



December 22, 2015

Dr Ken Sembach  
Director  
Space Telescope Science Institute  
3700 San Martin Drive  
Baltimore, MD 21218

*Re: JSTAC Data Processing Working Group*

Dear Director Sembach:

Over the last few years a focus of the JSTAC's attention has been on the many aspects of data processing and data handling for JWST data that are being developed at STScI with the support and involvement of the JWST Project. As we all recognize, the data processing steps that occur between acquisition of the raw data from JWST to publishable results play a crucial role in maximizing the science return from JWST. STScI is expected to provide for the science community a comprehensive set of calibrations, pipelines, data analysis tools, archival capabilities and documentation to ensure that JWST data is quickly and efficiently turned into high-quality published products. Together these multiple aspects fall under the broad rubric of "data processing".

The JSTAC has been interested in ensuring that these capabilities are comprehensive, efficient in operation and use the best available understanding of the Observatory's instrument performance. JSTAC recognizes that not every mode of every instrument can receive the same degree of attention and development, and so a key focus of the JSTAC's discussion has also been on prioritization and how the priorities for the "data processing" tasks are derived.

It has become clear that, with its bi-yearly meetings, the JSTAC is not well positioned to determine how well STScI is doing in its development and prioritization in the broad area of data processing. Accordingly, after discussion with STScI the Committee decided at its most recent meeting to set up a subgroup that would hear more extensively from STScI development teams in the areas noted above. In essence, this group would explore in more depth the progress, the issues and the prioritization of the ongoing work in the "data processing" arena. Shorter, more frequent and more focused discussions were seen as more effective for this activity than discussion at the less frequent JSTAC meetings.

The next ~1.5-2 years are the critical period for "data processing" developments to ensure that capabilities needed by the science community will be in place by the launch of JWST. It is envisaged that the working group discussions would be done through video meetings. Face-to-face activities could occur in conjunction with JSTAC meetings. The working group Chair would report at each JSTAC meeting.

Four members from the JSTAC will form the core of the working group. Given the broad range of activities it was felt that the working group's effectiveness would be enhanced by adding other members from the community who would bring a broad range of backgrounds and experience in these areas. The JSTAC recommends that no more than 4 be added, keeping the working group at no more than 8 members. While moderately large it is recognized that not all members are likely to be able to attend all video meetings/telecons; this size also allows for the group to include members with a range of backgrounds since the breadth of the "data processing" activities is large.

The four JSTAC members are Bob Abraham (who will Chair the Working Group), Natalie Batahla, Roger Brissenden and Lisa Storrie-Lombardi. The additional external members will be appointed by STScI, after consultation with the JSTAC. There should be at least one member from each of the partners. An STScI liaison will be the primary point of contact for the working group's activities.

The charge for the working group is as follows:

*The JSTAC Data Processing Working Group (JDPWG) is tasked to evaluate STScI progress on the developments in a number of areas related to data processing for JWST data, including, for example, calibrations, pipelines, data analysis tools and archiving. The JDPWG should:*

- 1) Evaluate the current state of the developments related to the broad areas of calibrations, pipelines, data analysis tools, archiving and documentation;*
- 2) Consider the planned developments that will provide more mature capabilities by launch (i.e., beyond baseline builds to more enhanced builds that will provide needed capability for science data analysis – such as from 7.0 to 7.1 );*
- 3) Evaluate the priorities for the developments;*
- 4) Meet on a regular basis: it is expected that meetings will occur on a regular basis by video link, typically on 2-3 month timescales, but the working group and STScI should also initiate more frequent discussions if needed. Email updates could be used to keep the working group current;*
- 5) Report at JSTAC meetings: the working group Chair should report to JSTAC at each of its meetings.*

The JSTAC expects to use the reports from the working group, along with further discussions at its meetings, to provide greater insight into STScI's development of a comprehensive set of data processing tools and capabilities that will enable the science community to efficiently process JWST datasets. Issues or concerns that arise from the full JSTAC discussion will be conveyed through the normal JSTAC letter communications to the Director.

The JSTAC looks forward to this being a very productive process during a crucial phase of the development, over the next two years, of the broad suite of data processing capabilities at STScI needed to make JWST a striking scientific success.

Sincerely yours, on behalf of the Committee,



Garth Illingworth  
Chair, JSTAC

JSTAC members:

Roberto Abraham	University of Toronto
Neta Bahcall	Princeton University
Natalie Batalha	NASA Ames Research Center
Stefi Baum	Rochester Institute of Technology
Roger Brissenden	Smithsonian Astrophysical Observatory
Timothy Heckman	Johns Hopkins University
Malcolm Longair	Cavendish Laboratory, University of Cambridge
Christopher McKee	University of California, Berkeley
Bradley Peterson	Ohio State University
Joseph Rothenberg	JHR Consulting
Lisa Storrie-Lombardi	Spitzer Science Center, Caltech
Monica Tosi	INAF – Osservatorio Astronomico di Bologna

JSTAC Ex-officio observers from the Agencies:

(whose contributions to this letter were limited to factual input)

Hashima Hasan	NASA HQ
John Mather	NASA GSFC
Mark McCaughrean	ESA
Alain Ouellet / Jean Dupuis	CSA
Eric Smith	NASA HQ