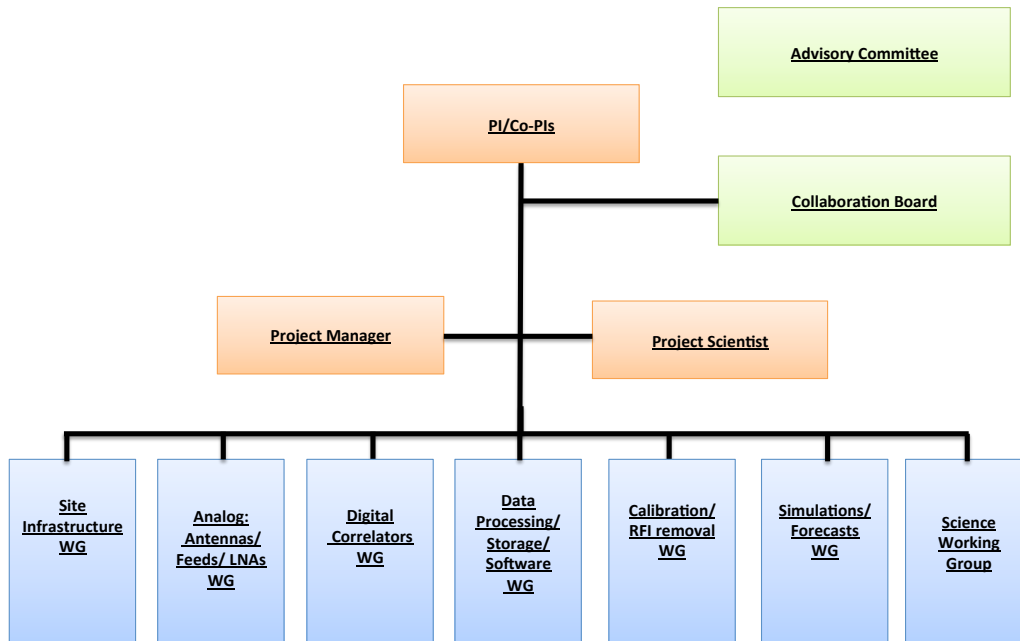


Tianlai collaboration organization
DRAFT
9 March 2017

Organization

A Collaboration Board will be set up to make decisions on all important matters such as funding, schedule, introduction of new members, exit of members, Intellectual Property matters, definition of general specifications and strategy, choice of key personnel, publication policy, etc. Important choices are decided on the basis of consensus agreement. If a consensus is not possible, a vote will be made. Each member of the Board has one vote. Each collaborating institution will select one member of the Board, *except for NAOC, which will appoint 3 members.*



Tianlai Organizational Chart

Membership

Each member will have access to all raw data and reduced data when available.

The project is led by the NAOC (National Astronomical Observatories of China), which has the formal responsibility for building and operating the instrument. However scientists from a number of institutions from China, France, USA and

Canada are currently involved in the project.

In China,

- CETC-54 Institute (China Electronic Technology Corporation)
 - Institute of Automation, CAS (Chinese Academy of Sciences)
- have contributed to the technological R&D effort in China.

In addition,

- Xinjiang Observatory,
- Hangzhou Dianzi University,
- Peking University
- Sanxia University

are members of the collaboration.

Currently scientists from the following international institutions are actively contributing to Tianlai:

- Carnegie Mellon University (CMU), Pittsburgh, USA
- University of Wisconsin, Madison, USA
- Fermilab, Chicago, USA
- LAL (CNRS-IN2P3) & Universite Paris-Sud, Orsay, France
- IRFU (CEA), Saclay, France
- Observatoire de Paris & CNRS-INSU, France
- CITA (Canadian Institute for Theoretical Astrophysics), Toronto, Canada
- Brown University, Providence, RI USA

Publication and Conference Presentation Policy

The Collaboration Board is responsible for ensuring that the publication policy described here is respected.

Research projects undertaken in the collaboration must be announced to the collaboration through the mailing list specifying the topic, project leader, and known collaborators. These research projects are expected to result in publications. All members of the collaboration must inform the Board if they are writing a technical or scientific article or a conference presentation or are dealing with patent or technical transfer matters related to the project. Publications are to be reviewed within the collaboration at least a month (TBD) before being submitted to a journal.

The Board will ensure that all members of the collaboration have equal access to conferences for presenting work performed within the collaboration. The Board will ensure that students and young researchers in the collaboration have priority

in presenting work at conferences and through publications.

Any member of the collaboration can request that his/her name be added to the author list of an article. It is the responsibility of the research project leader whether or not to accept this request, depending on the member's contribution to the project.

The default policy for the author list of papers is: first the main authors, then other involved people in alphabetic order. Any disagreement will be resolved through the Collaboration Board, whose decision is final.

Working Groups

We have established working groups to supervise critical scientific and technical aspects of the Tianlai project. A proposed organizer for some WG's is listed.

Site Infrastructure (Yougang Wang)

Analog electronics (Fengquan Wu): Reflectors, feeds, LNAs, filters, RFoF

Digital Electronics (TBD): Correlators

Data processing & software (Albert Stebbins)

Sending disks to Fermilab/TAC, copying disks, computing & storage infrastructure for off-line processing

Calibration & RFI removal (TBD)

overall gain & phase calibration strategy for the survey (electronic signal injection, artificial source, sky)

RFI cleaning method for level 1 (on-line) & level 2 (off-line) processing

Calibration for level 2 processing.

Beam measurements.

Simulations & Forecasts (Reza Ansari)

- Simulations-1
21 cm signal sky and foregrounds simulation tools
Instrument response computation
- Simulations-2
Develop 3D sky map reconstruction tools from calibrated / cleaned visibilities as well as power spectrum
computation, foreground removal, BAO signal forecasts

Science (Xuelei)

Further develop the Tianlai project science case, including ancillary science.
Prepare white paper.