

Ethical Research Conduct & Proprietary Data and Tools

Neill Reid
SMO

STUC: 16 April 2015

1

Context

- Research staff at observatories are expected to apply their knowledge and skills in support of the general user community.
- Research staff are also expected to conduct independent research projects.
- They may be in a position where they have access to proprietary datasets and/or proprietary software/tool.
- AURA has a general policy on Responsible Conduct of Research
 - <http://www.aura-astronomy.org/about/sectionA.asp> Policy XIX
- We have developed a more detailed STScI policy to cover specific issues relevant to our role in operating NASA missions for the community

Data Ethics

- STScI policy has been in place since 2011
 - Generally codifying existing practice
 - Combination of policies and guidelines
- Policy for HST/JWST data use in individual research projects
 - Appropriate attribution to original program & investigators in analyses of archival datasets
 - Staff should not provide technical reviews of programs where they might have a perceived conflict of interest
 - Access to proprietary data is restricted to calibration work
 - Staff may not take advantage of access to non-public data on local disks

Data Ethics

- STScI policy has been in place since 2011
 - Combination of policies and guidelines
- Guidelines for HST/JWST data use in individual research projects
 - Staff who plan to use enhanced tools to analyse datasets are encouraged to contact the PI of the original program to make them aware of their intent & possibly offer to collaborate.
 - Staff who produce catalogues or enhanced datasets for large-scale programs are encouraged to make a clear distinction between those products and any official data release from those programs.
- The STScI policy identifies Research Integrity Officer as responsible for oversight of these procedures.

Software & Analysis Tools

- HST is an operating mission
 - Software & analysis tools tend to be relatively static
 - Predominantly incremental developments
- JWST is in development
 - Greater potential for novel analysis tools that may not yet be public
 - Staff are interacting with GTO teams & may have access to their tools as a result of their functional duties
- We are currently developing policies to ensure that STScI research staff receive neither an advantage nor a perceived advantage in having access to proprietary software/tools as a consequence of functional work.

Ethical use of software & analysis tools

- Key points:
 - Staff who have access to proprietary software tools or techniques as a result of their functional activities may not use that access to support or enhance independent research proposals.
 - Staff may not use results from those tools or techniques unless the results are public.
 - Staff need to provide a clear accounting of resources applied to independent research proposals

Ethical use of software & analysis tools: synergies

- Some software tools & techniques are a product of both independent research and functional activities
 - We expect research staff to be invested in our missions: staff may develop tools/processes that are adopted by missions; staff may develop enhancements to existing functional tools
 - We are currently developing guidelines for use of such tools
 - Likely will involve formal approval from both the RIO and the relevant mission

Questions & complaints

- If members of the community believe that STScI staff have crossed ethical lines in these areas, we would encourage them to contact us (Director's Office or SMO) directly or to contact STUC members.
- We have a process for investigating those complaints.
 - Note that we will generally need specific information if we are to conduct an investigation, but we will aim to maintain confidentiality to the extent possible.

Software & analysis tools: exploiting synergies

- Researchers, both STScI and external, may develop tools that enhance, complement and/or improve standard HST pipeline analyses
- There has been a suggestion that STScI should look at options for including some of those tools either as options within the standard pipeline or as additions.
 - **Caveat: HST is projected to have a flat budget profile**
- We would appreciate input from the STUC on this topic
 - **What priority would you assign to this activity?**
 - **Can you identify specific tools/enhancements that could have a high impact on science analyses?**
 - **Should we encourage provision of tools/enhancements as well as higher-level data products in Treasury/Legacy programs?**

Summary

- STScI places high value on its integrity as steward of its missions
- STScI research staff may have access to proprietary data and/or software tools as a consequence of their functional activities
 - Policies are in place to guide staff in ethical use of proprietary datasets
 - We are currently finalising policies regarding use of proprietary software tools & techniques
- We encourage the STUC to comment on options for including research-inspired enhancements to standard HST pipeline analyses.