The Human BioMolecular Atlas Program (HuBMAP) Pre-Application Webinar

January 11th, 2018, 11:00-12:00PM EST

To submit questions during the webinar please use the Q&A box. We will address questions at the end of the presentation. Following the webinar, questions can be sent to HuBMAP@mail.nih.gov

NIH National Institutes of Health
Office of Strategic Coordination - The Common Fund

What is the NIH Common Fund?

- **Supports a set of trans-NIH scientific programs;**
- **“Venture capital” space for high-risk, innovative endeavors with potential for extraordinary impact;**
- **Short-term (5-10 year), goal-driven programs focused on developing specific deliverables (data, tools, technologies, etc.) to catalyze research;**
- **Managed by the Office of Strategic Coordination within the NIH Office of the Director, in partnership with the NIH Institutes and Centers.**

Common Fund programs are intended to benefit the entire biomedical research community

The Human BioMolecular Atlas Program (HuBMAP)

Vision: Catalyze development of an open, global framework for comprehensively mapping the human body at a cellular resolution

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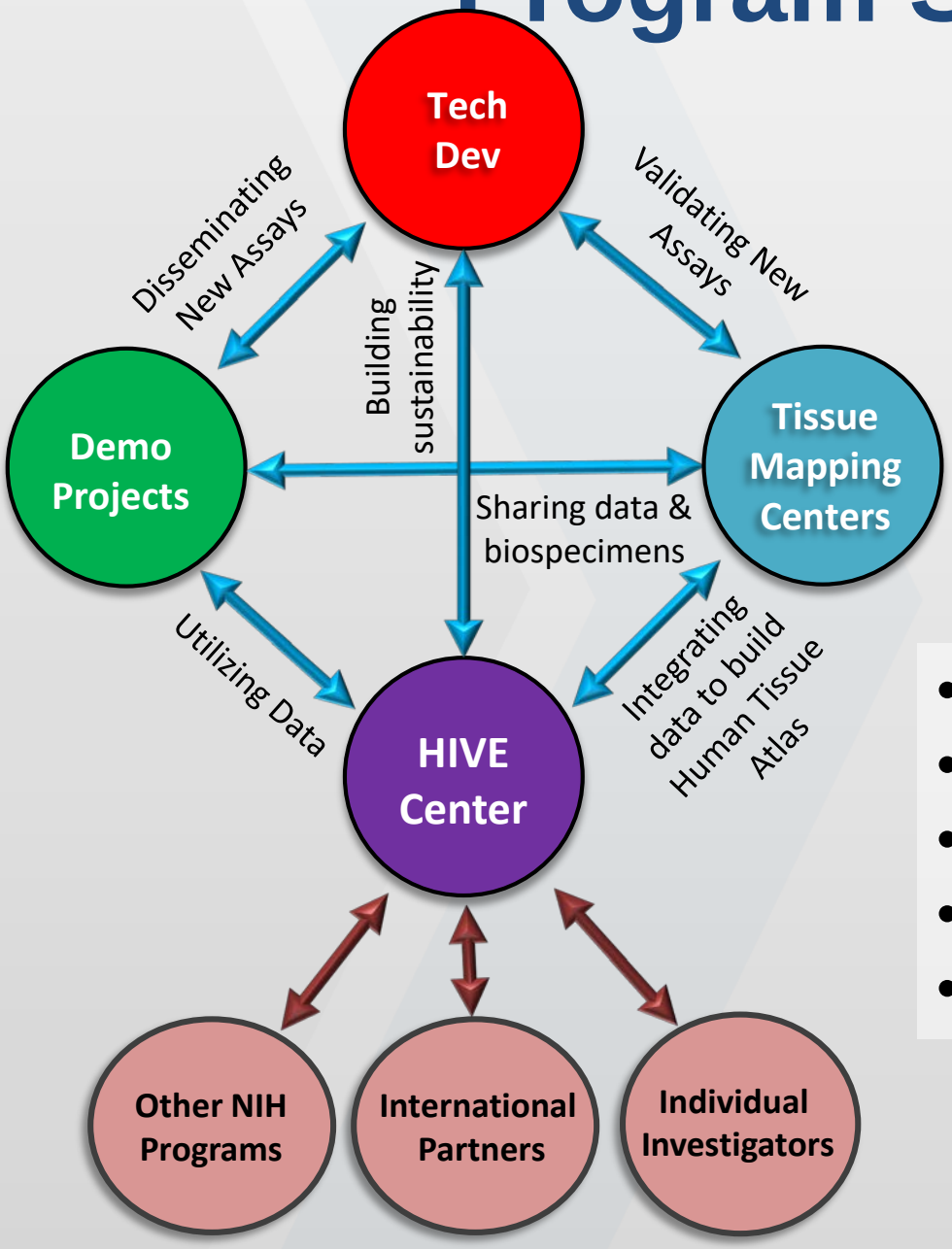
HuBMAP Goals

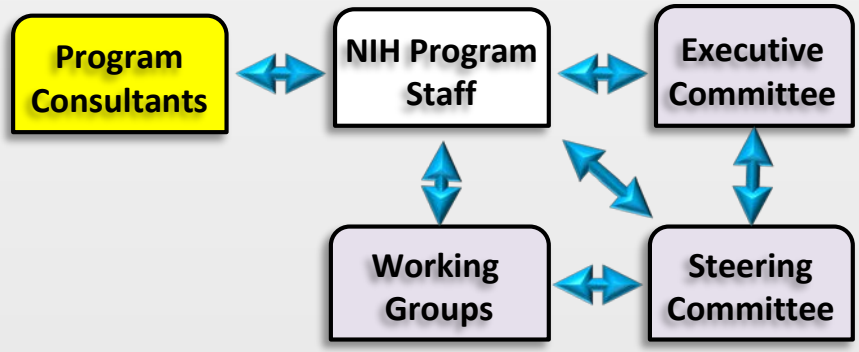
1. Accelerate the development of the next generation of tools and techniques for constructing high resolution spatial tissue maps
2. Generate foundational 3D tissue maps
3. Establish an open data platform
4. Coordinate and collaborate with other funding agencies, programs, and the biomedical research community
5. Support projects that demonstrate the value of the resources developed by the program

Program Structure & Timeline

National Institutes of Health
Office of Strategic Coordination - The Common Fund

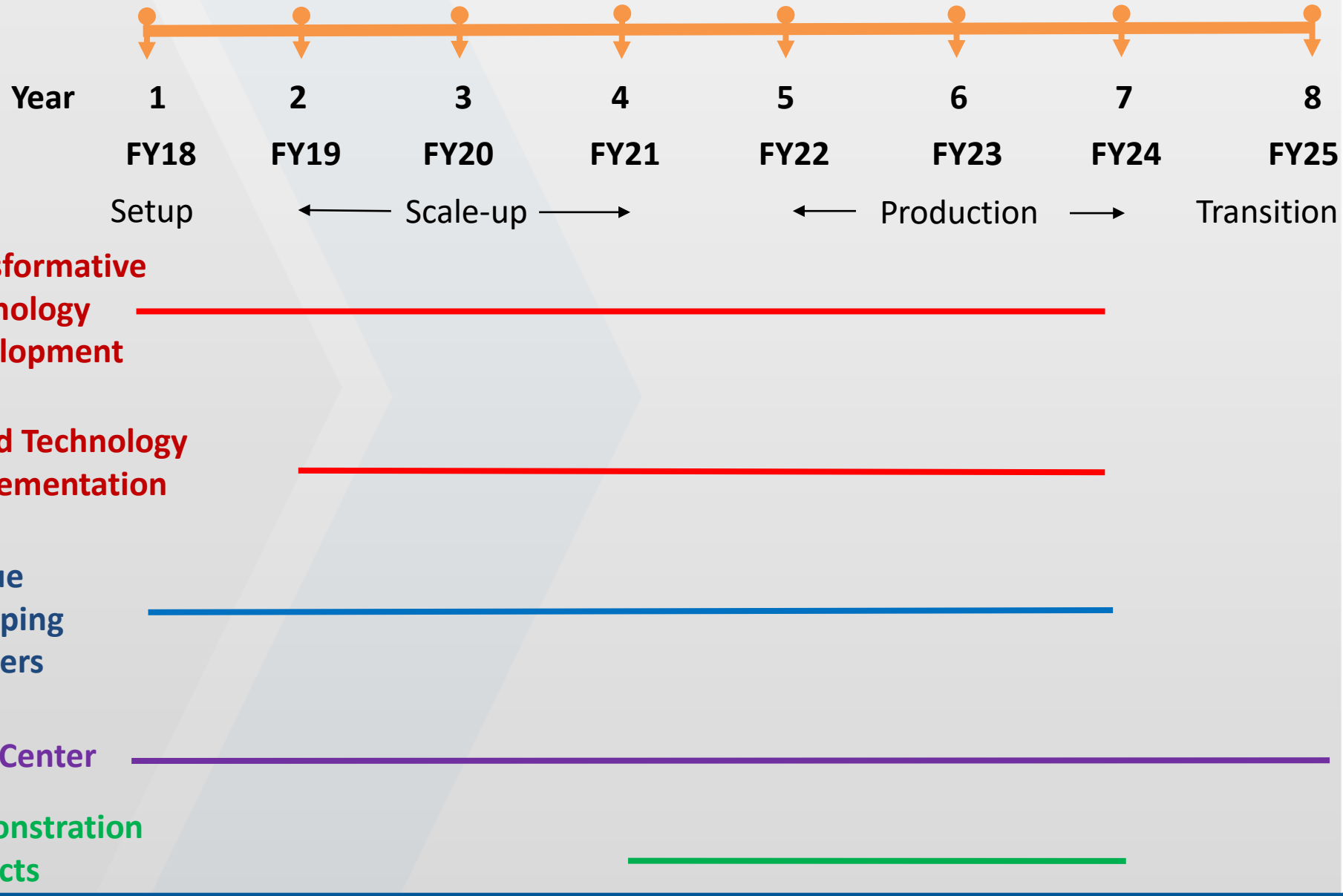
Program Structure





- Shared Governance
- Active NIH Management
- Coordination and Collaboration
- Transparency and Accessibility
- Stewardship for Sustainability

HuBMAP Timeline



FY18 Activities

National Institutes of Health
Office of Strategic Coordination - The Common Fund

FY18 Initiatives

RFA-RM-17-025 - Transformative Technology Dev. (UG3 / UH3)

- Significantly expand throughput, multiplexing and discrimination of biomolecules in human tissues for comprehensive mapping of human tissues
- Accelerate proof-of-principle demonstration and validation of promising tools, and techniques that can be integrated, scaled and applied to multiple human tissues

RFA-RM-17-027 - Tissue Mapping Centers (U54)

- Generate high-resolution, high-content, multiscale maps of non-diseased human organs and systems
- Integrate and optimize all parts of the data generation pipeline, from tissue collection and preservation through to data integration, analysis and interpretation

COMING SOON - HuBMAP Integration, Visualization and Engagement

1) manage the data generated by the Consortium, 2) coordinate internal and external Consortium activities, 3) develop novel tools for visualizing, searching and modelling data and 4) build an atlas of tissue maps

Key Points for All RFAs

- HuBMAP projects will generate high resolution, high content, high-throughput biomolecular data to generate 3D tissue maps of non-diseased, human tissue
- NIH intends that the products of HuBMAP will be broadly and rapidly available
  - Comprehensive Sharing Plan required – expectation that data are shared with Consortium quarterly and pre-publication
- All applicants should define a clear set of annual milestones and a timeline, including goals for data generation and sharing
- Awardees must be prepared to adjust, add, or delete items from their proposed plan to align with evolving program progress and goals
- Successful applicants are expected to propose and set aside funds for collaborative work with other members of the Consortium

Administrative Details for All RFAs

- **FAQs** covering many details are available on-line:
  - https://commonfund.nih.gov/hubmap/generalfaqs
- **Budgeting**: Applicants are encouraged to budget for Consortium activities, resource sharing, outreach, and meeting attendance as part of their proposed budget. NIH may modify budgets on award.
- **NIH Involvement**: There will be substantial NIH programmatic involvement in individual projects and Consortium activities
- **RFAs**: These are one-off announcements with no revisions or appeals.
- **For TTD / TMC RFAs:**
  - **Eligibility**: Foreign institutions / for-profit organizations / NIH intramural program are eligible to apply
  - **LOIs:** Not required, but strongly encouraged.
  - **Review**: Review will be in SEPs. Please pay attention to review criteria are given in the RFAs.

Transformative Technology Development for HuBMAP (UG3/UH3) (RFA-RM-17-025)

Pothur Srinivas (NHLBI)

NIH National Institutes of Health
Office of Strategic Coordination - The Common Fund

Transformative Technology Development for HuBMAP (UG3/UH3) (RFA-RM-17-025)

- **Objective**: Accelerate proof-of-principle demonstration and validation of technologies that will significantly expand throughput, multiplexing and discrimination of biomolecules in human tissues.
- **Period**: UG3 (up to 2 years) / UH3 (up to 2 years)
- **Budget**: 5 awards, UG3: <$250k DC / year; UH3: <$400k DC / year

Phased cooperative agreement [12 page research strategy]:

- **UG3 Phase:** Developing tech and demonstrating proof of principle in mammalian tissue.
- **Transition to UH3:** Compelling results from in situ analysis, unique capabilities, programmatic priority; significant attrition expected
- **UH3 Phase:** Scale-up, optimization and validation for multiple human tissues.

Transformative Technology Development for HuBMAP (UG3/UH3) (RFA-RM-17-025)

Applications addressing the following topics will be deemed non-responsive and will not be reviewed:

- Projects primarily focused on the pursuit of a biological mechanism through basic research that does not result in an innovative technology that will significantly improve our capabilities to spatially map human tissues;
- Projects proposing technologies that cannot be easily scaled for comprehensive analysis of multiple human tissues or that cannot be multiplexed with other assays;
- Projects that do not propose methods that provide spatial information regarding the organization of cellular and non-cellular tissue components;
- Projects proposing to primarily study fluids or dissociated cells;
- Projects with published results demonstrating proof-of-principle for the proposed technology using mammalian tissue;
- Projects that do not propose a feasible strategy to analyze mammalian tissue during the UG3 phase and non-diseased human tissue during the UH3 phase.

Tissue Mapping Centers for HuBMAP (U54) (RFA-RM-17-027)

Zorina Galis (NHLBI)
Richard Conroy (OD)

NIH National Institutes of Health
Office of Strategic Coordination - The Common Fund

Tissue Mapping Centers for HuBMAP (U54) (RFA-RM-17-027)

- **Objective**: Generate high-resolution, multi-parameter, 3D biomolecular maps of non-diseased human organs and organ systems.
- **Period**: Up to 4 years
- **Budget**: 5 awards, $2.5M in FY18, $5M in FY19, $9M in FY20/21.

Multi-component cooperative agreements:

- **Coordination Core (CC)** responsible for general admin duties and for coordinating activities within the TMC and sharing expertise and resources [6 pages]
- **Data Analysis Core (DAC)** will be responsible for data annotation, curation, and analysis [6 pages]
- **Organ-Specific Projects (OSP)** responsible for generating high quality tissue maps using multiple assays for one organ or component of an organ system. A Center can propose up to four OSPs, with each focused on a separate organ [12 pages each]

Cores and projects may vary in size, start date and composition, but should be synergistic with overall vision [6 pages]

Tissue Mapping Centers for HuBMAP (U54) (RFA-RM-17-027)

Applications addressing the following topics will be deemed non-responsive and will not be reviewed:

- Projects primarily focused on the pursuit of a biological mechanism through basic research that does not result in the generation of comprehensive tissue maps;
- Projects proposing maps constructed through use of non-human or biospecimens with diseased or dysfunctional characteristics;
- Projects proposing maps based upon a single experimental assay (i.e. maps constructed from a single data type);
- Projects that do not propose methods that provide spatial data information regarding the organization of cellular and non-cellular tissue components;
- Projects proposing to primarily study fluids or dissociated cells; or
- Projects that do not propose all the required components

The HuBMAP Integration, Visualization & Engagement (HIVE) Initiative

COMING SOON

Ajay Pillai (NHGRI)

NIH National Institutes of Health
Office of Strategic Coordination - The Common Fund

The HuBMAP Integration, Visualization & Engagement (HIVE) Initiative

- **Objective**: 1) manage the data generated by
  Consortium, 2) coordinate internal and
  3) develop novel tools for visuali
  and 4) build an atlas of tiss
- **Goal**: The HIVE will
  community a
  human
  a
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  orga
- **Scope**
  Collabo
  Mapping

Technical Assistance Webinar
February 8, 2018: 1-2pm EST
(Subject to change)
More details on the website

HuBMAP Important Dates

- **HIVE Webinar:**
  - ✓ February 8, 2018: 12-1pm EST (subject to change)
- **Letter of Intent Due Dates:**
  - ✓ February 1, 2018 for RFA-RM-17-027 (U54) & RFA-RM-17-025 (UG3/UH3)
- **Application Receipt Dates:**
  - ✓ March 2nd, 2018 for RFA-RM-17-027 (U54) & RFA-RM-17-025 (UG3/UH3)
- **Review Dates:**
  - ✓ May/June 2018 for RFA-RM-17-027 (U54), RFA-RM-17-025 (UG3/UH3)
- **Advisory Council:**
  - ✓ August 2018 for RFA-RM-17-027 (U54) & RFA-RM-17-025 (UG3/UH3)
- **Earliest Start Dates:**
  - ✓ September 2018 for RFA-RM-17-027 (U54), RFA-RM-17-025 (UG3/UH3)
- **Kickoff Meetings:**
  - ✓ HIVE Components: mid-October 2018 (subject to change)
  - ✓ HuBMAP Consortium: November 15-16, 2018 (subject to change)

Questions?

To submit questions please use the Q&A box. Following the webinar, questions can be sent to HuBMAP@mail.nih.gov

Additional Information

Connect with us:

- General mailbox: HUBMAP@mail.nih.gov
- Website: https://commonfund.nih.gov/HuBMAP
- Mailing list: https://list.nih.gov/cgi-bin/wa.exe?SUBED1=hubmap_news_and_information&A=1

Frequently Asked Questions:

https://commonfund.nih.gov/hubmap/faqs

Interested in applying:

We strongly recommend you discuss any application with us in advance and that you submit a LOI.