

# **Technical Meeting Spoke 3**

## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

# Welcome and Logistics

*Monday 9 October 2023 14:00 (10 minutes)*

**Session Classification:** Session 1

Contribution ID: 2

Type: **not specified**

## **ICSC: Stato e futuro dell'HUB**

*Monday 9 October 2023 14:10 (30 minutes)*

**Session Classification:** Session 1

Contribution ID: 3

Type: **not specified**

## **SPOKE 3 - Stato e Prospettive Future**

*Monday 9 October 2023 14:40 (20 minutes)*

**Presenter:** Dr GHELLER, Claudio

**Session Classification:** Session 1

Contribution ID: 4

Type: **not specified**

## **WP1: stato e attività**

*Monday 9 October 2023 15:00 (15 minutes)*

**Session Classification:** Session 1

Contribution ID: 5

Type: **not specified**

## **WP2 Stato e attività**

*Monday 9 October 2023 15:15 (15 minutes)*

**Session Classification:** Session 1

Contribution ID: 6

Type: **not specified**

## **ISTEDDAS: a new direct N-body code to study compact binary coalescences**

*Tuesday 10 October 2023 10:00 (15 minutes)*

**Presenter:** SPERA, Mario

**Session Classification:** Session 2

Contribution ID: 7

Type: **not specified**

## **Mercury-Arxes: High-Performance Planet Formation**

*Monday 9 October 2023 15:45 (15 minutes)*

**Presenter:** TURRINI, Diego (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session 1



Contribution ID: 8

Type: **not specified**

## The OpenGADGET3 code

*Monday 9 October 2023 16:00 (15 minutes)*

**Presenter:** Dr VALENTINI, Milena (UniTs)

**Session Classification:** Session 1

Contribution ID: **10**

Type: **not specified**

## **High Performance Cosmology: the PINOCCHIO code**

*Monday 9 October 2023 16:45 (15 minutes)*

**Presenter:** Dr LEPINZAN, Marius (UniTs)

**Session Classification:** Session 1

Contribution ID: 11

Type: **not specified**

# Dynamics of Supermassive Black Holes in the OpenGADGET code

*Monday 9 October 2023 17:00 (15 minutes)*

**Presenter:** DAMIANO, Alice (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session 1

Contribution ID: 12

Type: **not specified**

## **Eulerian and Lagrangian Algorithms in the PLUTO code'**

*Monday 9 October 2023 17:15 (15 minutes)*

**Presenter:** SURIANO, Alessio (UniTorino)

**Session Classification:** Session 1

Contribution ID: 13

Type: **not specified**

## **Cosmic rays solar modulation exploiting GPU parallelization**

*Monday 9 October 2023 17:30 (15 minutes)*

**Presenter:** Dr CAVALLOTTO, Giovanni (INFN)

**Session Classification:** Session 1

Contribution ID: 14

Type: **not specified**

## **HPC and accelerators exploitation for radio imaging software: a step towards the SKA era**

*Monday 9 October 2023 17:45 (15 minutes)*

**Presenter:** DE RUBEIS, Emanuele (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session 1

Contribution ID: 15

Type: **not specified**

## **Stingray: Next-Generation Spectral Timing**

*Monday 9 October 2023 18:00 (15 minutes)*

**Presenter:** Dr LAI, Eleonora Veronica (INAF)

**Session Classification:** Session 1

Contribution ID: 16

Type: **not specified**

## **NP Transition Matrix code for HPC applications of scattering problems**

*Monday 9 October 2023 15:30 (15 minutes)*

**Presenter:** Dr LA MURA, Giovanni (INAF - Osservatorio Astronomico di Cagliari)

**Session Classification:** Session 1



Contribution ID: 17

Type: **not specified**

# Characterization of exoplanetary atmospheres with GUIBRUSH®

*Tuesday 10 October 2023 09:00 (15 minutes)*

**Presenter:** GUILLUY, Gloria (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session 2

Contribution ID: **18**

Type: **not specified**

## **RAMSES GPU**

*Tuesday 10 October 2023 09:15 (15 minutes)*

**Presenter:** Dr PASCALE, Raffaele (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session 2

Contribution ID: 19

Type: **not specified**

## **Optimization of data reduction for CMB experiments**

*Tuesday 10 October 2023 09:30 (15 minutes)*

**Presenter:** Dr ANAND, Avinash (UniTOV)

**Session Classification:** Session 2

Contribution ID: 20

Type: **not specified**

## **Status and updates of the Sparse representations for spectral imaging algorithm**

*Tuesday 10 October 2023 09:45 (15 minutes)*

**Presenter:** Dr DE LUCA, Federico (UniTOV)

**Session Classification:** Session 2

Contribution ID: **21**

Type: **not specified**

## **WP3 Status**

*Tuesday 10 October 2023 11:30 (15 minutes)*

**Presenter:** VITELLO, Fabio Roberto

**Session Classification:** Session 3

Contribution ID: 22

Type: **not specified**

## **Object detection, self-supervision and XAI using real and synthetic astronomical data**

*Tuesday 10 October 2023 12:15 (15 minutes)*

**Presenter:** Dr CECCONELLO, Thomas (INAF)

**Session Classification:** Session 3

Contribution ID: 23

Type: **not specified**

## **Machine Learning/Deep Learning algorithms for Gaia mission data analysis**

*Tuesday 10 October 2023 11:45 (15 minutes)*

**Presenter:** Dr MONTI, Lorenzo (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session 3

Contribution ID: 24

Type: **not specified**

## **ML for Cluster Cosmology analysis**

*Tuesday 10 October 2023 12:00 (15 minutes)*

**Presenter:** COSTANZI ALUNNO CERBOLINI, Matteo (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session 3



Contribution ID: 25

Type: **not specified**

## **Symmetric solutions for the N-body problem: a computational approach**

*Tuesday 10 October 2023 12:30 (15 minutes)*

**Presenter:** Dr DE BLASI, Irene (UniTorino)

**Session Classification:** Session 3

Contribution ID: 26

Type: **not specified**

## **Improving photo-z estimation under covariate shift with StratLearn**

*Tuesday 10 October 2023 12:45 (15 minutes)*

**Presenter:** Prof. TROTTA, Roberto (SISSA)

**Session Classification:** Session 3

Contribution ID: 27

Type: **not specified**

## Updates on GalaPy, the spectral fitting tool for galaxies

*Tuesday 10 October 2023 10:15 (15 minutes)*

**Presenter:** RONCONI, Tommaso (Scuola Internazionale Superiore di Studi Avanzati (SISSA), Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session 2

Contribution ID: 28

Type: **not specified**

## **Graph neural network for track reconstruction in space experiments**

*Tuesday 10 October 2023 14:30 (15 minutes)*

**Presenter:** Dr CUNA, Federica (INFN)

**Session Classification:** Session 3

Contribution ID: 29

Type: **not specified**

## **Map-level Emulation of CMB experimental systematics**

*Tuesday 10 October 2023 14:45 (15 minutes)*

**Presenter:** Dr CAMPETI, Paolo (INFN)

**Session Classification:** Session 3

Contribution ID: 30

Type: **not specified**

## **Generative adversarial neural network for cosmic rays background simulations**

*Tuesday 10 October 2023 15:00 (15 minutes)*

**Presenter:** CAVALLOTTO, Giovanni (INFN)

**Session Classification:** Session 3

Contribution ID: 31

Type: **not specified**

## **Allucinating molecular cloud emission with Neural nets**

*Tuesday 10 October 2023 14:00 (15 minutes)*

**Presenter:** PUGLISI, Giuseppe (UniCT)

**Session Classification:** Session 3

Contribution ID: 32

Type: **not specified**

## **"Chemical tagging of field RR Lyrae to constrain the early formation and evolution of the Milky Way"**

*Tuesday 10 October 2023 15:15 (15 minutes)*

**Presenter:** Dr BAEZA VILLAGRA, Karina (UniTOV)

**Session Classification:** Session 3



Contribution ID: 33

Type: **not specified**

## **Optimal compression and Simulation-Based Inference of the cosmic 21-cm signal**

*Tuesday 10 October 2023 15:30 (15 minutes)*

**Presenter:** Mr PRELOGOVIC, David (SNS)

**Session Classification:** Session 3

Contribution ID: 34

Type: **not specified**

## **The Euclid survey: Improving cosmological constraints via BAO reconstruction**

*Tuesday 10 October 2023 15:45 (15 minutes)*

**Presenter:** Dr SARPA, Elena (SISSA)

**Session Classification:** Session 3

Contribution ID: **36**

Type: **not specified**

## **WP4 Status**

*Tuesday 10 October 2023 16:30 (15 minutes)*

**Presenter:** KNAPIC, Cristina (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session 4

Contribution ID: 37

Type: **not specified**

## Integrazione DataLake Nazionale

*Tuesday 10 October 2023 16:45 (15 minutes)*

**Presenter:** CIANGOTTINI, Diego (INFN)

**Session Classification:** Session 4

Contribution ID: **38**

Type: **not specified**

## **Rucio support DB test cases**

*Tuesday 10 October 2023 17:00 (15 minutes)*

**Presenter:** ADELFIGIO, Andrea (INFN)

**Session Classification:** Session 4

Contribution ID: 39

Type: **not specified**

## **WP5 Status and activities**

*Tuesday 10 October 2023 17:45 (20 minutes)*

**Presenter:** GASPARRINI, Dario (INFN)

**Session Classification:** Session 4

Contribution ID: **40**

Type: **not specified**

## Discussion

*Tuesday 10 October 2023 18:05 (30 minutes)*

Contribution ID: 41

Type: **not specified**

## Social Dinner

*Tuesday 10 October 2023 20:30 (2 hours)*

Ristorante Caprese  
Piazza della Borsa, 15 Trieste  
tel 040763963 ·  
trieste@trattoriacaprese.it.

<http://www.trattoriacaprese.it/locali/trieste/>



Contribution ID: 42

Type: **not specified**

## **EAGER: Evolution of gAlaxies and Galaxy clustErs in high-Resolution cosmological simulations**

*Wednesday 11 October 2023 11:00 (10 minutes)*

**Presenter:** VALENTINI, Milena (University of Trieste)

**Session Classification:** Session 4

Contribution ID: 43

Type: **not specified**

## **SLOTH: Shedding Light On dark matter wiTH cosmological simulations**

*Wednesday 11 October 2023 11:10 (10 minutes)*

**Presenter:** BATALHA DE CASTRO, Tiago (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session 4

Contribution ID: 44

Type: **not specified**

## **Wide-field observations with LOFAR VLBI data**

*Wednesday 11 October 2023 11:20 (10 minutes)*

**Presenter:** GHELLER, Claudio

**Session Classification:** Session 4

Contribution ID: 45

Type: **not specified**

## VisIVO

*Wednesday 11 October 2023 11:30 (10 minutes)*

**Presenter:** VITELLO, Fabio Roberto

**Session Classification:** Session 4

Contribution ID: 46

Type: **not specified**

## EuMocks

*Wednesday 11 October 2023 11:40 (10 minutes)*

**Presenter:** MONACO, Pierluigi (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session 4

Contribution ID: 47

Type: **not specified**

## **Revealing the populations of compact remnants in dense stellar systems**

*Wednesday 11 October 2023 11:50 (10 minutes)*

**Presenter:** SPERA, Mario

**Session Classification:** Session 4

Contribution ID: 48

Type: **not specified**

## **OPAL: simulating the Origins of Planets for Ariel**

*Wednesday 11 October 2023 12:00 (10 minutes)*

**Presenter:** TURRINI, Diego (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session 4

Contribution ID: 49

Type: **not specified**

## **Multi-wavelength inference from the first billion years**

*Wednesday 11 October 2023 12:10 (10 minutes)*

**Presenter:** MESINGER, Andrei (SNS)

**Session Classification:** Session 4



Contribution ID: **50**

Type: **not specified**

## **Final Discussion**

*Wednesday 11 October 2023 12:30 (1 hour)*

Contribution ID: 51

Type: **not specified**

## **Optimization of the analysis pipeline and study of systematics in the LiteBIRD mission**

*Monday 9 October 2023 18:15 (15 minutes)*

**Presenter:** Dr SABATUCCI, Andrea (INFN Pisa)

**Session Classification:** Session 1

Contribution ID: 52

Type: **not specified**

## **Deep learning of 87A-like supernovae progenitor characteristics: training the Inception model on synthetic data**

*Tuesday 10 October 2023 14:15 (15 minutes)*

**Presenter:** PUGLISI, Giuseppe (UniCT)

**Session Classification:** Session 3

Contribution ID: 53

Type: **not specified**

## **OPS4 Gaia Legacy project: Hybrid data management, dynamic data modeling and dedicated data reduction sw for Gaia-like big data exploitation**

*Tuesday 10 October 2023 17:15 (15 minutes)*

**Presenter:** BUSONERO, Deborah (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session 4

Contribution ID: 54

Type: **not specified**

## HaMMon

*Wednesday 11 October 2023 09:20 (20 minutes)*

**Presenter:** VITELLO, Fabio Roberto

**Session Classification:** Session 4

Contribution ID: 55

Type: **not specified**

## **Intesa Sanpaolo: Data Quality, Fraud Detection**

*Wednesday 11 October 2023 09:40 (20 minutes)*

**Presenter:** Dr CRUPI, Riccardo (Intesa Sanpaolo)

**Session Classification:** Session 4

Contribution ID: 56

Type: **not specified**

## **A new Importer software for data and metadata storage**

*Tuesday 10 October 2023 17:30 (15 minutes)*

**Presenter:** CORAN, Giacomo (Istituto Nazionale di Astrofisica (INAF))

**Session Classification:** Session 4

Contribution ID: 57

Type: **not specified**

## **Interoperable Data Lake**

*Wednesday 11 October 2023 10:00 (20 minutes)*

**Presenter:** BERUCCI, Carolina (LEONARDO)

**Session Classification:** Session 4