National Heart, Lung and Blood Institute - HNH

(1) Provides leadership for a national program in diseases of the heart, blood vessels, lungs, and blood, blood resources, and sleep disorders; (2) plans, conducts, fosters, and supports an integrated and coordinated program of basic research, clinical investigations and trials, observational studies, and demonstration and education projects relating to the causes, prevention, methods of diagnosis, and treatment (including emergency medical treatment) of the heart, blood vessel, lung, blood diseases, and sleep disorders through research performed in its own laboratories and through contracts and research grants to scientific institutions and to individuals; (3) plans and directs research in the development, trial, and evaluation of drugs and devices relating to the prevention, treatment, and rehabilitation of patients suffering from such diseases and disorders; (4) conducts studies and research into the clinical use of blood and all aspects of the management of its resources; (5) supports training and career development of personnel in fundamental sciences and clinical disciplines for participation in basic and clinical research programs relating to heart, blood vessels, blood, lung diseases, blood resources, and sleep disorders; by individual and institutional research training awards; (6) coordinates with the other research institutes and with all Federal health programs relevant activities in the above diseases and disorders, including the related causes of stroke; (7) conducts educational activities, including the collection and dissemination of educational materials on these diseases and disorders, with emphasis on the prevention thereof, for health professionals and the lay public; and (8) maintains continuing relationships with institutions and professional associations and with international, national, state, and local officials, and voluntary agencies and organizations working in these areas.

Office of the Director - HNH1

(1) Develops and provides leadership for national heart, blood vessel, blood and lung programs, and sleep disorders research, including the coordination of all Federal health programs related to these program and research areas as authorized; (2) provides overall planning, direction, coordination, and evaluation of the Institute's programs; (3) collects, develops, and disseminates information on the above diseases, with emphasis upon factors in their prevention, and conducts and fosters related educational programs for scientists and clinicians; (4) provides overall management and administrative services for the Institute; and (5) establishes internal Institute policies for program and administrative operations and maintains surveillance over their execution.

Office of Management - HNH13

(1) Advises and assists the Director on administrative matters; (2) plans and directs management functions of the Institute including financial management, personnel management, material procurement, office services, management analysis, and reports and statistics relating to the Institute's administrative activities; (3) interprets, analyzes, and implements new legislation, administrative orders, and management concepts affecting the mission of the Institute; and (4) provides, plans, directs, and implements a comprehensive ethics program in accordance with the requirements established by the Office of Government Ethics, the Department of Health and Human Services, and the National Institutes of Health.

Executive Office - HNH131

(1) Directs the administrative management and financial management operations of the Institute; (2) develops, administers, and directs the Institute's internal control processes; (3) oversees development of and administers Institute policies and procedures for administrative and program management activities; and (4) oversees personnel management and workforce planning.

Freedom of Information and Privacy Act Branch - HNH1312

(1) Administers the Institute's policies and procedures implementing Freedom of Information Act and Privacy Act legislation; (2) researches and responds to third party inquiries under the FOIA and Privacy Act; (3) represents NHLBI and client ICs in all FOIA dealings with major professional organizations, Office of General Counsel, Justice Department, and other Executive Branch Agencies, and congressional offices, and the public; and (4) provides Freedom of Information and Privacy Act expertise and services necessary for performing the above activities on behalf of ICs in accordance with established service level agreements.

Financial Management Branch - HNH132

(1) Manages and directs all aspects of the financial management activities of the Institute including budget formulation, execution, accounting and funds control, and financial reporting; (2) coordinates the financial management aspects of the Institute's grant programs and provides information and advice on the status of financial commitments and obligations for grants; (3) serves as the principal advisor to the Institute Director, Executive Officer and other senior staff on the management of the financial and personnel resources of the Institute; (4) oversees and coordinates the Institute's budget process including budget preparation and submission; explanation and defense of the budget; and budget execution; (5) establishes standards and requirements for financial databases that report financial information and ensures that the Institute's budgetary, accounting, and funds control systems meet applicable standards, are compatible with NIH and Departmental systems, and provide Institute staff with reliable accounting, financial management and personnel resource utilization data; (6) provides expert financial advice and information to the Institute Director and others appearing before Congressional committees or examiners, participates in budget hearings and coordinates the preparation of responses to questions concerning the financial management of the Institute from the Congress and others; and (7) coordinates the preparation and analysis of information on the historic, current and prospective financial status of the Institute for briefing and reporting purposes.

Extramural Financial Analysis Section - HNH1322

(1) Plans and coordinates the financial management of the Institute's grant programs and manages the information systems containing data on grants and grant application; (2) provides advice, information and policy recommendations concerning grants funding to the Institute Director, Executive Officer, Financial Management Officer, and senior staff of the Institute; (3) participates in the formulation of all major grant obligations and makes the information available to Institute and NIH staff; (5) prepares regular and special financial reports on NHLBI grant and contract programs; and (6) recommends alternative funding solutions for extramural mechanisms and provides future year funding projection for grants and contracts.

Administrative Management Branch - HNH137

(1) Provides overall administrative management counsel and support to the Office of the Director (OD) and the extramural programs; (2) serves as the NHLBI coordinating point in handling general administrative or management problems that cross Institute program lines and which cannot be resolved at program levels; (3) analyzes effects of changes in general administrative policies and practices by organizational echelons above the NHLBI level and advises the Executive Office; (4) advises the staff of the Office of the Director, extramural programs and other key officials of administrative policies and practices; (5) develops, implements and/or provides advice on the development and implementation of regulations, policies and procedures for the Institute; (6) provides overall administrative services to customers which include financial management, human resources management, acquisitions, travel, space, property and other administrative functions.

Information Technology and Applications Center - HNH139

(1) Directs and implements a broad range of business, research, and clinical informatics programs in support of the biomedical research mission of the NHLBI; (2) Articulates the NHLBI information technology (IT) strategic plan, forecasts future needs, sets and implements NHLBI IT policies and procedures; (3) Defines and executes IT management methodologies, encompassing strategic planning, complex organizational structures, technical project management, and business process modeling and re-engineering; (4) Plans, monitors, and enforces information and systems security; (5) Engineers and oversees the day to day operation of the NHLBI information technology and data infrastructures -- including software, servers, storage, networks, databases, web sites, and computing and mobile devices; (6) Manages IT acquisitions and the associated IT budget for the Institute -- including the Capital Planning and Investment Control process for all NHLBI IT investments; (7) Guides and supports NHLBI administrative and scientific staff in the development and effective use of IT applications and services; (8) Collaborates with other NHLBI Divisions, Offices and Centers to identify IT needs, and to evaluate and implement IT solutions to meet those needs; and (9) Studies, evaluates and tests new technologies, hardware, software, and information systems.

Office of the Director - HNH1391

(1) Provides oversight and management of the ITAC -- including strategic alignment with the priorities of the NHLBI, leadership and guidance to the ITAC Branches and Sections; and Center-wide resource and space management; (2) Communicates and promotes the goals, needs, and achievements of the NHLBI in the areas of information management and technology to the NIH and its Institutes, HHS and other Government agencies, and outside vendors and partners; (3) Reviews the IT component of all RFAs and RFPs issued by NHLBI and provides clearance for such, works with officials during the execution of grants and contracts with significant IT components to evaluate the appropriateness of the investment and to ensure adherence with NHLBI IT guidelines and policies; and (4) Through the Information Systems Security Section, provides Systems Security Administration and Management -- including defining standards, and implementing and monitoring Information Systems Security measures, and enforces all OMB, HHS, NIH, and NHLBI information technology security guidelines and policies. (5) Provides oversight to the service implementation arms of the Center. (6) Through the Customer Support Branch provides services that support users of IT resources including training, 508 remediation and help desk. (7) Manages all ITAC-wide regulatory, administrative, and financial functions. (8) Manages the ITAC office space -- including space assignments, forecasting of office space needs, and the development of justifications and business cases for office space requests; (9) Manages the ITAC budget execution, the operations of the NHLBI CPIC governance board (the IT Investment Review Board), and issues performance reports on all qualified IT investments to NIH and HHS; and (10) Develops standard operating procedures, tracks key ITAC performance metrics, and translate metrics into actionable recommendations to improve the operational efficiency of ITAC.

Information Technology Security Section - HNH13914

(1) Implements NIH, HHS and Federal Government IT Security Policy. (2) Audits NHLBI IT assets for compliance with IT Security policy. (3) Remediates security vulnerabilities in IT infrastructure and workstations. (4) Reviews IT security components of contracts. (5) Develops and implements strategies for IT security in infrastructure, desktop and custom software. (6) Works with the NIH IT Security Team to implement NIH security guidance. (7) Develops Certification and Accreditation (C&A) packages for all NHLBI sponsored applications, systems and hosting environments. (8) Develops IT Security policy. (9) Maintains an IT Security posture in line with the risk to confidentiality, integrity and availability of NHLBI data. (10) Ensures all NHLBI staff comply with mandatory IT security requirements including training.

Customer Support Branch - HNH1396

(1) Maintains website content on NHLBI's public internet sites and internal intranet sites. (2) Provides high-quality, customer-oriented technical support to ensure the optimal operation and usage of the NHLBI IT resources; (3) Manages the operations of the IT Help Desk -- including service requests, ticket queue, support performance metrics and reports, and quality assurance; and (4) Expands the information technology knowledge of the NHLBI user community through classroom instruction, one-on-one training, and documentation in areas such as software applications, security, and new technologies. (5) Provides remediation services and advice on Section 508 of the US Rehabilitation Act.

Scientific Solutions Delivery Branch - HNH1397

(1) Oversees contractor teams implementing solutions focused on scientific needs across the Institute including support for Intramural research databases and tools and science focused systems for the Extramural program. (2) Sets standards for the selection and implementation of scientific systems. (3) Advises customers on solutions to their scientific IT needs; and (4) Conceives and develops state-of-the-art custom software, databases, and web-based applications addressing the scientific needs of the organization.

Business Solutions Delivery Branch - HNH1398

(1) Oversees contractor teams implementing solutions focused on business and administrative processes across the Institute including support for administrative functions, grants, contracts, human resources etc. (2) Provides leadership and technical expertise to ensure that NHLBI Web Properties are aligned with the Institute's mission and effectively communicate the Institute's messages; (3) Manages the NHLBI Web Governance framework and implements policies set by the Web Policy Council; (4) Ensures that the NHLBI web properties and technologies remain in compliance with all applicable Federal regulations; (5) Defines the performance metrics for and measures the impact of the NHLBI web-based communication efforts; and (6) Conceives and develops state-of-the-art custom software, databases, and web-based applications addressing the business needs of the organization.

Infrastructure Services Branch - HNH1399

(1) Specifies, acquires, configures, and maintains the technical architecture including configuration; (2) Defines the operational principles and procedures in all matters that pertain to the storage, delivery, and safeguarding of business data available over the information network; (3) Develops and maintains technology standards – including service delivery processes, desktops, servers, mobile devices, storage, networking and other infrastructure items. (4) Evaluates, pilots and tests new technologies. (5) Provides recommendations for evolution of the NHLBI IT technical architecture. (6) Defines standards for information management and the technical infrastructure. (7) Sets the technical frameworks and programming languages supported at NHLBI for software development; (8) Defines the methods and tools used to ensure that software product development adheres to process, performance, and qualities standards. (9) Maintains and improves IT applications based on formal evaluations and user experience, and in response to evolving development methods and technologies. (10) Configures, installs, and troubleshoots all IT devices deployed to the NHLBI user community.

Office of Operations Management - HNH139A

(1) Manages and directs the technical functions of the Information Technology and Applications Center (ITAC); (2) Ensures that processes are in place to facilitate support of customers, management of the NHLBI IT Infrastructure, the assurance of IT security, and the development and implementation of software systems; (3) Collaborates with ITAC stakeholders to regularly evaluates the processes of ITAC and works to continuously improve operational performance; (3) Develops the IT Strategic Plans for the Institute, reviewing them with stakeholders and then putting in place concrete operational plans to meet the goals expressed in the strategic plans; (4) Monitors performance against operational plans; (5) Oversees the Center's budget including conducting studies to support long range planning for investment in infrastructure; (6) Manages all acquisitions required to support the mission of the Center including acquisition of IT hardware, software and services; (7) Provides required reports to the NIH OD, OCIO and to HHS as required including those documents required to ensure compliance with legislation, regulation and policy such as Clinger-Cohen and FISMA; (8) Oversees the operation, maintenance and enhancement of the NHLBI IT Infrastructure ensuring that the infrastructure meets the changing needs of the Institute; (9) Oversees all customer support activities including the NHLBI IT Service Desk, IT Training, the "Walk In Center" and the Customer Relationship Management Program; (10) Assesses customer satisfaction and creates plans for continuous improvement; (11) Sets standards and policy for the design and implementation of hardware and software systems, and regularly assesses compliance with these standards; (12) Monitors performance of contractors and works with the Office of Acquisitions to ensure that contractor performance is managed; (13) Develops and publishes NHLBI specific IT security policy, and develops and implements plans for continuously monitoring compliance, remediating issues where necessary.

Ethics Office - HNH13B

(1) Plans, directs, and implements a comprehensive ethics program in accordance with the requirements established by the Office of Government Ethics, the Department of Health and Human Services, and the National Institutes of Health; (2) provides advice and counsel to managers, supervisors, and employees on the statutes, regulations, and policies governing conflict of interest, standards of conduct, representational activities, post-employment activities, and other ethics-related issues; (3) manages and administers the public and confidential financial disclosure reporting system, reviews and certifies reports for substantive conflicts of interest or other violations of ethics rules, and implements remedies for identified conflicts; (4) reviews, recommends, and/or approves outside activity requests by employees for conformance with statutes, regulations, and policies and reviews and approves the annual report of outside activities by employees; (5) renders determinations under the Standards of Ethical Conduct with respect to awards, honorary degrees, prohibited gifts, conflicts of interest, impartiality, and other matters requiring a disposition by the agency ethics official; (6) administers procurement integrity ethics provisions, including any and all procurement integrity advisory opinions; (7) provides ethics clearance for sponsored travel reimbursement authorities; (8) assesses information provided by employees or others to ascertain the application of conflict of interest statutes, regulations, and policies and resolves actual or potential conflicts or the appearance of a loss of impartiality; (9) manages the ethics training program for new employees and current employees in accordance with Office of Government Ethics regulations and/or NIH specific policies; (10) provides ethics reports to the NIH, Congress, and others; and (11) enforces ethics laws, standards of ethical conduct, and related provisions through criminal referrals and/or administrative sanctions.

Program Management Office - HNH13C

(1)Provides high level analysis of the ICs business process to drive decision making and organizational direction based on results using a consistent, repeatable, measureable and predictable methodology;(2) conducts analyzes of organizational functions to determine how the function is perform and by whom and develops new functional process to enhance the efficiency of the organization; (3) develops and implements analytical measurements for program evaluation purposes; (4) creates and maintains a solutions library that will house templates and guidance as a repository of best practices; (4) coordinates, analyzes and provides advice on all organizational change proposals for the Institute; (5) defines and evaluates the direction of the OM using a strategic planning process to ensure organizational success.

Office of Acquisitions - HNH13D

(1) Provides for overall business management of a comprehensive program of all research and development contracting, non-research and development contracting, and simplified acquisitions for NHLBI and IC customers engaged in service level agreements with the NHLBI COAC. (2) Provides advice and assistance regarding all phases of the acquisition cycle from planning to close-out with the purpose of accomplishi9ng all acquisitions activities in support of the NIH scientific mission (3) Develops guidelines, procedures, and internal controls to ensure proper implementation of NIH and other applicable procedures, policies, regulations and law. (4) Provides reports and statistics on the status of contracts programs to the program directors, Executive Officers and Directors of the NHLBI and IC customers. (5) Collaborates, at the NIH level, to develop, identify and implement best practices. (6) Provides liaison support and representation to the greater NIH acquisition community.

Office of Planning, Analytics & Evaluation – HNH13E

(1) Provides and develops robust data and portfolio analytical capabilities for data-driven decision making; (2) Serves as a focal point for NHLBI's budget and workforce analysis, modeling, and forecasting activities in alignment with NHLBI's long-range strategic priorities; (3) Provides business and requirements analysis, leads rollout and communications, and provides system administration for portfolio analysis and data analytics and forecasting tools and applications, including those for data mining, curation, manipulation, verification, cleansing, analysis, forecasting, reporting, and visualization; (4) Performs workforce reporting and analysis, including turnover analysis and forecasting, workforce composition reporting, and workload analysis in support of strategic workforce planning and management including personnel review processes; (5) Analyzing extramural grants information and financial reports for historical trends, projection analyses, budget tracking, and fiscal models in response to special inquiries from senior institute management; (6) Prepares and presents financial analyses, special trend and projection analyses, historical data, and fiscal models to inform funding and policy decisions and communicate to institute leadership; (7) Manages the Institute's Enterprise Risk Management Program spanning the entire NHLBI portfolio including all scientific and operational functions; (8) Conducts operational and scientific risk evaluations; (9) Leads the Institute Risk Management Advisory Committee (RMAC); (10) Oversees the implementation and maintenance of the Institute's framework for management of policies and procedures; (11) Facilitates the development, implementation, and maintenance of administrative policies and procedures; and (12) Provides business and requirement analysis, leads rollout and communications, and provides system administration for associated knowledge management and workflow tools.

Portfolio Analytics & Evaluation Branch – HNH13E2

(1) Provides and develops robust data and portfolio analytical capabilities for data-driven decision making; (2) Performs short-term, long-term, and ad-hoc portfolio reporting and analyses informed by analytical and data science research methodologies; (3) Directs evaluations of program performance that serve to guide the development of future Institute programs and initiatives; (4) Provides business and requirements analysis, leads rollout and communications, and provides system administration for portfolio analysis and data analytics and forecasting tools and applications, including those for data mining, curation, manipulation, verification, cleansing, analysis, forecasting, reporting, and visualization; (5) Provides training on data and portfolio analysis tools and methodologies; (6) Consults and collaborates with program and other staff to produce portfolio analyses; (7) Provides interpretations of data and portfolio analysis results; (8) Disseminates findings, tools, data, methodologies, etc. across the NHLBI programmatic divisions; and (9) Informs NHLBI leadership of key analyses to guide future policies and program direction.

Planning and Forecasting Branch – HNH13E3

(1) Serves as a focal point for NHLBI's budget and workforce analysis, modeling, and forecasting activities in alignment with NHLBI's long-range strategic priorities; (2) Establishes, maintains, and oversees NHLBI's data governance for internal data sources and systems; (3) Performs budget reporting, analysis, forecasting, and outyear modeling for the Institute's full portfolio, including the Extramural scientific portfolio, Intramural program, and operational components; (4) Performs workforce reporting and analysis, including turnover analysis and forecasting, workforce composition reporting, and workload analysis in support of strategic workforce planning and management, including personnel review processes; (5) Prepares and presents financial analyses, special trend and projection analyses, historical data, and fiscal models to inform funding and policy decisions and communicate to institute leadership; (6) Provides statistical and actual data and analysis to examine the feasibility and impact of implementing a specific policy; (7) Serves as the functional product owner for associated analytical and forecasting tools; and (8) Analyzes extramural grants information and financial reports for historical trends, projection analyses, budget tracking, and fiscal models in response to special inquiries from senior institute management.

Office of Workforce Development and Support – HNH13F

(1) Serves as an expert resource for the Office of the Director, NHLBI, and other key officials, providing workforce and workplace development advice, consultation and engagement; (2) Serves as a catalyst for implementing business and human capital strategies that ensure individual and team behaviors and performance are consistent with NHLBI's mission and values; (3) Maintains and coordinates the Institute's performance appraisal systems and performance based awards programs; (4) Manages the NHLBI Executive Development Training Program, specialized instructional training for NHLBI managers, supervisors and employees; (5) Provides engagement and serves as experts on matters of diversity and inclusion; (6) Works with NHLBI's leadership to develop organizational capabilities to enhance overall organizational competencies and effectiveness; (7) Oversees various programs and initiatives to ensure NHLBI has the depth and breadth of talent to achieve diversity and its organizational goals; and (8) Works with management to address and resolve workplace and workforce matters which impact employees, performance, morale, and the work environment.

Workforce Development Branch – HNH13F2

(1) Promotes a high-performing workforce, identifies and closes skills gaps, and implements and maintains programs to attract, acquire, develop, promote, and retain quality and diverse talent; (2) Ensures institute human capital programs are aligned with mission, goals, and objectives through analysis, planning, investment, and measurement; (3) Manages Workforce Development Programs, including: Management and Human Capital Consulting, Leadership and Development Programs, Mandatory Training, Career Development Programs, Performance Management (PMAP Policy and Training), and Retention (Student Loan Repayment, Academic Degree Support).

Engagement and Support Branch – HNH13F3

(1) Engages, develops, and inspires a diverse, high-performing workforce by creating an employee's sense of purpose while implementing and maintaining effective performance management strategies, practices, and activities that support mission objectives; (2) Contributes to institute performance by monitoring and evaluating outcomes of its human capital management strategies, policies, programs, and activities; (3) Conducts employee engagement activities, including: Awards and Recognition (Director's, Performance and Honorary), Recruitment, On-boarding, and Off-boarding, Diversity and Inclusion, Comprehensive evaluation and ROI, and FEVS and Actions Steps.

Branch A - HNH13D2

(1) Manages a mixed portfolio of contracts covering research and development, non-research and development, and simplified acquisitions for NHLBI and IC customers engaged in service level agreements with the NHLBI COAC. (2) Plans, manages and carries out research and development and non-research and development contracting activities including the solicitation, negotiation, coordination, awarding, and monitoring of all actions, as well as plans, manages and carries out simplified acquisitions in support of the NIH scientific mission. (3) Works with program staff and provides advice and guidance to support their research activities in the most effective and efficient manner. (4) Coordinates with other branches within the NHLBI Office of Acquisitions and elsewhere at NIH to develop, identify, and implement best practices; (6) Provides program managers with fiscal and other business management data as needed. (7) Provides liaison support and representation to the greater NIH acquisition community.

Section 1 – HNH13D22

(1) Manages a mixed portfolio of contracts covering research and development, non-research and development, and simplified acquisitions for NHLBI and IC customers engaged in service level agreements with the NHLBI COAC. (2) Plans, manages and carries out research and development and non-research and development contracting activities including the solicitation, negotiation, coordination, awarding, and monitoring of all actions, as well as plans, manages and carries out simplified acquisitions in support of the NIH scientific mission. (3) Works with program staff and provides advice and guidance to support their research activities in the most effective and efficient manner. (4) Coordinates with other branches within the NHLBI Office of Acquisitions and elsewhere at NIH to develop, identify, and implement best practices; (6) Provides program managers with fiscal and other business management data as needed. (7) Provides liaison support and representation to the greater NIH acquisition community.

Section 2 – HNH13D23

(1) Manages a mixed portfolio of contracts covering research and development, non-research and development, and simplified acquisitions for NHLBI and IC customers engaged in service level agreements with the NHLBI COAC. (2) Plans, manages and carries out research and development and non-research and development contracting activities including the solicitation, negotiation, coordination, awarding, and monitoring of all actions, as well as plans, manages and carries out simplified acquisitions in support of the NIH scientific mission. (3) Works with program staff and provides advice and guidance to support their research activities in the most effective and efficient manner. (4) Coordinates with other branches within the NHLBI Office of Acquisitions and elsewhere at NIH to develop, identify, and implement best practices; (6) Provides program managers with fiscal and other business management data as needed. (7) Provides liaison support and representation to the greater NIH acquisition community.

Section 3 – HNH13D24

(1) Manages a mixed portfolio of contracts covering research and development, non-research and development, and simplified acquisitions for NHLBI and IC customers engaged in service level agreements with the NHLBI COAC. (2) Plans, manages and carries out research and development and non-research and development contracting activities including the solicitation, negotiation, coordination, awarding, and monitoring of all actions, as well as plans, manages and carries out simplified acquisitions in support of the NIH scientific mission. (3) Works with program staff and provides advice and guidance to support their research activities in the most effective and efficient manner. (4) Coordinates with other branches within the NHLBI Office of Acquisitions and elsewhere at NIH to develop, identify, and implement best practices; (6) Provides program managers with fiscal and other business management data as needed. (7) Provides liaison support and representation to the greater NIH acquisition community.

Branch B - HNH13D3

(1) Manages a mixed portfolio of contracts covering research and development, non-research and development, and simplified acquisitions for NHLBI and IC customers engaged in service level agreements with the NHLBI COAC. (2) Plans, manages and carries out research and development and non-research and development contracting activities including the solicitation, negotiation, coordination, awarding, and monitoring of all actions, as well as plans, manages and carries out simplified acquisitions in support of the NIH scientific mission. (3) Works with program staff and provides advice and guidance to support their research activities in the most effective and efficient manner. (4) Coordinates with other branches within the NHLBI Office of Acquisitions and elsewhere at NIH to develop, identify, and implement best practices; (6) Provides program managers with fiscal and other business management data as needed. (7) Provides liaison support and representation to the greater NIH acquisition community.

Section 4 – HNH13D32

(1) Manages a mixed portfolio of contracts covering research and development, non-research and development, and simplified acquisitions for NHLBI and IC customers engaged in service level agreements with the NHLBI COAC. (2) Plans, manages and carries out research and development and non-research and development contracting activities including the solicitation, negotiation, coordination, awarding, and monitoring of all actions, as well as plans, manages and carries out simplified acquisitions in support of the NIH scientific mission. (3) Works with program staff and provides advice and guidance to support their research activities in the most effective and efficient manner. (4) Coordinates with other branches within the NHLBI Office of Acquisitions and elsewhere at NIH to develop, identify, and implement best practices; (6) Provides program managers with fiscal and other business management data as needed. (7) Provides liaison support and representation to the greater NIH acquisition community.

Section 5 – HNH13D33

(1) Manages a mixed portfolio of contracts covering research and development, non-research and development, and simplified acquisitions for NHLBI and IC customers engaged in service level agreements with the NHLBI COAC. (2) Plans, manages and carries out research and development and non-research and development contracting activities including the solicitation, negotiation, coordination, awarding, and monitoring of all actions, as well as plans, manages and carries out simplified acquisitions in support of the NIH scientific mission. (3) Works with program staff and provides advice and guidance to support their research activities in the most effective and efficient manner. (4) Coordinates with other branches within the NHLBI Office of Acquisitions and elsewhere at NIH to develop, identify, and implement best practices; (6) Provides program managers with fiscal and other business management data as needed. (7) Provides liaison support and representation to the greater NIH acquisition community.

Section 6 – HNH13D34

(1) Manages a mixed portfolio of contracts covering research and development, non-research and development, and simplified acquisitions for NHLBI and IC customers engaged in service level agreements with the NHLBI COAC. (2) Plans, manages and carries out research and development and non-research and development contracting activities including the solicitation, negotiation, coordination, awarding, and monitoring of all actions, as well as plans, manages and carries out simplified acquisitions in support of the NIH scientific mission. (3) Works with program staff and provides advice and guidance to support their research activities in the most effective and efficient manner. (4) Coordinates with other branches within the NHLBI Office of Acquisitions and elsewhere at NIH to develop, identify, and implement best practices; (6) Provides program managers with fiscal and other business management data as needed. (7) Provides liaison support and representation to the greater NIH acquisition community.

Section 7 – HNH13DA

(1) Manages a mixed portfolio of contracts covering research and development, non-research and development, and simplified acquisitions for NHLBI and IC customers engaged in service level agreements with the NHLBI COAC. (2) Plans, manages and carries out research and development and non-research and development contracting activities including the solicitation, negotiation, coordination, awarding, and monitoring of all actions, as well as plans, manages and carries out simplified acquisitions in support of the NIH scientific mission. (3) Works with program staff and provides advice and guidance to support their research activities in the most effective and efficient manner. (4) Coordinates with other branches within the NHLBI Office of Acquisitions and elsewhere at NIH to develop, identify, and implement best practices; (6) Provides program managers with fiscal and other business management data as needed. (7) Provides liaison support and representation to the greater NIH acquisition community.

Office of Science Policy, Engagement, Education, and Communications - HNH1H

The NHLBI Office of Science Policy, Engagement, Education, and Communications (OSPEEC) provides a comprehensive, integrated, and technology-supported infrastructure that supports the Institute's capability to disseminate information regarding its vision, mission, scientific program activities, accomplishments, and discoveries to a wide variety of internal and external audiences (e.g., patients, health care professionals, policymakers, constituent organizations, etc.). OSPEEC initiates, develops, and implements a dynamic, proactive, audience-centric communications strategy leveraging the dissemination channels and resources of local, national, and international partners; and coordinates and integrates activities of the Science Policy, Outreach, and Reporting; Engagement and Media Relations; and Health Education and Digital Information Dissemination Branches. On behalf of the Institute, OSPEEC(l) Serves as the Institute's focal point for establishing and implementing information and education programs to identify, collect, analyze, and disseminate information on heart, lung, blood and sleep research, diagnostics, prevention, and treatment through publications, education, and other means, to patients and their families, physicians and other health professionals, policymakers, and the general public; (2) develops short- and long-term communication policies, goals, objectives, plans, and strategies in support of the mission and priorities of the NHLBI; (3) in consultation with the Director, Division and Office Directors, and advisory groups, addresses emerging and evolving communications issues; (4) provides a comprehensive and integrated information dissemination and education capability to ensure rapid, accurate, and consistent communications to the constituencies served by NHLBI, engaging all of its functional elements; and (5) promotes the evolving NHLBI identity, creates and communicates a world-wide corporate NIH public image, and ensures that NHLBI speaks with a consistent voice when conveying information.

Engagement and Media Relations Branch - HNH1H2

The Engagement and Media Relations Branch (EMR) provides a range of communication services in support of the mission and priorities of the Institute. The EMR Branch plans and implements strategic communications programs and activities to serve the NHLBI and a variety of internal and external audiences, with a particular focus on the media, including **(1)** message development and crisis communications; (2) data analytics and statistical presentation for diverse audiences; (3) serves as the main point of contact for all NHLBI media inquiries, and identifies trends in media inquiries; (4) develops and implements pro-active media strategies for the Institute (press pitching); (5) prepares NHLBI researchers for interviews with media training, written talking points and other means and coordinates interviews; (6) writes feature articles, regular columns, news releases, and record videos or develop other forms of materials about heart, lung, blood and sleep research for use by NHLBI staff and Institute's website, magazines, and the scientific and trade press; (7) crisis management; and (8) coordination and management of trans-NIH communications projects.

Science Policy, Outreach, and Reporting Branch - HNH1H3

The Science Policy, Outreach, and Reporting Branch (SPOR) provides support to the Institute's Director and Institute Divisions and Offices. SPOR (1) prepares and conducts briefings on science planning and policy issues for the Institute Director; (2) identifies, supports, and/or conducts analyses of new and existing key policy issues to assess their impact on the fields of heart, lung, blood, and sleep disorders (HLBS); (3) ensures that the NHLBI community is kept abreast of the Congressional issues and interests that affect the Institute and the areas of science within its portfolio; (4) assesses NHLBI-supported research programs to identify strengths, gaps, overlaps, emerging opportunities, and shifting requirements as well as to inform appropriate audiences of research efforts; (5) collaborates with NHLBI science divisions and offices to develop NHLBI state-of-the-science positions; (6) conducts, coordinates, and facilitates liaison activities and prepares materials to educate the U.S. Congress, other Federal Government components, State and local governments, scientific, professional, and provider organizations, other constituent groups, and the general public about NHLBI-supported programs and science; (7) develops reports in response to requests from NIH, DHHS, other Federal agencies, Congress, and the White House, including coordinating NHLBI's participation in NIH-wide performance reporting activities, such as Government Performance and Results Act (GPRA) reporting; (8) coordinates NHLBI input, review, and clearance for scientific and policy statements of HHS agencies; and (9) advises, coordinates, and conducts evaluations of NHLBI programs and manages the application and implementation of OMB clearance packages on behalf of NHBLI.

Health Education and Digital Information Dissemination Branch - HNH1H4

The Health Education and Digital Information Dissemination Branch strategizes, , develops, and implements priority health education programs, campaigns, the NHLBI digital and content and messaging strategies, print and digital media, and online content utilizing scientific research findings and state-of-the-art communications approaches. The intent of these communication, information, and education products is to support the vision and mission of NHLBI, help ensure that the research accomplishments and discoveries are available, accessible and ready for adoption by those for whom they have the greatest value. The HEDID branch (1) develops, manages, and leverages strategic partnerships with national, regional, state, community-based and private sector organizations to disseminate science-based programs and information; (2) collaborates with NHLBI Divisions and other ICs to develop and disseminate evidence-based tools and best practices to improve population health and reduce health inequities; (3) responds to inquiries from the public; (4) oversees NHLBI's digital operations/governance; (5) provides oversight of the content management system of NHLBI and is attentive to the quality and integrity of the content ensuring its alignment to the science; (6) provides cultural and linguistic translation and transcreation assurances to OSPEEC and NHLBI to ensure its content is accessible to all audiences regardless of language spoken; (7) supports internal communications efforts and communication services (e.g., audio, video, graphic design) for the Institute; and (8) conducts strategic coordination of all the Institute's social media outlets and non-scientific digital application development and dissemination.

Division of Lung Diseases - HNH3

(1) Plans and directs the Institute's research grant, contract, and training programs in lung diseases and sleep, encompassing basic research, targeted research, clinical trials and demonstrations, national pulmonary centers, technological development, and application of research findings; (2) maintains surveillance over developments in program area and assesses the national need for research in the causes, prevention, diagnosis, and treatment of lung diseases, in technological development, in the application of research findings, and for manpower training in these areas; (3) maintains the necessary scientific management capability to foster and guide an effective attack upon lung diseases, and mission related sleep disorders; (4) coordinates sleep research activities across NIH, other federal agencies and outside organizations; (5) facilitate dissemination of health information to health care professionals and the public related to lung diseases and sleep disorders.

Office of the Director - HNH31

(1) Plans, coordinates, and manages activities of all subdivisions responsible for lung programs; (2) maintains continuing assessment of the Institute's national and international health programs related to lung diseases; (3) fosters and coordinates interdivision and interagency collaborative and cooperative research arrangements; (4) develops and maintains the necessary scientific management capability in the Division to foster and guide an effective attack on lung diseases; and (5) provides administrative support services for the Division.

Airway Biology and Disease Program - HNH32

(1) Plans, conducts, and directs a program of grant and contract support for basic and applied, clinical and non-clinical, research and training research on chronic obstructive pulmonary disease, asthma, cystic fibrosis, respiratory neurobiology and sleep, and environmental lung disease through funding activities in extramural institutions and organizations; (2) reviews and evaluates national and international research developments in these program areas; (3) assesses needs for research and research training and identifies new opportunities in the program areas; (4) designs, develops, operates, and coordinates programs to facilitate and implement the transfer of knowledge gained through research and development in the program area into clinical practice through educational measures, demonstrations, control programs, and other means.

Lung Biology and Disease Program - HNH33

(1) Plans, conducts, and directs a program of grant and contract support for basic and applied, clinical and non-clinical, research and training research on basic lung cell and molecular biology, lung developmental biology and lung growth, pediatric pulmonary disease, acute lung injury, critical care medicine, interstitial lung diseases, including fibrotic and immunologic diseases and pulmonary vascular disease, through funding activities in extramural institutions and organizations; (2) reviews and evaluates national and international research developments in these program areas; (3) assesses needs for research and research training and identifies new opportunities in the program areas; (4) designs, develops, operates, and coordinates programs to facilitate and implement the transfer of knowledge gained through research and development in the program area into clinical practice through educational measures, demonstrations, control programs, and other means.

National Center on Sleep Disorders Research - HNH34

(1) Conducts and supports research, training, education, and dissemination of health information to health care professionals and the public and other activities related to sleep disorders, including biological and circadian rhythm research, basic research to enhance understanding of sleep, chronobiological and other sleep-related research; (2) coordinates the sleep research activities of the Center with related activities of other Federal Agencies, other components of the National Institutes of Health, and public and professional profit and non-profit organizations; and (3) prepares a comprehensive plan for conducting and supporting research on sleep and sleep disorders and works to facilitate its implementation.

Division of Blood Diseases and Resources - HNH4

(1) Plans and directs the Institute's research grant, contract, cooperative agreement, and training programs relating to the cause, prevention, and methods of diagnosis and treatment of blood diseases; improving the use and safety of blood, bone marrow and blood products; and the management of blood resources for transfusion and bone marrow and other tissues for transplantation.

Office of the Director - HNH41

(1) Plans, coordinates, and manages activities of all subdivisions responsible for hematologic, transfusion medicine, transplantation, and AIDS programs; (2) maintains continuing assessment of the Institute's national and international health programs related to hematology, transfusion medicine, and tissue and cellular transplantation; (3) fosters and coordinates interdivision and interagency collaborative and cooperative research arrangements; (4) develops and maintains the necessary scientific management capability in the Division to foster and guide effective programs in blood diseases and the management of transfusion and tissue transplantation; (5) plans, coordinates, and directs special activities which transcend program lines including minority, small business, and demonstration and education research programs; and (6) provides administrative support services for the Division.

Molecular, Cellular and Systems Blood Science Branch - HNH4A

Oversight, support and stimulation of fundamental basic research and early stage laboratory translation of the biology of blood, the blood forming elements and the interface between each of the latter with other cellular and organ systems. Branch responsibilities will include: (1) oversight, support and stimulation of discovery science focused on the explication of the physiology and pathophysiology of blood, bone marrow and blood vessels; (2) oversight, support and stimulation of systems biological approaches to understanding the critical role of blood/bone marrow/vascular endothelium in animal and human organs and organisms; (3) oversight, support and stimulation of the application of fundamental genetic, proteomic and metabolomic tools to understanding hematologic physiology and pathophysiology; (4) administration of and/or liaison to NHLBI/NIH resources related to basic research in non-neoplastic hematology; (5) training of the blood science workforce; and (6) fostering scientific communication across the Division, NHLBI, NIH and partner federal agencies to engender bench to bedside translation.

Translational Blood Science and Resources Branch - HNH4B

Oversight, support and stimulation of translational research throughout the spectrum of blood science, as well as the resources required to support heart, lung, blood, and sleep research. Branchy responsibilities will include: (1) oversight, support and stimulation of post-discovery science, pre- clinical research, and early phase clinical studies and trails [T1,T2 Research]; (2) oversight, support and stimulation of SBIR/STTR initiatives in blood sciences; (3) administration of and/or liaison to NHLBI resources related to translation research; (4) training of the blood science workforce; and (5) scientific liaison for translation research across the Division, NHLBI, NIH and partner federal agencies.

Blood Epidemiology and Therapeutics Branch - HNH4C

Oversight, support and stimulation of epidemiologic, clinical and implementation research throughout the spectrum of blood science. Branch responsibilities will include: (1) oversight, support and stimulation of epidemiologic, health services and observational clinical research; (2) oversight, support and stimulation of therapeutic and interventional clinical trials [T3 Research]; (3) acquisition and maintenance of expertise in clinical study and trail design and administration on behalf of the Division; (4) oversight, support and stimulation of implementation science and research [T4Research]; (5) training of the blood science workforce; and (6) scientific liaison for epidemiologic, clinical and implementation research across the Division, NHLBI, NIH and partner federal agencies.

Division of Extramural Research Activities - HNH5

(1) Advises the director on research contract, grant, and training program policies, (2) represents the Institute on overall NIH extramural and collaborative program policy committees and coordinates such policies within the Institute; (3) coordinates the Institute's research grant and training programs with the National Heart, Lung, and Blood Advisory Council; (4) provides the institutes program divisions with grant and contract management; (5) provides coordination and management of the Institute's public advisory committees; (6) provides initial scientific merit review of research grants and contracts for the Institute; (7) provides services to other Institutes and Centers fulfilling the requirement of service center agreements, (8) manages the NHLBI Scientific Review and Evaluation Awards; (9) develops, implements, and coordinates cross cutting, multidisciplinary activities and the mission areas of the NHLBI; (10) coordinates, facilitates, and enhances communication within the NHLBI, across NIH, and with other agencies and organizations regarding NHLBI strategic and innovative programs and activities; and (11) develops and provides extramural staff training and enhances communication across the Institute regarding standardized approaches, policies, methods, and procedures; and (12) provides conference services in support of the Institute; (13) provides leadership and coordination to accelerate the translation of basic discoveries and innovations into new diagnostics, devices, and therapeutics; (14) facilitates identification of emerging translational opportunities and develops interdependent teams that leverage resources across the NHLBI, other NIH Institutes and Centers, agencies, and organizations.

Office of the Director - HNH51

(1) Serves as a focal point for Institute policies and procedures relating to grants and contracts, and coordinates the application of such policies and procedures; (2) plans, coordinates, and manages activities of the subdivisions of the Division, including those relating to grants and contracts review and management for the Institute; (3) provides control points and administrative systems for issuance of grant and contract awards; and, (4) provides coordination and management of the Institutes public advisory committees; and (5) provides administrative support services for the Division; (6) manages the NHLBI Scientific Review and Evaluation Awards.

Office of Grants Management - HNH53

(1) Plans and directs the business management activities of the National Heart, Lung, and Blood Institute in research grant programs in heart, blood vessels, lung, blood diseases, and blood resources; (2) provides business management support to the program divisions for review, award, pre-award and post-award administration of research and training grants and awards; (3) advises NHLBI and NIH staff on grants management policy; (4) coordinates the preparation and distribution of grant application material for Advisory Council; (5) maintains and coordinates the official grant record system of the Institute; and (6) maintains liaison with the Division of Research Grants and the Information Systems Branch to coordinate the NHI and NHLBI grant information systems.

Cardiovascular Sciences Grants Management Branch - HNH534

(1) Provides grants business management services to the Division of Cardiovascular Diseases including pre-award negotiation, fiscal analysis, facilities and administrative cost calculations, and post award management of grant and cooperative agreements.

Blood Diseases and Resources/Lung Diseases Grants Management Branch - HNH535

(1) Provides grants business management services to the Division of Lung Diseases and the Division of Blood Diseases and Resources; including pre-award negotiation, fiscal analysis, facilities and administrative cost calculations, and post award management of grant and cooperative agreements.

Office of Translational Alliances and Coordination - HNH55

(1) Provides leadership and coordination to accelerate the translation of basic discoveries and innovations into new diagnostics, devices, and therapeutics; (2) facilitates identification of emerging translational opportunities and develops interdependent teams that leverage resources across the NHLBI, other NIH Institutes and Centers, agencies, and organizations; (3) leverages existing efforts, enhances communication and cooperation between existing programs; (4) organizes the development of strategic initiatives and FOAs; (5) identifies and capitalizes on synergies to meet and enhance the Institute's mission.

Office of Scientific Review - HNH58

(1) Provides policy direction and coordination for the planning and execution of initial scientific and technical review conducted within the Institute. These reviews normally involve applications for large grant programs (program projects, Centers programs, Demonstration and Education Research Programs, and the multicenter clinical studies, including Phase III Clinical Trials, special research grant and training programs, and proposals for research and development contracts; (2) responsible for management of three NHLBI chartered review committees and establishment of others as required; (3) identifies and selects qualified non-government experts to serve on review committees and assist with the review of grant applications and contract proposals as required; (4) serves as the information and coordination center for all grant applications and contract proposals pending review by the Office of Scientific Review; (5) provides Scientific Review Officers and supporting staff for the initial scientific merit review of NHLBI large grant applications and R&D contract proposals; (6) coordinates scientific review activities with staff of NHLBI program divisions, other DERA Offices, and the Center for Scientific Review, NIH; (7) develops criteria and determines appropriate assignment of grant applications to NHLBI program divisions; (8) provides information and guidelines for preparation of grant applications and maintains uniform policies and procedures governing technical review of grant applications and contract proposals within NHLBI; (9) acts as a central receipt point for all grant applications and contract proposals to be evaluated for initial scientific merit by the Office of Scientific Review, DERA; and for additional material, such as reprints and other documents, required for initial scientific merit review of grant applications and contract proposals within the Office of Scientific Review, DERA; (10) collates, distributes, and mails review materials to Institute staff and consultants involved in project site visits and grant and contract review committee meetings; (11) maintains central log and record system related to grant applications, contract proposals, and other documents received by NHLBI related to review activities of the Office of Scientific Review, DERA.

Clinical Studies and Training Branch - HNH582

(1) Serves as the primary point of contact for NHLBI program staff regarding all aspects of primary peer review of clinically- or training- related grant applications and R&D contracts; (2) provides Scientific Review Officers with clinically-focused scientific expertise; (3) organizes the peer review of career and training grants; and (4) provides guidance to NHLBI program staff on the preparation and publication of clinically- or educationally- focused initiatives. Two standing review committees are organized and run out of this branch: the Clinical Trials Review Committee (CLTR) and the NHLBI Institutional Training Mechanism Review Committee (NITM).

Cardiovascular and Pulmonary Branch - HNH583

(1) Serves as the primary point of contact for NHLBI program staff regarding all aspects of primary peer review of grant applications and R&D contracts focusing on cardiovascular or pulmonary areas; (2) provides Scientific Review Officers with cardiovascular or pulmonary scientific expertise; (3) organizes the peer review of research grants, contracts, and research center proposals; and (4) provides guidance to NHLBI program staff on the preparation and publication of initiatives relating to cardiovascular or pulmonary science.

Blood and Vascular Branch - HNH584

(1) Serves as the primary point of contact for NHLBI program staff regarding all aspects of primary peer review of Program Project Grants, and grant applications and R&D contracts focusing on hematological or vascular areas; (2) provides Scientific Review Officers with blood and vascular scientific expertise; (3) organizes the peer review of research grants, contracts, and research center proposals; and (4) provides guidance to NHLBI program staff on the preparation and publication of initiatives relating to hematological or vascular science. The Program Project Review Committee (HLBP) is organized and run out of this branch.

Office of Committee Management - HNH59

(1) Provides leadership, guidance, and resources to current and prospective committee members, the public, and those managing federal advisory committees at the NHLBI and clients' ICs; (2) maintains and applies comprehensive knowledge of the laws, regulations, and policies governing Federal advisory committees; (3) provides committee management expertise and effort necessary for performing the above activities for other Institutes and Centers to fulfill the requirements of service center agreements; and (4) provides conference support services for the Institute's National Advisory Council, Institute working groups, workshops, meetings, and symposia; including the coordination of audiovisual services.

Office of Extramural Policy and Training - HNH5A

(1) Provides leadership and guidance on NIH and NHLBI on research grant, career development, and training program policies and processes, including creating new extramural policies, (2) communicates, implements, and evaluates new and existing policies; (3) develops policy guidance for the initial scientific and technical review of grant applications and contract proposals reviewed within the Institute; (4) reviews all correspondence from applicants questioning the review of an application and seeking an appeal; (5) serves as the first point of contact for activities involving research misconduct; and (6) educates the Institute's program staff regarding extramural research policy and processes. (7) represents the Institute on NIH-wide extramural and collaborative program policy committees and develop and manage such policies within the Institute.

Division of Intramural Research - HNH6

(1) Plans and directs a program of general laboratory and clinical research in heart, blood vessel, lung, and kidney diseases, certain blood diseases such as sickle cell anemia, hemophilia, hepatitis, and development of technology related to cardiovascular and pulmonary diseases; and, (2) maintains communication with other programs of the Institute to facilitate early practical application of basic research findings. Areas of major interest are: the biology of experimental and clinical arteriosclerosis and its manifestations; the pathophysiology of hypertensive vascular disease; functions of the lung; clinical and experimental studies on physiological and pharmacological aspects of heart, blood, and lung diseases, and a broad program of other basic research and technical development related to them.

Office of the Scientific Director - HNH61

(1) Plans, coordinates, and directs a wide range of activities of basic and clinical scientific research programs conducted within the Division of Intramural Research (DIR) in such areas as heart and vascular disease, blood diseases and disorders, pulmonary diseases and disorders, normal and abnormal cardiovascular and hematologic physiology, genetic studies, cellular and molecular biology, cell signaling, biophysics and biochemistry, and other applied and clinically-related research interests; (2) encourages implementation of new technology, encourages application of new techniques and treatments through clinical trials, and promotes research collaboration; (3) serves in an advisory role to the Center and Branch Chiefs and Institute Director; (4) develops and maintains the necessary scientific capability in the Division to foster and guide an effective research and clinical program; and (5) participates in the planning and directing of Institute resource allocation and provides senior level administrative support to the DIR programs.

Office of Intramural Management - HNH611

(1) Plans, directs, coordinates, and provides comprehensive administrative and management support services for the Division of Intramural Research; (2) provides technical and advisory services in financial management, human resources, procurement, facility management, travel services, property management and other administrative functions, as necessary, to ensure the efficient and effective implementation and operation of programs; and (3) develops policies, guidelines, and procedures on matters relating to administrative management and disseminates to relevant staff.

Core Laboratories- HNH612

Core Facilities provide scientific resources, cutting-edge technologies and novel approaches to support DIR scientists. Availability of specialized expertise creates a robust environment for conducting a wide range of studies and accelerates the pace at which scientific discovery can take place.

EM Core- HNH612A

The Electron Microscopy Core facility provides advice, technical services, training and use of facilities to NHLBI intramural investigators who require electron microscopy (EM) to answer specific research questions. In general, this refers to questions involving subcellular, supramolecular or macromolecular structure at a level of resolution below that of the light microscope.

Pathology Core- HNH612B

The Pathology Core is a morphology core facility, which provides histopathology support for intramural researchers. The Core offers a full range of histopathology services and quality control for morphologic studies, experimental pathology (animal models) and optimizes use of supplies and equipment for all investigators at the NHLBI in which morphological studies and tissue-based molecular studies play a critical role.

DNA Sequencing & Computational Biology Core- HNH612C

The DNA Sequencing and Computational Biology Core (DSGC) was established in 2010 to meet the increasing demands of NHLBI investigators for next-generation sequencing. The main goal of the DSGC is to foster large-scale genomics research at DIR by providing access to cutting-edge sequencing instrumentation and genome technology. As an integral part of the research community at NHLBI, the DSGC provides standard and advanced services for experimental consultation, data acquisition and computational analysis.

iPSC Core- HNH612D

The mission of induced Pluripotent Stem Cells (iPSC) Core is to accelerate stem cell research by providing investigators consultation, technical services and training in human pluripotent stem cell technology. The major services that iPSC Core currently provides include (1) generation of human iPSCs from fibroblast cells, CD34+ hematopoietic stem/progenitor cells, and peripheral blood mononuclear cells (PBMCs) using non-integration methods; (2) CRISPR/Cas9 mediated human iPSC gene knockout, gene correction, and AAVS1 safe harbor transgene knockin; (3) human iPSC-cardiomyocyte (CM) differentiation.

Transgenic Core- HNH612E

The mission of the Transgenic Core is to keep up with the latest genome engineering technologies and to assist NIH scientists in creating genetically engineered animal models. Its services include: creating transgenic/knockout/knockin/conditional knockout animal models; conducting gene-targeting experiments using the conventional homologous recombination or the new ZFN, TALEN, and CRIPSR methods; deriving ES/iPS cells from mouse and other animal species; injecting stem cells or differentiated cells into immunocompromised mice for transplantation study or tumor formation, including teratoma assays; and performing IVF, mouse line re-derivation, embryo microinjection, and other assisted reproductive procedures.

Proteomics Core- HNH612F

The Proteomics Core provide access to mass spectrometry and gel based proteomics for identification and quantitation of proteins and their posttranslational modifications (PTM). In addition to helping the NHLBI investigators, the Core's research involves developing new approaches for PTM characterization and absolute protein quantitation (e.g. measuring occupancy of nitrosylation with cys-TMT tags, acetylation occupancy, tissue ubiquitination and absolute quantification of a mitochondrial protein panel).

Bioinformatics Core- HNH612G

The Bioinformatics and Computational Biology Core facility at the NHLBI facilitates, amplifies, and accelerates biological and medical research and discovery through the application of the latest bioinformatics methods and technologies. This mission is achieved by delivering high quality and comprehensive support for experimental design, analysis and visualization in a timely fashion. The core is responsive to research scientists' needs and effectively evolve with advances in the field.

Biochemistry Core- HNH612H

The Biochemistry Core provide expert services and consultation in biochemical enzyme assays and protein purification. All users are provided with on-site instrumentation training and if necessary, assistance with data processing and analyses. Accurate mass determination of intact protein. Services include: purification of protein labeled with a radioisotope or fluorescence dye, quantitation of cellular molecules by HPLC (e.g. free amino acid, nucleosides, etc.), elemental analysis of biological sample, ‘on-site training' for the system operation and data analysis, design and optimization of chromatographic methods to detect and separate proteins.

Light Microscopy Core- HNH612J

The Light Microscopy Core's mission is to assist investigators in experiments involving light microscopy with state-of-the-art equipment, training, and image processing capabilities.

Flow Cytometry (FACS) Core- HNH612K

The Flow Cytometry (FACS) Core is a state-of-the-art facility to accommodate a range of cell sorting and analysis needs. A wide variety of applications are supported including high speed cell sorting, 15-color cell analysis, cytokine analysis by multiplex bead arrays, imaging flow cytometry, phoshoprotein analysis, and cell cycle analysis.

MRI Core- HNH612L

The Magnetic Resonance Imaging (MRI) Core specializes in cardiovascular imaging of mice and rats. The MRI core performs all aspects of imaging studies from planning to data analysis and interpretation. The Core works with investigators to tailor imaging studies to individual study needs. Cardiac function and anatomy, stress testing and vascular imaging are examples of studies performed. The Animal MRI Core also performs a variety of studies in addition to cardiac imaging.

Glass Washing Facility- HNH612M

The Glass Washing Facility provides glassware cleaning services for the NHLBI DIR.

Murine Phenotyping Core- HNH612N

The NHLBI Murine Phenotyping Core carries out physiologic and behavioral testing in a diversity of mouse models for NHLBI and other NIH institutes.

BioPhysics Core- HNH612P

The Biophysics Core's mission is to provide support in the study of macromolecular interactions, dynamics, and stability by offering consultations, training, professional collaborations, and instrument access. The Biophysics Core assists researchers with comprehensive biophysical characterization of biomolecules, including proteins, polynucleotides, nanoparticles, and their cognate ligands.

Flow Cytometry Facility- HNH612Q

The Flow Cytometry Facility (FACS facility) provides services and consultation in flow cytometry related experiments to clinical sections within NHLBI to better understand diseases through comprehensive flow cytometry assessment of patient samples, and through samples from small and large animal models. Specifically, the FACS facility provides researchers with targeted phenotypic cellular analysis and purification, technical consultation, and training/ mentorship in flow cytometry technologies. Ultimately, the goal of the FACS facility is to support translational research for better patient care outcomes.

ACGME Fellowship - HNH618

The ACGME Fellowship group is responsible for organizing, managing, and conducting the clinical, administrative, and regulatory requirements for the Hematology portion of the NIH NCI/NHLBI Combined Hematology Oncology Fellowship Program. Activities include overseeing program letters of agreement with participating sites at Johns Hopkins, the Washington Hospital Center, Washington VA, University of Maryland and Walter Reed National Military Medical Center. Within NIH, the ACGME Fellowship supplies rotations in clinics/wares and provides consultative services which support the four hematology focused branches of the DIR. The fellowship is also responsible for NHLBI faculty development and provides administrative oversight and guidance for other ACGME regulated programs within the DIR.

Hematology Consult Services- HNH619

The NIH Hematology Consult Service provides scheduling and coordinating duties of fellows, clinical attendees, and advance practitioner staff for hematologic assessment of patients enrolled on protocols conducted at the NIH Clinical Center throughout the intramural program of NIH. The consult service performs clinically indicated bone marrow biopsy procedures, and by arrangement IRB approved research procedures for ICs outside of NHLBI and NCI. The consult service collaborates closely with the Clinical Center Department of Laboratory Medicine Hematology Section and Coagulation Laboratory, through regular clinical and operational meetings designed to optimize patient care and appropriate laboratory capabilities. The consult service rotation is also an important component of the clinical educational experience within the ACGME mandated clinical training in year 1 and 2 of the fellowship program.

Animal Program - HNH614

(1) Animal Surgery and Resources Core provides comprehensive animal care and use support in areas of veterinary care, investigator training, surgical/technical services, research collaborations and animal model development; (2) Animal Program performs veterinary health checks and animal treatments, provides housing and care for mice and rats in the ACRF tower, provides lab visits to assist investigators, and provides rodent importation/exportation guidance and assistance. (3) Murine Phenotyping Core conducts research experiments and data analysis for investigators on studies involving telemetry, echo, metabolic, neuromuscular, cardiovascular, and behavior. (4) Provides support to NHLBI Principal Investigators and the NHLBI Animal Care & Use Committee to assist with regulatory compliance for the proper care and use of animals in research.

Animal Program Surgery- HNH614A

The Animal Program Surgery services for NHLBI research animals include: animal model development, surgery, surgical support, post-operative care as well as technical services such as radiography, blood & tissue collection, hematology, and blood chemistries.

Animal Support Services- HNH614B

The Animal Program Support Services provides care and technical services for NHLBI research animals including: husbandry, purchasing, health monitoring, animal import/export, mouse rederivation and cryopreservation services. The program also provides support for NHLBI animals in other NIH facilities.

Scientific Information Office - HNH615

(1) The Scientific Information Office works with investigators and core facility heads as well as the DIR as a whole to strategically determine their computing needs, and develops short-term and long-term plans to meet these needs. (2) The Office is responsible for researching, securing, custom designing, and applying cutting edge IT solutions, products and support in order to facilitate variety of biomedical computing needs ranging from computations, to data storage, to support in the clinical setting. (3) The Office collaborates with sources outside the DIR including the Information Technology Application Center within the Office of the Director, NHLBI, the Center for Information Technology, NIH, and the Department of Clinical Research Informatics in the NIH Clinical Center as well as outside vendors.

Office of Education - HNH616

(1) Plans, directs and executes a variety of programs that promotes the success of all NHLBI scientists, both as trainees and as mentors of trainees; (2) provides mechanisms for trainees to learn each of the skills required for success in their chosen field; (3) provides guidance to NHLBI PIs on mentoring and training; (4) implements programs to improve the representation of underrepresented groups, including minorities, women, and scientists with disabilities in the mainstream of basic and clinical research.

Office of the Scientific Director OOTC- HNH617

The OSD Office of the Chief provides administrative support to the Scientific Director.

Office of the Clinical Director - HNH67

(1) Provides oversight of all patient care and patient-related activities within the Division of Intramural Research (DIR) including programs of quality assurance and quality improvement; (2) provides credentialing of medical practitioners; and (3) conducts clinical research including: (a) protocol development, (b) reviews by NHLBI Scientific Committee and Institutional Review Board, (c) oversight by Data Safety Monitoring Boards as required, (d) tracking of protocols following approval, and (e) protocol audits.

Center for Human Immunology, Autoimmunity and Inflammation - HNH671

(1) Promotes cooperative research based on advanced technologies in order to efficiently translate enhanced understanding of immune function and pathophysiology to the clinic; (2) improves treatment and prevention of human diseases resulting from chronic inflammation and immune dysfunction by integrating diverse subspecialties and uniting basic and clinical research; and (3) promotes new immune-related discoveries and their rapid clinical application across medical subspecialties.

Office of Clinical Affairs- HNH67A

The Office of Clinical Affairs coordinates the Institutional Review Board, and Data Safety Monitoring Boards, and is responsible for the implementation of DIR-wide clinical research policies and procedures.

Office of Research Nurses- HNH67B

The Office of Research Nurses provides centralized clinical research nurse specialists to work with the DIR's research teams.

Office of Clinical Research Support Services- HNH67C

The Office of Clinical Research Support Services oversees the development and implementation of the DIR clinical research support infrastructure, including protocol navigation, data management, monitoring, patient care coordination, and an FDA compliant clinical trials database.

Office of the Clinical Director OOTC- HNH67D

The OCD Office of the Chief provides administrative support to the NHLBI DIR Clinical Director.

Office of the Clinical Director Clinical- HNH67E

The OCD Clinical group provides administrative support for the clinical research done by the NHLBI DIR

Blood Advanced Practitioners - HNH67F

The Blood Advance Practitioners provide direct patient care and specialized support in all research related activities within the guidelines as defined and approved clinical research protocols under the supervision of a physician and principal investigator.

The Office of Biostatistics Research - HNH67G

The Office of Biostatistics Research (OBR) serves as the primary biostatistical resource for all of the NHLBI. The members of the Office collaborate broadly, participating in the planning, design, implementation, monitoring and analyses of studies funded by NHLBI, including basic biomedical studies and all clinical studies sponsored by the Division of Intramural Research. The OBR's primary mission is to provide objective, statistically sound and medically relevant solutions to problems that are presented. When methodology is needed to answer the questions posed, the OBR is expected to obtain new and valid statistical solutions which are then published in the biostatistics or medical literature. The professional staff of the OBR has interests in statistical methodology relevant to biomedical and clinical research studies. These include survival analysis, longitudinal data analysis, statistical genetics, data science and machine learning, as well as efficient designs for clinical studies, including adaptive designs and monitoring of ongoing trials for efficacy, safety, and futility. The OBR has been at the forefront of research in new statistical methods in these areas.

Biospecimen Management Program - HNH67H

The Biospecimen Management Program (BMP) will enforce and maintain compliance of NHLBI investigators to policies and regulations pertaining to human biospecimens. BMP will facilitate and accelerate research goals and ensure proper care and handling from specimen receipt to analysis and final disposition.

Laboratory of Membrane Protein Structural Biology - HNH6JW

The Laboratory of Membrane Protein Structural Biology studies the structures and mechanisms of some important membrane proteins, such as solute carriers, that are linked to human disease or drug transport. The lab uses biochemistry, cryo electron microscopy (cryoEM), and other tools to attack the problems, while also working on method development to expand applications of cryoEM on life sciences research.

Cell and Developmental Biology Center - HNH6G

(1) Formulates a global view of the mechanisms that regulate cellular function and physiology; (2) evaluates the mechanism and cytosolic control of different molecular machines within the cytosol, including those involved in muscle contraction, and cytosolic as well as membrane transport processes; (3) studies the cellular signaling events associated with hormone action, cytosolic trafficking, and energy metabolism; (4) performs studies on the role of these cellular processes on the function and adaptation in whole animal model systems; and (4) develops unique measuring devices for the study of biochemical and physiological processes in intact cells, whole animals and clinical situations.

Laboratory of Cell and Tissue Morphodynamics- HNH6GA

The ability of vertebrate cells to directionally move is critical to development, the immune response and wound healing, and its regulation is compromised in, for example, metastatic cancer and vascular disease. Using new quantitative imaging technologies such as Fluorescent Speckle Microscopy, the Laboratory of Cell and Tissue Morphodynamics investigates the motility and migration of cells, especially tissue cells.

Laboratory of Cellular Physiology- HNH6GC

The Laboratory of Cellular Physiology is interested in the formation and dissolution of both normal and pathological protein complexes in the cell with an emphasis on the role of molecular chaperones in these processes. To this end, the lab is studying the formation and dissolution of clathrin-coated vesicles in mammalian cells and the formation and dissolution of prion and Huntington aggregates in both mammalian cells and yeast.

Molecular Cell Biology Laboratory- HNH6GD

The long range goals of the Molecular Cell Biology Laboratory are to identify and characterize unconventional myosins, and to define their roles in the motility of cells and organelles. Efforts focus primarily on Dictyostelium and mice as model systems.

Laboratory of Molecular Physiology- HNH6GE

The Laboratory of Molecular Physiology conducts research on the structure, function and regulation of myosins, a class of actin-dependent motor proteins. The scientists are particularly interested in how different classes of myosins have adapted their structure and kinetics to allow them to participate in such diverse tasks inside cells as contraction of muscle, contraction of cytokinetic rings, cell adhesion, cell motility, phagocytosis, endocytosis, and trafficking of vesicles, mRNA and other cargo in cells.

Developmental Neurobiology Laboratory- HNH6GF

The Developmental Neurobiology Laboratory conducts research that bridges neuroscience and glycobiology to understand how the extracellular matrix proteoglycans, heparan sulfate and chondroitin sulfate, control neuronal migration, pathfinding and growth, both during nervous system development and in order to stimulate regeneration after injury. The lab's experiments take advantage of all techniques of modern biology, including biochemistry, biophysics, cell biology, molecular biology, immunology and physiology.

Laboratory of Protein Trafficking and Organelle Biology- HNH6GG

The selective recycling of lipids and proteins is critical to healthy cellular function. Many genes associated with human diseases encode components of the cellular machinery that sorts lipids and proteins for selective trafficking along endocytotic pathways leading to lysosomal degradation. The Laboratory of Protein Trafficking and Organelle Biology seeks to understand precisely how defects in intracellular trafficking—specifically, in endosomal/lysosomal pathways—contribute to human diseases.

Laboratory of Molecular Machines and Tissue Architecture- HNH6GH

The Laboratory of Molecular Machines and Tissue Architecture studies the role of centrosomes during animal development. The centrosome is a non-membrane bound organelle that serves as the main microtubule (MT) organizing center of most animal cells. The lab aims to determine how centrosomes are properly constructed from their individual parts and how centrosomes function in a wide range of cell types to avoid human diseases such as polycystic kidney disease, microcephaly, cancer and many others.

Cell and Developmental Biology Center OOTC- HNH6GJ

The CBPC Office of the Chief provides administrative support to the Director of the Cell Biology and Physiology Center.

Laboratory of Cell Biology- HNH6GK

The Laboratory of Cell Biology comprises four sections with six independent investigators with research interests in a range of biophysical, biochemical and cell biological problems including: bioenergetics; heat shock proteins; membrane and organelle trafficking; cytoskeletal rearrangements; regulation and function of actin-based motors (myosins).

Laboratory of Host-Pathogen Dynamics- HNH6GN

Viruses are experts at exploiting and manipulating the host in numerous and diverse ways to facilitate their lifecycle. Elucidating these viral mechanisms provides insight into the viral lifecycle and opportunities for therapeutic intervention. It also can provide insight into the host lifecycle, revealing cellular pathways that we did not know existed until viruses were found taking advantage of it. Using cutting edge imaging and spectroscopic technologies combined with novel lipidomic and proteomic approaches, the Laboratory of Host-Pathogen Dynamics has been at the forefront of understanding the virus-host interface, revealing novel replication and transmission mechanisms shared by many different human viruses.

Biochemistry and Biophysics Center - HNH6J

(1) Formulates a global view on the molecular basis of structure/function relationships of proteins and biologically relevant molecules; (2) performs state-of-the-art NMR spectroscopy studies of protein structure and functional interactions; (3) develops mathematical tools for generating theoretical models of protein structure-function relationships; (4) performs basic research on the mechanisms of enzyme function; and (5) performs studies on the relationship between protein structure-function and cell signaling pathways.

Laboratory of Structural Biophysics- HNH6JA

The Laboratory of Structural Biophysics works to develop new techniques in nuclear magnetic resonance spectroscopy (NMR) to efficiently study structure and dynamics of biomolecules. In addition, the lab also utilizes other biophysical techniques such as light scattering and imaging to gain additional structural and cellular information on the molecules of interest. Its central goal is to understand the basic mechanism of protein interactions that govern various cellular processes.

Laboratory of Biochemistry- HNH6JB

The Laboratory of Biochemistry focuses on oxidative modifications of specific proteins and the physiological and pathological effects of those modifications. The lab studies the mechanisms by which proteins are oxidatively modified, how the proteasome distinguishes native from modified, factors which control susceptibility to oxidative modification, and pathways for reversal of those modifications.

Laboratory of Biochemical Dynamics- HNH6JC

Research of the investigators in the Laboratory of Biochemical Dynamics are focused toward (1) elucidating the roles of free radicals/reactive oxygen species (ROS) in cellular regulation and in the etiology and progression of various diseases; (2) mechanistic studies of virion-cell fusion and of enzyme action and regulation, particularly those involved in cellular regulation via reversible covalent modification; and (3) development of methods and theories applicable to biomedical research.

Laboratory of Advanced Microscopy and Biophotonics- HNH6JD

The Laboratory of Advanced Microscopy and Biophotonics develops and exploits ultrafast laser-based instrumentation to study the structure, dynamiopy, and biophotonics of proteins, DNA and their assemblies in solution and in cells and/or tissues. The lab specializes in time-resolved fluorescence, but the scientists also employ other (absorption, coherent vibrational) techniques as needed.

Laboratory of Bioseparation Technology- HNH6JE

The Laboratory of Bioseparation Technology seeks to advance the field of chromatography by combining innovative device design with a deep understanding of fluid dynamics. More specifically, the lab works to invent methods of isolating, purifying, or analyzing materials of biomedical interest—including cells, macromolecules, and small molecular weight compounds—by means of counter-current chromatography and elutriation.

Laboratory of Computational Biophysics HNH6JF

The Laboratory of Computational Biophysics is an interdisciplinary group of scientists who study biological processes via computer simulation.

Laboratory of Membrane Biophysics- HNH6JG

The Laboratory of Membrane Biophysics is a group of researchers who use diverse theoretical methods combined with high performance computing to investigate the properties of lipid membranes and related molecular assemblies. The lab operates under the direction of Dr. Richard Pastor; the group joined the NIH/NHLBI Laboratory of Computational Biology (LCB) in 2006, after 20 years in FDA/CBER's Laboratory of Biophysics.

Laboratory of Protein Conformation and Dynamics- HNH6JH

The Laboratory of Protein Conformation and Dynamics is focused on elucidating the role of protein conformations and dynamics in biomedical problems. The overarching objective is not only to characterize specific proteins, protein-membrane, and protein-drug interactions, but also to measure dynamics underlying individual biochemical pathways. This research program employs a variety of laser spectroscopic techniques including fluorescence energy transfer and electron transfer kinetics as well as tools from biochemistry and molecular biology for functional studies.

Laboratory of RNA Biophysics and Cellular Physiology- HNH6JJ

In addition to serving as a carrier of genetic information, RNA can adopt complex three-dimensional structures that bind other molecules with high specificity, and precisely position functional groups. The Laboratory of RNA Biophysics and Cellular Physiology studies the biophysical underpinnings for this molecular versatility, and how organisms exploit it in the control of cellular physiology.

Laboratory of Theoretical Cellular Physics- HNH6JK

Biological information is exploding, thanks to increasingly sophisticated experimental tools and approaches. The Laboratory of Theoretical Cellular Physics uses the tools of statistical physics to cohere this expanding data set into quantitative models that capture fundamental insights and make concrete predictions about multiple cellular processes, including membrane trafficking, cell motility, and cell division.

Laboratory of Molecular and Cellular Imaging- HNH6JL

Every living cell ingests and extrudes material by recycling part of its membrane to form vesicles that are internalized (endocytosis) or externalized (exocytosis). The Laboratory of Molecular and Cellular Imaging studies how vesicles fuse with and are recaptured from the cell surface in excitable cells, and seeks to identify the proteins that control these processes and determine their impact on human health and disease.

Laboratory of Imaging Physics- HNH6JN

The Laboratory of Imaging Physics focuses on using imaging technologies to obtain detailed understanding of how the heart works as an efficient mechanical pump, and how blood flow in the myocardium is organized at the capillary level. The lab develops non-invasive MRI imaging techniques and other more invasive methods in this pursuit.

Theoretical Molecular Biophysics Laboratory- HNH6JP

The Theoretical Molecular Biophysics Laboratory aims to help elucidate the structural mechanisms of biomedically important molecular systems associated with cellular membranes. These insights enable the group to formulate novel mechanistic hypotheses that may be tested experimentally, or to provide realistic interpretations of existing experimental data.

Machine Shop- HNH6JQ

The Machine Shop supports the mechanical fabrication needs of NHLBI/DIR and also provides limited mechanical engineering design services. Additionally, it is used by researchers from other institutes on a case by case basis.

Biochemistry and Biophysics Center OOTC- HNH6JR

The BBC Office of the Chief provides administrative support to the Director of the Biochemistry and Biophysics Center.

Protein Expression Facility- HNH6JS

The Protein Expression Facility has two units that support NHLBI investigators. One unit develops new or improves existing expression and purification protocols for proteins. A second unit provides fermentation and cell culture services for large scale production of cells for recombinant proteins or for rigorous control of growth conditions.

Laboratory of Ribonucleoprotein Biochemistry- HNH6JT

The Laboratory of Ribonucleoprotein Biochemistry studies how RNAs attain unique functions in the cell by their intimate associations with proteins as part of ribonucleoprotein complexes (RNPs). A major focus of the lab is to study how the nonsense-mediated mRNA decay pathway recognizes and degrades transcripts containing stop codons at sites distant from the poly(A) tail (i.e. mRNAs with long 3' UTRs).

Laboratory of Single Molecule Biophysics- HNH6JU

Single-molecule visualization and manipulation techniques are at the technological forefront of biological enquiry; these techniques can probe distances on the sub-nanometer (10-9 M) scale and forces on the piconewton (10-12 N) scale with millisecond temporal resolution. The Laboratory of Single Molecule Biophysics employs these techniques—including optical and magnetic tweezers and fluorescence imaging, in combination with conventional molecular biology approaches—to answer fundamental questions concerning enzyme function and regulation. The research program is underpinned by single-molecule instrumentation that the laboratory designs and builds to elucidate enzyme mechanisms at the molecular level.

BBC OOTC Brooks- HNH6JV

The BBC Office of the Chief - Brooks provides administrative support to the Laboratory of Computational Biology

Immunology Center - HNH6N

(1) Formulates a global view on the molecular basis of immune processes; (2) performs studies on the intracellular and signaling processes involved in the activation of lymphocytes and mast cells; (3) studies the mechanisms by which drugs and other agents result in allergic/autoimmune reactions; and (4) relates these results to the development of new diagnostic and therapeutic approaches in humans.

Laboratory of Molecular Immunology- HNH6NA

Critical to proper development and orchestration of the cells that comprise the immune system are a number of intercellular signaling molecules, collectively known as cytokines, which act through multimeric receptors. The Laboratory of Molecular Immunology focuses on the biology, signaling, and molecular regulation of a key family of these cytokines, the interleukins, with studies ranging from basic molecular mechanisms to human disease. The scientists also use next generation sequencing to search for the causes of select types of immune-related diseases, including unidentified immunodeficiencies.

Laboratory for Complement and Inflammation Research- HNH6NB

The Laboratory of Complement and Inflammation Research aims at understanding the unexpected roles of complement in the regulation of key basic processes of the cell in health and disease. The central goal of this research program is to define the functional roles and regulative mechanisms of intracellular/autocrine complement and assess their biological relevance with an eye on delivering druggable targets in these pathways to therapeutically intervene in (autoimmune) diseases.

Immunology Center OOTC- HNH6NC

The Immunology Center Office of the Chief provides administrative support to the Director of the Immunology Center.

Hematology Branch - HNH6Z01

(1) Investigates normal and abnormal hematopoiesis in clinical studies of patients and in cellular, molecular, and immunologic laboratory research. (2) Focuses on bone marrow failure, viral infections of hematopoietic cells, gene therapy of hematologic and malignant diseases, bone marrow transplantation, and mechanisms of immunologically mediated syndromes like graft-versus-host disease and autoimmune disease

Hematopoiesis and Bone Marrow Failure Laboratory- HNH6Z01A

Research in the Hematopoiesis and Bone Marrow Failure Laboratory of the Hematology Branch spans the basic sciences, clinical trials, and epidemiology. Bench work involves methods of cell and molecular biology, immunology, and virology. Blood cell production in healthy individuals and especially in patients with bone marrow failure is the main theme. Results in the laboratory have had real impact on the care of patients with these life-threatening illnesses, and access to patient samples over time and with therapeutic perturbation makes the laboratory strategies both innovative and concrete.

Hematology Branch Clinical- HNH6Z01B

The HB Clinical group provides administrative support for the clinical research done by the Hematology Branch

Laboratory of Lymphoid Malignancies- HNH6Z01F

Using samples of blood, bone marrow, and lymph nodes collected from patients during clinical trials for chronic lymphocytic leukemia (CLL) and the related mantle cell lymphoma (MCL), the Laboratory of Lymphoid Malignancies aims to improve therapeutic strategies by identifying the critical molecular drivers of disease pathogenesis and understanding the impact of existing therapies on tumor cell stress responses and the development of drug resistance.

Laboratory of Myeloid Malignancies- HNH6Z01J

While considerable therapeutic advances using targeted therapies have been made for many malignancies, the most common treatment for acute myeloid leukemia (AML) has not changed in nearly 40 years. The Laboratory of Myeloid Malignancies was established with the mandate to investigate the “detection, prevention and treatment of AML relapse, in particular using non-transplantation immunotherapy.” The work carried out by the laboratory should help bring clinicians one step closer to developing more personalized treatments for AML and will hopefully provide a rational platform for the development of the next generation of immunotherapy.

Hematology Branch OOTC- HNH6Z01K

The Office of the Chief provides administrative support to the Director of the Hematology Branch.

Cardiovascular Branch- HNH6Z03

The Cardiovascular Branch conducts research on diseases that affect the heart and blood vessels. Specific projects aim to answer clinically relevant questions using methods ranging from molecular level studies up to and including clinical projects in diagnostics, therapeutics, and interventions. The Branch places a strong emphasis on creating an environment where scientists and physician scientists can work together on disease-specific issues using the most appropriate approaches available in the spectrum between the bench and the bedside.

Laboratory of Mitochondrial Biology and Metabolism- HNH6Z03A

The Laboratory of Mitochondrial Biology and Metabolism focuses on modifications of proteins that play pivotal roles in metabolism and mitochondrial function to understand how these modifications affect disease risk. The lab conducts studies in experimental systems with translation to the human subjects. The objective of these studies are to understand how nutrient- and other stress- signaling events cause or exacerbate disease and whether therapeutic interventions can be tested that reverse these pathologies. Current diseases being explored include cardiovascular disease, immune activation and Early Onset Parkinson Disease.

Cardiovascular Branch Clinical- HNH6Z03B

The Cardiovascular Branch Clinical group provides administrative support for the clinical research done by the Cardiovascular Branch

Advanced Cardiovascular Imaging Laboratory- HNH6Z03C

Heart attacks are caused by the interruption of blood supply to a part of the heart, depriving cells of oxygen. By developing new MRI and CT imaging methods, the Advanced Cardiovascular Imaging Laboratory aims to better understand and intervene in the process of myocardial infarction and ischemia. The laboratory performs multi-modality imaging (cardiac CT and MRI), imaging of rare diseases and population outcomes research.

Cardiovascular Branch OOTC- HNH6Z03D

The Cardiovascular Branch Office of the Chief provides administrative support to the Director of the Cardiovascular Branch.

Laboratory of Cardiovascular Intervention- HNH6Z03E

The Laboratory of Cardiovascular Intervention focuses on novel mechanical and biological treatments for heart and peripheral artery diseases, particularly treatments guided by magnetic resonance imaging.

Echocardiography Laboratory- HNH6Z03F

The Echocardiography Laboratory performs comprehensive cardiac imaging for NHLBI and all institutes at the Clinical Research Center. They collaborate in prospective and retrospective cardiovascular phenotyping studies and implement new technologies as necessary for detailed assessment of ventricular systolic and diastolic function, valvular abnormalities, and structural heart disease.

Laboratory of Cardiac Physiology- HNH6Z03G

In the heart, interruption of the blood supply can result in cardiac cell death and irreversible muscle damage. The Laboratory of Cardiac Physiology studies the molecular mechanisms involved in cardiac cell death, as well as the mechanisms that protect the heart against damage. The knowledge gained from these studies may help identify novel therapies to reduce cardiac injury during ischemia and reperfusion.

Laboratory of Obesity and Metabolic Diseases- HNH6Z03H

The broad interest of the Laboratory of Obesity and Metabolic Diseases is to understand the complex regulation of energy metabolism and uncover its significance in metabolic physiology and the pathogenesis of metabolic disease. The worldwide obesity epidemic—along with an array of obesity-related disorders, particularly diabetes, fatty liver and cardiovascular diseases—has become a major public health threat in the 21st century. The molecular and pathological basis by which obesity induces metabolic disorders, however, remains only partly understood, hampering the development of effective therapies against these debilitating diseases.

Cardiovascular CT Laboratory- HNH6Z03J

The Cardiovascular CT Laboratory performs multi-modality imaging (cardiac CT and MRI), imaging of rare diseases and population outcomes research.

Social Determinants of Obesity and Cardiovascular Risk Laboratory- HNH6Z03K

The Social Determinants of Obesity and Cardiovascular Risk Laboratory conducts research on the social determinants of obesity and obesity-related cardiovascular risk factors that contribute to racial and ethnic disparities in cardiovascular disease. Members of this lab engage in two interrelated research programs that: 1) use epidemiologic methods and geographic information systems to understand the socioeconomic, psychosocial, and environmental factors that promote adverse weight gain and incident cardiovascular risk factors in multi-ethnic, population-based cohorts; 2) translate findings from these epidemiologic studies into community-based interventions targeting barriers to weight loss for at-risk populations.

Laboratory of Clinical Cardiology- HNH6Z03L

People with obesity, diabetes, or even pre-diabetic conditions are predisposed to adverse cardiovascular events such as heart attacks and strokes. Such people have altered functioning of the blood vessels—in particular, the endothelial cells that line arteries. To understand the mechanisms underlying this dysfunction, the Laboratory of Clinical Cardiology has turned from its more basic research interests in vascular endothelial function and nitric oxide bioactivity to focus on a clinical program that addresses the relationship between diabetes risk and arterial function.

Laboratory of Inflammation and Cardiometabolic Diseases- HNH6Z03M

The Laboratory of Inflammation and Cardiometabolic Diseases focuses on the role of innate immunity and inflammation in the development of cardiovascular and metabolic diseases. Using a trans-disciplinary approach that involves genetic epidemiology, translational medicine, and novel cardiovascular imaging approaches, the team studies how inflammation affects insulin resistance, the development of metabolic syndrome, and lipoprotein dysfunction, all of which are risk factors for atherosclerosis and subsequent cardiovascular disease (CVD).

Laboratory of Cardiovascular and Cancer Genetics- HNH6Z03N

Many human observational studies have reported an inverse relationship between exercise capacity and cancer. Thus, the Laboratory of Cardiovascular and Cancer Genetics explores the role of mitochondrial function in normal and abnormal cellular processes. The goal of the lab's basic and translational work is to provide insights into developing novel strategies for preventing cancer and improving cardiovascular health.

Laboratory of Obesity and Aging Research- HNH6Z03P

The Laboratory of Obesity and Aging Research seeks to understand how aging decreases our ability to burn calories and generate energy. This aging-related metabolic decline plays an important role in the development of obesity and obesity-related diseases such as type 2 diabetes and cardiovascular disease. Thus, the lab works to understand the key molecular mechanisms that underlie the beneficial effects of caloric restriction in order to develop therapeutic strategies that mimic these effects and protect against metabolic diseases.

Translational Vascular Medicine Branch- HNH6Z04

The Translational Vascular Medicine Branch (TVMB) engages in research focused on the understanding of vascular diseases in human and model organism. The core principle of the TVMB is to study vascular disease mechanisms to develop novel treatment strategies to better serve our patients with vascular diseases. TVMB investigators employ genomic and molecular high throughput approaches to elucidate our understanding of the diseases mechanism with focus on atherosclerosis, inflammation, vascular calcification / occlusion and connective tissue changes in common and rare inherited disease populations. TVMB is a leader in vascular precision medicine translating discovery into treatment for patients with vascular diseases.

Laboratory of Molecular Biology- HNH6Z04A

The Laboratory of Molecular Biology is focused on the role of cellular metabolism and oxidative stress in aging and age-related diseases. This interest in aging and metabolism has led to three predominant research avenues in the laboratory. These include: autophagy in aging and age-related diseases, function and regulation of mitochondrial calcium levels, and substrate utilization as a determinant of cell fate.

Laboratory of Experimental Atherosclerosis- HNH6Z04B

The Laboratory of Experimental Atherosclerosis' research program is directed towards understanding the mechanisms by which cholesterol accumulates within arteries causing atherosclerotic plaques to form, the cause of most heart attacks and strokes. The lab is investigating endocytic pathways by which endothelial cells transport LDL, cholesterol-carrying lipoproteins, into the vessel wall, and by which macrophages within the vessel wall then take up these LDL. Both processes contribute to atherosclerotic plaque development.

Translational Vascular Medicine Branch Clinical- HNH6Z04C

The TVMB Clinical group provides administrative support for the clinical research done by the Translational Vascular Medicine Branch

Laboratory of Cardiovascular Regenerative Medicine- HNH6Z04D

The Laboratory of Cardiovascular Regenerative Medicine's research interests are to identify and better understand the molecular mechanisms underlying human vascular diseases and to develop new therapeutic approaches. Studies of patients with rare monogenetic vascular diseases are pivotal for understanding human vascular pathophysiology and have significant implications for comprehending more common complex, polygenetic vascular diseases. The diverse human research programs at the NIH provide a unique opportunity to study patients having monogenetic diseases with vascular implications.

Laboratory of Vascular and Matrix Genetics- HNH6Z04E

The Laboratory of Vascular and Matrix Genetics seeks to better understand the factors that influence vascular disease severity in patients with rare connective tissue disorders. In addition to genetic traits, the laboratory investigates the role of epidemiological factors and environmental influences on the severity of these diseases.

Lipoprotein Metabolism Laboratory- HNH6Z04F

Cholesterol has a bad reputation, associated with cardiovascular disease, the leading worldwide cause of morbidity and mortality. Cholesterol, however, plays a vital role in normal cellular processes; hence its cellular and whole body distribution is subject to complex, dynamic regulation by circulating lipoproteins and enzymes. The Lipoprotein Metabolism Laboratory seeks to better understand lipoprotein metabolism and to translate new insights gained from basic biochemistry, cell biology, and transgenic animal models into much needed clinical advances in the treatment and prevention of cardiovascular disease.

Translational Vascular Medicine Branch OOTC- HNH6Z04G

The TVMB Office of the Chief provides administrative support to the Director of the Translational Vascular Medicine Branch.

Laboratory of Vascular Thrombotic Diseases and Inflammation – HNH6Z04H

The Laboratory of Vascular Thrombotic Diseases and Inflammation is focused on identifying innate immune checkpoints at the intersection of coagulation and inflammation. The goal is to understand the role of inflammation in vascular thrombotic diseases to develop new treatment approaches.

Systems Biology Center - HNH6Z05

(1) Investigates physiological and pathophysiological mechanisms by integrating biological, chemical and physical information from diverse sources; (2) develops and exploits advanced methodologies for large-scale data acquisition in biological systems; (3) develops and exploits computational tools needed for interpretation of studies using large-scale data acquisition techniques; and (4) develops and exploits mathematical modeling approaches to discover emergent properties of biological systems that are not explainable solely by knowledge of the properties of the parts.

Laboratory of Epigenome Biology- HNH6Z05A

The Laboratory of Epigenome Biology studies epigenetic mechanisms of development and differentiation across the mammalian genome. Through novel sequencing-based methods, the lab seeks to understand how particular areas of the genome are regulated and how regulatory mechanisms contribute to processes like cellular memory, differentiation, and pathology.

Epithelial Systems Biology Laboratory- HNH6Z05B

The Epithelial Systems Biology Laboratory uses systems biology-based approaches to study how the kidney regulates water excretion. This involves use of large-scale data acquisition techniques, such as protein mass spectrometry and ‘next-generation’ DNA sequencing technologies to discover molecular mechanisms involved in renal water transport. Much of the focus is on regulation of molecular water channels called aquaporins by the hormone vasopressin in renal collecting duct epithelial cells.

Laboratory of Cardiac Energetics- HNH6Z05C

The Laboratory of Cardiac Energetics seeks a better understanding the complex physiology of the cardiovascular system. Towards this goal, the laboratory specializes in the use of non-invasive technologies to follow physiological processes in man and model systems. The laboratory also has a very active clinical program evaluating the use of magnetic resonance imaging in the diagnosis of cardiovascular disease.

Laboratory of Molecular Genetics- HNH6Z05D

Mitochondria are unique among mammalian cell organelles in that they contain their own functional DNA that is independent of nuclear DNA. The Laboratory of Molecular Genetics is using the well-honed tools of Drosophila genetics, while applying some new innovations, to study how mtDNA mutations are governed by tissue specificity and other factors to create disparate pathologies; while focused on mtDNA, the knowledge gained from such studies could be applied to other genetic disorders in which apparently similar mutations in nuclear DNA display a wide range of clinical outcomes.

Laboratory of Systems Genetics- HNH6Z05E

Sleep has been observed in nearly every animal species studied, including Drosophila, the common fruit fly. Taking advantage of the powerful genetic tools that have been developed to study Drosophila as a model organism, the Laboratory of Systems Genetics investigates the genetic networks underlying sleep and their interactions with the environment. Research in the laboratory associates sleep characteristics in natural populations with molecular data across populations, environments, and species. The aim is to look beyond single genes to identify gene networks that will illuminate the function of sleep as well as the degree of conservation across species.

Medical Signal & Image Processing Program- HNH6Z05F

The Medical Signal and Image Processing Program is focused on the development of signal processing algorithms for applications to science and medicine. Its current emphasis is on improving magnetic resonance imaging (MRI) for cardiovascular applications.

Muscle Energetics Laboratory- HNH6Z05G

A better understanding of the mechanisms regulating mitochondrial energy conversion is critical not only to improving skeletal muscle function but also to the development of potential treatments for a wide array of human diseases. The focus of the Muscle Energetics Laboratory is to determine how mitochondria are optimized within muscle cells to help maintain energy homeostasis during the large change in energy demand caused by muscle contraction.

Single Cell Genomics Laboratory- HNH6Z05H

The Single Cell Genomics Laboratory conducts genetics and genomics research to investigate human diseases that affect the heart, lungs, and blood. Specific projects aim to develop single cell and single molecule strategies for early identification and monitoring the progression of heart, lung, and blood disease using blood, tissues and circulating nucleic acids from human populations. The goal of the lab is to understand the molecular mechanisms underlying pathophysiology of human diseases and to translate the findings into clinical applications.

Renal Cellular and Molecular Biology Section- HNH6Z05J

The Renal Cellular and Molecular Biology Section seeks a better understanding of how the kidney functions in health and disease. The lab's findings are not only significant for understanding kidney function, but the principles that emerge from the group also address the basic problem of how cells of all organisms survive osmotic stress caused by dehydration and by high concentrations of salt and urea.

System Biology Center OOTC- HNH6Z05K

The SBC Office of the Chief provides administrative support to the Director of the Systems Biology Center.

Population Sciences Branch - HNH6Z06

(1) Conducts population research into heart, lung, metabolic, and blood (HLMB) diseases through the application of traditional and novel scientific tools to better understand the social, environmental, and biologic underpinnings of health and disease; (2) performs research using population level “omics” resources to understand the biological underpinnings of HLMB diseases; (3) fosters the translation of population research discoveries into novel mechanistic and diagnostic discoveries with the ultimate goal of uncovering new approaches to the diagnosis, treatment, and prevention of HLMB diseases and their risk factors.

Laboratory for Hemostasis and Platelet Biology- HNH6Z06A

The Laboratory for Hemostasis and Platelet Biology conducts scientific studies into the bases of human variability in hemostasis systems, in platelet development and function, in hematology, bleeding disorders and thrombotic events. The Lab applies a variety of approaches with a strong emphasis on large-scale population science, genetic association, transcriptomic and epidemiological studies. The Lab also specializes in the developing tools and databases that are widely used and improve access to and the utility of genetic and genomic study results.

Laboratory for Cardiovascular Epidemiology and Genomics- HNH6Z06B

The Laboratory for Cardiovascular Epidemiology and Genomics conducts genetic and genomics research in human populations on diseases that affect the heart, lungs, and blood. Specific projects aim to discover the genetic and genomic determinants of heart, lung, and blood diseases using next generation DNA and RNA sequencing as well as other -omics technologies in blood, tissues, and cells from human populations. The goal of the lab is to understand the biological mechanisms underlying genomic discoveries and identify clinical applications. The lab emphasizes a multidisciplinary environment of scientists and clinician scientists collaborating to translate genomic findings into prediction, prevention, and treatment.

Population Sciences Branch OOTC- HNH6Z06C

The PSB Office of the Chief works to provide administrative support to the PSB laboratory.

Office of Technology Transfer and Development - HNH6Z08

(1) Responsible for coordinating, administering and managing all technology transfer business and policies for the NHLBI and its service center clients; (2) develops and executes material transfer agreements, CRADAs, clinical trial agreements and other collaborative agreements for their respective clients; (3) implements pertinent legislation, rules and regulations relating to the management and registration of patents and the negotiation, management and administration of technology licenses, royalties and associated matters; (4) coordinates, reviews and assesses all NHLBI employee invention reports through the Technology Evaluation Advisory Committee (TEAC).

Sickle Cell Branch - HNH6Z09

(1) Focus on pathophysiology of sickle cell disease – mechanisms of acute pain, biological and genetic markers of disease severity, including use of new genome technologies to identify genetic modifiers; (2) discovery and development of disease-modifying drugs.

Laboratory of Sickle Cell Genetics and Pathophysiology- HNH6Z09A

The Laboratory of Sickle Cell Genetics and Pathophysiology examines the genetic factors underlying the phenotypic variability of sickle cell disease and beta thalassemia disorders. Both of these conditions are caused by mutations affecting the beta globin gene.

Sickle Thrombosis Vascular Biology Program- HNH6Z09B

Conducts basic research on coagulation factors contributing to thrombophilia and thrombosis in sickle cell disease and clinical management.

Sickle Cell Branch OOTC- HNH6Z09D

The SCB Office of the Chief provides administrative support to the Director of the Sickle Cell Branch.

Sickle Cell Branch Clinical- HNH6Z09E

The SCB Clinical group provides administrative support for the clinical research done by the Sickle Cell Branch.

Molecular and Clinical Hematology Laboratory- HNH6Z10

The goal of the Molecular and Clinical Hematology Laboratory is to develop better approaches to diagnose, treat, and eventually cure many congenital or acquired disorders of the bone marrow.

Imaging Probe Development Center- HNH6Z11

The Imaging Probe Development Center (IPDC) provides intramural research program scientists with targeted imaging probes that help accelerate cell based assays, in vivo imaging studies, and translational research leading to better disease diagnosis. It comprises a core synthesis facility dedicated to the preparation of imaging probes, and a research component dedicated to the discovery of new imaging approaches and compositions.

Division of Program Coordination, Planning, and Strategic Initiatives- HNH6Z12

The Division of Program, Coordination, Planning, and Strategic Initiatives (DPCPSI) plans and coordinates trans-NIH initiatives and research supported by the NIH Common Fund, and develops resources to support portfolio analyses. The mission of DPCPSI includes identifying emerging scientific opportunities, rising public health challenges, and scientific knowledge gaps that merit further research.

Minority Health and Health Disparities Population Laboratory- HNH6Z13

The Minority Health and Health Disparities Population Laboratory's research interests have centered on improving the health of racial and ethnic minorities and underserved populations, advancing patient-centered care, improving cross-cultural communication skills among health care professionals, and promoting diversity in the biomedical research workforce

Office of Scientific Workforce Diversity Chief's Laboratory- HNH6Z14

The Office of the Scientific Workforce Diversity Chief's Laboratory leads NIH's effort to diversify the national scientific workforce and expand recruitment and retention. SWD's efforts encourage innovative, science-driven thinking made possible by broadening the diversity of thought that comes with a diverse scientific workforce.

Pulmonary Branch- HNH6Z16

The Pulmonary Branch conducts clinically oriented research into diseases and disorders affecting the lungs and respiratory tract. The spectrum of research spans from molecular and cell based investigation to bedside and population based studies. The Branch also provides clinical pulmonary phyisiologic testing, consultative and advanced bronchoscopic services and offers specialty research training of pulmonary and critical care clinical fellows.

Pulmonary Branch Clinical- HNH6Z16A

The PB Clinical group provides administrative support for the clinical research done by the Pulmonary Branch.

Pulmonary Branch OOTC- HNH6Z16B

The PB Office Of The Chief group provides administrative support for the director of the Pulmonary Branch.

Laboratory of Chronic Airway Infection- HNH6Z16C

Bronchiectasis and chronic lung infections caused by nontuberculous mycobacteria (NTM) in the United States are steadily on the rise but difficult to diagnose and treat. The Laboratory of Chronic Airway Infection (LCAI) seeks to reduce the impact of such infections by studying common genetic characteristics of the people who suffer from them, defining how the infections lead to disease, and ultimately developing more effective, efficient treatments.

Pulmonary Function Laboratory- HNH6Z16D

The Pulmonary Function Laboratory is equipped to perform tests of lung function at rest and during exercise conditions. In addition, the lab can assess respiratory muscle function, the bronchoprovocation response to methacholine, perform measurements of respiratory resistance by impulse oscillometry, assess the ventilator response to CO2, and measure lung closing volume.

Laboratory of Translational Research- HNH6Z16E

Clinical and translational studies in the Laboratory of Translational Research look at (1) the pathogenesis, evaluation and treatment of cystic lung diseases such as lymphangioleiomyomatosis (LAM) and (2) the roles of a specific post-translational modification of proteins and other compounds called ADP-ribosylation in the pathogenesis of bacterial toxin-catalyzed diseases and of mammalian ADP-ribosylation cycles in health and disease.

LAM Program- HNH6Z16F

In parallel with the Laboratory of Translational Research, the LAM clinical program studies Lymphangioleiomyomatosis, a disorder characterized by the slow cystic destruction of the lung and affecting women of reproductive age.

Laboratory of Metabolic Regulation- HNH6Z16G

The Laboratory of Metabolic Regulation studies various proteins in order to better understand how cells (and, by extension, organisms) coordinate and fine-tune the multiple processes that enable them to thrive under different physiological conditions.

Laboratory of Asthma and Lung Inflammation- HNH6Z16H

The Laboratory of Asthma and Lung Inflammation is focused on developing new treatment approaches for patients with severe asthma. The lab's clinical program engages in longitudinal studies that not only have direct clinical implications, but will also advance the lab's basic research program, leading to even further clinical progress and, eventually, the possibility of ensuring that everyone with asthma can manage it simply and effectively.

Laboratory of Applied and Precision Omics - HNH6Z16J

(1) uses novel and highly sensitive methods to understand the causes of lung transplant rejection.

Cellular and Molecular Therapeutics Branch - HNH6Z17

The Cellular and Molecular Therapeutics Branch explores multiple cellular and molecular strategies in an effort to develop treatments for human disease ranging from anemia to cancer.

Cellular and Molecular Therapeutics Branch OOTC - HNH6Z17A

The CMTB Office of the Chief provides administrative support to the Branch Chief of the Cellular and Molecular Therapeutics Branch.

Cellular and Molecular Therapeutics Branch Clinical - HNH6Z17B

The Cellular and Molecular Therapeutics Branch clinical group provides administrative support for the clinical research done by the branch.

Cellular and Molecular Therapeutics Laboratory - HNH6Z17C

The Cellular and Molecular Therapeutics Laboratory is researching multiple strategies in the laboratory and the clinic to cure sickle cell disease (SCD) by repairing or replacing the precursor bone marrow cells that give rise to sickled red blood cells.

Laboratory of Early Sickle Mortality Prevention - HNH6Z17D

The Laboratory of Early Sickle Mortality Prevention explores new avenues of hematopoietic stem cell (HSC) transplantation for sickle cell disease (SCD), while also studying the currently underexplored cardiovascular complications arising due to this genetic blood disorder. The lab is examining why SCD patients develop heart disease, and what can be done to prevent or possibly even reverse heart-related complications in this population. Through these joint avenues of research, the group is finding new avenues to help people with SCD live longer and healthier lives.

Laboratory of Transplantation Immunotherapy - HNH6Z17E

The Laboratory of Transplantation Immunotherapy focuses on allogeneic stem cell transplantation and tumor immunology to treat aplastic anemia, hematological malignancies, and solid tumors. A major focus of the Childs laboratory is on the potentiation of natural killer (NK) cells, which are the key immune cell effectors of cancer cell death.

Laboratory of Regenerative Therapies for Inherited Blood Disorders - HNH6Z17F

The Laboratory of Regenerative Therapies for Inherited Blood Disorders is investigating novel strategies and stem cell concepts that can help advance the translational regenerative field, with a focus on inherited disorders affecting blood-forming hematopoietic stem cells (HSCs). The program aims at developing regenerative therapies for inherited HSC disorders by: 1) Genetic correction and expansion of adult HSCs; and 2) Derivation of engraftable HSCs from genetically corrected induced pluripotent stem cells (iPSCs).

Translational Stem Cell Biology Branch - HNH6Z18

Hematopoiesis—the development and differentiation of bone marrow stem cells into multiple types of blood cells—occurs throughout life, and its dysfunction is associated with low blood counts or leukemia. The Translational Stem Cell Biology Branch's research focuses on understanding the process of hematopoiesis in vivo, and developing drug, cell, and gene therapies to treat serious human blood diseases. In addition, the lab investigates pluripotent stem cells as models of bone marrow diseases and as sources of cells for regeneration of the heart, liver and bone marrow.

Translational Stem Cell Biology Branch OOTC - HNH6Z18A

The TSCBB Office of the Chief provides administrative support to the Branch Chief of the Translational Stem Cell Biology Branch.

Translational Stem Cell Biology Branch Clinical - HNH6Z18B

The Translational Stem Cell Biology Branch clinical group provides administrative support for the clinical research done by the branch.

Laboratory of Molecular Hematopoiesis - HNH6Z18C

Hematopoiesis—the development and differentiation of bone marrow stem cells into multiple types of blood cells—occurs throughout life, and its dysfunction is associated with low blood counts or leukemia. The Laboratory of Molecular Hematopoiesis' research focuses on understanding the process of hematopoiesis in vivo, and developing drug, cell, and gene therapies to treat serious human blood diseases. In addition, the lab investigates pluripotent stem cells as models of bone marrow diseases and as sources of cells for regeneration of the heart, liver and bone marrow.

Non-Human Primate Program - HNH6Z18D

The NHLBI Non-Human Primate Program develops and utilizes old world macaque models to gain insights into hematopoiesis and stem cell biology, and to test the safety and efficacy of novel gene and cell therapies prior to human clinical trials.

MRI Technology Program - HNH6Z03Q

The Laboratory of Imaging Technology is focused on the development and implementation of advanced MRI techniques for disease diagnosis and image guidance. Specifically, the aim is to leverage advanced acquisition and reconstruction techniques to improve imaging speed (real-time imaging), motion robustness (registration and correction), quantitation (parametric mapping or flow), and clinical workflow.

Clinical Physiology Laboratory - HNH6Z03R

The Clinical Physiology Laboratory uses advanced magnetic resonance imaging (MRI) to understand the pathophysiology of heart failure. The results from MRI are integrated with physiological measurements from other modalities to understand the etiology of heart failure in the individual patient and understand the systemic effects of heart failure. This knowledge can help individualize treatment and constitute the basis for development of new therapeutic options in patients with heart failure.

Laboratory of Molecular Cardiology - HNH6GP

The Laboratory of Molecular Cardiology investigates the regulation, expression and function of contractile proteins with an emphasis on myosin. By studying the genes, mRNA, and proteins active in the contractile process during embryonic development and maturity, the lab hopes to understand the mechanisms by which cells differentiate, alter their phenotype, migrate, change shape, move membrane receptors, secrete cellular products, and proliferate. This information is used to understand both normal and disease processes.

Laboratory of Stem Cell and Neuro-vascular Biology - HNH6GQ

The overarching goal of the Laboratory of Stem Cell and Neuro-Vascular Biology, led by Dr. Yoh-suke Mukouyama, is to uncover the molecular control of the morphologic processes underlying the branching morphogenesis and patterning of the vascular and nervous systems, which share several anatomic and functional characteristics, and are often patterned similarly in peripheral tissues.

Laboratory of Human Endosymbiont Medicine - HNH6GR

The Laboratory of Human Endosymbiont Medicine focuses on the further analysis of a novel life form which has been identified by our laboratory to exist within a subset of most all nucleated human cells, forming isolated foci in most tissues. This is distinct from the microbiome as presently studied, which exists on the surfaces of cells, i.e., skin and gut lumen. The endosymbiont's nucleic acid sequence, physiology, and EM defined morphology show it to be unique with no homologues in GenBank or the literature. A unique antibody shows it is present in the human egg allowing the vertical transmission from mother to progeny as is standard for many endosymbionts in Arthropoda. Facultative free living, it is motile and can be tagged with a fluorescent antibody allowing visualization of it entering human cells in primary culture. The laboratory focuses on its further characterization and its role in human health and disease.

Laboratory of Structural Cell Biology – HNH6GS

The Laboratory of Structural Cell Biology aims to understand the molecular mechanisms governing specialized cell shapes, such as those of neurons, activated immune cells and certain cancer cells. The laboratory visualizes the key factors determining different cell morphologies using *in situ* cellular cryo-electron tomography in combination with interdisciplinary techniques such as single-particle cryo-EM, X-ray crystallography, in vitro reconstitution, and light microscopy.

Laboratory of Dynamics and Evolution – HNH6GT

The Laboratory of and Evolution use mouse oocyte system to reveal both the cell biological basis and functional consequences of meiotic drive.

Division of Cardiovascular Sciences - HNH9

(1) Provides leadership and supports basic, clinical, population, and health services research on the causes, prevention, and treatment of cardiovascular diseases; (2) fosters research in disease areas, such as atherothrombosis, heart attack and heart failure, high blood pressure, stroke, atrial and ventricular arrhythmias, sudden cardiac death, adult and pediatric congenital heart disease, cardiovascular complications of diabetes and obesity, and other cardiovascular disorders; (3) supports technology development for the diagnosis and treatment of cardiovascular disorders; (4) research supported by the Division includes a number of well-known epidemiological cohort studies that describe disease and risk factor patterns in populations; clinical trials of interventions to prevent disease and to prevent or modulate risk factors; studies of genetic, behavioral, sociocultural, health systems, and environmental influences on disease risk and outcomes; and studies of the application of prevention and treatment strategies to determine how to improve clinical care and public health; (5) supports training and career development for these areas of research.

Office of the Director - HNH91

(1) Plans, coordinates, and manages activities of all subdivisions responsible for the described cardiovascular sciences programs; (2) maintains continuing assessment of the Institute's national and international health programs related to heart and vascular diseases; (3) fosters and coordinates interdivision and inter-agency collaborative and cooperative research arrangements; (4) develops and maintains the necessary scientific management capability in the Division to foster and guide effective prevention and treatment of heart and vascular diseases; and (5) provides administrative support services for the Division.

Office of Research Training and Career Development - HNH94

(1) Supports training and career development programs in cardiovascular research, offering opportunities to individuals at all educational levels from high school students to academic faculty, including programs for individuals from diverse populations; (2) promotes opportunities for investigators, early in their research careers and under mentorship from senior scientists, to perform basic, preclinical or clinical cardiovascular research and to take emerging and promising scientific and technological advances from discovery through preclinical and clinical studies; (3) collaborates with the scientific community and professional organizations to ensure that training programs meet both the current and future needs of the cardiovascular research workforce; and (4) programs supported by the Office include: (a) institutional and individual research training programs and fellowships for training of promising cardiovascular scientists at the predoctoral, postdoctoral, junior faculty, and established investigator levels; (b) diversity Supplements to ongoing research grants for support of young investigators from diverse backgrounds, from the high school to the junior faculty level; (c) the Pathway to Independence Program, which allows the recipient to bridge the gap between a career development award and a research award; and (d) career development programs specifically designed for clinical research or for minority researchers and institutions.

Program in Basic and Early Translational Research - HNH95

(1) Supports and provides leadership for basic, pre-clinical and early translational studies on vascular biology and hypertension, cardiovascular surgery, and the development of advanced technologies for the diagnosis and treatment of cardiovascular diseases; (2) studies the biological basis for vascular diseases and hypertension, and their diagnosis, treatment and prevention; (3) researches cardiovascular surgery, including both basic and pre-clinical research on surgical approaches, and clinical trials to establish evidence-based surgical therapies; (4) develops of diagnostics, encompassing research on biosensors, imaging technologies, and the application of "omic" methodologies. Therapeutic development includes drug and nucleic acid delivery technologies, regenerative and reparative medicine, gene therapy, and device development; supports training and career development for these areas of research.

Advanced Technologies and Surgery Branch - HNH952

(1) Conducts and manages an integrated basic and clinical research program to study innovative and developing technologies for the diagnosis, prevention, and treatment of CVD; (2) promotes opportunities to translate promising scientific and technological advances from discovery through pre-clinical studies to clinical trials; and (3) areas supported by the Branch include: (a) diagnostics: proteomic, genomic, and other biomarker technologies and imaging modalities/agents to identify CVD and guide therapy; (b) therapeutics: tissue, cell, and gene-based/guided therapies; regenerative and reparative medicine; and devices for circulatory and cardiac support and repair; (c) surgery: improved surgical and image-guided approaches and evidence-based clinical research to advance promising new cardiovascular therapies, technologies, and surgical practices into clinical use; and (d) Enabling Technologies: bioinformatics, computational and systems biology, bioengineering, nanotechnology, materials research, and personalized medicine.

Vascular Biology and Hypertension Branch - HNH953

(1) Conducts and manages an integrated basic and clinical, extramural, research program to investigate vascular biology and the etiology, pathogenesis, prevention, diagnosis, and treatment of hypertension and vascular diseases; (2) promotes opportunities to translate promising scientific and technological advances from discovery through preclinical studies to networks and multisite clinical trials; and (3) areas supported by the Branch include: (a) Vascular Biology: biology of the vascular wall; vascular biology (related to hypertension; cerebrovascular, renal, and peripheral vascular disease; aneurysms; and lymphatic diseases); development of arteries, veins, lymphatics, and microcirculation; and angiogenesis; (b) Vascular Medicine: cerebrovascular, renal, and peripheral vascular disease; and aneurysms; and (c) Hypertension: blood pressure regulation including central, renal, and vascular control; and cerebrovascular disease resulting from high blood pressure.

Program in Adult and Pediatric Cardiac Research - HNH96

(1) Supports and provides leadership for basic, translational, and clinical research on the development, maturation, and functioning of the heart throughout all stages of life. The research portfolio includes a broad array of science including cardiac development and maturation, myocyte structure and function, myocardial energetics and metabolism, cardiac electrophysiology, coronary artery structure and function, the failing heart, valvular heart disease, exercise physiology, nutrition and the heart, congenital heart disease from birth through adulthood, the intrauterine environment and cardiovascular risk, cardiomyopathy, and coronary artery disease; (2) provides collaborative leadership for the systematic oversight of clinical research across the Division, including clinical research information technology and standard but flexible operating procedures; (3) supports training and career development for these areas of research.

Heart Development and Structural Diseases Branch - HNH962

(1) Conducts and manages an integrated basic and clinical research program to study normal and abnormal cardiovascular development; (2) oversees research related to the etiology, pathogenesis, prevention, diagnosis, and treatment of pediatric and adult structural heart disease; (3) oversees coordination of activities and development of educational materials related to clinical research on pediatric CVD within the NHLBI and the NIH; (4) promotes opportunities to translate promising scientific and technological advances from discovery through preclinical studies to network and multisite clinical trials; and (5) areas supported by the Branch include: (a) Heart Development: normal and abnormal cardiovascular development, molecular and genetic etiology of cardiovascular malformations, cardiomyogenic differentiation of stem cells, and gene-environment interactions in development of congenital heart disease; and (b) Structural Disease: congenital heart disease from embryology through adulthood, valve disease and determinants of degeneration, myocardial response to valvular disease, neurodevelopmental outcome in congenital heart disease, exercise physiology in congenital heart disease, pediatric cardiomyopathy and heart transplantation, and pediatric cardiac inflammation and infection.

Atherothrombosis and Coronary Artery Disease Branch - HNH963

(1) Conducts and manages an integrated basic and clinical research program to study the etiology, pathogenesis, prevention, diagnosis, and treatment of CAD and atherothrombosis; (2) responsible for translating promising scientific and technological advances from discovery through preclinical studies to networks and multisite clinical trials; and (3) areas addressed by the Branch include: (a) Atherothrombosis: initiation, progression, and regression of atherosclerotic lesions in coronary arteries and other arterial beds; lesion instability and thrombosis; risk factor mechanisms; interaction of lipid fractions and other systemic and humoral factors with the arterial wall; biomarker and imaging diagnostics to quantify atherosclerotic disease and its progression; vulnerable plaques and vulnerable patients; and diabetes, obesity, other metabolic disorders, and diet and exercise related to atherothrombosis.; and (b) Coronary Artery Disease: acute and chronic coronary syndromes including myocardial infarction, acute ischemia and related events, angina, and silent ischemia; and percutaneous and surgical revascularization of stenotic and re-stenotic coronary lesions.

Heart Failure and Arrhythmias Branch - HNH964

(1) Conducts and manages an integrated basic and clinical research program to study normal cardiac function and pathogenesis to improve diagnosis, treatment, and prevention of heart failure and arrhythmias; (2) promotes opportunities to translate promising scientific and technological advances from discovery through preclinical studies to multisite and network clinical trials; and (3) areas supported by the Branch include: (a) Heart Failure: devices and medical and cell-based therapies targeting heart failure, myocardial protection, and pathogenesis and treatment of heart failure and cardiomyopathies; (b) Arrhythmias: arrhythmogenesis, genetic and environmental bases of normal cardiac electrical activity and arrhythmias, etiology of rare and common arrhythmias, and sudden cardiac death; (c) Myocardial Protection: myocardial preconditioning, amelioration and prevention of myocardial stunning and hibernation, and protection from ischemic/reperfusion injury; and (d) Resuscitation Science: mechanisms and management of clinical and experimental pathophysiologic states of whole body oxygen deprivation; systemic hypovolemia and resulting multi-organ failure; organ preservation; and cell, tissue, and organ protection during cardiac arrest and traumatic shock.

Program in Prevention and Population Sciences - HNH97

(1) Supports and provides leadership for population- and clinic-based research on the causes, prevention, and clinical care of cardiovascular, lung, and blood diseases and sleep disorders; (2) research includes a broad array of epidemiological studies to describe disease and risk factor patterns in populations and to identify risk factors for disease; clinical trials of interventions to prevent disease; studies of genetic, behavioral, sociocultural, and environmental influences on disease risk and outcomes; and studies of the application of prevention and treatment strategies to determine how to improve clinical care and public health; and (3) supports training and career development for these areas of research.

Clinical Applications and Prevention Branch - HNH972

(1) Supports, designs, and conducts research and supports training on behavioral, environmental, clinical, and healthcare approaches to reduce occurrence and consequences of cardiovascular diseases; (2) performs prevention research and examines effects of interventions to slow or halt risk factor or disease development or progression; interventions use high-risk individual and population approaches, including medications, behavioral strategies, and environmental change; (3) studies examine lifestyle, nutrition and exercise, psychological and sociocultural factors, and environmental and genetic influences relevant to prevention; and (4) research examines approaches to improve healthcare delivery and patient outcomes. Studies include clinical and community trials and selected observational studies.

Epidemiology Branch - HNH973

(1) Supports, designs, and conducts research and supports training in the epidemiology of cardiovascular, lung, blood, and sleep diseases and disorders. Studies are conducted to identify temporal trends and population patterns in the prevalence, incidence, morbidity, and mortality from these diseases and include single- and multi-center observational epidemiology studies of the development, progression, and treatment of cardiovascular, lung, blood, and sleep diseases and disorders; (2) studies and identifies environmental, lifestyle, physiological, and genetic risk factors for disease and risk factor development, including characterization of gene/gene and gene/environment interactions; and (3) distributes data from all eligible NHLBI studies to researchers as a national data resource, adhering to guidelines that protect participant privacy and confidentiality.

Office of Clinical Research - HNH98

As the central clinical research office for extramural affairs, (1) coordinates regulatory activities associated with clinical research both internally among NHLBI Extramural Divisions, and externally with NIH Institutes, and other government agencies such as the Food and Drug Administration (FDA) and the Center for Medicare and Medicaid Services (CMS); (2) serves in an advisory role to extramural scientific and health care staff, principal investigators, and research staff for the prevention and reporting of adverse events; (3) provides education and training for extramural staff managing clinical research; and (4) maintains central databases and policies and evaluates existing programs for standardizing data collection in clinical trials.

Center for Translation Research and Implementation Science – HNHA

(1) Plans, fosters, and supports an integrated and coordinated program of research to understand the multi-level processes and factors that are associated with successful integration of evidence-based interventions within specific clinical and public health settings such as worksites, communities, and schools; (2) Identifies and makes readily available to implementation and dissemination practitioners emergent knowledge about the late phases of translation research, especially the "T4" phase, for rapid and sustained adoption of effective interventions in real world settings; (3) Leads the NHLBI effort in the rigorous, systematic evidentiary reviews and subsequent NHLBI participation in the collaborative model for clinical practice guidelines development; (4) Supports training and career development of personnel in "T4" translation research and health inequities relating to heart, lung, and blood diseases; (5) Provides a focal point for advice and guidance on matters pertaining to minority health, health inequities and minority participation in research; (6) Represents the NHLBI to other governments, other Federal Departments and agencies, international organizations, and the private sector on global health issues; and (7) Provides data analytics and portfolio analysis to evaluate and inform future directions of implementation research programs.

Office of the Director - HNHA1

(1) Plans, coordinates, and manages activities of all CTRIS subdivisions; (2) fosters and coordinates trans-NHLBI and interagency collaborative activities in T4 translation research and implementation and dissemination science at the domestic and global levels; (3) develops and maintains the necessary technical management capability to foster and guide effective national and international activities in implementation and dissemination research in heart, lung, and blood diseases; and (4) provides administrative and crosscutting technical support and coordination to achieve NHLBI strategic planning goals and objectives.

Translation Research Branch - HNHA2

(1) Supports and fosters research in the late phases of research translation, especially the “T4” phase that leads to generalizable knowledge about heart, lung, and blood diseases and sleep disorders in real world settings; (2) Supports an integrated and coordinated program of research to understand the multi-level processes and factors that are associated with successful integration of evidence-based interventions within specific settings such as worksites, communities, or schools; (3) Explores initiatives that address research questions at the interface of the biomedical and socio-ecological domains to include bio-behavioral, environmental, and healthcare approaches to reduce the occurrence and consequences of heart, lung and blood diseases and related disparities; (4) Facilitates trans-disciplinary research collaborations and serves as the focal point at NHLBI for maximizing population-level impact of NHLBI research discoveries; (5) In collaboration with other CTRIS branches and NHLBI divisions, identifies gaps in translation research knowledge to inform the development of future research opportunities; (6) Promote collaboration among research investigators, research networks, professional organizations, scientific academies, and major funders of research domestically and globally.

Implementation Science Branch - HNHA3

(1) Leads the NHLBI effort in the rigorous, systematic evidentiary reviews and subsequent NHLBI participation in the collaborative model for clinical practice guidelines development; (2) Identifies and makes readily accessible to implementation and dissemination practitioners emergent knowledge about the late phases of research translation, especially the "T4" phase in real world settings, for rapid translation into applications to enhance dissemination and implementation in real world settings of knowledge for the prevention and management of heart, lung, and blood diseases and blood disorders; (3) Provides scientific expertise and technical assistance to enhance NHLBI grantees' implementation and dissemination plans and practices; (4) Identifies knowledge gaps in research translation, especially in the "T4" phase in real world settings, for informing future research opportunities; and (5) facilitates knowledge exchange opportunities, through knowledge networks and other strategies, for researchers and users of translation research, especially the "T4" phase in real world settings, to discuss issues of research applicability relevance, and utility to inform future research needs and opportunities.

Health Inequities and Global Health Branch - HNHA4

(1) Serves as the NHLBI focal point for advice and guidance on research pertaining to health inequities, domestically and globally, including identifying gaps and needs as well as research opportunities to address them; (2) Supports the strategic development of “T4” translation research and implementation science in the global arena; (3) Represents the NHLBI to other governments, other Federal Departments and agencies, other NIH Institutes and Centers, international organizations, and the private sector on global health issues; (4) Develops strategy positions related to the determinants of health inequities and global health and facilitates the involvement of the Public Health Service in support of these positions and in collaboration with other agencies and organizations; and (5) Provides leadership and coordination for bilateral programs with selected countries, in support of Presidential and Vice Presidential initiatives within the Executive Branch.