CCMB

Center for Computational Medicine and Bioinformatics

fostering interdisciplinary research in computational medicine and biology

University of Michigan Medical School

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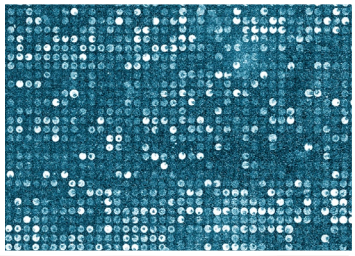
The Center for Computational Medicine and Biinformatics (CCMB) was created to facilitate interdisciplinary research in computational medicine and biology and to forge collaborative relationships with faculty across campus and the United States. Computational medicine and bioinformatics, is an emerging field that pursues biological questions using advanced computational technology such as complex merged datasets and powerful computing clusters. Faculty from all areas of campus are affiliated with the center.



Currently the Center has three components. The **Bioinformatics Graduate Program** (BGP) trains masters and Ph.D-level scholars, and oversees the research computing for four faculty members with partial appointments in the program. The **Collaborative Computing & Data Unit** (CCDU) provides expert support for large cluster computing—a necessary component for doing research in computational medicine and biology. This core also works with the University of Michigan Medical School and the Office of the Vice President for Research (OVPR) to address long-term deficits in computing needs across campus. The **Interdisciplinary Research Program** (IDR) oversees several NIH and state-funded projects, the largest being the National Center for Integrative Biomedical Informatics, whose goal is developing tools to facilitate biomedical research. The IDR also provides support to faculty applying for interdisciplinary grants in all areas of bioinformatics research.

Creation of the CCMB has presented several administrative challenges, particularly the establishment of a organizational design that will provide structure and oversight while allowing for flexibility and growth as the biomedical informatics discipline grows and changes. CCMB activities include faculty and students in the following University of Michigan units: Medical School, College of Engineering, College of Pharmacy, School of Information, School of Public Health, the University Library, and the College of Literature, Science, and the Arts.

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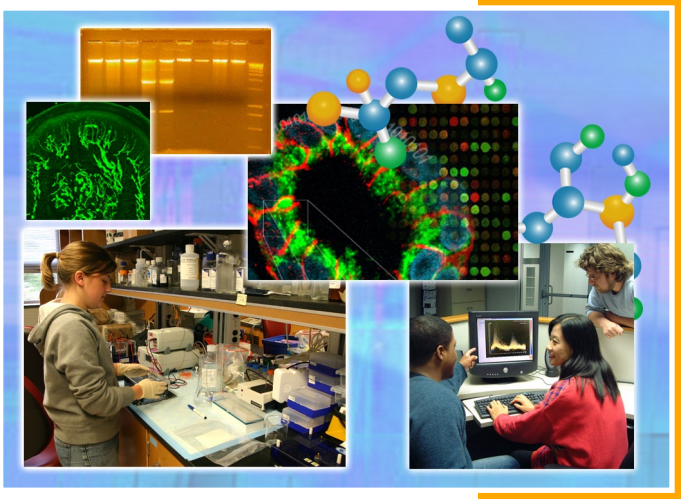
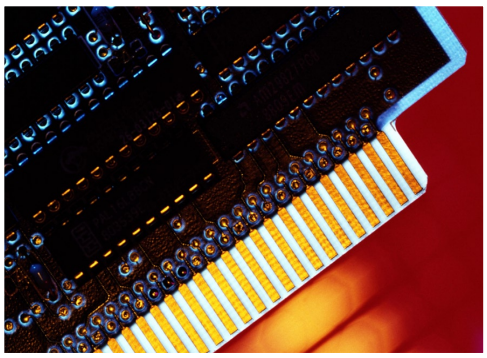
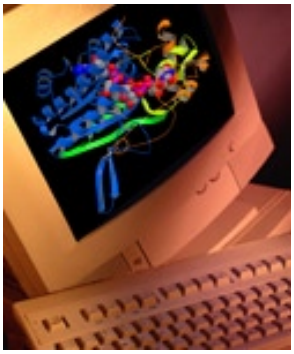
The **Bioinformatics Graduate Program** at the University of Michigan is highly interdisciplinary and involves many different schools and departments across campus. Among these are departments of Electrical Engineering and Computer Science, Biomedical Engineering and Chemical Engineering, School of Public Health, School of Information, Center for Study of Complex Systems, Department of Mathematics, Departments of Human Genetics, Microbiology and Immunology, Medicine, Pathology, Biological Chemistry, and Psychiatry.





The **Collaborative Computing & Data Unit** provides a rich computing and data infrastructure to support the academic, research, and administrative activities of CCMB. Facilities include high performance computing, file and database servers, workstations, web servers, networking, and printing services. CCDU supports multiple high performance computing clusters and provides access to clusters through partnerships with the College of Engineering's Center for Advanced Computing (CAC) and national supercomputing centers. CCDU hosts and manages more than 25 Terabytes of storage and databases housed at Palmer Commons, Green Court, and the Arbor Lakes computing facilities. This infrastructure is maintained and supported by the CCMB to provide biomedical computation support to researchers in the School of Medicine (UMMS) and across the University of Michigan campus.

The goal of the **Interdisciplinary Research Program** is to stimulate and assist the development of a complementary portfolio of extramurally-funded centers and individual investigator-initiated projects across the University of Michigan. IDR will continue to seed individual investigator initiated projects using competitive pilot grant program with complementary



disciplines. IDR will sustain and expand current multi-disciplinary team-science centers with major informatics capabilities such as NCIBI, NRPP, and Proteome Alliance for Cancer Research (PACR). IDR will also look for additional ways to enhance ties with federal agencies in planning stages for major initiatives such as NIH Genes and Environment, NSF Cyberinfrastructure and Nanotechnology, and DARPA Complex Systems Architecture Initiatives.

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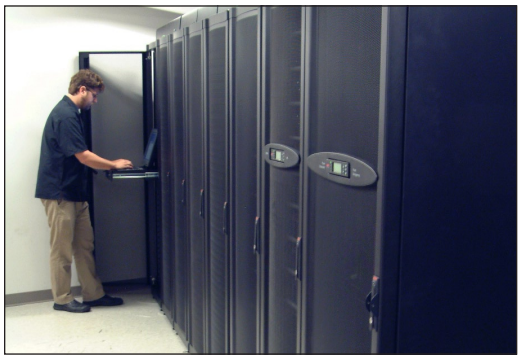
CCMB UM Central/Medical Campus
2017 Palmer Commons.

CCMB UM North Campus
3600 Green Court, Suite 700.



CCMB computing and server rooms.

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