



STRATEGIC PLAN 2024–2027

NIAID INTEGRATED RESEARCH FACILITY AT FORT DETRICK

Forward

The Integrated Research Facility at Fort Detrick (IRF-Fredrick) was established within the NIAID Division of Clinical Research (DCR) as a national resource for studying novel, emerging, and deliberately released biological threats. The IRF-Fredrick is situated within the National Interagency Confederation for Biomedical Research (NICBR), a consortium of eight agencies with a common vision of Federal research partners working in synergy to achieve a healthier and more secure nation. The IRF-Fredrick is uniquely organized and funded to facilitate *in vitro* and *in vivo* studies requiring BSL-4 containment, with special emphasis on sophisticated imaging to elucidate pathogenic consequences and mechanisms of disease.



The Nation's need for a laboratory such as the IRF-Fredrick has been abundantly clear since I became the Director of the IRF-Fredrick in November 2019. Then, we were engaged in productive, collaborative research on deadly viruses to include Ebola, Marburg, Lassa and Nipah viruses. The IRF-Fredrick had well-established processes for studying pathogenesis of these viruses in large and small animal models, with the added unique capabilities of sophisticated imaging and aerobiology methods and equipment. When

SARS-CoV-2 emerged in early 2020, the IRF-Fredrick had the right people in the right place at the right time to assist NIAID and the country in developing and testing medical countermeasures for COVID-19. The IRF-Fredrick has made important contributions to the understanding of SARS-CoV-2 pathogenesis and methods to treat COVID 19 and lessons learned from the COVID-19 pandemic will stay with the scientists at the IRF-Fredrick for many years to come.

As this revised version of the IRF-Fredrick Strategic Plan is being launched, we have returned to our core mission priorities. To further our overarching commitment to performing world-class research, we have closely reviewed our capabilities and processes and we have identified specific initiatives that we feel will make the IRF-Fredrick an even more successful organization. These initiatives will be continuously evaluated and updated to ensure that the IRF-Fredrick is at the forefront of infectious diseases research with highly pathogenic viruses.

Connie Schmaljohn

Connie Schmaljohn, Ph.D.
Director, IRF-Fredrick

Introduction



Construction of the IRF-Frederick began in 2005 and biosafety level 2 (BSL-2) and BSL-4 laboratories were completed in 2010 and 2012, respectively. Select agent use approval was granted by the Centers for Disease Control (CDC) in 2014.

The IRF-Frederick workforce consists of both Government and Contract personnel who strive to work in a “One Team Approach”. In general, the Government is responsible for determining the scientific agenda and the Contract is responsible for carrying out the work and reporting the results to the Government. Both Government and Contract scientists are empowered to develop collaborative projects and any person playing a substantive role in establishing a project (Government or Contract Team) may be part of the study team.

The IRF-Frederick has a unique hybrid operating model that includes both intramural and extramural research. The IRF-Frederick seeks, encourages, and welcomes national and international government, industry, and academic partnerships aimed at conducting beneficial and ideally synergistic translational studies of high-consequence viruses. Research is designed to maximize complementary areas of scientific expertise in the collaborating

organizations and propel the development of technical innovations and knowledge.

The scientific focus and priorities of the IRF-Frederick include:

- Advancing medical diagnostics and cutting-edge technologies for high-consequence viral pathogens
- Using imaging technologies to understand infectious disease pathogenesis and to assist in the rational design of medical countermeasures and therapeutic strategies
- Supporting clinical trials and research studies that lead to improved patient outcomes
- Building local, national, and international capacity to respond to diseases caused by NIAID Priority Pathogens and other novel or emerging viral threats.

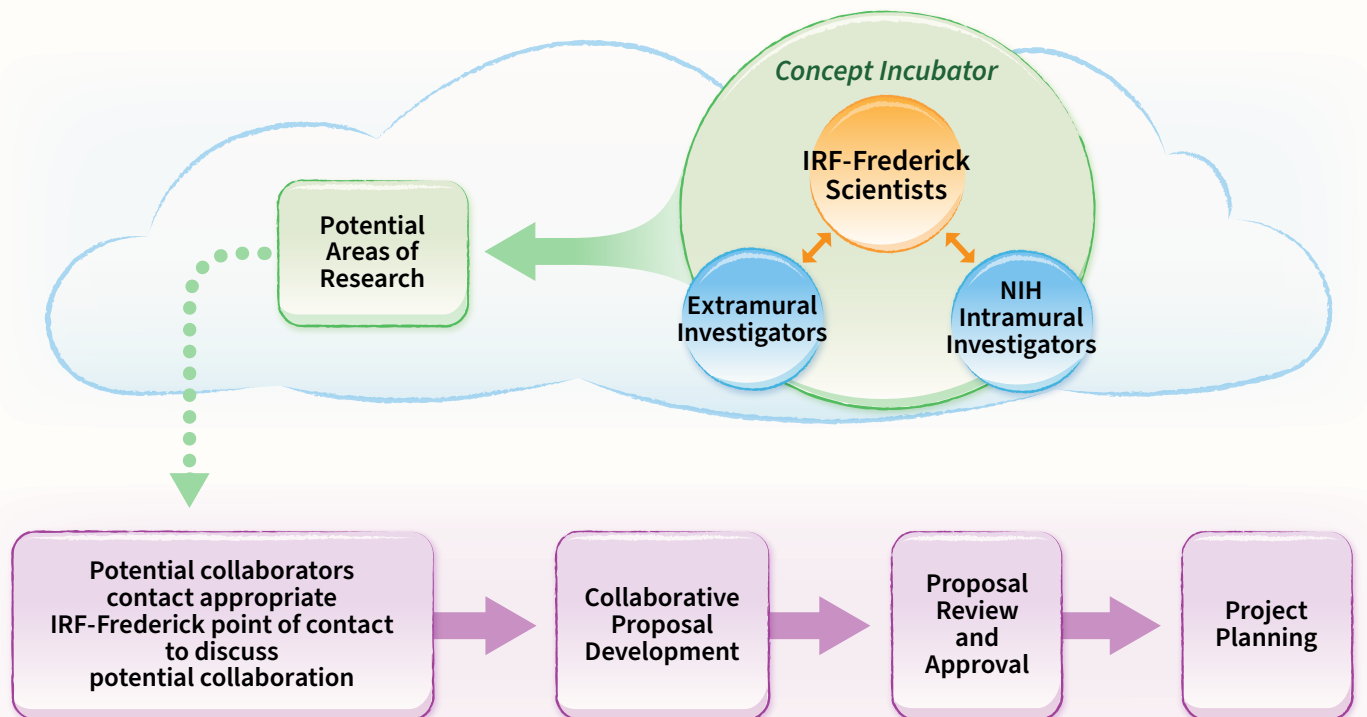
The specialized imaging equipment and well-trained experts at the IRF-Frederick provide a rare opportunity for collaborators to interrogate the mechanisms of viral disease in living animals. The study of disease and interventions in advanced animal models is at the core of the IRF-Frederick’s portfolio and aligns with its vision and mission as well as NIAID goals. Both large and small animal models of disease are routinely studied in the IRF-Frederick’s maximum containment (BSL-4) laboratories. In addition, the IRF-Frederick remains mindful of the **3Rs** of animal welfare: **R**eplacement, **R**eduction and **R**efinement.



Research Portfolio

A primary aim of the IRF-Frederick is to provide unique expertise and capabilities within an adaptable process for clinically relevant research with partners and in doing so address scientific questions that fit the IRF mission and scientific focus. The relationship between the IRF and each collaborating organization is based on the scope of the research, its relevance, and unique attributes. The IRF-Frederick has established a process for review and acceptance of collaborative projects. The process begins

with coordination of a project proposal with an internal IRF scientist. The proposal is presented to an internal review committee (Program Coordination Group) which evaluates the proposal for mission relevance and scientific excellence. If the project is NIH funded, no further review is required; however, for non-NIH funded projects the proposal receives additional review by IRF Scientific Steering Committee. The IRF Portfolio Development Process is as depicted below.





Vision

A world in which the integration of basic and clinical sciences has eradicated the threat of deadly viruses

Mission

To serve as a responsive and collaborative resource that facilitates multidisciplinary research to understand, treat, prevent, and eradicate diseases caused by novel, emerging, and highly virulent viruses

Core Values

- Innovation leading to knowledge
- Transparency among colleagues and collaborators
- Trust that allows for open and respectful exchange of ideas
- Commitment to data driven science and animal welfare

Strategic Goals

GOAL 1 ***Transform***

Transform the IRF-Frederick through innovation and modernization

GOAL 2 ***Focus***

Focus the IRF-Frederick mission to emphasize unique strengths and capabilities

GOAL 3 ***Collaborate***

Collaborate within and outside of the IRF-Frederick on cutting-edge research

1. Transform the IRF-Frederick through innovation and modernization

This strategic goal will ensure optimal physical, financial, and personnel infrastructure that can meet both expected and unexpected One-Health challenges related to novel, emerging or highly virulent viruses.

Initiative: Maintain and use the existing foundation of standard and advanced technical capabilities.

Actions:

- Identify current inventory of capabilities and equipment.
- Identify gaps where IRF-Frederick does not have advanced capabilities.
- Leverage collaborator and non-IRF-Frederick NIH talent, resources, and expertise to supplement those present at IRF-Frederick to meet research goals.

Initiative: Develop a culture in which teamwork, trust, and respect is expected and cultivated.

Actions:

- Leadership consistently demonstrates commitment to this initiative and takes actions aligned with it.
- Actively seek feedback (e.g., via anonymous surveys or other processes) to assess the culture as it relates to this initiative.
- Exhibit intolerance of actions inconsistent with teamwork, trust, and respect.
- Be aware of bias.
- Dedicate time, space, and resources to facilitate positive social interaction.

Initiative: Streamline and optimize processes to promote agility and flexibility in execution of collaborative research.

Actions:

- Adopt rational process design.
- Enhance NIAID Scientific Management Review Board (SMRC) and IRF-Frederick Animal Care and Use Committee (ACUC), Institutional Biosafety Committee (IBC), and Project Coordination Group (PCG) processes.
- Streamline SharePoint processes.

Initiative: Attract and retain a talented workforce and provide a culture of continued education and professional development.

Actions:

- Acknowledge and reward good work.
- Support continuing education, professional development, and re-certification opportunities.
- Encourage attendance at conferences and professional development courses (such as NIH trainings).
- Explore the feasibility of having government-supported contractor professional development if it is not part of the contract position (e.g., comparative medicine staff working to obtain American Association for Laboratory Animal Science [AALAS] Laboratory Animal Technologist certifications).

Initiative: Create an evolving plan for a robust forward-looking financial and physical infrastructure.

Actions:

- Monitor evolving scientific and technological advances to ensure that the IRF-Frederick will be prepared to meet future collaborator needs or to meet as-yet-unidentified public-health crises.
- Review NIH proposals for high-containment pathogens research and reach out to program officers to offer IRF-Frederick support, as appropriate.
- Align staffing—taking into account realistic turnover rates, training times, and the frequent need for non-traditional work schedules—with facility limitations and capabilities to maximize productivity.
- Identify resources required to complete in-life and out-life phases of studies and closure of projects.

Initiative: Upgrade or replace equipment with an emphasis on innovative and state-of-the-art and unique capabilities.

Actions:

- Conduct periodic assessments of scientific equipment needs and technological advances.
- Define end-of-life estimates for procurements to inform future budget needs.
- Monitor state-of-the art scientific and technological advances.
- Seek out partnerships with developers of innovative equipment/techniques.

Initiative: Promote quality standards to ensure integrity in data, interpretations, and publications.

Actions:

- Review NIH Quality Standards.
- Develop and implement an IRF-Frederick Quality Plan.
- Reward and recognize efforts made toward quality improvements.
- Foster an environment in which quality improvements are expected.
- Develop standard operating procedures (SOPs) related to the topic of quality.

2. Focus the IRF-Frederick mission to emphasize unique strengths and capabilities

This strategic goal will clarify roles and responsibilities of all functional areas and is intended to create a fully integrated workforce with a full understanding of mission priorities.

Initiative: Optimize work in progress, allowing critical/limited resources to be applied/focused on mission-critical projects and initiatives.

Actions:

- Define portfolio priorities, key resource capacities, and strategic plan terminology (e.g., unique strengths and capabilities).
- Refine the proposal review process, including updated evaluation rubric and strategic alignment assessment.
- Define key metrics and incorporate them into a new periodic portfolio review process, tracking progress over time.

Initiative: Prepare for changing core mission priorities set by NIAID leadership and coordinate with functional areas.

Actions:

- Develop an efficient method for leadership to disseminate changes in mission priorities.
- Define process for leads of core groups to identify and communicate any concerns regarding feasibility of changes.
- Develop a method for identifying the extent to which current projects should be finished up prior to transitioning to new priorities.

3. Collaborate within and outside the IRF-Frederick to perform world-class, cutting-edge research

This strategic goal will improve transparency and communication among IRF-Frederick Government and Contract Staff and between IRF-Frederick scientists and extramural collaborators to ensure high-quality research.

Initiative: Develop a process of inclusion of innovative, (higher risk of failure) projects in the portfolio.

Action:

- Determine how the IRF-Frederick and/or scientific community will benefit from “high-risk-of-failure projects”.

Initiative: Strategically utilize available NIH resources.

Actions:

- Develop a resource tab containing an internal list of contacts, branches, past projects, and affiliated groups.
- Hold routine workshops and/or seminars with NIAID, NIH, or NICBR groups.

Initiative: Establish convenient information-sharing processes.

Action:

- Update data management plan.

Initiative: Establish and maintain platforms to improve and support communications and collaborations.

Actions:

- Create an automated newsletter to regularly disseminate information regarding to all IRF-Frederick employees.

- Hold a monthly meeting with all team leads and study directors to discuss priorities and coordinate on a building-wide level.

Initiative: Hold intramural and/or extramural workshops with diverse groups of investigators.

Action:

- Hold an IRF-Frederick onsite retreat, with seminars, posters, and round-table discussions.

Initiative: Define and appropriately allocate resources required for each project.

Actions:

- Prioritize and define allocation of time and resources.
- Implement post-study review of sample usage.

Initiative: Establish and maintain a portfolio of international collaborations.

Action:

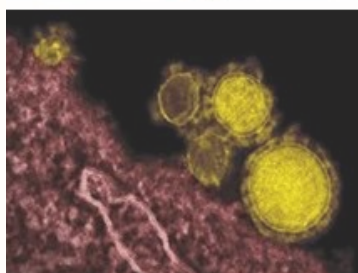
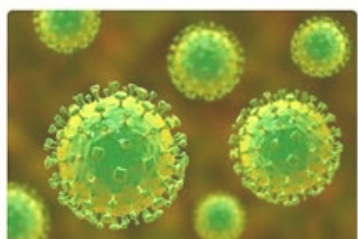
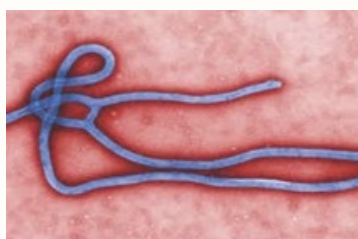
- Have at least one new international collaboration each year.

Guiding Principles

IRF-Frederick Values include Trust, Teamwork and Transparency

The IRF-Frederick strives for a collaborative and cooperative professional working relationship among all federal employees and contractors in support of the mission and vision, with the goal of achieving high-quality scientific outcomes.

The NIH Biological Surety Program applies to all federal and non-federal personnel enrolled in the program and those assigned to work in the IRF-Frederick high-containment laboratory spaces.



The goals of the NIH Biological Surety Program are to:

- Ensure a trained, responsible, and reliable workforce
- Foster rigorous procedures to protect employee health and promote a safe work environment
- Enhance the safety culture by promoting worker cohesiveness, resilience, trust, respect, and reliability
- Preserve the integrity of the research being conducted
- Protect valuable research materials and products
- Prevent loss, theft, diversion, or misuse of biological materials handled in Tier 1 Select Agent Laboratories; and Biosafety Level 3 (BSL-3), Animal Biosafety Level 3 (ABSL-3), Biosafety Level 4 (BSL-4), Animal Biosafety Level 4 (ABSL-4) laboratories

**Source: <https://policymanual.nih.gov/3037>*

IRF-Frederick Guiding Principles that define expected behavior include:

- Transparent and open communication and constructive feedback among all federal employees and contractors
- Reliability and honesty
- Collaboration and teamwork
- Research integrity
- Respectful conduct
- Protection of government furnished equipment and research materials/products

Goals/expected outcomes are:

- Commitment by IRF-Frederick federal employees and contractors to follow IRF-Frederick Guiding Principles and goals of the NIH Biological Surety Program
- Participation in training opportunities to promote a resilient cohesive workplace
- Participation in climate surveys

Conclusion

A plan that represents the consensus views of all levels of both Government and Contract staff at the IRF-Frederick is extremely important for the continued success of the organization. The IRF-Frederick workforce is the most important asset for accomplishing our mission. Work in high containment laboratories requires highly trained, motivated, and fulfilled personnel who are recognized for their value to the organization. The IRF-Frederick Strategic Plan 2021–2024 was developed through an inclusive process that

engaged the entire IRF-Frederick staff. The revised IRF-Frederick Strategic Plan 2024–2027 continued staff engagement through the establishment of three working groups to make recommendations as to how we can further the three strategic goals. Specific initiatives were identified, and action items needed to accomplish the initiatives were developed. As the action items are accomplished a living, reporting document will be maintained and available for all staff to view.

