

ATNF SCIENCE AND TECHNOLOGY
NOVEMBER 2022
OVERVIEW OF MEETING AND GOALS



Ramesh Bhat
on behalf of the ATUC

I acknowledge the Wallumattagal people as the Traditional owners of the land that we are meeting on today, as well as the owners of the lands from where participants are joining this meeting, and pay my respect to their Elders past and present

ATNF SCIENCE AND TECHNOLOGY
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CONTEXT FOR THE MEETING

- Bring together scientists, engineers and instrumentation specialists for useful exchange of ideas that can inform the ATNF strategy and priorities for the next decade
- Community engagement and feedback to capture the range of ideas and science cases that will serve as important inputs for the ATUC to make some useful recommendations

ATNF SCIENCE AND TECHNOLOGY

NOVEMBER 2022

TECHNOLOGIES, SCIENCE AND IMPACT

- **Technology development has been a major strength of ATNF:** Engg team has a superb track record of having built and delivered several state-of-the-art receivers and technologies, enabling transformational science over the years
- **Multibeam receiver is an excellent example** – pulsar, FRB, HI, other science from Parkes, built similar technologies for Arecibo and FAST
- **An impressive range of digital and receiver technologies** are on the drawing board; e.g. Bluering/Jimble boards, Alveo/GPU, cooled PAFs, wideband receivers (UWL, proposed UWM/H) + several LIEF-funded technologies (CryoPAF, BIGCAT, CRACO)
- ATUC was asked to comment on the technology roadmap, to provide inputs and feedback on the science case and priorities
- ATUC felt that community engagement is vital in such a process, and advocated a “Science + Instrumentation” day in conjunction with one of the ATUC meetings

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WHAT'S THE ENGG TEAM LOOKING FOR

- What we should/could do for future instruments and capabilities on the ATNF telescopes
- **Science perspective:** what science the community is interested in? where is the new (and compelling) science case?
- **Technology perspective:** the ATNF Engg team will showcase some of current capabilities and strengths, and the R&D work under way
- **Important question:** How can we match the science needs of the community to the technology capabilities, to develop a road map for the future (at least for the next decade)

SCIENCE AND TECHNOLOGY DAY

NOVEMBER 2022

WHAT IS THE ATUC LOOKING FOR

- Science updates, progress and highlights that can inform (and shape) the development or prioritization of future technologies for the ATNF facilities
- Consideration of this bearing in mind the ATNF strategy for the future (particularly for the next decade as we transition to the SKA era)
- **Community engagement and feedback** that could serve as important inputs for ATUC's deliberation in the closed sessions over the next two days
- Provide the **ATUC's perspective and make useful recommendations** for the ATNF management (and for submission to the ATSC)

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THE MEETING PROGRAM AND FORMAT

- **Three specific focus areas** covering the themes of time-domain/multi-messenger science, wide-field surveys, cross-disciplinary applications and extra-ATNF synergies
- **Invited overview presentations** to set the scene, outline questions or topics for discussions, contributory and sparkler presentations
- **Breakout discussion sessions** (~10 sub-groups, with ATUC members distributed across the groups, to moderate/observe), to capture wide-ranging inputs, ideas, thoughts and perspectives
- **Short summary/highlights at the open discussion** session at the end of the day, and ATUC members to bring these summaries to the closed sessions
- Switch to ATNF Gather for the Breakout discussion sessions (logistics from Vanessa & Amanda) – please engage in the discussions

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ATUC MAKE-UP AND NEW MEMBERS

- Thanks to the ATNF Program Leader and the Steering Committee, we have a full quorum of the ATUC, with many new members appointed
- **Welcome new members** – Adelle Goodwin (Curtin), Hayley Bignall (Manly), Craig Anderson (NRAO/ANU), Yik Ki (Jackie) Ma (ANU), Vanessa Moss (CSIRO S&A), Emily Kerrison (Sydney Univ; student member), Peter Macgregor (WSU; student member),
- Thanks Vanessa for taking on the role of ATUC secretary and also for the meeting logistics
- **Continuing members** – Ryan Shannon (Swinburne), Michelle Cluver (Swinburne), Emil Lenc (CSIRO S&A), Ivy Wong (CSIRO S&A)
- Reminder about the code of conduct (also posted on the meeting page) – please be professional and kind to others in your communication
- Looking forward to a productive meeting!