The HuBMAP Integration, Visualization, and Engagement (HIVE) Center
Pre-Application Webinar
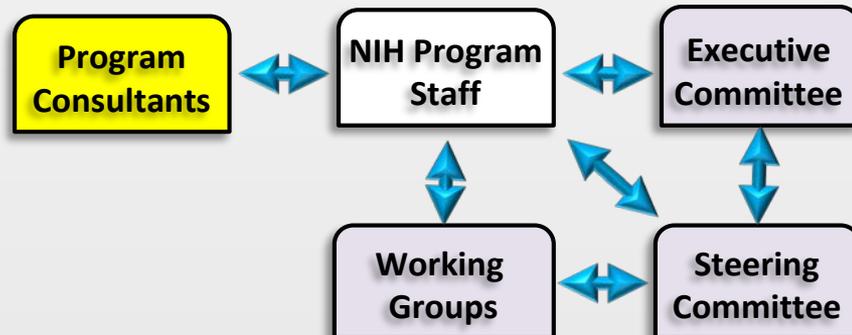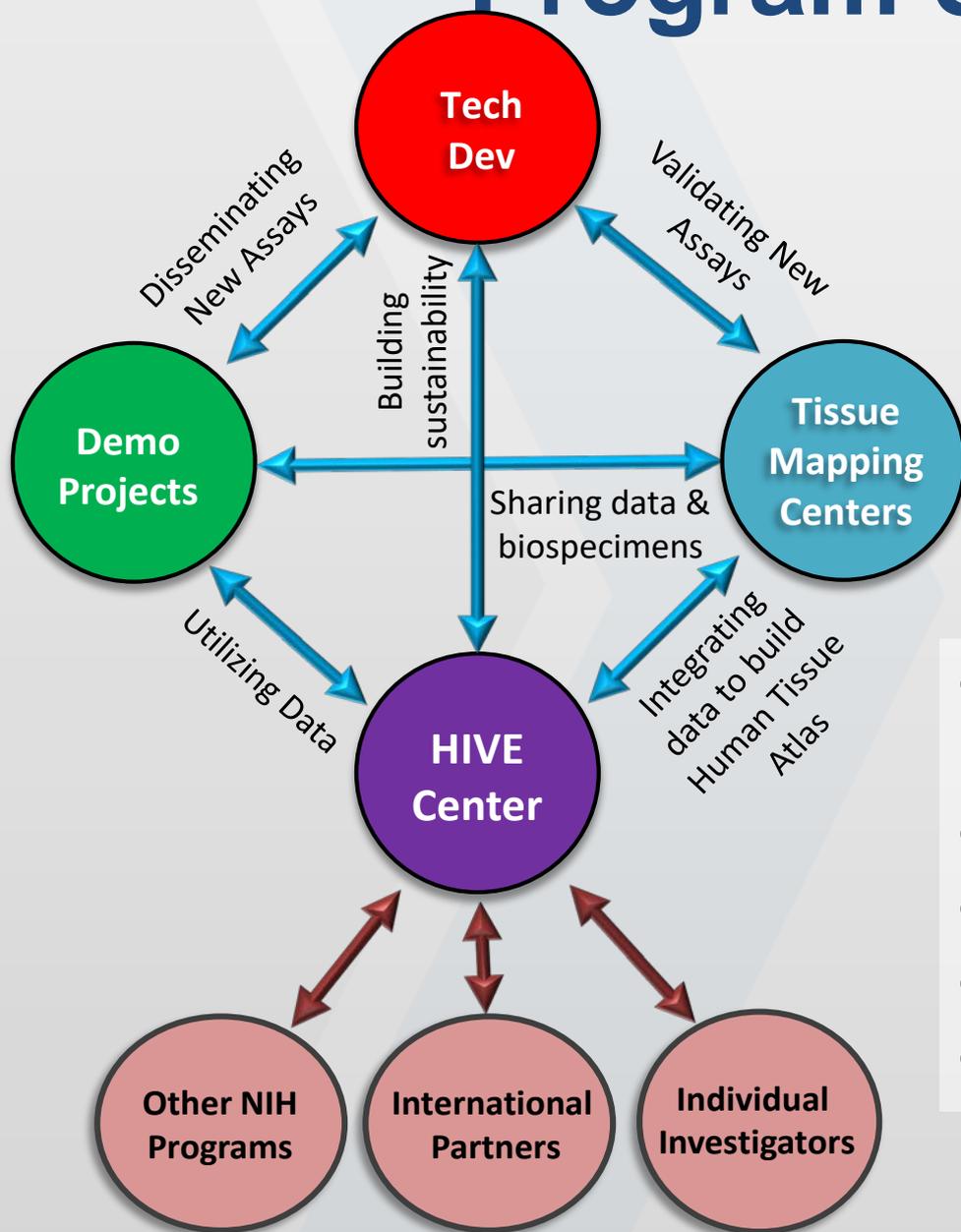
February 8th, 2018, 12:00-1:00PM EST

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

HuBMAP@mail.nih.gov

https://commonfund.nih.gov/HuBMAP

The Human BioMolecular Atlas Program (HuBMAP)

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

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

Program Structure

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

See the Jan 11th webinar for more information

HuBMAP@mail.nih.gov

The HuBMAP Integration, Visualization & Engagement (HIVE) Initiative (OT2) RFA-RM-18-001

Ajay Pillai (NHGRI)
Zorina Galis (NHLBI)

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

The HuBMAP Integration, Visualization & Engagement (HIVE) Initiative

➢ **Goal:** Build a central hub for the collaborative community engaged in comprehensively mapping the human body

➢ **Structure:** Four components:

1. Collaboration Component
2. Infrastructure Component
3. Mapping Component
4. Tools Component

➢ **Objectives:** The HIVE will:

- manage the data generated by the Consortium
- coordinate internal and external Consortium activities
- develop tools for visualizing, searching and modelling data
- build an atlas of tissue maps.

The 4 HIVE Components

Collaboration Component

Coordinate and promote collaboration in the HuBMAP Consortium and the wider research community

Infrastructure Component

Build and manage the data platform and support the internal and external facing IT tools for the Consortium

Mapping Component

Integrate TMC data with existing data to build spatial maps of biomolecular distribution for the human body

Tools Component

Build and manage suite of search, analysis and visualization tools for HuBMAP data

NOTE: Each application may propose only one Component. However, a coordinated set of separate applications, each describing a separate Component but with a common vision, can be proposed

Component Responsiveness

Collaboration Component

Propose inward and outward activities that will support collaboration, communication and accountability.

Infrastructure Component

Propose a practical, scalable, flexible cloud-first solution that integrates imaging and omics data.

Mapping Component

Propose integrating HuBMAP and existing data into multiscale, body-wide spatial maps of multiplexed biomolecular data

Tools Component

Propose a suite of search, analysis and visualization tools for accessing data with end-users in mind

Key Points for the HIVE Initiative

Other Transactions — **Actively managed awards with much more NIH input – be prepared with project manager & award management.**

Seamless Integration — **4 components must work seamlessly together – be prepared for a lot of intense interactions**

Flexibility — **Consortium, data and technologies will evolve – be prepared to work with NIH staff to adjust, add, delete activities and partners**

Practical Deliverables — **Building a resource that needs to be usable – be prepared to regularly demonstrate progress, use off-the-shelf / modular solutions & harmonize with others**

Other Transactions (OTs)

Richard Conroy (OD)

"…OTs are not contracts, grants, or cooperative agreements…"

Other Transactions (OTs) Overview

https://commonfund.nih.gov/HuBMAP/OtherTransactions

Why OT Awards?

➢ OTs allow the <u>nimble addition or subtraction</u> of expertise, tools, technologies and partnerships to realize this vision and proactively adapt to the changing landscape

➢ OTs facilitate <u>engagement of nontraditional partners</u> as well as flexible cost-sharing and ownership

What are Other Transaction (OT) Awards?

➢ Not a grant, cooperative agreement, nor a contract

➢ HuBMAP Other Transactions Policy Guide:
https://commonfund.nih.gov/sites/default/files/HuBMAP_OT_Policy_Guide.pdf

➢ HuBMAP - Public Policy Requirements:
https://commonfund.nih.gov/HuBMAP/publicpolicy

➢ FAQs: https://commonfund.nih.gov/HuBMAP/Otfaqs

Other Transactions – Key Process Changes

Opportunity Announcement
- Flexible solicitation and submission formats
- Encourages nontraditional partners

Objective Review
- Diverse reviewers & interactive discussion
- Different review criteria
- Selection of pieces of a proposal
- Faster assessment of applications

Award Management

Awards can be:
- Expanded
- Modified
- Partnered
- Discontinued

Based on:
- Program needs
- Evolving landscape
- Availability of funds

HIVE Application and Review Process

Jessica Smith (OD)

This is not a typical NIH grant application.

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

Application Process

Discuss

- Optional, but **applicants are strongly encouraged** discussion with:
  Ajay Pillai, Ph.D. (NHGRI)
  pillaiajay@mail.nih.gov
  Zorina Galis, Ph.D. (NHLBI)
  galiszs@mail.nih.gov

Letter of Intent (Required)

- Email letter of intent by February 28, 2018
- Must propose to address one of the four HIVE Components

Invitation to Submit

- Within ~2 weeks, a subset of LOI applicants will be invited to submit a full OT2 application

OT2 Application

- Full OT2 applications are due by April 16, 2018
- **These applications are invite only**

Invitation to Interview

- In May 2018, a subset of meritorious OT2 applicants will be invited to present their applications and address questions in an interactive review panel

Interview

- In June 2018, teams with meritorious applications will be invited for a video / in-person interview to clarify questions about proposal

Negotiate

- In July/August 2018 HuBMAP will negotiate budget, benchmarks, and deliverables with selected applicants

Award

- NIH will award an Other Transaction Award (OT2) after successful negotiation

Required Letter of Intent (LOI)

This is not a typical NIH grant application

Email to HUBMAP@mail.nih.gov by February 28, 2018

- Overview and strategy (2 pages maximum)

- Personnel qualifications: (1 pages maximum)

- Estimated budget for the first year

- Up to three letters of support, as appropriate

- See funding announcement for full instructions

- A separate LOI will be required for each component

Application Format

This is not a typical NIH grant application

- **SF424(R&R)** –Invitation to Submit must be included
- **PHS 398 Research Plan (12 page limit)**
  - ✓ **Vision and Overview:**
    - o Goals of the component and major deliverables
    - o Milestones / timeline with benchmarks and demonstrations
  - ✓ **Scientific, Technical and Management Strategy:**
    - o Strategy to build a useable, sustainable, high value community resource
    - o Sufficient information to gauge the applicant's likelihood of producing the deliverables and achieving their objectives.
  - ✓ **Letters of Support** – see RFA for details
  - ✓ **Resource Sharing Plan**:
    - ✓ Specific Plan for Public Access; Data Sharing; Protocol; Tool and Reagent Sharing; Intellectual Property; Sharing Software

*see funding announcement for full instructions

Objective Review

This is not a typical NIH grant application

Objective Review Interviews

- Selected meritorious applications invited to interactive interview in June to clarification reviewer questions
- 1-hour interviews will be either in-person or via videocast. NIH will not support travel for these interviews.
- Scored applications will receive a brief summary of review discussion

Objective Review Criteria

- Merit of Scientific, Technical and Management Strategy (60% of Overall Impact)

- Personnel Qualifications (30% of Overall Impact)

- Institutional Commitment (10% of Overall Impact)

Other Transaction Financial Management

Terri Jarosik (NIMH)

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

Financial Award Management

- Incremental award segments based on negotiated milestones
  - Award "segments" can range from 4-12 months
  - No obligation for future funding
  - Each segment requires frequent reporting/ demonstration of milestones met
  - Future support is contingent on satisfactory progress, programmatic priorities, the availability of funds, and the continued best interests of the Federal government
  - When milestones are ahead of schedule, additional funds and milestones may be negotiated
  - Both parties (applicant organization and NIH) must agree to terms and conditions of the award
- NIH may extend or terminate an award for convenience
- No "No Cost Extension"; segments may be extended, milestones re-negotiated or budgets adjusted

Key Points for Financial Management of OTs

➢ **NIH is invested in the success of these awards** – NIH will work with recipients to take appropriate action as needed

➢ Many [Public Policies](#) apply to OT, though not FAR or NIH Grants Policy; HuBMAP has its own [OT Policy Guide](#)

➢ Application process has the same requirements as submitting a grant application (e.g. DUNS, SAM, eRA Commons registration…)

➢ Format and review of applications is different (e.g. Required LOI, Interview, review criteria…)

➢ Award management is similar (e.g. cost principles, accounting, financial standards, records, payments), though different in places (e.g. progress reports)

➢ Award funding is different (e.g. variable segment lengths, no future commitment, can be terminated or extended by NIH…)

➢ Changes in project and budget are different (e.g. NIH can propose changes, threshold for prior approval…)

➢ Reporting requirements are similar (e.g. financial, invention, lobbying, audits) though different in places (e.g. frequency based on segment length)

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

Other Transaction Information:

➢ https://commonfund.nih.gov/sites/default/files/HuBMAP_OT_Policy_Guide.pdf

➢ https://commonfund.nih.gov/HuBMAP/publicpolicy

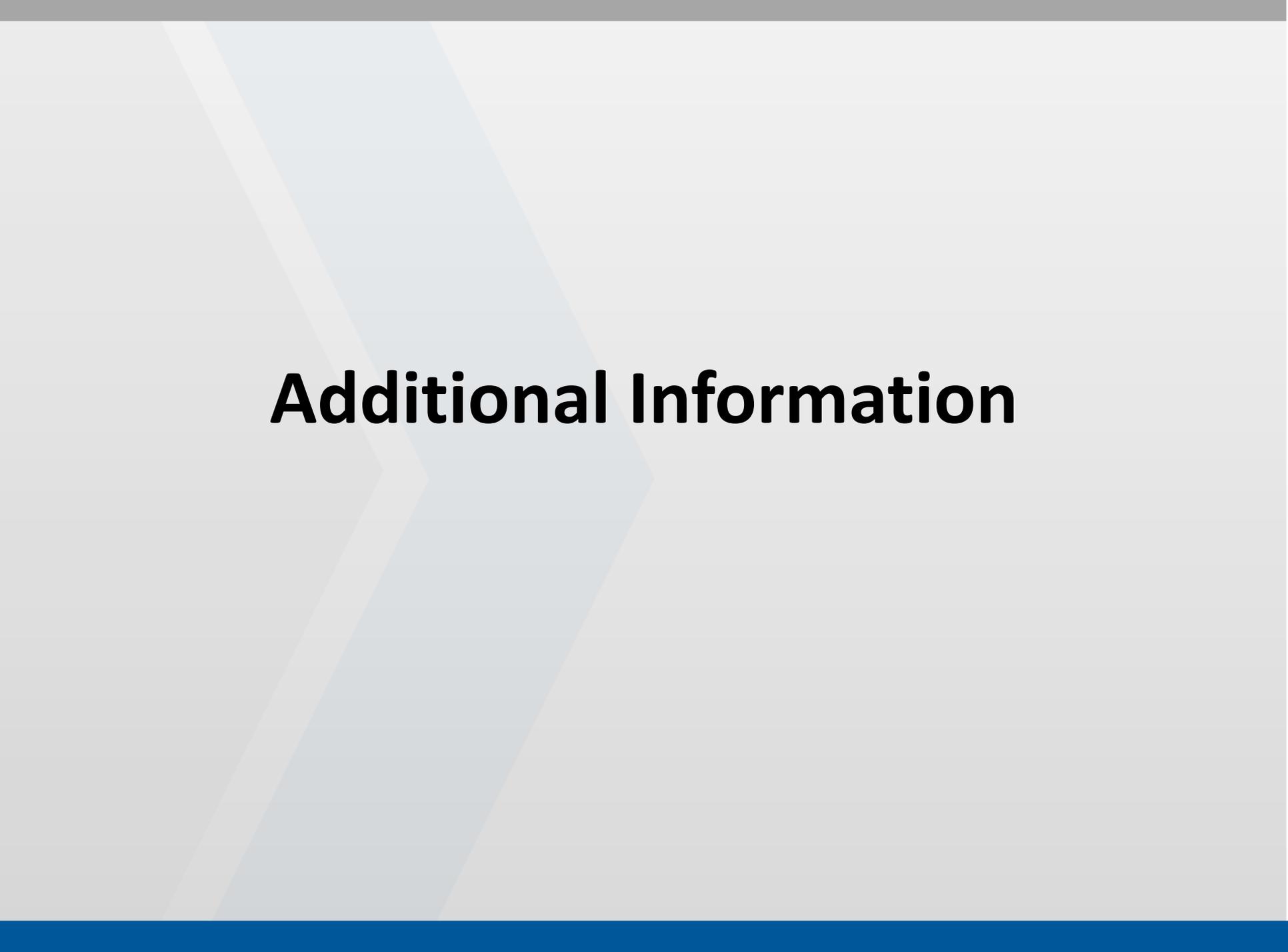➢ https://commonfund.nih.gov/HuBMAP/Otfaqs

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

Questions?

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

These are not grants. We strongly encourage you talk with NIH staff first and engage your sponsored research office.

Remember that an approved LOI is required before an application will be accepted.

Additional Information

Application Details

Mechanism: Other Transaction (OT2) awards

Period: Propose 4 years in application; NIH can extend or terminate

Budget: $2M total for 4 components in FY18; will grow significantly

An application may propose only one HIVE Component. However, a coordinated set of separate applications, each describing a separate Component but with a common vision, can be proposed

Before submitting the <u>required</u> Letter of Intent, please:
➢ Review the HuBMAP Other Transactions Policy Guide
   https://commonfund.nih.gov/sites/default/files/HuBMAP_OT_Policy_Guide.pdf
➢ Review the Funding Announcement RFA-RM-18-001
➢ Talk with NIH Staff

Collaboration Component

Goal: Enhance the collaborations and exchange of information among HuBMAP Consortium members and between HuBMAP and the wider research community

Tasks include: (*see funding announcement for full list*)

➢ Coordination of HuBMAP Consortium:
- Development, implementation, and tracking of compliance with common operating principles, metadata standards, etc.
- Collaborative activities within and outside

➢ Facilitating cross-fertilization and training through pilot projects, training sessions, workshops, and jamborees

➢ Organizing and facilitating HuBMAP Consortium meetings

➢ Managing the HuBMAP identity and presence, including;
- Online presence through HuBMAP web portal
- Disseminating through multiple channels including outreach at meetings, press releases and social media and regularly reporting on Consortium-wide performance and activities

➢ Engaging with:
- NIH-related programs
- The global research community

Infrastructure Component

Goal: Establish, optimize and scale a reliable, accessible infrastructure for archiving and analysis of data generated initially by HuBMAP and later by the wider research community

Tasks

Ingest; archive; expose data in controlled monitored fashion;
Scalable architecture for multiple pipelines & visualization tools;
Deploy tools built by other components of HIVE or Community;
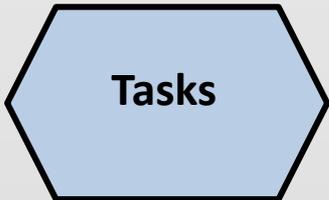Work to reduce costs and duplication;

Application

Should address ALL aspects that would achieve the goal and so that application can be reviewed as a complete solution;
Propose detailed milestones for FY18 (setup phase); Big picture milestones for FY19-21 (scale-up phase)

Challenges

Develop detailed understanding of challenges faced by other components of HIVE, by TMC, community members;
Working with other components to create working backbone for the success of HuBMAP;
Adapting to changing needs & domain expertise over time

Mapping Component

Goal: Build and optimize the framework for integrating TMC-generated tissue maps together in the context of the human body

Tasks

Realize common coordinate framework(s) for integrating data across the human body;
Develop/optimize pipelines for generating tissue maps;
Managing data releases;
UI for releasing maps;
Enable data access for computational needs;

Application

Should address ALL aspects that would achieve the goal and so that application can be reviewed as a complete solution;
Propose detailed milestones for FY18 (setup phase); Big picture milestones for FY19-21 (scale-up phase)
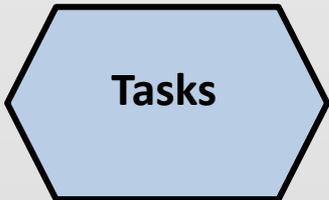
Challenges

Develop detailed understanding of challenges faced by other components of HIVE, by TMC, community members;
Common Coordinate Framework(s) for experimental scientists
Working with other components to create working backbone for the success of HuBMAP;
Adapting to changing needs & domain expertise over time

Tools Component

Goal: Develop search, analysis and visualization tools for HuBMAP data or enable adoption and usage of relevant ones from the community as well as serving data to computational scientists

Tasks

Enable open, FAIR and citable guiding principles for HuBMAP;
Enhance reproducibility and reliability of data released;
Engage community to enhance access, searching, visualization;
UI for releasing maps;
Enable data access for computational needs;

Application

Should address ALL aspects that would achieve the goal and so that application can be reviewed as a complete solution;
Propose detailed milestones for FY18 (setup phase); Big picture milestones for FY19-21 (scale-up phase)

Challenges

Develop detailed understanding of challenges faced by other components of HIVE, by TMC, community members;
Develop community prioritization for tools;
Working with other efforts like NIH Data Commons for standards and approaches;
Adapting to changing needs & domain expertise over time

Data Access

Funded projects will be **<u>required</u>** to make HuBMAP-developed data and technologies available to other projects in the HuBMAP Consortium, and more broadly to the research community.

Working together, the four Components will have four main data accessibility responsibilities:

➢ flexible management, archiving, and accessibility of diverse biomedical data types generated by the HuBMAP Consortium and later by other programs and the wider research community
➢ making HuBMAP data open, findable, accessible, interoperable, and reusable
➢ ensuring interoperability through use of existing standards, approaches, ontologies where possible
➢ addressing all relevant human data privacy concerns

Before submitting the required Letter of Intent, please:
• Read the HuBMAP Other Transactions Policy Guide
  https://commonfund.nih.gov/sites/default/files/HuBMAP_OT_Policy_Guide.pdf
• Funding Announcement RFA-RM-18-001
• Talk with NIH Staff

Comparison of Mechanisms

Support or acquisition mechanism	Research directed by	Responsive to changing priorities	Grant or procurement laws and regulations apply?	Governed by overarching federal *research* laws, regulations, policies
Grant	Investigator	No	Governed by *Federal Grant and Cooperative Agreement Act*	✔
Cooperative Agreement	Investigator with significant government involvement	Some		✔
Contract	Government	Not really	Governed by *procurement laws and regulations*	✔
Other Transaction	Government - investigator Collaboration	Yes	Neither apply	✔

Required Letter of Intent (LOI)

This is not a typical NIH grant application

Email to HUBMAP@mail.nih.gov by February 28, 2018

- Number and title of funding opportunity

- Descriptive title of proposed activity

- Table of Principal Investigator(s), Key Personnel, and Co-Investigators, Providers of Letters of Support (LOS), their respective Roles and Institutional Affiliations

- Human Subjects, Vertebrate Animals, International applicant or international subawards (Y/N to all)

- Overview and strategy (2 pages maximum)

- Personnel qualifications: (1 pages maximum)

- Estimated budget for the first year

- Up to three letters of support, as appropriate

➢ A Dun and Bradstreet (D&B) Data Universal Numbering System (DUNS) number and registration in the System for Award Management (SAM) is required.

➢ HuBMAP OTs may be awarded to organizations that are domestic, foreign, public, private, non-profit or for-profit.

*see funding announcement for full instructions

Application Process

This is not a typical NIH grant application

✓ **SF424(R&R)**

✓ **PHS 398 Research Plan (12 page limit)**
- **Vision and Overview:** Do not consider this to be a traditional Specific Aims page for hypothesis-driven research
  - Briefly state the goals of the component and how deliverables address aims and goals of FOA.
  - Provide a summary of major tasks to be accomplished with milestones and benchmarks, a timeline, and deliverables provide an overview of the component and the vision for how the component will work as part of the HIVE and the HuBMAP Consortium.
  - Please read the funding announcement for additional specific elements that should be addressed (e.g. plan for working with the NIH and the HuBMAP Consortium, qualifications, outreach and collaboration plans, cost sharing).

*see funding announcement for full instructions

Application Process

This is not a typical NIH grant application

- ✓ **SF424(R&R)**
- ✓ **PHS 398 Research Plan (12 page limit) - continued**
  - • **Vision and Overview**
  - • **Scientific, Technical and Management Strategy:** Do not consider this to be a traditional Research Strategy
    - o Should be structured to provide sufficient information to gauge the applicant's likelihood of producing the deliverables and achieving their objectives.
    - o Should cover: impact and significance; preliminary data; development plan; validation plan; tasks, benchmarks, timeline; risk analysis; interactions with other components; investigators; project management; privacy and confidentiality; flexibility
    - o Should include component specific strategies*
  - • **Letters of Support**
  - • **Resource Sharing Plan**: Specific Plan for Public Access; Data Sharing; Protocol; Tool and Reagent Sharing; Intellectual Property; Sharing Software

see funding announcement for full instructions

OT Roles & Responsibilities

➢ **Agreements Officer (AO)** - the Individual responsible for legally committing the government to an OT agreement, and for the administrative and financial aspects of the award

➢ **HIVE Project Manager** - NIH extramural scientist who would have substantial involvement in assessing progress and making recommendations about future funding for the HIVE.

➢ **HIVE Project Scientist(s)** - HIVE Project Scientist(s) are NIH extramural program scientists who will have substantial scientific involvement during the conduct of this activity, through technical assistance, advice, and coordination.

➢ **HuBMAP Program Manager** - NIH extramural scientist who is responsible for overall coordination of the Consortium and chairs the NIH WG. They will have substantial involvement in assessing progress, making recommendations about future funding and have substantial scientific programmatic involvement in the direction of all the HuBMAP awards.

Award Management - Reporting

Frequent Communication

- Bi-weekly calls with HIVE Project Manager, HIVE Project Scientists and HuBMAP Program Manager
- Ad hoc calls as necessary

Funding Segment Progress Reports

- Custom template will be provided – detail progress on milestones and propose milestones for next segment
- NIH may request demonstration or presentation to Consortium
- AOR must send by email to AO and HIVE PM 45 days prior to end of segment
- Meeting to discuss progress and negotiate future milestones

HuBMAP OT Webinar Summary February 8, 2018

Registered   114
Attended   78
Absent   41

Non-NIH Participants   67
NIH Participants   11

Summary of Post-Webinar Survey:

Response rate   14% (10/69)

How did you hear about this webinar?
      Did not take survey   68
      HuBMAP listserv   2
      HuBMAP website   6
      Word of mouth   2

What is your institution type?
      Did not take survey   68
      Academic   3
      Non-profit   3
      Government   2
      Pharma/biotech   1
      Other   1

Which HuBMAP FOA are you likely to apply to?
      Did not take survey   68
      RFA-RM-17-027   1
      RFA-RM-18-001   8
      None   1