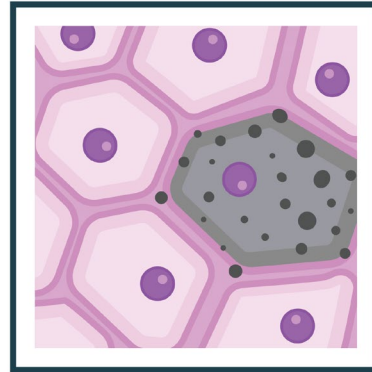


The NIH Common Fund Cellular Senescence Network



The Common Fund



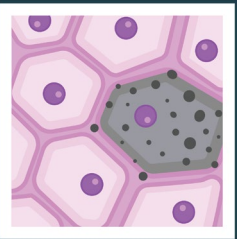
SenNet

Pre-Application Webinar

December 2, 2021, 12:30-2:00PM EST

To submit questions during the webinar please use the Q&A box.
We will address questions at the end of the presentation.

Following webinar, additional questions can be sent to cs2@nih.gov

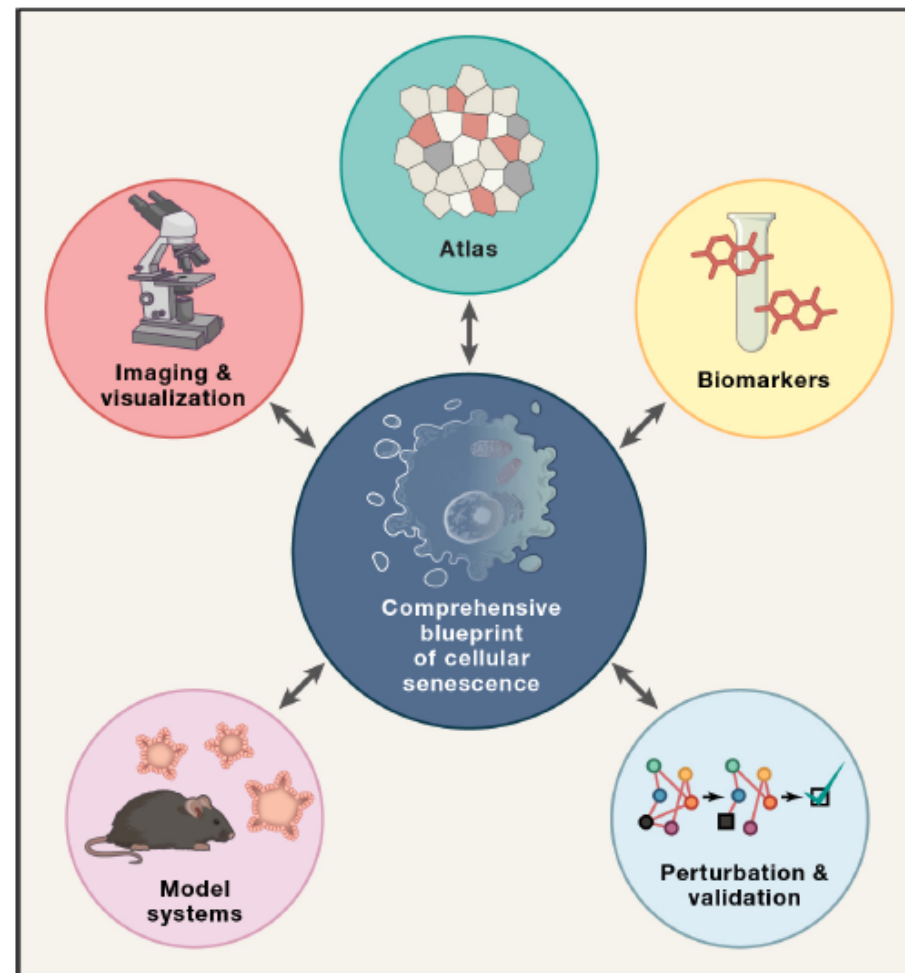


SenNet Vision

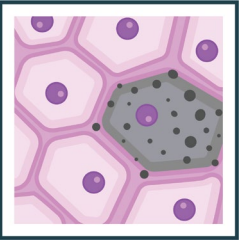


The Common Fund

**To identify and functionally
characterize the heterogeneity
of senescent cells across
multiple tissues at single cell
resolution.**



A Blueprint for Characterizing Senescence.
Roy et al. Cell. 183, 5, 1143-1146.



The **Current** SenNet Initiatives (2021)



The Common Fund

Initiative 1 RFA-RM-21-008/U54 : Tissue Mapping Centers (TMC)

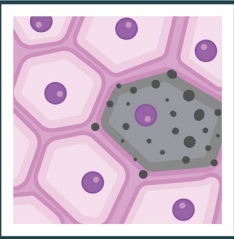
- **Total 8 Awards**

Initiative 2 RFA-RM-21-009/UG3/UH3 : Technology Development and Application Projects (TDA)

- **Total 7 Awards**

Initiative 3 RFA-RM-21-010/U24 : Consortium Organization and Data Coordination Center (CODCC)

- **1 Award**



The Current SenNet Consortium



The Common Fund

TMCs

CAMPISI, JUDITH (contact)
SCHILLING, BIRGIT
(Buck Institute)

DING, LI (contact)
CHEN, FENG
FIELDS, RYAN C
STEWART, SHEILA A
(Univ of Washington)

FAN, RONG (contact)
HALENE, STEPHANIE
(Yale Univ)

FINKEL, TOREN (contact)
KOENIGSHOFF, MELANIE
MORA, ANA LUCIA
RAHMAN, IRFAN
(Univ of Pittsburgh)

KUCHEL, GEORGE A (contact)
GAROVIC, VESNA D
MUSI, NICOLAS
ROBSON, PAUL
(Univ of Connecticut)

LEE, PATTY J
(Duke Univ)

NIEDERNHOFER, LAURA J (contact)
ALIFERIS, CONSTANTIN F
(Univ of Minnesota)

PHATNANI, HEMALI (contact)
CHRISTIANO, ANGELA M
MENON, VILAS
SUH, YOUSIN
(Columbia Univ)

TDA_s

DALDRUP-LINK, HEIKE E
(Stanford Univ)

DOU, ZHIXUN (contact)
RAJAGOPAL, JAYARAJ
SLAVOV, NIKOLAI
(Mass General/Harvard)

GU, LIANGCAI
(Univ of Washington)

MELOV, SIMON
(Buck Institute)

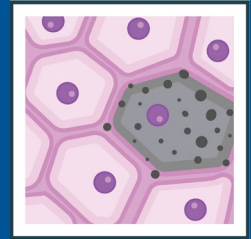
NERETTI, NICOLA (contact)
MA, JIAN
WANG, SIYUAN
(Brown Univ)

PASSOS, JOAO
(Mayo Clinic)

LEE, JUN HEE
(Univ of Michigan)

CODCC

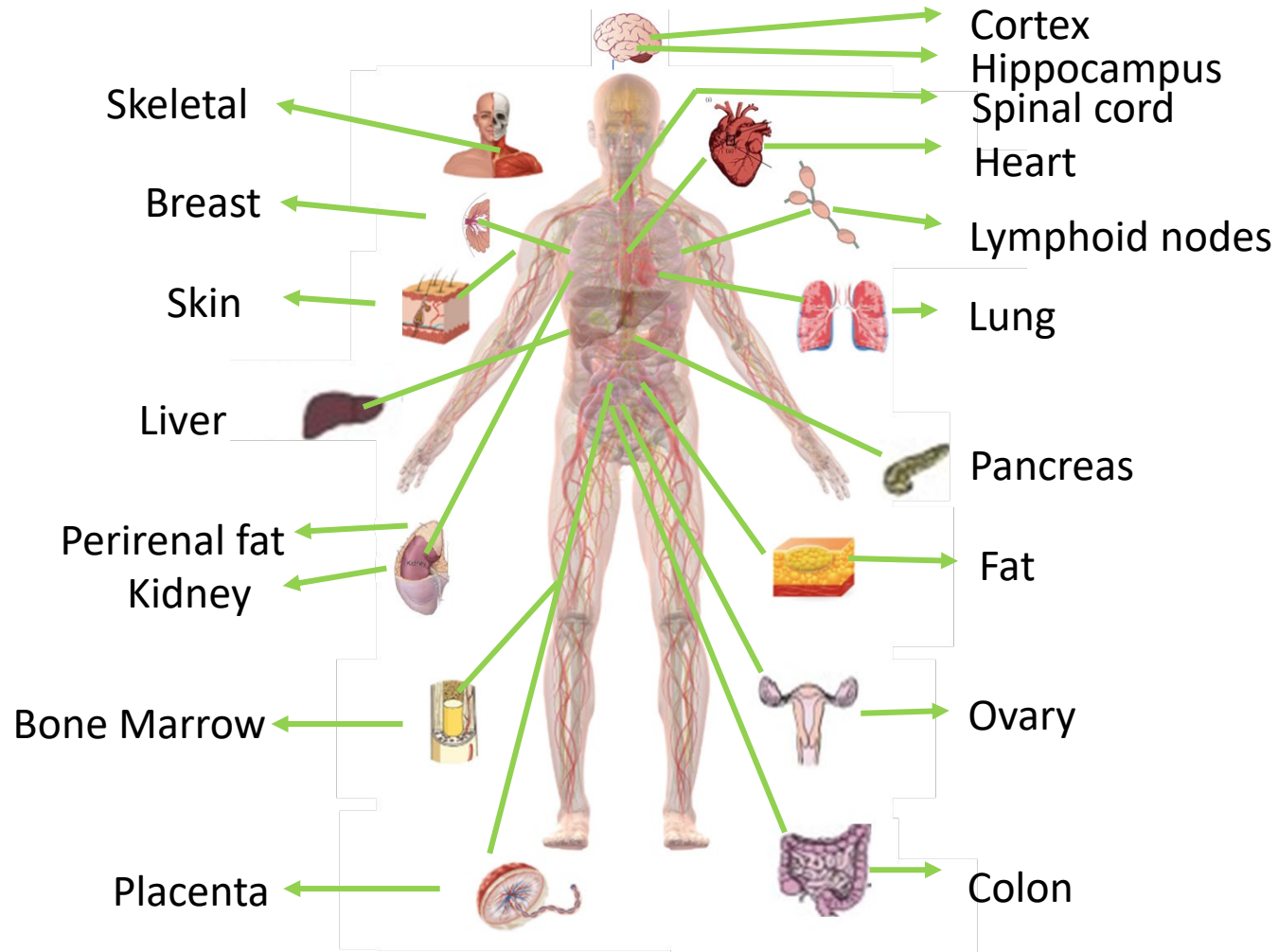
SILVERSTEIN, JONATHAN C (contact)
BAR-JOSEPH, ZIV
BLOOD, PHILIP D
(Univ of Pittsburgh)



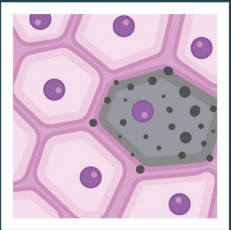
Tissue Coverage of **Current** SenNet



The Common Fund



• 18 Tissues



SenNet Mission

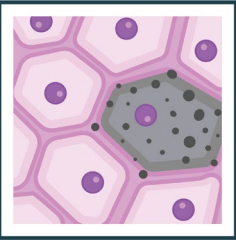


The Common Fund

The ultimate goal of SenNet is to map cellular senescence in healthy **humans**, with the hope of using the information to improve human health.



To aid in this effort, SenNet aims to expand mapping studies and technology development in **mice**.



The **New** SenNet Initiatives (2022)



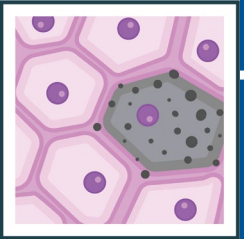
The Common Fund

Initiative 1 RFA-RM-22-003: **Murine** Tissue Mapping Centers (TMC)

Initiative 2 RFA-RM-22-005: **Murine** Technology Development and Application Projects (TDA)

Initiative 3 RFA-RM-22-004: **Human** Technology Development and Application Projects (TDA)—Reissue

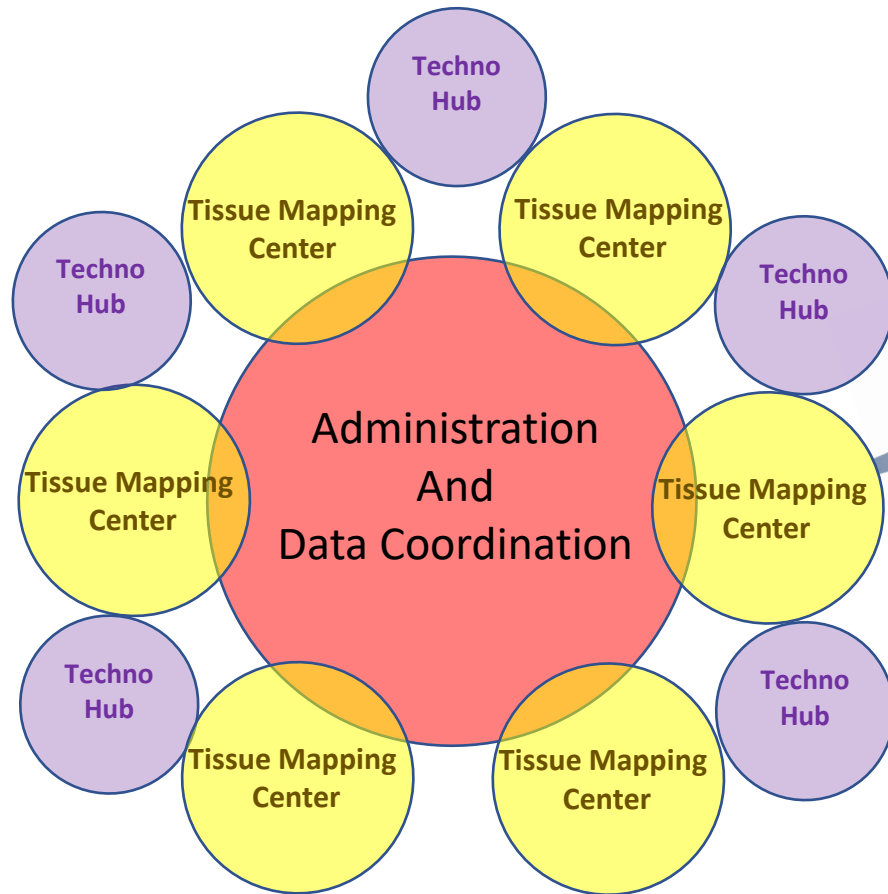
The funded Consortium Organization and Data Coordination Center (CODCC) will serve to coordinate all initiatives



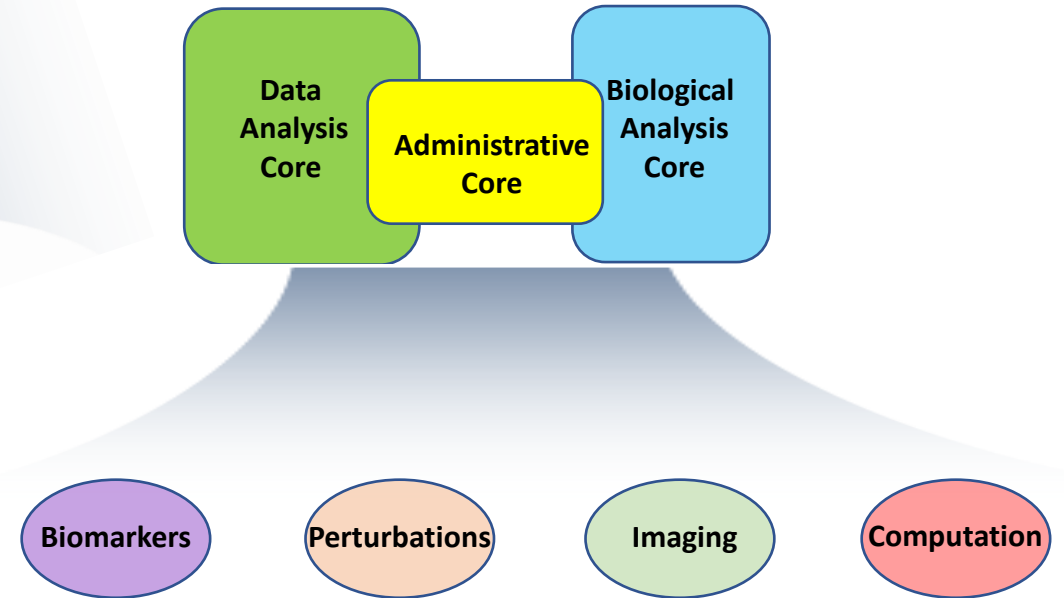
The Structure of SenNet will Remain Same

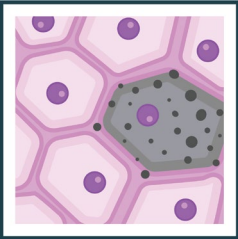


The Common Fund



Mouse TISSUE MAPPING CENTER COMPONENTS





The Tissue Mapping Centers (TMCs)



The Common Fund

RFA-RM-22-003: **Murine** Tissue Mapping Centers (mTMCs)

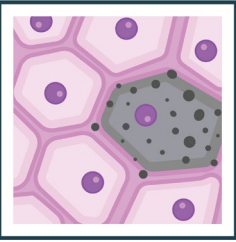
TMCs will integrate and optimize all parts of the data generation pipeline.

They will generate extensive data from high-content, high-throughput imaging, omics, and other technologies as appropriate, to build, benchmark, standardize, and validate senescent cell maps at high resolution.

Successful applicants are expected to set aside funds for collaborative work with other members of the Consortium

Each Tissue Mapping Center will be comprised of the following components:

- Administrative Core
- Biological Analysis Core
- Data Analysis Core



mTMCs

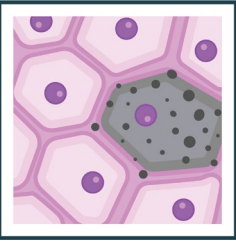


The Common Fund

Administrative Core – Will coordinate all activities, both within the Center, the Consortium as a whole, and with NIH staff. In conjunction with CODCC, the core will establish SOPs.

Biological Analysis Core – Will generate high resolution, high content, high-throughput biomolecular data to generate maps of cellular senescence in murine tissues, organs and organ systems.

Data Analysis Core – Will be responsible for data annotation, curation, and analysis. It will utilize the biomarker and map datasets produced by the Biological Analysis Core to produce maps of the tissues of interest, to be delivered to the CODCC.



mTMCs



The Common Fund

- **Funds Available and Anticipated Number of Awards**

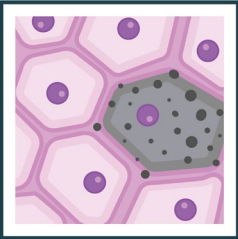
The NIH Common Fund intends to commit \$9M in Total Costs in FY2022 to fund up to 3-4 awards.

- **Award Budget**

Application budgets are not limited but must reflect the actual needs of the proposed project.

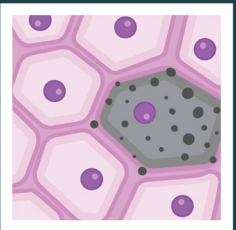
- **Award Project Period**

The scope of the project should determine the project period. The maximum project period is 4 years.



RFA-RM-22-004 (Human) and **RFA-RM-22-005 (Murine)**

- The purpose of these Funding Opportunity Announcements is to solicit novel analytics and technologies to identify senescent cells in human tissues.
- These FOAs will support the accelerated proof-of-principle demonstration and validation of promising tools, techniques and methods that can be integrated, scaled and applied to multiple murine and human tissues.
- The initial two-year UG3 phase will support the development and demonstration of feasibility of these emerging technologies in the identification and mapping of senescent cells in mammalian tissues.
- The subsequent UH3 phase is to support initial validation in multiple murine and human tissues, optimization and scale-up, and generation of production level data.
- Investigators responding to this FOA must submit both UG3 and UH3 projects as part of a single application.
- UG3 projects that have met their quantifiable milestones will be administratively considered by NIH staff and prioritized for transition to the UH3 phase, depending on the availability of funds.



TDAs



The Common Fund

- **Funds Available and Anticipated Number of Awards for RFA-RM-22-004 (Human)**

The NIH Common Fund intends to commit **\$3.5M** Total Costs in FY2022 to fund **5-6** awards contingent upon NIH appropriations and the submission of sufficiently meritorious applications.

- **Award Budget**

Applications should not exceed **\$400,000** in direct costs per year during the UG3 phase & **\$550,000** in direct costs/year during the UH3 phase.

- **Funds Available and Anticipated Number of Awards for RFA-RM-22-005 (Murine)**

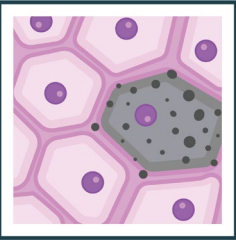
The NIH Common Fund intends to commit **\$1.5M** Total Costs in FY2022 to fund to **2-3** awards contingent upon NIH appropriations and the submission of sufficiently meritorious applications.

- **Award Budget**

Applications should not exceed **\$350,000** in direct costs per year during the UG3 phase & **\$500,000** in direct costs/year during the UH3 phase

- **Award Project Period**

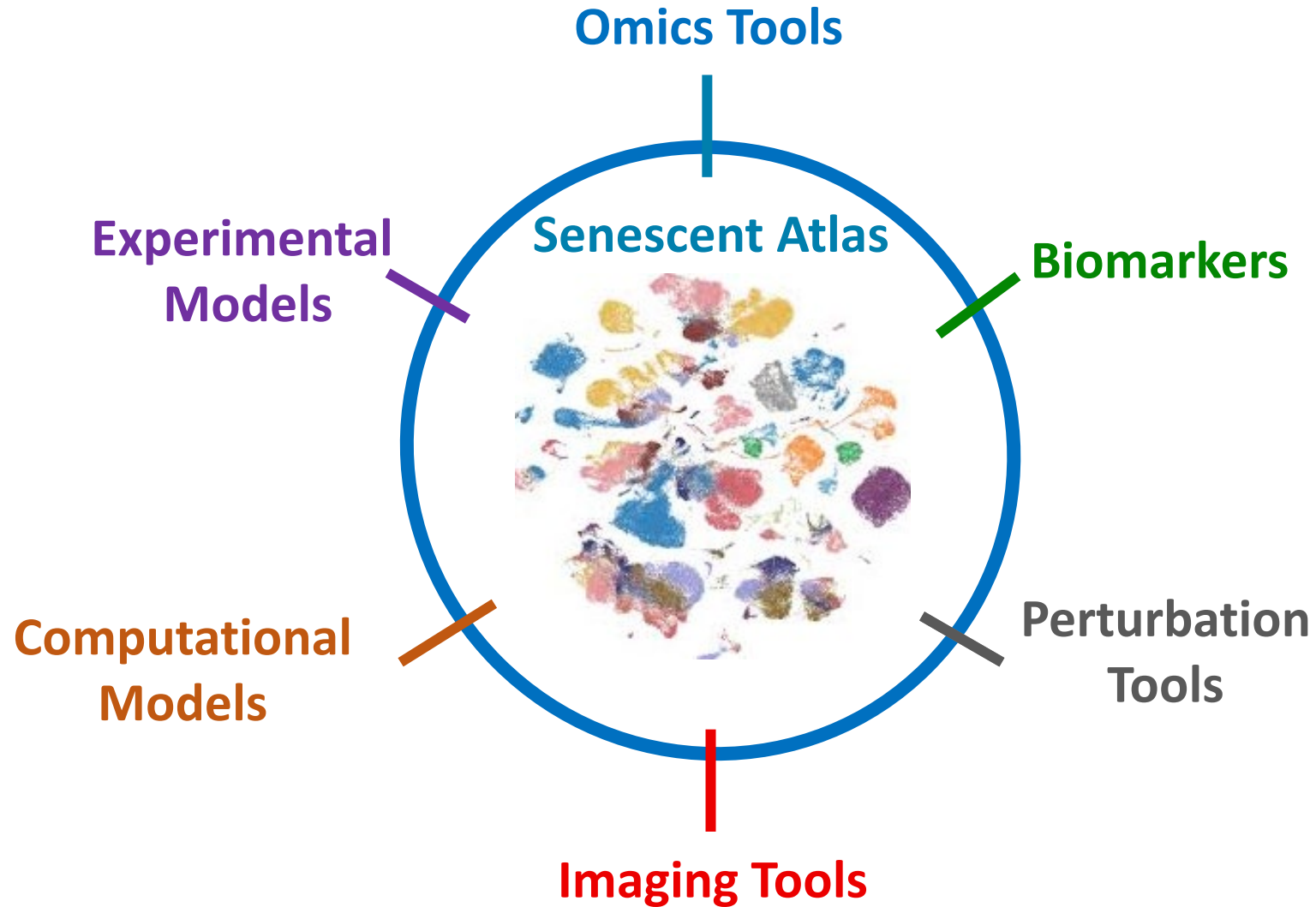
The proposed project period for the UG3 phase may not exceed 2 years and the UH3 phase may not exceed 3 years. The total duration of UG3 and UH3 phases may not exceed 4 years.



SenNet Consortium Deliverables



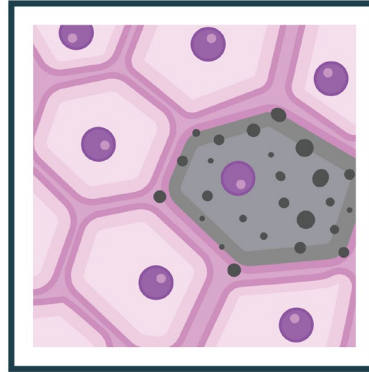
The Common Fund



The NIH Common Fund Cellular Senescence Network



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SenNet

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