

1st FISICA Workshop:

Science Goals of a Sub-arcsecond Far-infrared Space Observatory

17-18th Feb. 2014, Aula Marconi, National Council of Research, Piazzale Aldo Moro 7, Roma

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17th February 2014

9:30 - Welcome and brief introduction to the work (Giorgio Savini – Luigi Spinoglio)

Session 1. *Planets:*

9:45 – Spectroscopy of planetary atmospheres in our galaxy - **Giovanna Tinetti** (UCL, UK)

10:15 – Exoplanets hunt and characterization – **Mauro Barbieri** (Padova Univ., I)

10:45 – Atmospheres of icy giant planets in the solar system – **Emiliano D’Aversa** (IAPS-INAF, I)

11:15 - 11:30 *Coffee break*

11:30 – Protoplanetary disks and planet formation - **Inga Kamp** (Kapteyn, Groningen, NL)

12:00 - High mass star formation - **Sergio Molinari** (IAPS-INAF, I)

12:30 - 13:30 *Lunch*

Session 2. *Galactic Astronomy:*

13:30 – Water in protostellar evolution - **Brunella Nisini** (OARM-INAF, I)

14:00 – The search for water in protoplanetary disks: Herschel and beyond – **Linda Podio** (INAF Arcetri, I)

14:30 – The very early phases of star formation - **Stefano Pezzuto** (IAPS-INAF, I)

14:45 – Debris disks: Now and the future – **Wayne Holland** (ROE, UK)

15:00 – The Nucleus of our Galaxy - **Javier Goicoechea** (CSIC, E)

15:30 - 16:00 *Coffee break*

Session 3. *Extragalactic Astronomy:*

16:00 – Resolving the emission regions of Active Galactic Nuclei and Star forming galaxies in the Local Universe – **Georgios Magdis** (Oxford Univ., UK)

16:30 – High angular resolution observations of Active Galactic Nuclei – **Alessandro Marconi** (Florence Univ., I)

17:00 – The evolving Universe: FIR deep field observations – **Lucia Marchetti** (Open Univ., UK)

17:20 – High resolution IR observations of X-ray obscured AGN - **Carlotta Gruppioni** (OABO - INAF, I)

17:40 – Probing the early phases of the evolution of supermassive black holes in proto-spheroidal galaxies at $z > 1.5$ - **Mattia Negrello** (OAPD - INAF, I)

18:00 *end first day*

20:00 *Social Dinner at the Ristorante Eleonora D’Arborea, Corso Trieste 23, Roma*

<http://www.ristoranteleonoradarborea.com>

18th February 2014

9:30 - Brief summary of Day 1 - Luigi Spinoglio

Session 3. *Extragalactic Astronomy (continued)*:

9:45 – Feed back from AGNs: molecular outflows - **Chiara Feruglio** (IRAM, F)

Session 4. *Setting the scene of high resolution at adjacent frequencies*

10:15 - Discovery Science with ALMA spectroscopic and imaging capabilities - **Paola Andreani** (ESO)

10:45 - Scientific Capability of the James Webb Space Telescope and the Mid-InfraRed Instrument - **Gillian Wright** (ROE, UK) (TBC)

11:15 - 11:30 *Coffee break*

11:30 - Science and technology of the 39m E-ELT – **Roberto Gilmozzi** (ESO)

12:00 - VLTI - Imaging planet-formation signatures with ground-based interferometry & overview of EII activities - **Stefan Kraus** (Univ. of Exeter, UK)

12:30 - The Balloon Experimental Twin Telescope for Infrared Interferometry (BETTII) - **Stephen Rinehart** (GSFC-NASA, USA)

13:00 - 14:00 *Lunch*

Session 5. *Vision of future interferometry*

14:00 - The need of high spatial resolution: what single dish telescopes in space cannot do – **Chris Pearson** (RAL Space, UK)

14:20 - FISICA: efforts to support FIR Interferometry from the space – **Giorgio Savini** (UCL, London, UK)

14:40 - FISICA: engineering problems and system requirements for interferometric observations from the space - **Valerio Iafolla** (INAF & AGI, Roma, I)

15:00 - The Sub-arcsecond FIR Space Observatory: the TALC concept – **Marc Sauvage** (Sap, Saclay, F)

15:20 - 15:40 *Coffee break*

15:40 - Heterodyne Interferometry: the ESPRIT concept - **Frank Helmich** (SRON, Groningen, NL)

16:00 - The Space Infrared Interferometric Telescope (SPIRIT) – **David Leisawitz** (GSFC-NASA, USA)

16:20 - Photon Counting Terahertz Interferometry – **Hiroshi Matsuo** (NAOJ, Japan)

Session 6. *Wrap up*

16:40 - From the science requirements to the mission concept - Giorgio Savini/ Matt Griffin

17:00 - *Round Table on Future prospects and Initiatives*