and abstract management system, following IAU GA 2024. From the submitted abstracts, the SOC constructed a conference program that was balanced in terms of science, covering facilities and various kinds of transient objects across wavelengths from gamma-ray to radio, and also balanced in terms of gender, geographic location, and career stage. The invited speakers



were also chosen with such coverage and balance in mind. As the main theme of the Symposium was the future of the field, it was encouraging that the majority (>60%) of the participants were students and young researchers. Researchers from various continents and regions were represented in this meeting, from Europe, Asia, the Americas, Africa, Australia and Oceania. As the majority of submissions requested oral presentation, selections have to be made by the SOC and as a result some oral presentations were changed to poster. Poster presentations were accompanied with 1-minute, 1-slide flash talks. The event enabled researchers to interact and discuss the latest development and future outlook of the rapidly changing field.

IAUS406 was uniquely held in two venues: former prison Hotel Kakola in Turku for the first four days, and MS Viking Grace cruise ship serving the Turku-Stockholm-Turku route in the last day. Thus, the Symposium crossed the border between Finland and Sweden during the cruise. Buffet lunch and coffee breaks were served daily, as part of the registration fee. The 23-hour cruise allowed ample free time for the participants to interact and foster new collaborations, in addition to the regular talk sessions. IAUS406 also marked the inaugural Astronomy on Tap public outreach event in Finland, done in the evening of the second day of the Symposium. The event was hosted by Brian Schmidt and Seppo Mattila with presentations by Petri Väisänen, Paul Groot, and Heloise Stevance, and attracted the local media and the general public.

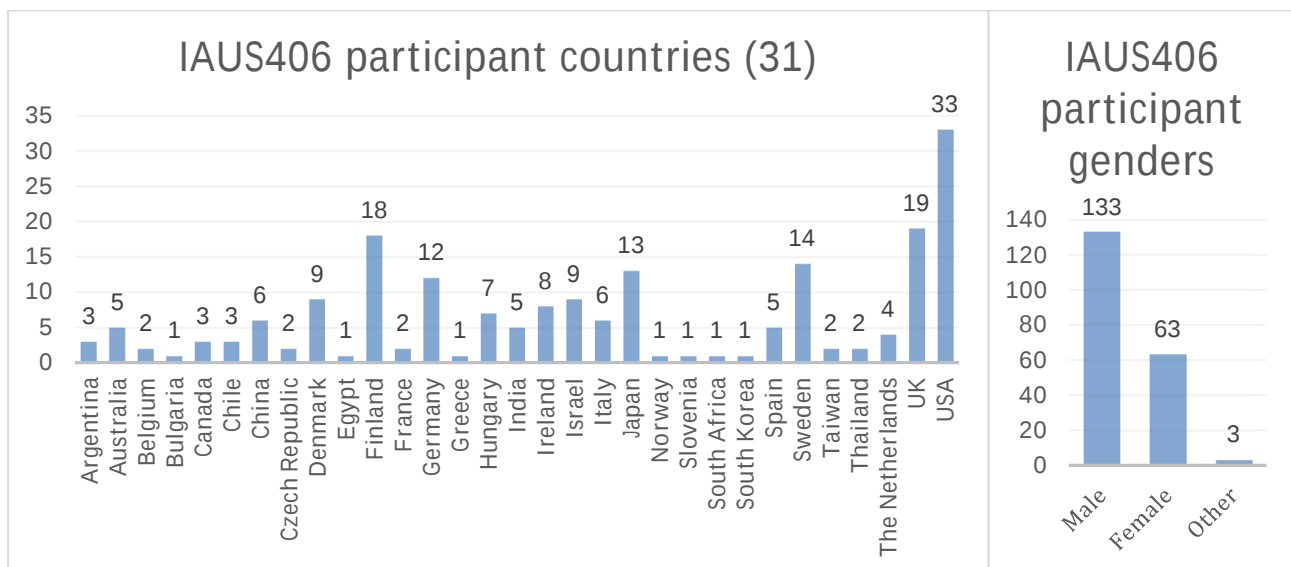
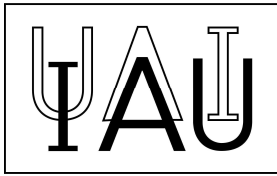


Figure 1: IAUS 406 participant country and gender distributions.



2. Scientific Highlights

IAUS406 covered a wide science coverage under the “astrophysical transients” subject. The diverse, and multi-window topics were condensed into 12 session themes:

- New facilities, broker and surveys
- Multimessenger astronomy and kilonovae
- Fast radio bursts
- Gamma-ray bursts and X-ray transients
- Core-collapse and high- z supernovae
- Thermonuclear supernovae
- Tidal disruption events and other nuclear transients
- Progenitor stars
- Low-luminosity transients and eruptions
- Superluminous and extreme supernovae
- Interacting supernovae
- Fast transients

From the presentations and discussions, it was apparent that the field is advancing toward an exciting decade of discovery, with the advent of new facilities and surveys such as the Legacy Survey of Space and Time (LSST), James Webb Space Telescope (JWST), and Schmidt Observatory System enabling unprecedented observations across wavelengths and redshifts. This observational breakthrough will be anticipated by new developments in theoretical modeling of the transients and their progenitors.

One major item being discussed in the Symposium was the increasingly important role of binary stars in producing the diversity of transients. The traditional single-star stellar evolution has been constantly challenged by transient objects that require binary progenitors, and new modeling efforts are expected to take into account binary progenitor evolution.

Given the time-critical nature of the field, multi-site observations and worldwide collaboration has been a general working model. Coordination is thus important to avoid duplication and optimize the observations, and this was widely discussed in the meeting – albeit more at a personal level. The IAU Supernova Working Group presented a brief introduction and invitation to join the working group, which may help in the coordination within the community. Spectroscopic follow-up is still a bottleneck as surveys pour in large numbers of new transient objects. The new and future facilities are expected to help alleviate this, together with better candidate filtering offered by survey brokers. As was mentioned in the meeting summary, we have more richness of variation than we have the resources to interpret, thus strategic approaches in the field of transient astrophysics are necessary.



3. Scientific Programme

3.1. List of Invited Speakers

- Anna Y. Q. Ho (Cornell University, USA): The population of luminous fast and blue optical transients
- Armin Rest (STScI, USA): The High-z Transient Universe with JWST
- Benito Marcote (JIVE Dwingeloo, Netherlands): Observations of fast radio bursts
- Brenna Mockler (UC Davis, USA): New insights on tidal disruption event simulations
- Brian Schmidt (ANU, Australia): Conference summary and future strategy
- Daichi Hiramatsu (Harvard CfA, USA): Hydrogen-rich supernovae interacting with circumstellar medium
- Daniel Kasen (UC Berkeley, USA): Physical Modeling of Fast Blue Optical Transients
- Emille Ishida (Université Clermont Auvergne, France): LSST brokers and novel methods in big data analysis
- Eva Laplace (KU Leuven, Belgium): The remarkable diversity of supernovae from massive binary stars
- Iair Arcavi (Tel Aviv University, Israel): Observations of tidal disruption events and other nuclear transients
- Irene Tamborra (Niels Bohr Institute, Denmark): Messengers from core-collapse supernovae
- Janet T. W. Chen (National Central University, Taiwan): Superluminous Supernovae Across Cosmic Time: Opportunities with Future Facilities
- Joseph P. Anderson (ESO Chile): The host environments of extra-galactic transients
- Kate Maguire (Trinity College Dublin, Ireland): Future prospects on Type Ia supernova studies
- Kuntal Misra (ARIES, India): Insights from co-ordinated multi-wavelength observations of Gamma Ray Bursts
- Masaomi Tanaka (Tohoku University, Japan): Decoding Light Curves and Spectra of Kilonovae
- Nadejda Blagorodnova (University of Barcelona, Spain): Exploring stellar evolution with Luminous Red Novae and Gap Transients
- Samaporn Tinyanont (NARIT, Thailand): Polarization and infrared studies of core-collapse supernovae
- Weimin Yuan (NAOC, China): Exploring transients in the X-ray universe with Einstein Probe



3.2. Programme

18 May 2026 (Day 1; venue: Hotel Kakola)

08:00 – Registration desk open

08:45 – Opening words: LOC & University of Turku Vice Rector Prof. Tapio Salakoski

Session 1: New facilities, brokers and surveys (Chair: Hanindyo Kuncarayakti)

09:00 – Emille Ishida (invited): LSST brokers and novel methods in big data analysis

09:30 – Héloïse Stevance (contributed): Transient recommendation systems in the era of LSST: How do we delegate decision making without FOMO (fear of missing out)?

09:45 – Luca Izzo (contributed): SOXS: A Dedicated Spectroscopic Engine for the Transient Sky

10:00 – Marianna Dařčíková (contributed): Routine observations of gamma-ray transients by nanosatellites: the story of GRBAAlpha and VZLUSAT-2

10:15 – Paul Groot (contributed): The Time Domain Telescope for ESO Expanding Horizons

10:30 BREAK

Session 2: New facilities, brokers and surveys (Chair: Petri Väisänen)

11:00 – Joe Anderson (invited, SCHEDULE CHANGE): The host environments of extra-galactic transients

11:30 – Ori Fox (contributed): Explosive Transients and the High-z Universe with the Roman Space Telescope

11:45 – Thomas Wevers (contributed): An observatory network for time-domain and multi-messenger astronomy

12:00 – Amanda Wasserman (contributed): SASSAFRAS: A Simulated Spectroscopic Data Set of LSST Transient Follow-up

12:15 – Beth Garton (contributed): The Development and Design of a Novel Spectrograph for the NRT

12:30 – Poster flash talks

12:45 LUNCH BREAK

Session 3: Multimessenger astronomy and kilonovae (Chair: Claudia Gutiérrez)

13:45 – Irene Tamborra (invited): Messengers from core-collapse supernovae

14:15 – Thomas Killestein (contributed): Kilonova Seekers: Inviting the Public on a Journey of Real-time Scientific Discovery



14:30 – Christine Collins (contributed): Exploring kilonova diversity with 3D radiative transfer simulations
14:45 – Aayush Arya (contributed): Conclusive Evidence for Strontium in the Kilonova AT2017gfo with Non-LTE Radiative Transfer
15:00 – Seiji Toshikage (contributed): Optical Transient Counterpart Search for High-energy Neutrino Events
15:15 – Poster flash talks
15:30 BREAK

Session 4: Multimessenger astronomy and kilonovae (Chair: Saurabh Jha)

16:00 – Masaomi Tanaka (invited): Decoding Light Curves and Spectra of Kilonovae
16:30 – Blanka Világos (contributed): Kilonova spectral modelling in 3D NLTE with ExTraSS
16:45 – James Gillanders (contributed): Identifying heavy element signatures in the spectra of neutron star mergers
17:00 – Kanthanakorn Noysena (contributed): Early-Time Optical Filtering of Candidates for Gravitational Wave Counterparts
17:15-17:30 – Quentin Pognan (contributed): Observational signatures of kilonovae arising from neutron star mergers with a magnetar remnant

18:30 – Welcome reception at the Turku Castle courtyard

19 May 2026 (Day 2; venue: Hotel Kakola)

08:30 – Registration desk open

Session 1: Fast radio bursts (Chair: Peter Lundqvist)

09:00 – Benito Marcote (invited): Observations of Fast Radio Bursts
09:30 – Stuart Ryder (contributed): The CRAFT survey of Fast Radio Bursts and their Host Galaxies
09:45 – Yuxin Dong (contributed): Searching for Supernovae and Optical Transients Associated with Fast Radio Bursts
10:00 – Barbara Patricelli (contributed): Constraints on FRB emission in the aftermath of GRBs
10:15 BREAK



Session 2: Gamma-ray bursts and X-ray transients (Chair: Gavin Lamb)

- 10:45 – Kuntal Misra (invited): Insights from co-ordinated multi-wavelength observations of Gamma Ray Bursts
11:15 – Genevieve Schroeder (contributed): Where Are All of the Off-Axis GRBs? A Late-Time Radio Campaign of Ic Broad Line Supernovae
11:30 – Daniele Malesani (contributed): The SVOM mission: first results on GRB science
11:45 – Antonio Martin-Carrillo (contributed): GRB 250702B: A Unique Extragalactic Transient in a dusty, massive galaxy at $z=1.036$
12:00 – James Leung (contributed): Breaking the radio frontier for gamma-ray burst afterglow studies in the ngVLA/SKA era
12:15 – Asaf Pe'er (contributed): On the origin of plateau phase in gamma-ray bursts (GRBs)
12:30 – Poster flash talks
12:45 LUNCH BREAK

Session 3: Gamma-ray bursts and X-ray transients (Chair: Katie Auchettl)

- 13:45 – Weimin Yuan (invited): Exploring transients in the X-ray universe with Einstein Probe
14:15 – Lili Michelle Roman Aguilar (contributed): Studying the power sources of GRB/XRF-SNe using hydrodynamical models
14:30 – Laura Cotter (contributed): Probing a New Subclass of Low-Luminosity GRB-SN Transients: Insights from EP250304a/SN 2025fhn
14:45 – Amar Aryan (contributed): Optical Insights to the Einstein Probe Fast X-ray Transients from Lulin Observatory: A New Class or Just Faint GRBs?
15:00 – Andrew Levan (contributed): JWST insights into gamma-ray burst progenitors across cosmic time
15:15 – Poster flash talks
15:30 BREAK

Session 4: Core-collapse and high- z supernovae (Chair: Christa DeCoursey)

- 16:00 – Armin Rest (invited, SCHEDULE CHANGE): The High- z Transient Universe with JWST
16:30 – Wynn Jacobson-Galán (contributed): Flash Ultraviolet Spectroscopy: Exploring the UV Diversity of Young Core-Collapse Supernovae with HST STIS
16:45 – Eiichi Egami (contributed): The JADES Extended Transient Survey (JETS)
17:00 – Christian Vassallo (contributed): Core-collapse supernovae as probes of cosmic star formation history
17:15-17:30 – David Coulter (contributed): Spectroscopic confirmation of a gravitationally lensed supernova 1 billion years after the Big Bang

18:30 – Inaugural Astronomy on Tap at brewery-restaurant Koulu. Speakers: Paul Groot, Heloise Stevance and Petri Väisänen, featuring Brian Schmidt. Food available from 18:00, talks begin at 18:30



20 May 2026 (Day 3; venue: Hotel Kakola)

08:30 – Registration desk open

Session 1: Core-collapse supernovae (Chair: Avishay Gal-Yam)

09:00 – Samaporn Tinyanont (invited): Polarization and infrared studies of core-collapse supernovae

09:30 – Florian Kirchschrager (contributed): Dust destruction in supernova remnants and the ISM

09:45 – Stan Barmentloo (contributed): Spectral Modeling in the JWST Era: Insights from Mid-Infrared Supernova Spectra

10:00 – Ryuichiro Akaho (contributed): Boltzmann Neutrino Radiation Hydrodynamics Simulations of Core-collapse Supernovae

10:15 – Melina Bersten (contributed): Core-Collapse Supernova Progenitors from Light Curves and Stellar-Evolution Models

10:30 – Caroline Mannes (contributed): Binary-induced mass increase and helium enrichment of the envelopes of Type IIP supernova progenitors

10:45 BREAK

Session 2: Thermonuclear supernovae (Chair: Josefin Larsson)

11:15 – Kate Maguire (invited): Future prospects on Type Ia supernova studies

11:45 – Jack Twedde (contributed): TITAN DR1: 5000 Spectroscopic Type Ia Supernovae in the Nearby Universe

12:00 – Alice Townsend (contributed): Discovering strongly lensed supernovae: from ZTF to LSST

12:15 – Poster flash talks

12:45 GROUP PHOTO AND LUNCH BREAK

Session 3: Thermonuclear supernovae (Chair: Gautham Narayan)

13:45 – Stéphane Blondin (contributed): New optical-infrared radiative-transfer models for Type Ia supernovae at nebular times

14:00 – Taiga Sasaoka (contributed): Constraining the nature of an “intermediate” Type Ia SN 2025qe through its early-phase properties

14:15 – Christa Gall (contributed): The Origin of Extreme Na I D Absorption in Type Ia Supernova Environments

14:30 – Lindsey Kwok (contributed): The Earliest JWST Mid-Infrared Spectra of a Type Ia Supernova: SN 2025rbs

14:45-15:00 – Jeena S. K. (contributed): Clear Signature of Thermonuclear Explosions in the Early Galaxy



21 May 2026 (Day 4; venue: Hotel Kakola)

08:30 – Registration desk open

Session 1: Tidal disruption events and other nuclear transients (Chair: Seppo Mattila)

09:00 – Iair Arcavi (invited): Observations of tidal disruption events and other nuclear transients

09:30 – Elias Mamuzic (contributed): Tidal Disruption Events: The Rates and a lensed Opportunity

09:45 – Paarmita Pandey (contributed): Unraveling the Nature of the Nuclear Transient AT2020adpi

10:00 – Sara Faris (contributed): Is AT 2019ehz a TDE in an SMBH Binary?

10:15 – Thomas Reynolds (contributed): JWST and NOT observations of the IR echoes of optical TDEs

10:30 BREAK

Session 2: Tidal disruption events and other nuclear transients (Chair: Andreja Gomboc)

11:00 – Brenna Mockler (invited): New insights on tidal disruption event simulations

11:30 – Jin-hong Chen (contributed): Diverse Emission Patterns from Precessing Super-Eddington Disks Formed in Tidal Disruption Events

11:45 – Karri Koljonen (contributed): Optical Polarimetry of TDEs with the Nordic Optical Telescope

12:00 – Yannis Liodakis (contributed): Radio Polarization Studies of Tidal Disruption Events with the Effelsberg 100m Telescope

12:15 – Pavan Vynathaya (contributed): Asymmetrical supernovae triggered by the tidal disruptions of white dwarfs

12:30 – Poster flash talks

12:45 LUNCH BREAK

Session 3: Progenitor stars (Chair: Melina Bersten)

13:45 – Eva Laplace (invited): The remarkable diversity of supernovae from massive binary stars

14:15 – Avishai Gilkis (contributed): These Are the Stars You Should Be Looking for: Hot Progenitors of Black Holes

14:30 – Charles Kilpatrick (contributed): The massive progenitor stars to core-collapse supernovae: connections to mass loss, dust production, and binary evolution

14:45 – Jenny Su (contributed): Bridging Observations and Theory: A Population-wide Study on Progenitors and any Companions of Stripped-Envelope Supernova with HST



15:00 – Akihiro Suzuki (contributed): Radial pulsation runaway in massive red supergiants in late evolutionary stage and implications to hydrogen-rich supernovae

15:15 – Poster flash talks

15:15 BREAK

Session 4: Low-luminosity transients and eruptions (Chair: Morgan Fraser)

16:00 – Nadejda Blagorodnova (invited): Exploring stellar evolution with Luminous Red Novae and Gap Transients

16:30 – Ondrej Pejcha (contributed): Two-Dimensional Radiation-Hydrodynamic Simulations of Luminous Red Novae

16:45 – Zhuo Chen (contributed): From Common Envelope Evolution to Luminous Red Novae

17:00 – Seán Brennan (contributed): Precursor Emission in Interacting Supernovae

17:15-17:30 -Emma Beasor (contributed): Watching Stars Disappear: Lessons from a Decade of Failed SN Searches

22 May 2026 (Day 5; venue: Viking Glory)

07:15 – CHECK-IN AT VIKING LINE TERMINAL

08:45 – DEPARTURE

Session 1: Superluminous and extreme supernovae (Chair: Tuomas Kangas)

09:45 – Janet Ting-wan Chen (invited): Superluminous Supernovae Across Cosmic Time: Opportunities with Future Facilities

10:15 – Stefan Taubenberger (contributed): SN Winny: insights from the first strongly lensed superluminous supernova

10:30 – Steve Schulze (contributed): Pair-Instability Supernovae in the Era of Next-Generation Surveys: Observational + Theoretical Challenges and Pathways

10:45 – Hannah Wichern (contributed): A curious superluminous supernova in a passive galaxy

11:00 – Sebastian Gomez (contributed): An Ultra-Stripped Core-Collapse Supernova Masquerading as a Superluminous Transient

11:15 – Andrea Ercolino (contributed): Models of Supernovae interacting with their binary companions

11:30 BREAK AND FREE TIME

12:30 LUNCH AND FREE TIME



Session 2: Interacting supernovae (Chair: Anjasha Gangopadhyay)

14:30 – Daichi Hiramatsu (invited): Hydrogen-rich supernovae interacting with circumstellar medium

15:00 – Keiichi Maeda (contributed): Periodicity found in SN Ic-CSM 2022esa: Wolf-Rayet binary progenitor?

15:15 – Axel Mendez Llorca (contributed): Photometric indicators of early interaction in Type II Supernovae

15:30 – Soham Mandal (contributed): One explosion, many supernovae: geometry as a hidden driver of diversity in interacting SNe

15:45 – Annika Deutsch (contributed): Late-Stage Multiwavelength Monitoring of SN 2018ivc: Binarity as a Mechanism for Mass-Loss in High Mass Stars

16:00 – Timo Kravtsov (contributed): Environments of type Ibn SNe: evidence of a strong WR component

16:15 BREAK

Session 3: Fast transients (Chair: Takashi Moriya)

16:45 – Anna Ho (invited): The population of luminous fast and blue optical transients

17:15 – Daniel Kasen (invited): Physical Modeling of Fast Blue Optical Transients

17:45 – Daniel Perley (contributed): The Ultraluminous Fast Ultraviolet Transient AT2024wpp

18:00 – Rahul Jayaraman (contributed): Joint analysis of ZTF and TESS data: Constraints on early-time shock-cooling emission and late-time flaring

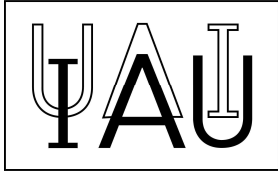
18:15 – Conference summary and concluding remarks by Brian Schmidt

18:45 FREE TIME

19:55 STOPOVER IN STOCKHOLM

21:00 CONFERENCE DINNER

07:35 (+1) ARRIVAL AT TURKU HARBOR



3.3. List of Posters

No	Poster title	Author name	Author affiliation
1	Fermi-LAT Discovery of a Unexpected Gamma-ray Outburst from the Peculiar Compact Steep Spectrum Radiogalaxy 3C 216	Stefano Ciprini	INFN Rome Tor Vergata & SSDC ASI, Italy
2	Erratic, transient, flaring variability versus QPO flux modulation in the gamma-ray blazar PG 1553+113	Stefano Ciprini	INFN Rome Tor Vergata & SSDC ASI, Italy
3	Short time-scales burst activity in three binary star systems and the related accretion efficiency	Daniela Boneva	Space Research and Technology Institute, Bulgarian Academy of Sciences
4	Not just normal or giant – a new look at Be X-ray binary outbursts	Peter Kretschmar	European Space Agency
5	Magnetized Shocks Mediated by Radiation from Leptonic and Hadronic Processes	Shunke Ai	Niels Bohr Institute, University of Copenhagen
6	Improving Transient Identification With Swift-XRT	Srijan Srivastava	University of Leicester
7	GRB 131014A : Identification and modeling of optically thin inverse Compton scattering in the prompt emission	Pragyan Pratim Bordoloi	Indian Institute of Science Education and Research Thiruvananthapuram
8	The Wiggly-Wobbly Precursor in a Merger Origin Long-duration GRB	Gavin Lamb	Astrophysics Research Institute, LJMU
9	A set of distinctive properties ruling the prompt emission of long γ -ray bursts from compact object mergers	Romain Maccary	University of Ferrara
10	Minimum variability timescale: what the fastest variations tell us about gamma-ray burst progenitors?	Romain Maccary	University of Ferrara
11	GRB 121027A and the ultra-long frontier: where do we go from here?	Shane Moran	University of Leicester
12	HST + JWST Observations of the Extreme GRBs 221009A and 250702B	Huei Sears	Rutgers University
13	Host Galaxy Catalogue for Gravitational Wave Counterpart Searches	Richard O'Neill	University College Dublin



INTERNATIONAL ASTRONOMICAL UNION
Union Astronomique Internationale

Meeting Report: IAUS406

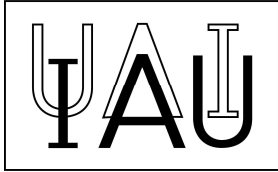
14	Searches for Gravitational Wave counterparts to electromagnetic transients and high-energy neutrinos in the Third and Fourth Observing runs of Advanced LIGO, Advanced Virgo and KAGRA	Barbara Patricelli	University of Pisa and INFN – Pisa
15	Non-LTE Ionization Modeling for Helium and Strontium in Neutron Star Merger Ejecta	Koya Chiba	Tohoku University
16	Photometric characterisation of Tidal Disruption Events in the Rubin LSST Era	Andreja Gomboc	University of Nova Gorica
17	Examining infrared echoes of recent optical tidal disruption events with NOT and WISE	Venla Kangas	University of Turku
19	Pre- and post-peak spectroscopy of extragalactic transients	Tapio Pursimo	Nordic Optical Telescope
20	Bolometric light-curve modeling indicates surprisingly high ejecta masses in SLSNe-I	Réka Könyves-Tóth	Konkoly Observatory
22	Metallicity dependence of hydrogen-free pair-instability supernova properties	Takashi Moriya	National Astronomical Observatory of Japan
23	SN 2024adtg: One of the brightest hydrogen-rich superluminous supernovae	Uliana Pylypenko	University of Turku
24	Photometric classification of superluminous supernovae in big data surveys	Etienne Russeil	Stockholm University
25	The Zwicky Transient Facility Sample of H-rich Superluminous Supernovae with Narrow Emission Lines: Uncovering Spectral Evolution Diversity	Yang Hu	Stockholm University
26	Volumetric Core-Collapse Supernova Rates with JWST out to $z \sim 4.8$	Christa DeCoursey	University of Arizona
27	Hydrogen-rich supernovae as metallicity tracers: probing the low-metallicity regime	Claudia Gutiérrez	Institute of Space Sciences (ICE-CSIC)
28	JWST Survey of Dusty Supernovae: Late-Time Dust Properties Decades Post Explosion	Thomas Moore	Space Telescope Science Institute



INTERNATIONAL ASTRONOMICAL UNION
Union Astronomique Internationale

Meeting Report: IAUS406

29	Over a decade of ASAS-SN: volumetric rates and luminosity functions of core-collapse supernovae and their subtypes	Thallis Pessi	ESO
30	Revealing the dust-formation history of Type II(P) supernovae with JWST	Tamás Szalai	University of Szeged
31	Constraints on the Progenitor and Explosion of SN 2024ggi in Harmony with Pre-explosion Detection and Hydrodynamic Simulations	Amar Aryan	Graduate Institute of Astronomy, National Central University, Taiwan
32	A multiwavelength view across stripped-envelope supernovae subtypes	Raphael Baer-Way	University of Virginia
33	SNe II the rescue: an independent determination of the Hubble constant through astrophysical modeling of Type II supernovae	Géza Csörnyei	European Southern Observatory
34	Two Perspectives on Type II Supernova Evolution: A comparison between ASASSN-13dn and SN 2024ggi	Emilio Hueichapan Diaz	Instituto de Estudios Astrofísicos (UDP)
35	Type Ib Supernovae are bluer than Type Ic Supernovae	Harim Jin	Max Planck Institute for Astrophysics
36	Probing Energetic Supernovae Through Nebular-Phase Modeling	Giacomo Ricigliano	Max Planck Institute for Nuclear Physics
37	SN 2024iss: a nearby Type IIb Supernova with high velocity H-alpha and shock break-out features.	Sara Romagnoli	University of Melbourne
38	Flash Echoes and New Dust in SN~2023ixf: An Optical-NIR Portrait of a hydrogen-rich supernova	Avinash Singh	Stockholm University
39	Exploring Two Long-Lived Energetic Type II Supernovae Without Interaction Signatures	Claudia Skoglund	Stockholm University
40	Unveiling oxygen-rich supernova remnants	Timo Kravtsov	University of Turku
41	The undetectable fraction of core-collapse supernovae in luminous infrared galaxies	Iikka Mäntynen	University of Turku
42	Looking into the Progenitor of Supernova Remnant N157B with Chandra	Elvira Cruz Cruz	The Ohio State University
43	The population of supernova progenitors	Morgan Fraser	University College Dublin
44	A Faint Supernova and a Fainter Companion: Limits on the Progenitor and Explosion of SN 2024vjm	Erez Zimmerman	Weizmann Institute of Science



INTERNATIONAL ASTRONOMICAL UNION
Union Astronomique Internationale

Meeting Report: IAUS406

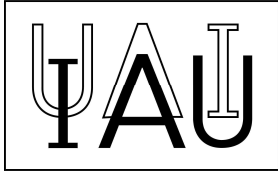
45	MUSE Investigation into the Birth and Death of Massive Stars in (Ultra-) Luminous Infrared Galaxies ((U)LIRGs)	Suman Sahu	University of Turku
46	Exotic Stars and How to Find Them: Red Supergiants from JWST	Aswin Suresh	Northwestern University
47	Late-time Photometry & Spectroscopy of LFBOT AT 2024wpp	Zoë McGrath	Liverpool John Moores University
48	Luminous Fast Blue Optical Transients as (very) massive star core-collapse events	Ashley Chrimes	ESA-ESTEC
49	Analysis of New Pan-STARRS Data on the Mysterious Disappearance of a Star in M31 – a Failed Supernova?	Lauren Eastman	University of Oxford
50	Shock Formation and Evolution in Failed Supernovae	Daniel Paradiso	Syracuse University
51	Circumbinary Discs as the Origin of Circumstellar Material around H-poor Supernovae	Ryotaro Chiba	National Astronomical Observatory of Japan
52	Population Analysis of Type Ibn Supernovae in the Zwicky Transient Facility Era	Anjasha Gangopadhyay	Stockholm University, Oskar Klein Center, Stockholm
53	Late-time evolution of the interacting stripped-envelope supernova 2017dio	Christina Humina	University of Turku
54	Complex pre-explosion mass loss in red supergiants illuminated by the 98S-like SN 2024cld	Thomas Killestein	University of Warwick
55	The multi-peaked light curve of the peculiar Type Ib SN 2021efd: probing mass-loss histories of stripped-envelope supernova progenitors	Niko Pyykkinen	University of Turku
56	SN 2009ip-like events through the lens of SN 2024hpj	Irene Salmaso	INAF
57	Exploring the Diversity of Interacting Supernovae	Javier Silva Farfán	Kyoto University
58	Dying stars shed light on late-stage mass-loss	Erez Zimmerman	Weizmann Institute of Science
59	Giant Clumpy Outbursts in the Progenitor of Type II Supernova 2024qiw	Takashi Nagao	National Astronomical Observatory of Japan
60	Revisiting the Extinction – Na I D Equivalent Width Relation: a Robust Lower Limit on Extinction	Avshalom Badash	Weizmann Institute of Science
61	Investigation of intermediate-luminosity type Iax supernovae	Dominik Bánhidi	University of Szeged



INTERNATIONAL ASTRONOMICAL UNION
Union Astronomique Internationale

Meeting Report: IAUS406

62	Different, but still the same: on the common origin of the peculiar Type Ia SNe	Barnabas Barna	University of Szeged
63	High Velocity Features in Type Ia Supernovae — A puzzle still waiting to be solved after 26 years	Zsófia Bora	HUN-REN CSFK Konkoly Observatory
64	FLAWS: Mapping the Local Universe with >700 Near-Infrared Type Ia Supernovae	Subhash Bose	Aarhus University
65	Insights into Type Ia Explosion Mechanisms from the detailed study of Bright Supernova SN 2022eyw	Hrishav Das	Indian Institute of Astrophysics
66	Characterisation of a population of fast declining SNe Ia in galaxy cluster cores	Akshay Eranhalodi	HU Berlin/DESY
67	Type Ia Supernovae for cosmology with the ZTF SN Ia DR2 sample	Madeleine Ginolin	University of Cambridge
68	Physics-based Standardisation of Type Ia Supernovae	Matthew Grayling	University of Cambridge
69	Type Ia Supernovae in the Coma Cluster	Ágoston Hórti-Dávid	Konkoly Thege Miklós Astronomical Institute
70	Normal or transitional? The evolution and properties of two type Ia supernovae in the Virgo cluster	Luca Izzo	INAF/OACn
71	Progenitors and Explosions of White Dwarf Supernovae Revealed by JWST	Saurabh Jha	Rutgers University
72	Testing the Effect of Progenitor's Metallicity on ^{56}Ni Mass and Constraining the Progenitor Scenarios in Type Ia Supernovae	Young-Lo Kim	Yonsei University
73	The statistical analysis of the new SN Ia database	Erika Mochnács	University of Szeged
74	On the Optical Transient from Double White Dwarf Mergers II	Ridha Fatima Mohideen Malik	University of Ferrara
75	Utilizing the u-band light curves of Type Ia supernovae observed by BlackGEM	Sigrid Nissen	Technical University of Denmark
76	Helium Features as a Signature of Double Detonations in Type Ia Supernovae	Cillian O'Donnell	Trinity College Dublin
77	JWST Observations of the Calcium-strong SN 2024kce	Huei Sears	Rutgers University



INTERNATIONAL ASTRONOMICAL UNION
Union Astronomique Internationale

Meeting Report: IAUS406

78	Comparing dust estimation techniques with SN 2024gy	Jacco Terwel	Trinity College Dublin
79	A thermonuclear supernova interacting with hydrogen- and helium-deficient circumstellar material	Konstantinos Tsalapatas	Stockholm University, Department of Astronomy
80	Probing the Hubble Constant with JWST: Improved Time-Delay Measurements from the Multiply-Imaged Type Ia Supernova SN H0pe	Aadya Agrawal	University of Illinois Urbana Champaign
81	The stable ones: What nebular Ni lines teach us about SN Ia progenitors and explosions	Cristine Koelln	European Southern Observatory (ESO)
82	Deciphering the explosion mechanism of thermonuclear supernovae from their remnants	Soham Mandal	University of Virginia
83	A two orders of magnitude improvement in cluster lens models to enable precise time-delay cosmography with strongly lensed supernovae	Stefan Schuldt	FINCA
84	High Cadence Observations of Transients with GOTTA: a Global Open Transient Telescope Array	David Buckley	NAOC
85	Transient science with the Danish 1.54m telescope in the era of LSST	Christa Gall	DARK / NBI / UCPH
86	Transient discovery with the GOTO (Gravitational-wave Optical Transient Observer) Network	Duncan Galloway	IGDORE / Monash University
88	The Large Array Survey Telescope (LAST)	Ruslan Konno	WIS
89	Time-domain and transient astrophysics with the Wide-field Spectroscopic Telescope (WST)	Hanindyo Kuncarayakti	University of Turku
90	1.88-m Kottamia Telescope in Time-Domain Astronomy: Opportunities and Challenges	Ahmed Moursi	National Research Institute of Astronomy and Geophysics (NRIAG)
91	Transient hunting in large-sky surveys: using neural processes to tackle sparse, multi-wavelength light curves	Siddharth Nitin Chaini	University of Delaware
92	Data processing and machine learning for the Wide Field Survey Telescope	Lulu Fan	University of Science and Technology of China



INTERNATIONAL ASTRONOMICAL UNION
Union Astronomique Internationale

Meeting Report: IAUS406

93	SELDON: An AI Foundation Model for Supernovae	Gautham Narayan	University of Illinois, Urbana-Champaign
94	Hunting for rare late-time re-brightening events with LSST	Jacco Terwel	Trinity College Dublin
96	Some Visuals Ideas in High-Energy Gamma-ray Astrophysics Communication and Outreach	Stefano Ciprini	INFN Rome Tor Vergata & SSDC ASI, Italy



INTERNATIONAL ASTRONOMICAL UNION
Union Astronomique Internationale

Meeting Report: IAUS406

4. Event Photos

Photos available at the conference webpage: <https://iaus2026-transients.utu.fi/photo-gallery/>





5. Organizing Team

5.1. Scientific Organizing Committee

Full name	Role	Affiliation, country
Melina Bersten	Co-chair	Instituto de Astrofísica de La Plata, Argentina
Jane Dai	Member	University of Hong Kong, China
Selma de Mink	Member	Max Planck Institute for Astronomy, Germany
Avishay Gal-Yam	Member	Weizmann Institute of Science, Israel
Tuomas Kangas	Co-chair	University of Turku, Finland
Hanindyo Kuncarayakti	Co-chair	University of Turku, Finland
Josefin Larsson	Member	KTH Royal Institute of Technology, Sweden
Takashi Moriya	Member	National Astronomical Observatory of Japan, Japan
Nidia Morrell	Member	Carnegie Observatories, Chile
Gautham Narayan	Member	University of Illinois, USA
Miguel Perez-Torres	Member	Instituto de Astrofísica de Andalucía, Spain

Number of men: 6

Number of women: 5

Number of non-specified gender: 0

5.2. Local Organizing Committee

Full name	Role	Affiliation, country
Christina Humina	Member	University of Turku, Finland
Siiri Hyvärinen	Member	University of Turku, Finland
Tuomas Kangas	Co-chair	University of Turku, Finland
Venla Kangas	Member	University of Turku, Finland
Erkki Kankare	Member	University of Turku, Finland
Niilo Koivisto	Member	University of Turku, Finland
Rubina Kotak	Member	University of Turku, Finland
Timo Kravtsov	Member	University of Turku, Finland
Hanindyo Kuncarayakti	Co-chair	University of Turku, Finland
Seppo Mattila	Co-chair	University of Turku, Finland
Ilkka Mäntynen	Member	University of Turku, Finland
Takashi Nagao	Member	University of Turku, Finland & National Astronomical Observatory of Japan, Japan
Uliana Pylypenko	Member	University of Turku, Finland
Niko Pyykinen	Member	University of Turku, Finland
Tom Reynolds	Member	University of Turku, Finland & University of Copenhagen, Denmark
Suman Sahu	Member	University of Turku, Finland
Tinka Särkiniemi	Member	University of Turku, Finland
Stefan Schuldt	Member	University of Turku & University of Helsinki, Finland
Christian Vassallo	Member	University of Turku, Finland



INTERNATIONAL ASTRONOMICAL UNION
Union Astronomique Internationale

Meeting Report: IAUS406

Petri Väisänen	Member	Finnish Centre for Astronomy with ESO, Finland
----------------	--------	---

Number of men: 14

Number of women: 6

Number of non-specified gender: 0

5.3. Support Staff (*optional*)

Full name	Role	Affiliation, country
Elias Lehto	Student volunteer	University of Turku, Finland
Emma Johtela	Student volunteer	University of Turku, Finland
Onni Tolppola	Student volunteer	University of Turku, Finland
Salla Kiviranta	Student volunteer	University of Turku, Finland
Stina Peteri	Student volunteer	University of Turku, Finland
Tuomas Hämäläinen	Student volunteer	University of Turku, Finland
Una Berrymen	Student volunteer	University of Turku, Finland

Number of men: 3

Number of women: 4

Number of non-specified gender: 0

6. Recommendations

Suggestions for future meetings:

- First and foremost, the organizing team should make sure with the host institute on the finances e.g., mechanisms for registration fee collection, invoicing and travel grant payment, etc. Dedicated accounting personnel would make financial matters easier to handle.
- The planning of the event has to be done carefully and given enough time.
- Using a dedicated PC/laptop for the presentation slides would significantly minimize overhead time; presenters would need to submit their presentation file before the talk.
- Venue audio has to be adequate, in terms of quality and quantity (e.g., microphone each for the presenting speaker, next speaker, session chair, and at least two for the audience Q&A).
- Speakers and session chairs would very much appreciate an easily visible timer (possibly with a dedicated operator), to keep the time of the talks and the general program.
- A generous amount of free time and dedicated poster viewing sessions would promote more discussions between participants.
- Using two venues would help participants get a new, fresh atmosphere and perspective of the meeting and science topics. This would increase the logistical complexity, but with careful planning it could be highly beneficial for the meeting.