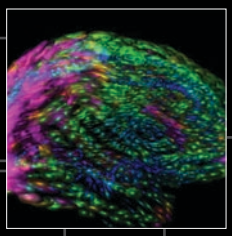
National Center for Research Resources

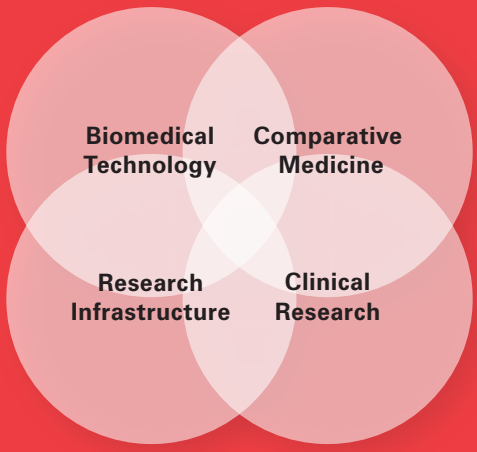



NCRR Strategic Priorities 2009–2013

An Action Plan for the Future

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Center for Research Resources
NATIONAL INSTITUTES OF HEALTH



About NCRR

Transcending geographic boundaries and research disciplines, the National Center for Research Resources (NCRR) supports unique and essential resources that help researchers funded by the National Institutes of Health transform basic discoveries into improved human health. NCRR's four integrated and complementary areas of focus accelerate and enhance research along the entire continuum of biomedical science. The following highlights some of the major NCRR programs:

CLINICAL RESEARCH
www.ncrr.nih.gov/cr

- **Clinical and Translational Science Awards (CTSAs)**
  www.ctsaweb.org
  Support a national consortium of academic health centers that share a common vision to reduce the time it takes for laboratory discoveries to become treatments for patients, engage communities in clinical research, and train the next generation of clinical researchers.

- **Science Education Partnership Awards (SEPAs)**
  www.ncrrsepa.org
  Create and disseminate programs that give K–12 students and teachers and the general public a better understanding of life sciences.

BIOMEDICAL TECHNOLOGY
www.ncrr.nih.gov/bt

- **Biomedical Technology Research Resources (BTRRs)**
  Create critical, often unique, technology and methods for application to a broad range of basic, translational, and clinical research.

- **Shared Instrumentation Grants and High-End Instrumentation Grants**
  Provide funding to NIH-supported investigators to acquire expensive, commercially available equipment.

COMPARATIVE MEDICINE
www.ncrr.nih.gov/cm

- **Comparative Medicine Resources**
  Support a broad array of high-quality animal and biological resources, safeguard the health and welfare of laboratory animals, and provide career training opportunities in specialized areas of translational science.

- **National Primate Research Centers (NPRCs)**
  Foster the development of nonhuman primate models to facilitate research on diseases including HIV/AIDS, hepatitis, and cancer.

RESEARCH INFRASTRUCTURE
www.ncrr.nih.gov/ri

- **Research Centers in Minority Institutions (RCMIs)**
  Develop and enhance the research infrastructure of minority institutions to expand their capacity for conducting basic, translational, and clinical research.

- **Institutional Development Award (IDeA)**
  Increase the capacity in states that historically have not received significant levels of competitive research funding from NIH through centers and networks of research excellence.

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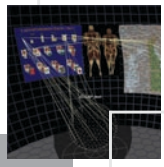
With a primary goal of energizing clinical and translational research throughout the nation, NCRR will:

I. Build Capacity to Translate Biomedical Research into Practice

- Encourage quality and efficiency in basic, clinical, and translational research, such as through the CTSA program.
- Build research capacity in IDeA states — those with historically low NIH funding.
- Involve communities in clinical and translational research.
- Engage RCMI and IDeA communities as equal partners within, across, and beyond programs and institutions.
- Demonstrate return on investment in basic, clinical, and translational science.

II. Advance Translational Research Using Animal Models

- Expand and ensure the development of and access to animal models.
- Create a "knowledge environment" for researchers to identify disease model resources and study various diseases.
- Integrate biological material resources with clinical and translational research.
- Increase the number of qualified research veterinarians and ensure that they are recognized partners on translational research teams.
- Ensure an ongoing adequate infrastructure (facilities, animals, and workers) for animal research.
- Enhance activities related to cryopreservation of animal germplasm and related technologies.
- Foster ways to prioritize need and determine the validity of animal models.



III. Offer Technologies to Advance Translational Research

- Expand and ensure the development of technologies to support translational research.
- Incorporate innovations in biomedical technology into clinical research activities.
- Create affordable and flexible technologies to apply to translational research.
- Develop interdisciplinary teams, especially at the crossroads of mathematics/physics and medicine.
- Invest in information technology to enable collaboration and participation in translational research by minority-serving research institutions and medically underserved communities.

IV. Expand Informatics Approaches to Support Research

- Facilitate information sharing among biomedical researchers.
- Encourage institutions to provide informatics-based approaches to basic, clinical, and translational investigators and their research teams.
- Maximize the use of informatics-based approaches to conduct clinical research.
- Establish educational training competencies in informatics for biomedical researchers.
- Develop an online resource knowledge community for biomedical researchers.

V. Strengthen the Research Workforce

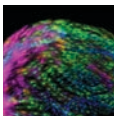
- Ensure a multidisciplinary clinical research workforce.
- Promote the recruitment, training, advancement, and retention of new investigators in clinical and translational research careers.
- Expand opportunities to train biomedical researchers in advanced technologies.
- Increase the number of qualified research veterinarians and ensure that they are recognized partners on translational research teams.
- Encourage students to pursue biomedical research careers and educate the public about healthy living.

VI. Encourage Partnerships to Maximize Research Investments

- Encourage NCRR-funded grantees to collaborate within and across programs to capitalize on unique capabilities to solve complex clinical and translational research problems.
- Facilitate the creation and implementation of public-private partnerships.
- Partner with other government agencies, foundations, and businesses in the area of biomedical technology and advanced instrumentation.
- Promote public-private partnerships through the NIH small business grant programs.
- Enhance collaboration between NCRR grantees and other NIH Institutes and Centers.
- Foster partnerships among government agencies that support community engagement activities.

PHOTO CAPTIONS AND CREDITS

Scientists at the NCRR-funded Sea Urchin Genome Resource at the California Institute of Technology used a two-pronged strategy to sequence the genome of the purple sea urchin, *Strongylocentrotus purpuratus*. Now researchers will be able to perform functional studies in a simple animal model that shares a common ancestor with vertebrates. (Photo Credit: Laura Francis, National Oceanic and Atmospheric Administration)



NCRR's BIRN initiative is supporting brain-mapping research to chart brain structure and function in hundreds or even thousands of human subjects throughout the lifespan. The ability to create maps of variability across populations provides a description of similarity and differences. This brain image depicts group variability as ellipsoidal shapes or tensors. (Photo Credit: Arthur W. Toga, Ph.D., Laboratory of Neuro Imaging, UCLA School of Medicine)

John Gore, Ph.D., director of the Vanderbilt Institute of Imaging Science in Nashville, Tenn., received funding from NCRR to support the purchase of a 7-tesla human magnetic resonance imaging and spectroscopy system. This instrument provides a more sensitive measure of changes in brain activity and gives higher resolution, providing researchers even more detailed pictures of the brain. (Photo Credit: Dana C. Johnson, Vanderbilt University Medical Center)

Ke Jian Liu, Ph.D., (left) and Shimin Liu, M.D., Ph.D., prepare a research poster for presentation. Their IDeA-supported studies are being conducted at the University of New Mexico's Integrative Program in Central Nervous System Pathophysiology Research. The researchers are evaluating blood flow and oxygenation in the brain following stroke. (Photo Credit: Cathleen Rineer-Garber, University of New Mexico Health Sciences Center)

The technology development team for the Resource for Macromolecular Modeling and Bioinformatics (seated clockwise: Gila Budescu, D.Sc., Ph.D., Jim Phillips, Ph.D., Kirby Vandivort, M.S., and Robert Brunner, Ph.D.; Klaus Schulten, Ph.D., stands at the screen) is developing software that permits scientists to share views of molecular models in real time over the Internet—facilitating the true team science that NCRR seeks to support. (Photo Credit: John Stone, provided courtesy of the NIH Resource for Macromolecular Modeling and Bioinformatics, Beckman Institute, University of Illinois at Urbana-Champaign)

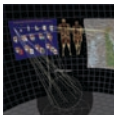
Kenneth Ataga, M.D., a specialist in sickle cell disease at the University of North Carolina at Chapel Hill School of Medicine, performs clinical studies that help move discoveries from the laboratory bench to the patient. With the help of an NCRR Career Development Award, Dr. Ataga is investigating the relationship between the occlusion of blood vessels, the hallmark of sickle cell disease, and the coagulation activation of patients' blood. (Photo Credit: Dan Sears/UNC News Services)

A young participant in a sleep study talks with Carole Marcus, M.D., and her colleague at The Children's Hospital of Philadelphia. Dr. Marcus, the director of the Sleep Center at the hospital, is the coprincipal investigator of a CTSA grant awarded to the University of Pennsylvania, The Children's Hospital of Philadelphia, the Wistar Institute, and the University of the Sciences in Philadelphia. (Photo Credit: The Children's Hospital of Philadelphia)

Cynthia McEvoy, M.D., a neonatologist, and Daniel Marks, M.D., Ph.D., a pediatric endocrinologist, tend to newborn Diego in the neonatal intensive care unit of the Doernbecher Children's Hospital at Oregon Health & Science University (a CTSA grantee) in Portland, Ore. Drs. McEvoy and Marks are collaborating on a study to look at the effects of maternal nutrition on prenatal development. (Photo Credit: Rick Rappaport Photography)

The mouse is particularly important to research because it is the only mammalian species in which researchers can delete one gene at a time from the genome. A trans-NIH initiative, the Knockout Mouse Project, was conceived in 2003, and this project is aiming to eventually disrupt, or "knock out," each of the 20,000 or so genes in the mouse genome. The aim is to create 8,500 to 10,000 new lines of knockout mice, tripling the number that existed in 2007. (Photo Credit: iStockphoto)

A neurosurgeon at Brigham and Women's Hospital in Boston views a 3-D image of his patient's brain. This image, which was obtained through magnetic resonance imaging (MRI), shows the brain's internal structures in relation to the tumor. The image, generated through several MRI scans, helps the surgeon determine the precise location of the tumor and thus minimize the invasiveness of the surgery. (Photo Credit: Photo Researchers, Inc.)



This image, created by Karl V. Steiner, Ph.D., at the Delaware Biotechnology Institute, shows work based on a study conducted by Thomas Bauer, M.D., a thoracic surgeon at the Helen F. Graham Cancer Center, as part of the "International Early Lung Cancer Action Program." The image displays multivariant correlations of such topics as patient disease history, diagnosis, age, gender, body mass index, home location, and smoking patterns. (Photo Credit: University of Delaware)

Mr. Edem Blavo (left) and Mr. Ifedapo Adeniyi, students at Clark Atlanta University, presented their research at a poster session at a National Symposium on Prostate Cancer. The symposium is hosted by the RCMI-supported Center for Cancer Research and Therapeutic Development. (Photo Credit: Curtis McDowell, Clark Atlanta University)

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