Frontier Fields implementation policies: draft 7 22/1/2013

Introduction:

The Director has decided to accept the recommendations made by the Hubble Deep Field Initiative working group and undertake ACS/WFC3 observations of up to six moderate redshift galaxy clusters. Simultaneous deep imaging observations will be taken in parallel of blank fields. 140 orbits of Director's Discretionary time will be devoted to each cluster field, with up to 560 orbits initially committed through Cycles 21 and 22. Data taken for this Frontier Fields program will be non-proprietary, but STScI will produce a series of high-level data products.

STScI as an institution needs to maintain the highest level of integrity in its treatment of the observations, analysis tools and high-level data products associated with the Frontiers Field program. STScI staff members are entitled to pursue scientific research with public HST data. However, additional considerations apply when they have access to calibration and analysis tools or to high-level data products that are being developed with HST Project funds and are not yet public. STScI Policy III-B-7 gives general guidelines on ethical use of data; this document covers issues that are specific to the Frontier Fields program.

Structure:

The final design and implementation of the data program and the production of high-level data products will be undertaken by a Core Implementation Team (CIT), working in conjunction with Science Advisory Committee (SAC). The overall program will be coordinated by the CIT lead, Jennifer Lotz, who has the final authority for decisions. The HST Mission Head, Ken Sembach, the SMO Mission Head, Neill Reid, and former STScI Director Bob Williams will serve as a Program Advisory Council (PAC).

> The SAC will comprise 8-10 research scientists from STScI and the community who are committed to providing scientific advice to the CIT on scientific aspects of the implementation process, including the selection of appropriate targets, filter selection, distribution of exposure times and the relative priorities of different analysis tools. The SAC will help define the high-level science products generated by the CIT. The SAC provide oversight of the CIT with regard to the scientific aspects of program implementation and will be briefed regularly on progress by the CIT Lead and/or her designates. Members of the SAC will not participate in any functional activities connected with the Frontier Fields program implementation, and will not have access to

either high-level data products or associated tools until those products and tools are released to the general community.

The CIT will be responsible for preparing the Phase II proposals, designing and implementing the observing schedule, processing the data and preparing the high-level data products. CIT members will be drawn from the STScI staff. The CIT Lead may convene topic-specific working groups related to the implementation. The CIT will consult regularly with the SAC regarding the scientific aspects of program implementation. The CIT Lead or her designate will keep the general community informed of progress and provide an avenue for receiving their input.

The CIT Lead, working in conjunction with the PAC, will recruit the membership of the SAC and CIT; both membership lists will be made available through the Frontiers Field website.

The HST Mission Office anticipates releasing a Lensing Map Challenge by mid-January 2013: specifically, the call will solicit proposals from external research groups to provide magnification maps for each cluster together with tools that will allow the community to interpret those maps. Limited funding will be available to support that activity, and the maps and associated data products will be delivered to STScI before the start of Cycle 21.

Data release schedule:

We anticipate that complete observations will be undertaken of two cluster fields in Cycle 21 and a further two by the end of Cycle 22. The observations will be made at two orientations, 180^{o} apart and separated by ~6 months. All data will be non-proprietary. There will be two data releases for each cluster, each associated with the completion of observations at a specific orientation. Enhanced data products derived from the HST data will be released to the community no later than 2 weeks [TBD] after the last observations are taken at a specific orientation for a given cluster.

Requirements:

General:

- The program implementation will be designed to achieve the science goals developed by the HDFI Science Working Group.
- **Any data products or analysis tools developed in the course of the Frontier Fields program may not be used for personal research until they are made available to the general community.**

- STScI staff working on the implementation team must clearly separate their functional work from any scientific research undertaken using these data or associated tools and data products.
- The following restrictions apply to all members of the SAC and the CIT, irrespective of institutional affiliation.

SAC:

- Members of the SAC must not participate as PIs or Co-Is in proposals submitted in response to the Lensing Map Challenge.
- There are no restrictions on SAC members with regard to participation in Cycle 21 or Cycle 22 HST proposals or involvement in scientific publications based on data taken for the Frontier Fields program and/or enhanced data products associated with that program.

CIT:

- Members of the CIT must not participate as PIs or Co-Is in proposals submitted in response to the Lensing Map Challenge.
- Members of the CIT must not serve as PIs on HST Cycle 21 proposals that are associated directly with the Frontier Fields programs. Those proposals include AR programs that aim to utilize Frontier Fields data, Theory programs designed to support analysis of those data, or observing programs that aim to supplement the Frontier Fields datasets.
- Members of the CIT may participate as co-Is in HST Cycle 21 proposals that are associated with the Frontier Fields programs. They must inform the CIT lead of their involvement in those proposals and they may not apply for or receive grant funding if those proposals are accepted. First author papers by CIT members that utilize data from a particular cluster in a particular orientation may not be either submitted for publication or appear on astro-ph until at least 6 weeks [TBD] after the release of the high-level data products for observations made of that cluster in that orientation.
- Members of the CIT may participate as co-Is in HST Cycle 22 proposals that are associated with the Frontiers Fields programs. They must inform the CIT lead of their involvement in those proposals and they may not apply for or receive grant funding. There are no publication restrictions for analyses of Frontier Fields data taken in Cycle 22.