ADASS XXXIV

ASTRONOMICAL DATA ANALYSIS SOFTWARE & SYSTEMS XXXIV

L-Università ta' Malta

10–14 November 2024 University of Malta, Valletta Campus, Malta um.edu.mt/events/adass2024

AGENDA

Sunday 10 November

12:00 - 17:30	Registration / Tutorials Check-in / Demo booth setup
13:00 - 15:00	Programming the GPU on your laptop – is it easy, is it useful? *Keith Shortridge (Aula Magna)*
	The Advanced Scientific Data Format (ASDF) *Nadia Dencheva (Aula Prima)*
15:00 - 15:30	*Coffee Break*
15:30 - 17:30	The first step when thinking about User Experience: Set-up an UX *Kevin Tai (Aula Prima)*
	Namespaces Outside of Containers *James Tocknell (Aula Magna)*
18:00 – 20:00	Welcome Reception

From Monday, registration opens daily from 08:00
All talks will be held in the Aula Magna and Aula Prima

Monday 11 November

Morning Session. Chairs: Sébastien Derriere and Mark Taylor

08:30 - 09:00 Conference Welcome

09:00 - 09:30 The Challenges of Astronomical Data Systems
Ben Rusholme

09:30 - 09:45 Securing Space Science: Advanced Data Protection in the HREDA Archive
Anastasia Andres, Angela Carasa [No Recording]

09:45 - 10:00 Insights from a 30-Year International Partnership on Astronomical Archives
David Rodriguez

10:00 - 11:00 *Coffee Break*

10:15 – 10:45 The ESA Near-Earth Objects Coordinate Center Python Interface *(Focus Demo)*
Eduardo Peleato

11:00 - 11:15 Dynamic Imaging with MeerKAT: The Time Axis as the Final Frontier
Oleg Smirnov

11:15 - 11:30 Sub-arcsecond degree-scale imaging pipelines with LOFAR
Jurjen de Jong

11:30 - 11:45 Finding Fireballs in Lightning: A Daily Pipeline to Find Meteors in Weather Satellite Data
Jeffrey Smith

11:45 - 12:00 Enhancing Keck Observatory Operations: The Data Services Initiative's Journey
Max Brodheim

12:00 - 12:15 High Performance Computing in Astronomy: Triumphs and Tribulations of Pipeline Processing on Supercomputer
Kevin Vinsen

12:15 - 12:30 High-Performance Pipeline Processing for the Australian Square Kilometer Array Pathfinder
Matthew Whiting

12:30 - 14:00 *Lunch*

Afternoon Session. Chairs: James Tocknell and Kathleen Labrie

14:00 - 14:30 Empowering Science with Good Design
Jenn Kotler [Remote]

14:30 - 14:45 DARTS Timescape: Exploring 50 Years of Space Science Data Through Interactive Visualization
Miriam Sawczuck

14:45 - 15:00 Integrating UX Design in Astronomical Software Development: A Case Study
Yan Grange

15:00 - 16:00 *Coffee Break*

15:15 - 15:45 Using LSDB to enable large-scale catalog distribution, cross-matching and analytics *(Focus Demo)*
Neven Caplar

16:00 - 16:15 PyKOALA, a multi-instrument tool for reducing IFS data
Pablo Corcho-Caballero

16:15 - 16:30 First J-PAS data release unique challenges for a whole sky imaging survey in 57 optical filters
Héctor Vázquez Ramió [Remote]

16:30 - 16:45 Migrating Heterodyne Data Reduction to High-Performance Computing
Christoff Buchbender

16:45 - 17:00 An AI-driver system for Enhancing Astronomical Research Workflows
Karthik Mahesh Rathod [Remote]

Birds of a Feather

17:15 - 18:45 Strategies for heterogenous processing and archiving (MR 101)
Yan Grange

Built To Last? (MR 102)
Mark Nicol

Software doesn't write itself: Prioritizing Equity, Diversity & Belonging to improve software output (MR 103)
Simon O' Toole

Tuesday 12 November

Morning Session. Chairs: Benjamin Hugo and Kathleen Labrie

08:50 - 09:00	Morning announcements
09:00 - 09:30	Beyond the Data: Challenges and Triumphs in Data Reduction and Analysls *Nuria Lorente*
09:30 - 09:45	The Time-Series Visualization Tool in ESASky *Elena Puga*
09:45 - 10:00	Lowering in-memory footprint of antenna beams via polynomial approximation *Ali Taqi*
10:00 - 11:00	*Coffee Break*
11:00 - 11:15	Declarative Data Management with DaCHS and the VO *Markus Demleitner*
11:30 - 11:45	Longevity of a Treasured Database Service *Xiuqin Wu*
11:45 - 12:00	Curating a 20th Century Observation Log in the 21 Century *Sébastien Derriere*
12:00 - 12:15	Synergies Unleashed: Bridging the Gap Between Science and Computing Teams in the ALMA Observatory Software Deployments *Jose Gallardo*
12:15 - 12:30	The Chandra Data System at 25 Yeas – What can it teach us? *Janet Evans*
12:30 - 14:00	*Lunch*

Afternoon Session. Chairs: Fabio Pasian and Peter Teuben

14:00 - 14:30 SDHDF: A new file format for spectral-domain radio astronomy data
Lawrence Toomey

14:30 - 14:45 Using Felis to Represent the Semantics and Metadata of Astronomical Data Catalogs
Jeremy McCormick

14:45 - 15:00 A data model to connect the ESO Data Processing System (EDPS)
Hugo Buddelmeijer

15:00 - 16:00 Coffee Break
15:15-15:45 XRADIO: Xarray Radio Astronomy Data Input Output *(Focus Demo)*
Jan-Willem Steeb

16:00 - 16:15 DASCH: Bridging 100+ Years of Photographic Data into the 21st Century and Beyond
Peter K. G. Williams

16:15 - 16:30 Optimized Open-Source Tools for Scalable Solar System Service
Alec Koumjian [Remote]

16:30 - 16:45 A Reproducible Science Workflow System: DALiuGE in Action
Andreas Wicenec

16:45 - 17:00 Bridging the Gap: Enhancing Astronomical Data Analysis with Software Engineering Best Practices
Shvetha Chynoweth [Remote]

18:00 – 22:30 *Conference Dinner with Mdina Walking Tour*

Wednesday 13 November

Morning Session. Chairs: Peter Teuben and Brian Kent

08:50 - 09:00 Morning announcements

09:00 - 09:30 From Daniel Dennett to Transformers: The Computational Evolution of Human Intelligence in AI
John Abela

09:30 - 09:45 AI Agents for Ground-Based Gamma Astronomy
Dmitriy Kostunin

09:45 - 10:00 Goal-Oriented Stacking: A Novel approach to statistical image-domain inference below the noise threshold
Roger Deane

10:00 - 11:00 *Coffee Break*

10:15 – 10:45 JupiterLab extension: FireFly *(Focus Demo)*
Denis Zaytsev

11:00 - 11:15 Self-supervised learning of radio data for source detection, classification and peculiar object searches
Simone Riggi

11:15 - 11:30 Transforming Data into Insights: AI-Driven X-Ray Source Classification within the NADC Framework
Xiaoxiong Zuo

11:30 - 11:45 Machine Learning Enhancements for Real-Time Scientific Analysis of Cherenkov Telescope Data
Ambra Di Piano

11:45 - 12:00 Classification of HI Galaxy Profiles Using Unsupervised Learning and Convolutional Neural Networks: A Comparative Analysis and Methodological Cases of Studies
Gabriel Andres Jaimes Illanes [Remote]

12:00 - 12:15 Astronomy Data and Computing Servies: Changing the way research software is developed, supported and maintained
Gregory Brian Poole

12:15 - 12:30 A Multi-Wavelentgh Data Viewer Realized through the Enhancement of hscMap:
Hiyo Toriumi

12:30 - 14:00 *Lunch*

Afternoon Session. Chairs: Alessio Magro and Bejamin Hugo

14:00 - 14:30 How do you use yours? The Evolution of Proposal and Observing Preparation Tools
Alan Bridger

14:30 - 14:45 The proposal evaluation process: A unified user experience supporting different workflows
Dario Dorigo

14:45 - 15:00 STARS: A scheduling software for Space Missions and Ground-Based Observatories
Néstor Campos

15:00 - 16:00 *Coffee Break*

15:15 – 15:45 Exploring Space Weather connections with the ASPIS prototype archive
(Focus Demo)
Mirko Stumpo

16:00 - 16:15 How did we build ours? A modern proposal tool for a modern telescope
Alissa Cheng

16:15 - 16:30 Observation Scheduling Software Framework for Distributed Arrays in Time-Domain Surveys
Yajie Zhang

16:30 - 16:45 Asteroid Discovery with THOR on the Noirlab Source Catalog: An Engineering Perspective
Nate Tellis [Remote]

16:45 - 17:00 Data Processing and Preservation for CTAO:
Karl Kosack

Birds of a Feather

17:15 - 18:45 Usability and User Experience in Astronomical Software (MR 101)
Kai Polsterer

General-Purpose Spectroscopic Data Reduction and Analysis Tools (MR 102)
Kyle Westfall

What New Data Format is the Community Using? What New Data Models does the Community Need? (MR 103)
James Tocknell

Thursday 14 November

Morning Session. Chairs: Kimberly DuPrie and Xiuqin Wu

08:50 - 09:00	Morning announcements
09:00 - 09:30	The MeerKAT Data Processing Pipeline *Ludwig Schwardt*
09:30 - 09:45	NEOCC's Aegis pipeline in asteroid determination and impact monitoring *Francesco Gianotto*
09:45 - 10:00	Leveraging FPGAs as accelerators in real-time astronomical data-processing pipelines *Mitchell Mickaliger*
10:00 - 10:15	FRELLED: An Astronomical Data Visualization Package for Blender *Rhys Taylor*
10:15 - 10:30	Accessible visualization of Astropy objects and Multi-Order Coverage Maps (MOCs) with the iPyAladin Jupyter widget *Manon Marchand*
10:30 - 11:00	*Coffee Break*
11:00 - 11:30	Celebrating SAOImageDS9 *(Prize Talk)* *Kenny Glotfelty* [Remote]
11:30 - 11:45	User facing tutorials as code: reproducible and reliable tutorials with CI/CD *Brigitta Sipocz*
11:45 - 12:00	Processing LISA's data as a human: The GlobalFit Framework user experience *Antoine Basset* [Remote]
12:00 - 12:10	ADASS 2025 Announcement
12:10 - 12:30	Conference Closing

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