

# SPARCS IX - Pathfinders get to work

06-10 May 2019, Lisboa, Portugal

## PROGRAMME

### Monday, 06<sup>th</sup> May

- 9:00 – 9.30      Welcome and logistics for the meeting, *José Afonso*  
Presentation of SPARCS, *Carole Jackson*
- 9:30 - 10:30      Status Updates from SKA Pathfinders and Surveys (15 minute talks, Chair: Carole Jackson):  
- MeerKAT + MIGHTEE, *Russ Taylor*  
- ASKAP, *Ray Norris*  
- LOFAR, *Reinout van Weeren*
- 10:30-11:00      **Coffee Break**
- 11:00 - 12:30      Status Updates from SKA Pathfinders and Surveys (Chair: José Afonso):  
- Apertif, *Carole Jackson*  
- uGMRT, *Russ Taylor*  
- VLASS, *Lawrence Rudnick*  
- e-Merlin, *Tom Muxlow*  
- Lessons learnt from the Phase II MWA, *Melanie Johnston-Hollit*
- 12:30-14:00      **Lunch Break**
- 14:00 - 15:30      Science Talks 1 (15 min talks, Chair: Oleg Smirnov):  
- Recent results on galaxy cluster science with the Upgraded GMRT and realtime RFI mitigation, *Ruta Kale*  
- Searching and characterizing extended Galactic sources in SCORPIO, *Adriano Ingallinera*  
- The first SMBHs: indication from models, *Stergios Amarantidis*  
- Early Results from MIGHTEE polarization Observations, *Russ Taylor*  
- The POLarised GLEAM Survey (POGS): Results from the All-Sky Survey, *Christopher Riseley*
- 15:30-16:00      **Coffee Break**
- 16:00 - 18:00      Science Talks 2 (15 min talks, Chair: Grazia Umana):  
- The MeerKAT DEEP Field, *Tom Mauch* (presented by Fernando Camilo)  
- The e-MERLIN Galaxy Evolution Survey (eMERGE) - Results from the First Data and Image Release, *Tom Muxlow*  
- Magnetizing the universe with dwarf galaxies: A new low-frequency radio continuum perspective, *Sarvesh Seethapuram Sridhar*  
- The evolution of star-forming galaxies in the faint low-frequency radio source population, *Emmanuel Ocran*  
- Optically selected quasars at low radio frequencies, *Gulay Gurkan*  
- LOFAR science: broad absorption line quasars and the path to high resolution imaging, *Leah Morabito*  
- The promise of next-generation RC surveys: Revealing the physics and evolution of galaxies and AGN in the SKA era, *Isabella Prandoni*

## Tuesday, 07<sup>th</sup> May

- 9:00 - 10:30 Data Quality Assessment (Chairs: Jordan Collier, Betsey Adams):
- Introduction, *Jordan Collier* (10 min)
  - Scientific Data Quality Assessment of MeerKAT Pipelines, *Jordan Collier* (15+5)
  - e-Merlin pipeline and its impact on data QA, *Javier Moldon* (15+5)
  - MeerKATHI: A novel data reduction pipeline for MeerKAT, *Kshitij Thorat* (15+5)

### 10:30-11:00 Coffee Break

- 11:00 - 12:10 Data Quality Assessment (cont.):
- Apertif Data QA, *Betsey Adams* (15+5)
  - QA beyond the integrated quantities, *Lawrence Rudnick* (15+5)
  - Discussion (40)

### 12:30-14:00 Lunch Break

- 14:00 - 15:30 Advanced Imaging and Calibration (Chairs: Brad Frank, Bjorn Adebahr):
- Intro & Context: *Björn Adebahr* (10 min)
  - AperCal - The Apertif Calibration Pipeline: *Björn Adebahr* (15+5)
  - ProcessMeerKAT: The IDIA data analysis pipeline: *Srikrishna Sekhar* (15+5)
  - ASKAP Continuum Data Processing, *Andrew O'Brien* (15+5)

### 15:30-16:00 Coffee Break

- 16:00 - 18:00 Advanced Imaging and Calibration (cont.):
- ngVLA: *Jim Condon* (15+5)
  - MWA: *Huib Intema* (15+5)
  - ASKAP: *Craig Anderson* (15+5)
  - MeerKAT Imaging and DDEs and General Overview: *Oleg Smirnov* (40+5)
  - Discussion (15+5)

### 20:00-22:00 Workshop Dinner

## Wednesday, 08<sup>th</sup> May

- 9:00 - 11:00      Multi Wavelength Data Fusion (Chairs: Nick Seymour, Mattia Vaccari):
- Introduction, *Nick Seymour* (10 min)
  - The LoTSS optical/IR identifications, *Wendy Williams* (15+5min)
  - XID of the ASKAP early science cosmology field with DES using likelihood ratio, *Nick Seymour* (15+5min)
  - MeerKAT, *Mattia Vaccari* (TBD) (15+5min)
  - An advanced Bayesian technique for radio/IR cross-identification, *Ray Norris* (15+5min)
  - Discussion (30 min)
- 11:00-11:20      Coffee Break
- 11:20 - 13:15      Reference Fields (Chairs: Tom Muxlow, Roland Rothes)
- Past:**
- Introduction to Reference Fields Project
  - Aims and deliverables, *Tom Muxlow* (5mins)
  - Present status of field coverage, *Roland Rothes* (TBD) (10mins)
- Present:**
- CDFS & COSMOS field coverage with MeerKAT, *Russ Taylor* (10+5mins)
  - MWA observations of all 3 fields at 150 MHz - Plus plans for cross-matching with TGSS and LOFAR/LoTSS, *Nick Seymour* (10+5mins)
  - Role of Reference Fields in HI Surveys. Latest plans for Apertif/ASKAP, *Betsey Adams* (10+5mins)
  - e-MERLIN observations of the Northern SLOAN Reference Field, *Nick Wrigley* (Presented by Javier Moldon) (10+5 mins)
- Future:**
- Discussion (30mins)
- 13:15-14:30      Lunch Break
- 14:30 - 18:00      Free Afternoon

## Thursday, 09<sup>th</sup> May

- 9:00 - 09:30 Science Talks 3 (15 min talks):  
- Source Finding in Crowded Fields, *William Cotton*  
- Results from the Stripe 82 XID, *Matt Prescott*
- 9:30 - 10:30 Science Below the noise threshold and beating confusion (Chairs: Jeroen Stil, Mario Santos):  
- Introduction (10min)  
- nJy Science I: Confusion is a Feature, not a Bug, *Jim Condon* (30min)  
- nJy Science II: The Star Formation History of the Universe, *Allison Matthews* (15+5min)
- 10:30-11:00 Coffee Break
- 11:00 - 12:30 Science Below the noise threshold and beating confusion (cont.):  
- Confusion, Correlation, and the Faint Extragalactic Radio Sky, *Tessa Vernstrom* (15+5min)  
- Radio luminosity functions below the detection threshold, *Eliab Malefahlo* (15+5min)  
- Polarization and spectral index of mJy radio sources as a function of source structure from stacking, *Jeroen Stil* (15+5min)  
- Discussion (30min)
- 12:30-14:00 Lunch Break
- 14:00 - 15:30 Science Talks 4 (15 min talks):  
- The GAMA Legacy ATCA Southern Survey (GLASS), *Minh Huynh*  
- MWA Interestingly Deep Astrophysical (MIDAS) survey, *Nicholas Seymour*  
- Breaking the wall: seeking the earliest radio AGN within the EoR, *Jose Afonso*  
- Revolutions in polarisation: New science brought to you by ASKAP and PAFs: *Craig Anderson*  
- Radio Galaxy Classification - the next generation, *Lawrence Rudnick*
- 15:30-16:00 Coffee Break
- 16:00 - 18:20 Machine Learning (Chairs: Ray Norris, Mattia Vaccari):  
- Unsupervised Clustering of Convolutionally Encoded Radio-astronomical Images, *Nic Ralph* (15+5min)  
- Dimensionality reduction techniques for interferometric imaging, *Landman Bester* (15+5min)  
- Using Deep Learning to Detect Complex Faraday Rotation Measures, *Shea Brown* (15+5min)  
- Extended radio luminosity functions with Radio Galaxy Zoo and machine learning, *Matthew Alger* (15+5min)  
- Classification of simple and complex sources and optimum techniques for rotational invariance, *Ray Norris* (15+5min)  
- Identifying and collating related radio components in the sky within a (semi)-unsupervised framework using PINK, *Tim Galvin* (15+5min)  
- Discussion (20 min)

## Friday, 10<sup>th</sup> May

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| 9:00 - 09:15 | Science Talks 5 (15 min talks): <ul style="list-style-type: none"><li>- ProFound Radio Extraction, <i>Aaron Robotham</i></li></ul>   |
| 9:15 - 10:30 | Redshift Determination (Chairs: Ray Norris, Ken Duncan): <ul style="list-style-type: none"><li>- Overview, <i>Ken Duncan</i> (40 min)</li><li>- Redshift determination, <i>Ray Norris, Kieran Luken</i> (20 min)</li><li>- Discussion (30 min)</li></ul> |
| 10:30-11:00  | Coffee Break   |
| 11:00-12:30  | Looking ahead (with working group leads, Chair: Carole Jackson) <ul style="list-style-type: none"><li>- Discussion on potentiating overlap between WGs</li><li>- Forward Look and Discussion</li></ul>   |
| 12:30        | Close of meeting   |