

## **Draft Programme: 2015 IPTA Science Meeting and Supermassive Black Hole Workshop**

### **Monday 27 July: SMBH Workshop**

9:00 - < 9:15 Ryan Shannon - Welcome

9:15 - 9:35 Ron Ekers - Evidence from the radio for supermassive black holes

9:35- 9:55 Dustin Madison - Detecting gravitational waves with pulsar timing arrays

9:55 - 10:15 Alberto Sesana - Gravitational wave signatures of SMBH binaries detectable by pulsar timing arrays

10:15 - 10:30 Hannah Middleton - Implications of limits for galaxy merger rate

### **10:30 - 11:00 Tea**

11:00 - 11:25 Anne Medling - Observational properties of centres of galaxies

11:25 - 11:50 Sean McWilliams – implications of limits for dynamics of centres of galaxies

11:50 - 12:30 Discussion: with morning speakers (moderated by Ryan Shannon)

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

14:00 - 14:25 Chung Pei Ma – M-sigma and candidate SMBH binaries

14:25 - 14:45 Alister Graham – Evidence for SMBH binaries and M-sigma

14:45 - 15:00 Giulia Savorgnan - Black-hole growth in early and late type galaxies

15:00 - 15:15 Jordan Collier - Binary SMBH candidates

### **15:15-15:45 Tea**

15:45 - 16:00 Joe Simon - detectable electromagnetic counterparts

16:00 - 16:20 Ray Norris - searching for SMBH binaries in future radio surveys

16:20 - 17:00 Discussion with afternoon speakers moderated by Neil Cornish

## **Tuesday-Friday: IPTA Science Meeting**

### **Tuesday 28 July**

09:00 - 09:10 Welcome & IPTA prize presentation

*09:10 - 09:30 IPTA project Updates: Clocks (George Hobbs) and Bursts with Memory (Dusty Madison)*

### **Session: Gravitational waves: Detection and characterization**

09:30 - 09:45 Pablo Rosado – Do we expect to see CW sources or the GWB first?

09:45 - 10:00 Yan Wang – Coherent network analysis

10:00 - 10:15 Xingjiang Zhu – Coherent searches for GWs  
10:15 - 10:30 Caterina Tiburzi – correlated signals in timing array measurements

10:30 - 11:00 Tea

11:00 - 11:15 Neil Cornish - Robust detection for PTAs  
11:15 - 11:30 Dusty Madison - Non-planar GWs

11:30 - 11:45 Discussion: Rapid response to electromagnetically identified SMBH binaries (led Sean McWilliams)

**11:45- 12:45 Session: IPTASC Provocative Discussion (led by George Hobbs)**

**12:45 - 14:00 Lunch**

**Session: Data sets**

14:00 - 14:20 Poster sparkler presentations  
14:20 - 14:35 David Nice - NANOGrav 9 year data release  
14:35 - 14:50 Matthew Kerr - PPTA DR2  
14:50 - 15:05 Nicolas Caballero - EPTA legacy data set and results  
14:05 - 15:20 Ryan Shannon - A straw-man plan for IPTA DR2

**15:20 - 15:50 Afternoon Tea**

15:50-16:00 Joris Verbiest (via skype) IPTA DR1

16:00-17:00 Discussion: Plans for the next IPTA data set (led by Alberto Sesana)

**Wednesday 29 July**

*9:00 - 9:30 Project Updates: Continuous Wave Sources (Justin Ellis) and 1713 global project (Tim Dolch)*

***Session: Are our noise measurements consistent?***

9:00 - 9:15 Nicolas Caballero – EPTA noise analysis  
9:15 - 9:30 Lindley Lentati – IPTA noise analysis  
10:00 - 10:15 Paul Lasky – Timing noise and time to detection  
10:15 - 10:30 Jim Cordes – Frequency dependent DM

**10:30 - 11:00 Tea**

11:00 - 11:15 Megan Jones – NANOGrav DM variations

11:15 - 11:30 Bill Coles – The effects of the solar wind

11:30 - 12:30 **Provocative discussion: Do our data sets agree and why not? (Led by Joe Lazio)**

**Free afternoon**

**Thursday 30 July**

*9:00-9:30 Project Updates: Stochastic/Anisotropic background projects (via skype from California)*

**Session: How do we incorporate new facilities into the IPTA?**

9:30 - 9:45 Ramesh Bhat – MWA

9:45 - 10:00 Stefan Osowski - LOFAR

10:00 - 10:15 Delphine Perrodin - LEAP

10:15 - 10:30 Dick Manchester – Parkes UWB Project

10:30 - 10:45 Ryan Lynch - VEGAS backend

**10:30 - 11:00 Tea**

11:00 - 11:15 Mike Keith – SKA searching

11:15 - 11:30 Gemma Janssen - SKA timing

11:30 - 11:45 Willem van Straten - SKA/meerKAT timing backends/central signal processors

11:45 - 12:00 KJ Lee -- FAST/QTT

12:15 - 12:30 Cherry Ng -- CHIME

**12:30 - 14:00 Lunch**

**Session: How do we ensure we have effective education and outreach projects?**

14:00 - 14:15 Lisa Kohne - Outcomes of thePIRE project

14:15 - 14:30 Ryan Lynch - NANOGrav outreach efforts

14:30 - 14:45 Rob Hollow - Pulse@Parkes, internationalizing pulsar education for high-school and higher-education students.

**14:45- 15:15 Provocative Discussion: Outreach -- coordinating efforts and evaluating our EPO programmes (led by Delphine Perrodin)**

**15:15 - 15:45 Tea**

15:45 - 16:00 Rutger van Haasteren - IPTA isotropic GWB project (via skype from Europe)

16:00 - 16:15 Jeandrew Brink - MeerKAT update (via skype from South Africa)

**16:15 - 17:00 Provocative Discussion: Observing strategy for current and future timing-array activities? (led by Scott Ransom)**

**Thursday evening: Conference dinner**

**Friday 31 July**

**Topic: Applications of pulsar timing**

9:30 - 9:45 Roy Smits - ARTS backend for Westerbork

9:45 - 10:00 Xiaopeng You - Polarimetry of globular cluster pulsars

10:00 - 10:15 Scott Ransom - NANOGrav Shapiro delays

10:15 - 10:30 David Nice - NANOGrav pulsar parameters

10:30 - 11:00 Tea

11:00 - 11:10 Joe Lazio - The Bridge

11:10 - 12:30 *Breaking news*

**12:30-14:00 Lunch**

**Topic: What improvements can be made to timing?**

14:00 - 14:15 Lindley Lentati – Profile-domain timing

14:15 - 14:30 Matthew Kerr - RFI zapping

14:30 - 14:45 George Hobbs – Simulation methods

14:45 - 15:00 Scott Ransom - PINT

**Topic: IPTA DR2**

15:00 - 15:15 **Provisional limits on the GWB with a provisional second IPTA data release.**

**Finish by 4:00 pm so people can take train to Sydney**

**(Note: Trackwork on Saturday means it will be more convenient to leave Blue Mountains Friday evening).**

