NANOGrav Spring 2024 Collaboration Meeting
Held Virtually to Our World-Wide Collaboration
March 25th – 27th
Schedule updated: March 25th, 2024

All times are listed in Eastern Daylight Time (UTC -4 Hours)

Monday, March 25th

12:00 – 12:10 **Welcome Address**
Presented by Steve Taylor

12:10 – 1:30 **Contributed Talks I: Pulsar Timing**
Chair: Lulu Agazie
– *Spectral Estimation with Frequentist Statistics*, Kyle Gersbach
– *Fast, Slow, Scattered, and Eclipsed: New Pulsars from the VAST Survey*,
David Kaplan
– *"Tuning" a PTA to Continous Gravitational Waves*, Jeremy Baier
– *Proper Motion Measurments of Radio-Quiet Pulsars Using γ-ray Single Photons*,
Deven Bhakta
– *A Red Noise Analysis of PSR B1937+21, J1824-2452A, and J0218+4232 using
NICER X-Ray Timing Data*, Ian Díaz

1:30 – 1:50 **Coffee Break**

1:50 – 2:30 **Data Combination: Opportunities & Challenges**
Chair: Deborah Good
This discussion will focus primarily on the ongoing data combination efforts
for IPTA Data-Release 3 (DR3) and CHIME-o-GRAV with an auxilary focus on
establishing workflows to transform disparate observations to GW-analysis-ready
data sets.

2:30 – 2:40 **Coffee Break**

2:40 - 3:20 **Noise-Budget Implications for Pulsar Timing**
Chair: Scott Ransom
Panelists: Natalia Lewandowska, Benetge Perera
This session will focus on: connecting noise models to pulsar astrophysics; issues
raised by wideband data processing; and the unique oppertunities afforded by
cyclic spectroscopy.

3:20 – 3:40 **Coffee Break**

3:40 – 4:10 **Anticipating Ultrawideband Data**
Discussion Lead: Ryan Lynch
With the approaching scientific commissioning of the Ultrawideband receiver at
the Green Bank Telescope, this discussion will focus on the impacts of such data
for Pulsar Timing, Cyber-Infrastructure, Noise-Budget Studies, and much more.

| 4:10 – 4:20 | **10-Minute Recess** |

| 4:30 – 5:10 | **The Present & Future of the IPTA** |

Discussion Lead: Maura McLaughlin & Megan DeCesar

This session will feature an update on the International Pulsar Timing Array's (IPTA) current status and provide an overview of recent changes and emerging member PTAs. Following this will be a guided discussion focused on on-going coordination efforts.

Tuesday, March 26th

| 12:00 – 1:20 | **Contributed Talks II: Gravitational-Wave Searches** |

Chair: David Wright

– *Looking for Signs of Discreteness in the Gravitational-wave Background*, Andrew Casey-Clyde
– *Epoch-dependent Interstellar Scintillations and Timing Variations for Millisecond Pulsar B1937+21*, Timothy Dolch
– *Project Delphi Preliminary Results*, Levi Schult
– *Updates on Targeted Searches for CW Sources with NG15 Dataset*, Nikita Agarwal
– *Things That Go "Bump" in the Night: Spectral Excursions in Real and Simulated Data*, Lucas Brown

| 1:20 – 1:50 | **Coffee Break** |

| 1:50 – 3:10 | **Brainstorming Solutions to Organizational Challenges** |

Chair: Margaret Mattson & Dusty Madison

This discussion will focus on the effects of burnout and other climate issues in an effort to continue the last collaboration-wide conversation held during the Fall 2023 Meeting in Vancouver, BC.

| 3:10 – 3:40 | **Coffee Break** |

| 3:40 – 4:20 | **Novel Gravitational Wave Studies** |

Disucssion Lead: Steve Taylor

This discussion will focus primary on new astro- and particle physics enabled by the forthcoming NGXX dataset. In addition, there will be a focus on optimizing/tailoring observing strategies to enable new studies to further NANOGrav's scientific endeavors.

| 4:20 – 4:30 | **10-Minute Recess** |

| 4:30 – 5:10 | **Interpretation of Gravitational Wave Results** |

Chair: Luke Zoltan Kelley

Panelists: Kayhan Gültekin, Nima Laal, Laura Blecha, Joey Shapiro Key

Herein, the panel will lead a discussion on: multi-messenger connections; gravitational wave source simulations; and how to draw astro- and particle physics inferences from GWB characterization.

Wednesday, March 27$^{\text{th}}$

| 12:00 – 1:20 | **Contributed Talks III: Algorithms & Advances** |

Chair: Sophia Sosa

– *Optimizing Host Galaxy Identification of Individual Supermassive Black Hole Binaries*, Polina Petrov

– *Tree Dedispersion of Field Programmable Gate Arrays (FPGAs)*, Olivia Young

– *QuickBurst: A Faster Generic Burst Search Algorithm*, Jacob Taylor

– *Doing Gravitational-Wave Background Searches Faster and Better*, Nima Laal

– *Pulsar Timing Arrays Require Hierarchical Models*, Rutger van Haasteren

| 1:20 – 1:50 | **Coffee Break** |

| 1:50 – 2:20 | **The Hiring Process in Academia** |

Speaker: Maura McLaughlin

This will feature a talk regarding what being on a hiring committee at an R1 institution is like followed by a Q&A Discussion with the audience.

| 2:20 – 2:50 | **Virtual Speed Networking** |

Chair: Natalia Lewdandowska

| 2:50 – 3:10 | **Poster Lightning Talks** |

Chair: Lydia Guertin

– *Developing a Cyclic Spectroscopy Backend for the Green Bank Telescope*, Ross Jennings

– *The Running Power Law Model*, Rafael Robson Lino dos Santos

– *A Parameterized Post-Einsteinian Approach to Pulsar Timing Arrays*, Alex Saffer

| 3:10 – 3:40 | **Poster Viewings** |

3:40 – 4:20	**Gravitational-Wave Detection Criteria & Advanced Noise Modeling**

Chair: Sarah Vigeland
Panelists: Paul Baker, Joseph Simon, Caitlin Witt, Jeff Hazboun
This session will focus on: CW and BWM detection methods; Guassian process timing noise models; and hierarchical Bayesian models in relation to PTA science.

4:20 – 4:30	**10-Minute Recess**

4:30 – 5:10	**Planning for NGXX & Wideband Timing**

Chair: Megan DeCesar
Panelists: T. Cromartie, P. Demorest, A. Brazier, R. Jennings, J. Glaser
This open planning session will focus on timelines, production content, and scientific projects for the next NANOGrav Data Release. In addition, we will focus on the inclusion of wideband data and necessary methods development initiatives.

Thursday, March 28th *(Optional)*

12:00 – 12:10	**Hack Day - Opening Announcements**

Presented by Joseph Glaser

12:10 – 4:45	**Group Breakout Session - Focus on Ultrawideband Timing**

This time block is reserved for groups to self-govern and dedicate time to work on projects related to the Ultrawideband receiver and science.

4:45 – 5:00	**Hack Day - Daily Wrap-Up Presentations**

At the end of the day, groups should add a single slide to the Wrap-Up slide deck which summarizes the days activities and accomplishments / plans of action.

Friday, March 29th *(Optional)*

12:00 – 12:10	**Hack Day - Opening Announcements**

12:10 – 4:45	**Group Breakout Session - Various Data Combination Efforts**

4:45 – 5:00	**Hack Day - Daily Wrap-Up Presentations**