

Translating Research from Basic Discovery to Improved Patient Care

N C R R F A C T S H E E T

Biomedical Technology Research Centers

www.ncrr.nih.gov/btrc

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At Biomedical Technology Research Centers, interdisciplinary teams create unique, transformative technologies and work to promote their widespread use. These innovations are accomplished through a synergistic interaction of technical and biomedical expertise, both within the centers and through intensive collaborations with other leading laboratories. BTRCs span basic, translational and clinical research to create tools that advance science at the molecular level and change scientific approaches to diagnosis and treatment of disease.

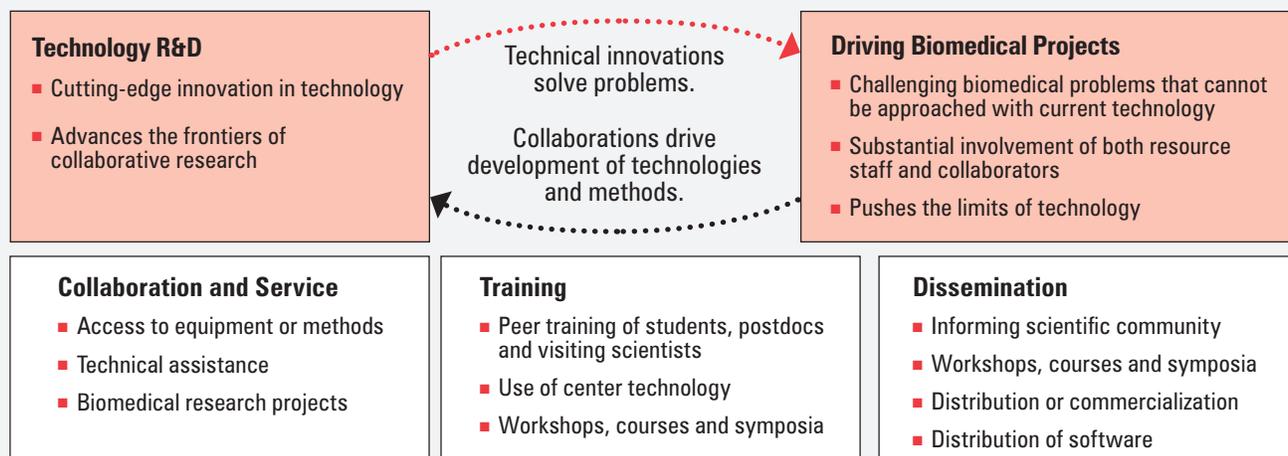
BTRCs serve a unique purpose in the context of NIH-funded research. They represent a wealth of technological and intellectual resources focused on service and training for investigators. To accelerate translational research, technologies, methods and software are actively disseminated through approaches ranging from direct distribution to commercialization. The goal of the centers is to promote widespread application of cutting-edge technological discoveries across the full spectrum of science and medicine, from bench to bedside.

BTRCs are:

- Multidisciplinary and collaborative, a catalyst for integrating diverse research efforts
- Often one-of-a-kind, scarce or expensive
- State-of-the-art resources for NIH-funded researchers, including:
 - Technological infrastructure
 - Experimental and computational resources
 - Expertise

Five Components of a BTRC

Synergy between technology development and biomedical research is an important driving force.



Technology Areas

NCRR currently funds 52 BTRCs in five broad technology areas.

- *Imaging Resources*: Focus on cutting-edge development of methods and technologies for imaging and spectroscopy, allowing scientists to study organ structure and function; perfusion; oxygen extraction and metabolism; and the diagnosis, staging, treatment evaluation and investigation of disease.
- *Informatics Resources*: Produce and distribute software for data analysis or simulation and modeling of biological systems.
- *Optical & Laser Technology*: Develop optical instrumentation and methods to probe the structure and dynamics of biologically relevant samples ranging in complexity from single molecules to cells and tissues.
- *Technology for Structural Biology*: Create technology for studying the 3-D structures of biological entities ranging in size from peptides to large macromolecular assemblies.
- *Technology for Systems Biology*: Develop advanced biomedical, analytical and computational technologies capable of high throughput and applicable to complex samples.

Investigator Access to Biomedical Technology Research Centers

A primary mission of the BTRC program is to help the research community use the technologies it is developing. Through BTRCs, researchers can access advanced instrumentation, software and support. Potential interactions include long-term collaboration, routine analysis or consultation. BTRCs also provide hands-on laboratory training, short courses, workshops and online resources.

Each year, nearly 7,000 biomedical investigators use the BTRCs or collaborate on research projects at these centers. Investigators who are eligible to use the resources include those whose projects are supported by NIH, other federal government agencies or the private sector. However, priority is given to NIH-supported researchers.

Investigators interested in gaining access to a BTRC should consult the NCRR Web site at www.ncrr.nih.gov/btrc.

Applying for a Biomedical Technology Research Center Grant

NCRR supports the BTRC program through five-year, competitive P41 grants. Prospective grantees are strongly encouraged to discuss the proposed resource grant application and budget with NCRR program staff. These discussions provide applicants with a clearer understanding of current program policies and any newly instituted guidelines.

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