

UC San Diego to Lead Neuroscience Information Framework

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NIH awards UC San Diego \$10 million contract to lead integrated information framework for world-wide neuroscience research community.

The University of California, San Diego School of Medicine has received a contract from the National Institutes of Health (NIH) to enhance and maintain the Neuroscience Information Framework (NIF) – a dynamic inventory of web-based neurosciences data, resources, and tools that scientists and students can access via any computer connected to the Internet. An initiative of the NIH Blueprint for Neuroscience Research, the NIF will advance neuroscience research by enabling discovery and access to public research data and tools worldwide through an open source, networked environment.

"With this new contract, we are deploying an open framework for use by scientists at all levels, as well as the general public," said UC San Diego professor of neurosciences, Maryann Martone, Ph.D., co-director of the National Center for Microscopy and Imaging Research (NCMIR), part of the multi-disciplinary Center for Research in Biological Systems (CRBS), headquartered at UC San Diego.

Under the contract – valued at up to \$10 million over the course of five years if all options are exercised – the CRBS will apply its pioneering work in neuroinformatics and web-based information integration environments. Martone, along with co-principal investigators Jeffrey Grethe, Ph.D., and Amarnath Gupta, Ph.D., will lead a national collaboration that includes researchers at Yale University, the California Institute of Technology, George Mason University, and Washington University. The collaboration focuses expertise from the domains of neuroscience, information technologies, and knowledge management to enhance and deploy the NIF.

"The Neuroscience Information Framework is a vital component of the NIH Blueprint for Neuroscience Research," said Nora Volkow, M.D., Director of the National Institute on Drug Abuse, a participating member in the cooperative Blueprint effort. "It is a pioneering endeavor to meet the enormous challenge of enabling neuroscientists to discover and share the ever

mounting, diverse inventory of tools, data, resources, and knowledge generated through the Blueprint and neuroscience research efforts world-wide. We look forward to utilizing the information technology and neuroscience expertise of UC San Diego in bringing the full power of neuroscience resources to bear upon critical research questions."

The NIF enables scientists and students to discover global neuroscience web resources that cut across traditional boundaries – from experimental, clinical and translational neuroscience databases, to knowledge bases, atlases, and genetic/genomic resources. Unlike general search engines, NIF provides deeper access to a more focused set of resources that are relevant to neuroscience, search strategies tailored to neuroscience, and access to content that is traditionally "hidden" from web search engines.

"The Framework is a dynamic inventory of neuroscience databases, annotated and integrated with a unified system of biomedical terminology. NIF supports concept-based queries across multiple scales of biological structure and multiple levels of biological function, making it easier to search for and understand the results," Martone explained. "We believe that it will be a valuable asset not only to those looking for resources but to resource providers as well, by providing a consistent way to describe resources so that it is easy to locate them and query their contents."

Recognizing the need to develop a comprehensive framework of resources available to the neuroscience community, the NIH Blueprint for Neuroscience Research launched the NIF initiative in 2005.

About the CRBS

The Center for Research in Biological Systems (CRBS) is a UCSD organized research unit focusing on fundamental research on cell structure and function relationships, particularly those involved in central nervous system processes, cardiovascular networking, and muscular contraction. Established in 1996, CRBS facilitates an interdisciplinary infrastructure in which people from biology, medicine, chemistry, and physics can work with those from computer science and information technologies. CRBS's multi-disciplinary, multi-investigator collaborative research offers new perspectives, leading to the development of new technologies and drugs as well as training the next generation of researchers in biological systems. Both the Neuroscience Information Framework and the National Center for Microscopy and Imaging Research are projects of CRBS.

About the NIH Neuroscience Blueprint

The NIH Blueprint for Neuroscience Research is a cooperative effort among the 16 NIH Institutes, Centers and Offices that support neuroscience research. By pooling resources and expertise, the

Blueprint supports the development of new tools, training opportunities, and other resources to assist neuroscientists in both basic and clinical research.

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