

## The Staff Scientist

Staff Scientists occupy a critical place in support of intramural science, providing essential talent for many of our functions including:

1. Support of laboratories
2. Support of cores and facilities
3. Support of team science (e.g. multiple team staff scientists enable the work of NIEHS-NTP, NCATS, NLM-NCBI)
4. Veterinary Medicine
5. Bioinformatics and Biostatistics
6. Epidemiology
7. Associate Scientists under supervision of a PI but with some independent resources

This document catalogs the many services provided by Staff Scientists and establishes a common framework to describe the roles and responsibilities of Staff Scientists. The listed services were compiled from examples of IRP Staff Scientists based on a two-year informal study conducted by the NIH Staff Scientists Committee. Every Staff Scientist that responded to the study's survey performed a mixture of services, with the balance between services and the degree of proficiency required for each service determined by the demands of a given appointment. Services provided by Staff Scientists are divided into four categories, and the term "stratum" is used to identify the general proficiency requirement for a service.

### Service categories

- Scientific Research
- Laboratory and/or Core Facility Management
- Technical Support & Innovation
- Managerial, Administrative and other IC Service

### Strata of proficiency for services

1. Services typically performed by early-career Staff Scientists, maintenance tasks, and support tasks identified by the supervisor
2. Services requiring moderate experience and/or special skills, and primary assignments identified as important by the supervisor
3. Services requiring exceptional experience and/or expertise, and primary responsibilities identified as critical by the supervisor

The importance of considering strata to differentiate Staff Scientist appointments can be illustrated. One Staff Scientist may be expected to pursue ambitious laboratory research that only requires proficient knowledge of common laboratory equipment. In contrast, another Staff Scientist may be expected to reverse that stratification, performing only assigned laboratory research tasks but expected to advance the state-of-the-art for specific research methodologies (e.g. functional imaging, super-resolution microscopy, cryo-electron microscopy). The ideal balance of required services and strata needs to be identified for each appointment. Excellence is accomplished through providing these identified services at a high level.

## Services and strata based on surveys of IRP Staff Scientists

Service Category	Strata	Range of Services
Scientific Research	1	<ul style="list-style-type: none"> <li>▪ Participate in experimental design, data collection, data analysis and manuscript preparation</li> <li>▪ Assist intramural staff, including students, technicians, and postdoctoral fellows, with experiments</li> <li>▪ Stay current with scientific literature</li> <li>▪ Stay informed about new approaches and technologies, including participation in conferences, workshops, and/or formal classroom instruction</li> <li>▪ Independently locate and utilize scientific resources</li> <li>▪ Co-author peer reviewed publications</li> </ul>
	2	<ul style="list-style-type: none"> <li>▪ Supervising laboratory personnel including students, technicians, and advanced degree holders in research techniques and protocols</li> <li>▪ Provide advice and assistance to investigators at NIH and outside of the NIH</li> <li>▪ Actively collaborate with investigators at NIH and/or outside of the NIH on research projects</li> <li>▪ Mentoring students, technicians and/or postdoctoral fellows</li> <li>▪ Scientific presentations outside IC</li> <li>▪ Serve professional organizations</li> <li>▪ Corresponding author on peer-reviewed publications</li> <li>▪ Ad hoc journal reviewer</li> <li>▪ Participate in relevant professional development training</li> </ul>
	3	<ul style="list-style-type: none"> <li>▪ Introduce novel techniques to laboratory personnel including students, technicians, postdoctoral fellows and supervisors</li> <li>▪ Independently establish collaborations</li> <li>▪ Supervise laboratory personnel including other staff scientists and/or advanced technical staff</li> <li>▪ Chair sessions at scientific meetings</li> <li>▪ Organize scientific meetings</li> <li>▪ Scientific presentations outside IC (e.g., invited speaker at universities or scientific meetings)</li> <li>▪ Ad hoc Journal Reviewer or service on Journal Editorial Board</li> <li>▪ Provide leadership in professional organizations</li> <li>▪ Participate in relevant professional development training and/or leadership training</li> </ul>

Service Category	Strata	Range of Services
Laboratory and/or Core Facility Management	1	<ul style="list-style-type: none"> <li>▪ Provide a service to scientists at the NIH</li> <li>▪ Assist investigators with planning of experiments that will require core facility expertise</li> <li>▪ Prepare Annual Report for core facility activities</li> <li>▪ Maintain a state-of-the art facility</li> <li>▪ Interface with companies to maintain equipment</li> <li>▪ Establish service contracts for core facility equipment</li> <li>▪ Stay informed about new approaches and technologies, including participation in conferences, workshops, and/or formal classroom instruction</li> <li>▪ Participate in relevant professional development training</li> </ul>
	2	<ul style="list-style-type: none"> <li>▪ Train lab personnel in the core facility expertise</li> <li>▪ Prepare necessary site visit reports for the core facility</li> <li>▪ Manage a website for the core facility providing information on equipment, protocols, and recent publications</li> </ul>
	3	<ul style="list-style-type: none"> <li>▪ Take an active role in pursuing collaborations within NIH and outside NIH</li> <li>▪ Develop new techniques related to core facility expertise</li> <li>▪ Provide advice to senior staff with respect to core facility expertise</li> <li>▪ Participate in scientific collaborations</li> <li>▪ Interface with and play a leadership role among other similar core facilities</li> <li>▪ Participate in relevant professional development training and/or leadership training</li> </ul>

Service Category	Strata	Range of Services
Technical Support and Innovation	1	<ul style="list-style-type: none"> <li>▪ Apply appropriate, state-of-the-art methodologies to significant problems facing the laboratory, branch or core</li> <li>▪ Master the scientific and biological issues relevant to the technical problems being addressed, including participation in conferences, workshops, and/or formal classroom instruction</li> <li>▪ Follow developments in the specific pertinent field where the same or similar problems may be addressed</li> <li>▪ Follow advancements in allied technical fields (e.g., engineering/physics/bioinformatics) to capitalize on translation opportunities</li> <li>▪ Provide additional value to the IRP by consulting on a broad variety of technical matters</li> <li>▪ Master the operation and high art of a challenging device, assay or other highly technical operation where reliable results are difficult to obtain</li> <li>▪ Manage the development of a major technical resource (e.g., software package) distributed outside the NIH</li> <li>▪ Establish Material Transfer Agreements (MTA)</li> <li>▪ Write/submit Employee Invention Reports (EIR)</li> </ul>
	2	<ul style="list-style-type: none"> <li>▪ Have advanced expertise relevant to the biological sciences (e.g. physics/engineering/bioinformatics)</li> <li>▪ Have one or more decades of experience in solving relevant problems</li> <li>▪ Successful track record in high risk – high payoff projects</li> <li>▪ Widely recognized as an expert in the science, technology and practice of a challenging methodology relevant to biological research</li> <li>▪ Develop new technologies or techniques for basic research or medicine</li> <li>▪ Introduce new technologies or methods developed outside the NIH into the IRP</li> <li>▪ Translate technologies or methods developed for unrelated fields to the biological sciences</li> <li>▪ Instigate scientific and technical collaborations between NIH and other major academic institutions, as well as between Institutes and Centers of the IRP</li> <li>▪ Support patent applications as an inventor or co-inventor</li> <li>▪ Participate in a Cooperative Research and Development Agreement (CRADA)</li> <li>▪ Participate in relevant professional development training</li> </ul>
	3	<ul style="list-style-type: none"> <li>▪ Design new techniques or technologies to answer research questions</li> <li>▪ Highly regarded, sought after expert in the field of study</li> <li>▪ Broadly knowledgeable of scientific, clinical and technical issues for relevant field</li> <li>▪ Record of high achievement for a substantial number of years with significant methodological or other major technical contributions</li> <li>▪ Develop and lead new research and/or innovation projects of substantial importance to the field</li> <li>▪ Major contributor at scientific and or technical meetings, standards committees, advisory panels, etc.</li> </ul>

Service Category	Strata	Range of Services
Managerial, Administrative and other IC Service	1	<ul style="list-style-type: none"> <li>▪ Serve laboratory, branch or IRP duties (including IC Committees) that draw upon scientific or science-related technical expertise in an administrative or managerial role</li> <li>▪ Provide scientific and project management at a laboratory or branch level</li> <li>▪ Coordinate initiatives that support the mission of a lab or branch such as training and education, resource management (ordering, keeping track of inventory, managing mouse colonies, etc.) or other managerial activities requiring scientific expertise</li> <li>▪ Provide administrative and programmatic support that is of a scientific or technical nature</li> <li>▪ Participate in relevant professional development training</li> </ul>
	2	<ul style="list-style-type: none"> <li>▪ Act as Project Officer for large procurements in the branch or IC</li> <li>▪ Provide scientific and project management of a large project with significant resources</li> <li>▪ Coordinate initiatives that support the mission of the IC, the NIH, or the scientific community at large</li> <li>▪ Coordinate scientific efforts and resources within a scientific discipline across branches or ICs</li> <li>▪ Provide analysis and reports on IC research portfolio to IC directors, BSCs, or Congressional inquiries</li> <li>▪ Engage in long-term resource and strategic planning in support of the branch, IC or NIH mission</li> <li>▪ Director of committee with significant administrative responsibilities, such as review and promotion committee</li> </ul>
	3	<ul style="list-style-type: none"> <li>▪ Manage a large scientific program during the search for a replacement principal investigator</li> <li>▪ Serve as the acting Intramural Scientific Director for an institute</li> <li>▪ Detail as an acting Extramural Branch Chief or Division Director for an institute or center</li> <li>▪ Participate in relevant professional development training and/or leadership training</li> </ul>