

Identifying New Large-Scale Programs for FNL

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Outline:

- **NCI Vision Statement for FNL**
- **Current programs in science and technology**
- **Request for Information (RFI)**
- **Ideas from FNLAC discussion and RFI**
- **Next Steps**

NCI Vision Statement for FNL

FNLCR is envisioned to function in support of the mission of NCI with three fundamental tasks:

- To sustain the extramural and intramural components of NCI**
- To serve as a hub for technology development**
- To function as a nucleus for large-scale projects as necessary.**

Current FNL Programs

Research:

- **NCI Experiment Therapeutics (NExT) Program**
- **The Cancer Genome Atlas (TCGA)**
- **Immune cell engineering**
- **AIDS-related malignancies**
- **NCI-DOE Collaboration**
- **HPV serology lab**
- **Serological Sciences Program**
 - **SeroNet**
 - **SARS –CoV-2 Serology lab**
 - **Serosurveillance program**

Technology Development:

- **Genomic Data Commons**
- **National CryoEM facility**
- **Transgenic/CRISPR facility**
- **Biorepositories**
- **Innovation lab**

Request for Information (RFI)

NOT-CA-21-018

Key Dates

Release Date: November 23, 2020

Response Date: February 19, 2021

Issued by

National Cancer Institute ([NCI](#))

Information Requested

The NCI requests that cancer researchers, clinicians, and other interested individuals share their perspectives on areas of research where a national program could support the research community and accelerate progress in understanding and treating cancer. Responses should include:

- Background
- The problem to be addressed
- Why a national program is needed
- Implications of success

As stated above, responses to this RFI will be used for consideration of research priorities and may help in the development of future funding opportunities.

Send Us Your Ideas on the Next Big Cancer Research Program

National Cancer Institute sent this bulletin at 02/08/2021 09:45 AM EST

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RFI: National Cancer Institute's Frederick National Laboratory for Cancer Research

Dear Colleague,

The National Cancer Institute (NCI) seeks your input to help determine the next big cancer research program that the [Frederick National Laboratory for Cancer Research \(FNLCR\)](#) can address over the next several years. **Send us your ideas by responding to our [Request for Information \(RFI\)](#) by February 19, 2021.**

As a Federally Funded Research and Development Center (FFRDC), the FNLCR tackles the world's hardest biomedical research challenges through public-private efforts and by offering shared resources, materials and opportunities to the cancer research community.

In the model of the FNLCR's highly successful [RAS Initiative](#), launched in 2013 to focus on attacking the RAS oncogene – implicated in more than 30 percent of all human cancers, 95 percent of pancreatic cancers and 45 percent of colorectal cancers — NCI is looking for your ideas on the most important needs and promising opportunities in cancer research that are difficult to address on an individual scale but that can be addressed through the special scientific mission of a national lab.

Your ideas could contribute to the shared progress of cancer research at the FNLCR.

As the only FFRDC solely dedicated to biomedical research, the FNLCR combines private sector business practices with government infrastructure. The FNLCR can achieve long-term cancer research and development needs and can rapidly and flexibly take on high-risk efforts that are not able to be performed as effectively by other government mechanisms.

Please send us your ideas and share this [RFI](#) with your colleagues, partners, and network to encourage broad community input and diverse perspectives that will steer the future of cancer research.

Communications and Outreach for the RFI

- Feature card posted to <https://www.cancer.gov/research> (posted since Jan 25)
- RAS Initiative listserv received message: <https://content.govdelivery.com/accounts/USNIHNCI/bulletins/2bfc3c2>
- NCI stakeholder contacts (ASCO, AACR and NIAID) received an email. Another email was sent to a list of 300 NCI stakeholders (cancer centers, universities/academia, professional societies, non-profits and government agencies)
- Director's remarks at NCAB Feb. 11

Ideas for Research Projects

National Programs on:

- Spatial proteomics and genomics at scale by coordinating existing initiatives, including harmonizing those data.
 - Human proteome – generate a definitive reference set of the proteoforms produced from the genome
- Build on MoonshotSM Pre-Cancer Genome Atlas to establish a central repository and unify efforts on early-stage characterization of signals, pathways, other changes that occur in premalignant lesions.
- Clinical informatics that could advance current immunotherapy
- Precision medicine immunogenic biomarkers to determine the genetic basis of differences in patients' responses to infection.
- Molecular and social determinants of cancer in underrepresented populations, including establishment of a national database integrating molecular, imaging, demographic, and clinical data

Ideas for Technology and Infrastructure Development

- New technologies focusing on cancer prevention or partnering with diagnostics-based biotechnology companies already doing this work
 - Expand cryo-EM to volumeEM for cellular/tissue 3D imaging
 - Expand TCIA to a national imaging program
 - Expand SEER to include data from all states and make these data available in formats easily utilized by the research community; develop a large, integrated and searchable database.
 - Data ecosystem, including data analysis support, development of novel AI/DL approaches that would be widely available.
 - Develop a large DNA-encoded chemical library to identify lead compounds for drug discovery that is widely available for free screens of very complex chemical libraries
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- Training program in clinical research for team members and project managers, combining in-person and remote learning approaches, that establishes standards and best practices, and ensures fundamental knowledge and capabilities across the US cancer research enterprise.

Next Steps?

- Solicitation of ideas at BSA, BSC, NCAB
- Broader outreach to research community through workshops to solicit additional ideas
- Discussion of ideas and prioritization within NCI and FNLAC

Corollary:

- Need to develop criteria and a process by which programs are discontinued

Questions and Discussion