NCRC

Fiscal Year **2011** Annual Report

University of Michigan
North Campus Research Complex

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Leadership Insights

"The NCRC is the most visible sign of the innovative spirit at U-M. It points to an incredible future for research and, most important, for the people and communities that will benefit from our discoveries."

MARY SUE COLEMAN, Ph.D.
President, U-M

"Science moves the world forward. There is always something new to discover, a new question to ask or a different way to look at an existing theory or approach. This basic curiosity that drives investigators, innovators and leaders is the core principle driving our vision for the NCRC."

ORA H. PESCOVITZ, M.D.
Executive Vice President for Medical Affairs, U-M
CEO, U-M Health System

"With our U-M Tech Transfer, our Business Engagement Center and our new Venture Accelerator located at the NCRC, we have established a foundation for exploring a wide range of public-private partnerships."

STEPHEN R. FORREST, Ph.D.
Vice President for Research, U-M

"Lack of space has constrained our ability to grow our research enterprise. NCRC provides cost-efficient space for co-location and collaboration that will push the boundaries of research and facilitate recruitment of the best faculty."

JAMES O. WOOLLISCROFT, M.D.
Dean, U-M Medical School

"To solve the world's biggest challenges, we need research and development that crosses boundaries and breaks new ground. That's just what we are planning at the NCRC, with engineers working side by side with scientists and doctors."

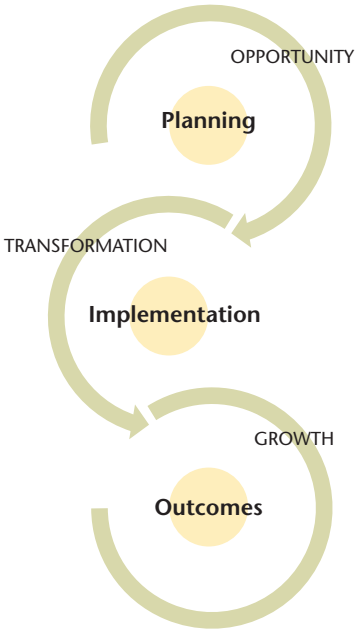
DAVID MUNSON, Ph.D.
Robert J. Vlasic Dean of Engineering, U-M College of Engineering

MAKING THE VISION REAL

In 2009, when the University established the vision for the NCRC as "A world of fast-paced scientific discovery that ignites improvements to humanity's health and well-being," it was hard to predict how quickly that vision might take flight. Just two years later, we are turning that vision into a reality.

The first year was spent in planning. Short and long-term goals were articulated, building the framework for NCRC initiatives and highlighting opportunities for discovery and innovation.

The last year has been one of implementation, bringing our goals to life through action. We have gathered momentum around research. The Institute for Healthcare Policy and Innovation (IHPI) was approved by the U-M Board of Regents, marking the establishment of an institute bringing together researchers from across the university to improve health services (page 14). In another significant milestone, the first lab-based researchers moved in earlier this year (page 8).



Engagement with private industry continued with the establishment of the Venture Accelerator, part of U-M Tech Transfer, at the NCRC. The Accelerator is now home to eight U-M start-up companies and proving to be a dynamic environment of creativity and collaboration (page 18).

Over the next year, we will continue to implement programs that support our vision. In time, these programs will produce measurable outcomes, the true mark of success and growth.

The NCRC offers a wealth of opportunity, and nurturing it to its full potential will take time. We have seen great progress, but we must remain patient and committed to the task at hand. Therefore, we will celebrate our successes with humility, remembering there is still work to be done.

David Canter, M.B., Ch.B.
Executive Director, NCRC

KEY STAKEHOLDERS GROUP (KSG)

The KSG is composed of senior leaders from across the University who are committed to the strategic framework for the development of the NCRC campus. They are in positions of authority and influence across U-M and play a critical role in identifying opportunities to leverage other University initiatives as well as to provide feedback as to progress and growth at the NCRC.

David Canter (lead), M.B., Ch.B., *Executive Director, NCRC*
John M. Carethers, M.D., *Chair, Department of Internal Medicine, U-M Medical School*
Stephen R. Forrest, Ph.D., *Vice President for Research, U-M*
Philip J. Hanlon, Ph.D., *Provost and Executive Vice President for Academic Affairs, U-M*
Steven L. Kunkel, Ph.D., *Senior Associate Dean for Research, U-M Medical School*
Michael W. Mulholland, M.D., Ph.D., *Chair, Department of Surgery, U-M Medical School*
David C. Munson Jr., Ph.D., *Robert J. Vlasic Dean of Engineering, U-M College of Engineering*
Ora H. Pescovitz, M.D., *Executive Vice President for Medical Affairs, U-M, and CEO, U-M Health System*
Timothy P. Slottow, M.B.A., *Executive Vice President and Chief Financial Officer, U-M*
James O. Woolliscroft, M.D., *Dean, U-M Medical School*

THE PORTFOLIO ADVISORY COMMITTEE (PAC)

The NCRC has developed a simple but effective way to work closely with the rest of the U-M community to assess incoming proposals, plan project details and execute lab moves, ensuring the development of the NCRC in a way that supports the University's strategic goals and keeps key stakeholders informed throughout the progression of each project. The Portfolio Advisory Committee (PAC) is an important player in this process, providing guidance to the NCRC executive director on the programmatic fit of individual proposals and the overall portfolio mix of programs within the NCRC.

David Canter (lead), M.B., Ch.B., *Executive Director, NCRC*
Mark M. Banaszak-Holl, Ph.D., *Associate Vice-President for Research, U-M*
Erik M. Gordon, J.D., *Clinical Assistant Professor of Business, U-M Stephen M. Ross School of Business*
Jay L. Hess, M.D., Ph.D., *Chair, Department of Pathology, U-M Medical School*
Jack Hu, Ph.D., *Associate Dean for Academic Affairs, U-M College of Engineering*
Steven L. Kunkel, Ph.D., *Senior Associate Dean for Research, U-M Medical School*
Martha E. Pollack, **Ph.D.**, *Vice Provost for Academic and Budgetary Affairs, U-M*

Introduction

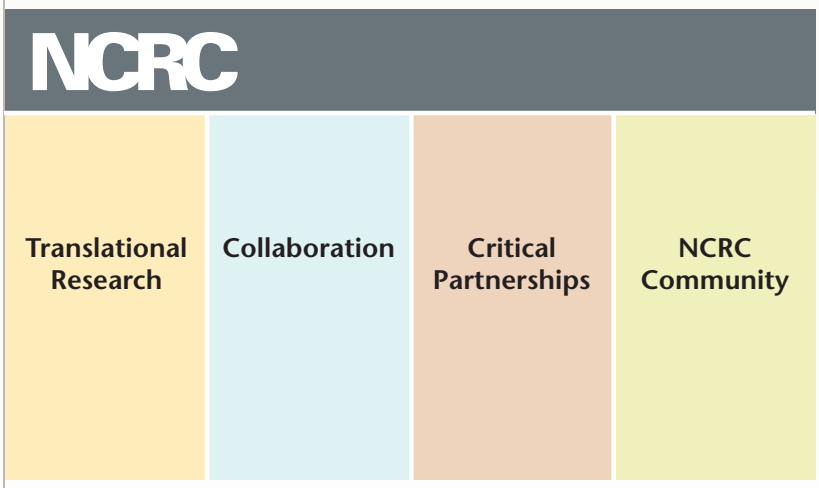
TRANSFORMING TODAY'S IDEAS INTO THE MEDICINES, DEVICES AND TECHNOLOGIES OF TOMORROW.

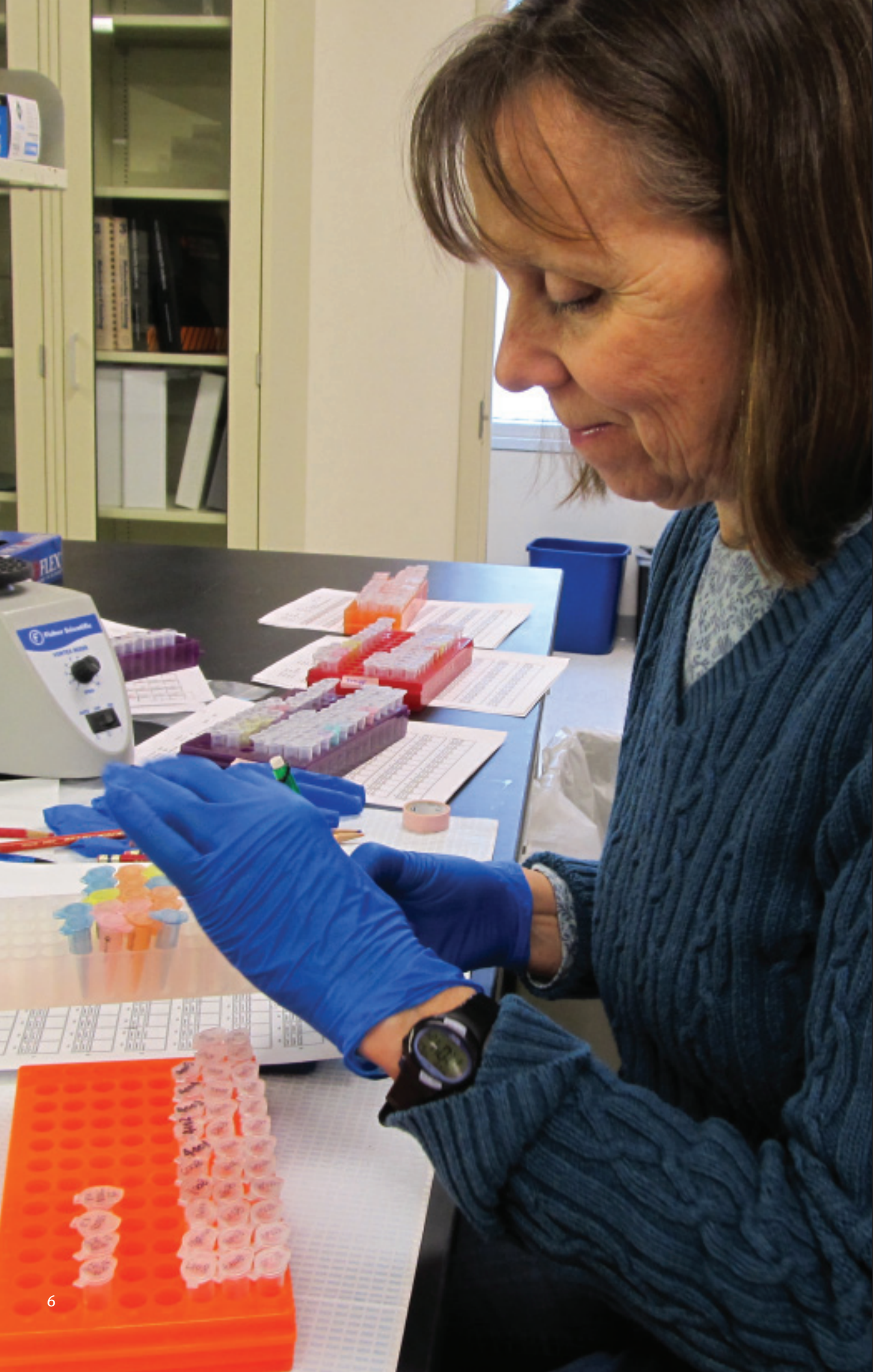
The NCRC is an opportunity for the University to broaden its contributions as one of the nation's premier research universities and strengthen its ability to stimulate new business through partnerships with businesses in the private sector. By bringing together researchers and partners from different disciplines and industries, the NCRC will foster a collaborative environment that encourages discovery, innovation and creativity and helps catalyze the transformation of the regional economy.

Mission
Expand the University's capabilities as one of the nation's top translational research institutions and be a driver in the resurgence of the Michigan economy.

Vision
A world of fast-paced scientific discovery that ignites improvements to humanity's health and well-being.

Key Areas of Opportunity
In order to make strides towards achieving the NCRC's mission and vision, four key areas of opportunity have been identified. By concentrating efforts in these areas, the NCRC can strategically and efficiently forge advancements in research.





Translational Research

THE NCRC ENABLES translational research – the translation of scientific discoveries into practical applications – by providing space to assemble teams of U-M researchers to address major challenges. Over the last year, the NCRC has seen growth and development in five research areas.

- Cardiovascular Research
- Translational Oncology
- Distributed Health Technologies: The 7000M Project
- Biointerfaces
- Biomedical Research Core Facilities

Opposite page:
Katherine Borysko, M.S.,
Sanger Sequencing Technician,
DNA Sequencing Core

Cardiovascular Research

Researchers from the Health System's U-M Cardiovascular Center and closely aligned University faculty are collaborating to find new ways to fight cardiac disease. By studying the mechanisms of cardiac muscle function and cardiac rhythm, they are refining our understanding of ways to prevent and treat conditions impacting 80 million Americans.

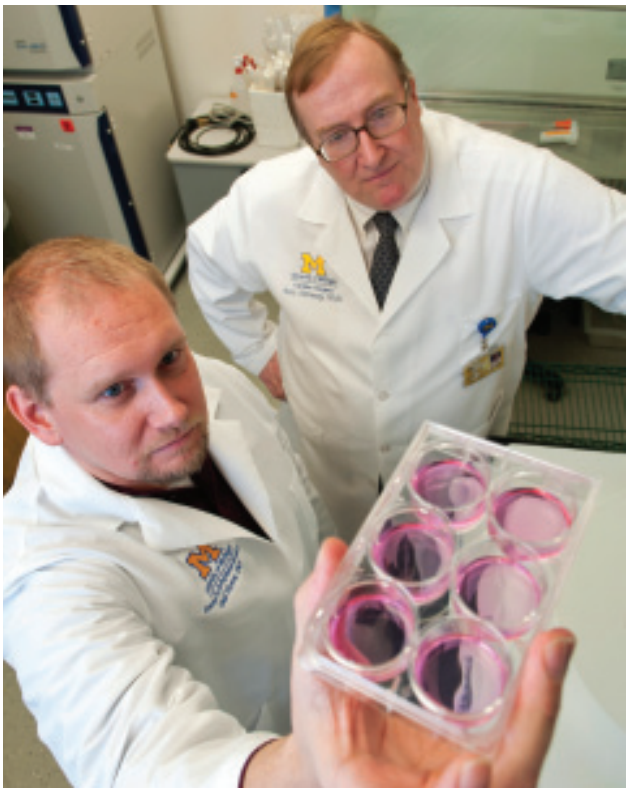
The first laboratory-based researchers to move into the NCRC are using stem cells to create new heart muscle and study the crucial pumping action of the heart. Eric Devaney, M.D., associate professor of Cardiac Surgery, and Todd Herron, Ph.D., research assistant professor of Molecular and Integrative Physiology and Internal Medicine are the first of about 60 cardiovascular researchers moving to the NCRC in 2011.

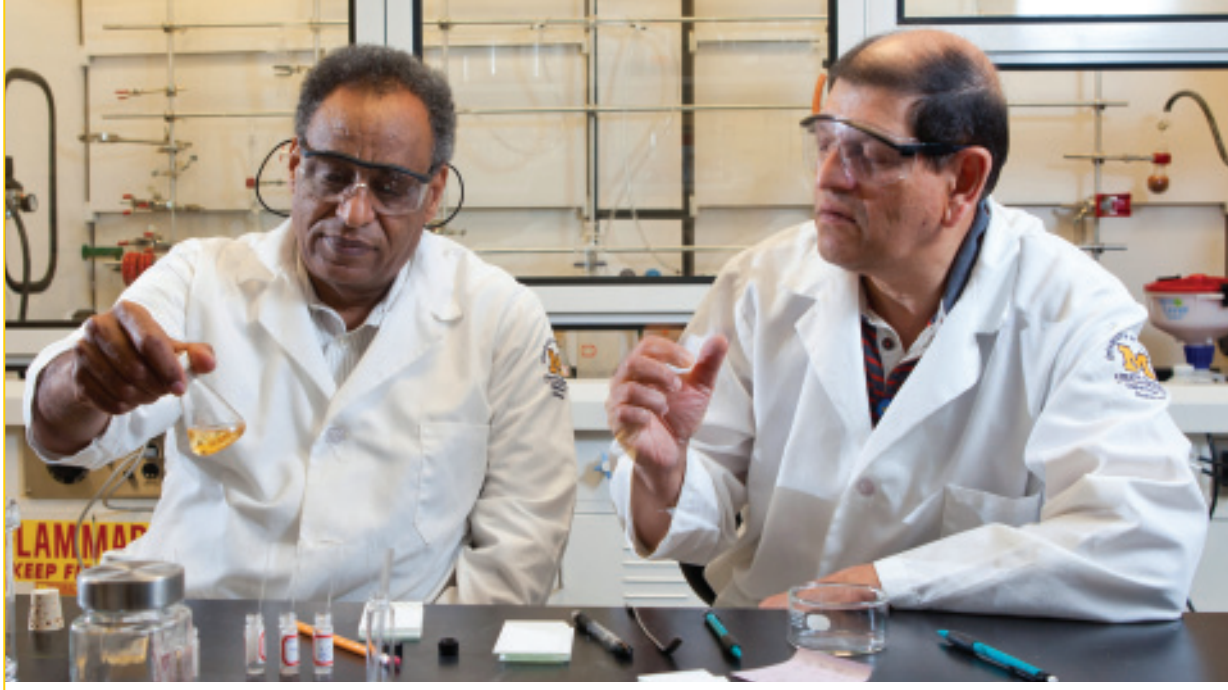
This group, which includes researchers from U-M's Center for Arrhythmia Research, will work in labs that are located much closer to each other than before. Devaney and Herron often work together on research, but previously their labs were at different locations in Ann Arbor, about 10 miles apart.

"A long drive between labs was an impediment to close collaboration," Devaney says. "Proximity leads to creative thinking and collaboration. The opportunity to work hand-in-hand with other colleagues will help us think about science in a different way."

These researchers will receive about $20 million in research funding over the next five years, primarily from the National Institutes of Health.

Pictured left to right: Todd Herron, Ph.D., and Eric Devaney, M.D.





Pictured left to right: Haile Tecle, Ph.D., and Marcian Van Dort, Ph.D.

Translational Oncology

The translational oncology program at the NCRC represents a unique opportunity for the University to translate research discoveries into clinical advancements that will significantly improve the way cancer is diagnosed and treated.

A team of researchers recruited by the Center for Molecular Imaging are part of an effort to design and develop small molecules that will be used for the early diagnosis of cancer. The ability to non-invasively diagnose and molecularly define an individual's tumor will enable the development of personalized therapies.

The team includes Haile Tecle, Ph.D., senior chemist for Radiation Oncology, and Judith Sebolt-Leopold, Ph.D., research associate professor of Radiology, who, while working for Pfizer, chaired the project team that was the first to design, synthesize and advance a small molecule MEK kinase inhibitor – a critical component of the RAS-MAP kinase signaling pathway that is activated in a large percentage of human cancers – into the clinic.

"We now have the unique opportunity to combine the power of U-M's well-recognized imaging capabilities to extend MEK inhibitor research to a whole new translational level," says Sebolt-Leopold.

Rounding out their team are Marcian Van Dort, Ph.D., research associate professor of Radiology, and computational chemist Christopher Whitehead, Ph.D., M.B.A., another former Pfizer employee and a U-M Business School alumnus.

Max S. Wicha, M.D., distinguished professor of oncology, professor of Internal Medicine, and director of the Health System's U-M Cancer Center, says, "We're combining the talents of academia and the talents of the pharmaceutical industry into one research location. An enemy as formidable as cancer is only going to be defeated by creativity and collaboration."

Pictured left to right: Brendan Tarrier, High Throughput Sequencing Specialist, DNA Sequencing Core; Elizabeth Ketterer, M.S., High Throughput Sequencing Specialist, DNA Sequencing Core

Distributed Health Technologies: The 7000M Project

The Distributed Health Technologies (DHT) program, also known as the 7000M Project, named for the world's population of 7000 million, is focused on the development of low-cost, high-quality medical technologies to support individual health care in the general population. Advanced electronic sensors, when combined with the existing computational power of cellular phones and hand-held devices, may provide safe, effective and inexpensive strategies for enhancing medical diagnosis.

Project members include scientists and engineers from U-M's Medical School, College of Engineering and School of Public Health, as well as commercial manufacturing.

"By bringing a diverse group of individuals together to work in a cooperative effort, we can work more intentionally and efficiently towards realistic, concrete and task-oriented goals," says Dave Burke, Ph.D., professor of Human Genetics and research associate professor of Gerontology.

The vision of the 7000M Project is to bring three robust technologies to the health care community within three years and another three technologies within five additional years.

Biointerfaces

Biointerfaces is a collaborative infrastructure that enables translation from physical sciences and engineering to preclinical research with a goal of developing new drug delivery systems, new treatments and new medical devices in less time, with less cost and with greater reliability. Team members will draw from the U-M's College of Engineering; Medical School; College of Literature, Arts & Sciences; School of Dentistry and School of Pharmacy.

"Through the establishment of Biointerfaces at the NCRC, the University will jump-start collaborative efforts of researchers from the physical sciences and medicine that are geared toward rapid clinical translation," says Joerg Lahann, Ph.D., Dow Corning assistant professor of Chemical Engineering at U-M.

"Our space at the NCRC enables us to improve efficiency and cost effectiveness by bringing in equipment that more people can share."

ROBERT LYONS, PH.D.
Director, U-M DNA Sequencing Core
Assistant Professor of Biological Chemistry, U-M

Biomedical Research Core Facilities

The Biomedical Research Core Facilities (BRCF), part of the U-M Medical School Office of Research, is a collection of centralized labs and services offering state-of-the-art instruments and resources to faculty and staff across the University on a fee-for-service basis. Several core facilities are available on-site at the NCRC:

- The **Bioinformatics Analysis Core** provides bioinformatics support to researchers using their expertise in computational methods.
- The **Biomedical Research Store** provides investigators with on-site procurement of enzymes, reagents and kits used in molecular, cell biology and some protein chemistry.
- The **DNA Sequencing Core** provides DNA analysis for research clients on a recharge basis. It houses the Pacific Biosciences 'RS,' or 'real-time sequencer,' a potential game-changer in DNA analysis.
- The **Flow Cytometry Core** provides instrumentation and expertise, including cytometric analysis and cell sorting. It is equipped with a state-of-the-art Coulter MoFlo XDP cell sorter and two Miltenyi MACSQuant analyzers.
- The **Unit for Laboratory Animal Medicine (ULAM)** provides lab animal services, including procurement, veterinary care, compliance oversight and training.

Collaboration

Pictured left to right: Sreyashi Dey, Communications and Marketing, NCRC Administration; Shari Berry, Project Leader, NCRC Administration; Phil Krall, Administrative Assistant, NCRC Facilities; Carrie Anderson, NCRC Administration

THROUGH THE CO-LOCATION of researchers and partners across different disciplines over the last year, the NCRC has fostered a collaborative environment that leverages interdisciplinary expertise and technologies and helps tackle complex problems.

WHAT IS HEALTH SERVICES RESEARCH?

The federal Agency for Healthcare Research and Quality states, 'Health services research examines how people get access to health care, how much care costs and what happens to patients as a result of this care. The main goals of health services research are to identify the most effective ways to organize, manage, finance and deliver high quality care; reduce medical errors and improve patient safety.'

Institute for Healthcare Policy and Innovation (IHPI)

The IHPI, approved by the U-M Board of Regents in May, aims to enhance the health and well-being of local, national and global populations through innovative, interdisciplinary health services research.

More than 500 researchers will join the new Institute, making it one of the nation's largest concentrations of healthcare policy and services researchers. The NCRC offers an ideal location for this new Institute.

"In order for the IHPI to be successful, we knew it needed to find its home in an engaging, supportive environment – one that encourages collaboration. After all, this is a hallmark of the University, an institution esteemed for its commitment to interdisciplinary exchange and interaction. The NCRC offers an ideal setting, and we look forward to embracing its potential through the co-location of researchers," says Darrell Campbell, Jr., M.D., Henry King Ransom professor of Surgery and chief medical officer, U-M Hospitals and Health Centers.

A search for a director for the IHPI is underway. The new Institute will be an academic unit reporting to the U-M Medical School, with the director reporting to Dean James O. Woolliscroft, M.D. Institute membership will represent several departments across the university, including U-M's Medical School; College of Literature, Science and the Arts; College of Engineering; College of Pharmacy; School of Nursing; School of Public Policy; School of Public Health and School of Dentistry. It will also include researchers from the Veterans Affairs Ann Arbor Healthcare System, Arbor Research and others.

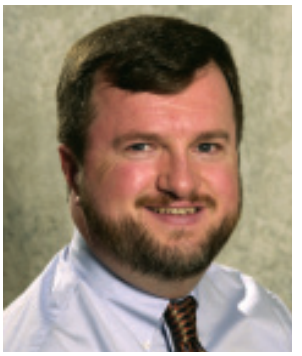
The Board of Regents also approved a $13.7 million renovation project at NCRC Building 16 to accommodate the new Institute. Renovations will take down walls and create more collaborative working space as well as improve building infrastructure. The renovation is expected to be complete in spring 2012.

U-M and the V.A. Ann Arbor Healthcare System (VAAAHS) Continue Collaborative Relationship at the NCRC

U-M has a close and long-standing affiliation with the VAAAHS for purposes of enhancing patient care, education and research. Most recently, researchers from the Mental Health Services Outcomes & Translation section in the U-M Department of Psychiatry (MHSOT) and the VAAAHS National Serious Mental Illness Treatment Evaluation and Resource Center (SMITREC) moved to adjoining facilities at the NCRC.

MHSOT conducts research related to improving care for individuals with mental health and substance abuse concerns. Several MHSOT faculty investigators have joint appointments with SMITREC. SMITREC provides V.A. policymakers and clinical managers with relevant and timely guidance on issues pertaining to the delivery of health care to veterans with serious mental illness and other mental disorders.

Many MHSOT and SMITREC research efforts are complementary and inform each other. The close proximity of the two groups will enhance intellectual exchange and provide opportunities for collaboration. This will ultimately lead to increased productivity from both groups, to the benefit of patients with mental illnesses.



Fred Blow, Ph.D.

"The opportunities for interactions within the multiple scientific disciplines at the NCRC enhance and complement the cutting-edge research and evaluation work of the Department of Veterans Affairs and U-M," says Frederic C. Blow, Ph.D., MHSOT and SMITREC director and professor of Psychiatry.

Community Insights

"It has been a real pleasure for our group to co-locate and establish better working associations here at the NCRC. Already, having been here for only eight months, we have achieved many of our important early goals. The number and quality of research grants and contracts going out the door has risen exponentially."

John D. Birkmeyer, M.D.
Director, Michigan Surgical Collaborative for Outcomes Research and Evaluation (M-SCORE)
Professor of Surgery, U-M Medical School

"There is growing camaraderie at the NCRC. Engaging with other new companies while having access to both the talent of the Office of Technology Transfer and the impressive facilities helps our company's growth."

Laura Schrader
CEO, 3D Biomatrix

"Since MICHR, the Office of Research and other research service units have made the move to the NCRC, collaboration is much easier and we are able to enhance our support of research teams."

Teri Grieb, Ph.D.
Senior Director for Research, Medical School Office of Research
Managing Director, Michigan Institute for Clinical & Health Research (MICHR)

Pictured left to right: Jan Hewett, J.D., Director, IRBMed; Teri Grieb, Ph.D., Senior Director for Research, Medical School Office of Research, and Managing Director, MICHR

Critical Partnerships

COLLABORATION IS, at its essence, a partnership of individuals or groups with a shared mission. With the complexity of science increasing exponentially, addressing many of our research problems requires a broad range of talents often accomplished through collaboration. The NCRC aims to catalyze innovation at U-M and economic growth in the region through interdisciplinary research and partnerships that bring together unique knowledge and expertise.

Pictured left to right: Brandon McNaughton, Founder and Chief Technology Officer, Life Magnetics; Maureen Carey, Research Associate, Life Magnetics

Co-location allows opportunity for shared learning that might otherwise not occur. The partnerships at the NCRC are both public and private in nature, of varying size and maturity and each with a specialized shared goal. With a mixture of business accelerator space, as well as space for established companies, there is greater opportunity for innovation and cross-fertilization both within the academic research community and across boundaries with the private sector. The ultimate goal: further the research enterprise of all involved while providing new opportunities for education and research in the coming decades.

Pictured left to right: Bruce E. Markham, Ph.D., Chief Scientific Officer and Vice President of Research, Phrixus; Stace Kernodle, Research Technician, Phrixus

Venture Accelerator

U-M launched its Venture Accelerator, part of U-M Tech Transfer, at the NCRC in January 2011. Occupying 18,000 square feet, the Accelerator focuses on enhancing the quality and speed of developing high-potential new ventures based on U-M technology. Accelerator tenants have access to Tech Transfer's Venture Center to help them refine business models, attract investors, acquire gap funding and connect to talent who enhance the company's quality and sustainability. Accelerator tenants can also seek guidance from seasoned entrepreneurs in Tech Transfer's Mentors in Residence program.

"Although we currently are among the top ten in creating new university-based start-ups, we're driven to do even better. Our new Venture Accelerator allows us to expand our capabilities to create jobs and opportunity right here in Michigan," says Kenneth Nisbet, executive director of U-M Tech Transfer.

Selected U-M startups sign flexible one-year leases for access to world-class laboratory and office space, along with a suite of business services from the Venture Center. Funding for the project is provided by U-M Tech Transfer, the Office of the Vice President for Research, the Provost and the U-M Health System.

Venture Accelerator companies are a mix of life sciences, clean-tech, software and other technology ventures from the portfolio of emerging U-M start-ups from the Venture Center. Accelerator tenants include:

- 3D Biomatrix
- Civionics
- Edington Associates
- EngXT
- Life Magnetics
- Phrixus Pharmaceuticals
- Reveal Design Automation
- Wolverine Energy Solutions and Technology

"There is no doubt that U-M has almost unparalleled strength in creativity and innovation, and the Venture Accelerator provides an essential link in generating successful ventures from our creative concepts, while incentivizing faculty to pursue their ideas to success in the marketplace," says Stephen Forrest, Ph.D., U-M vice president for research. "I am very proud that the Office of Technology Transfer has taken the lead in making the Accelerator a reality for U-M."

"As Lycera continues our cutting-edge efforts in developing new therapies for significant autoimmune conditions, we are pleased to be located at a place like the NCRC where collaboration and innovation are core values."

GARY D. GLICK, PH.D.
Founder and Chief Scientific Officer, Lycera
Werner E. Bachman Collegiate Professor of Chemistry; U-M College of Literature, Science and the Arts
Professor of Biological Chemistry, U-M Medical School

Private Sector Partnerships

Researchers across U-M recognize and value opportunities to collaborate in their scientific endeavors. The NCRC provides exciting opportunities to enable research collaboration between U-M and private or other not-for-profit entities through co-location or other approaches to enriching interaction. The following private sector tenants have signed leases and/or moved in to the NCRC:

BoroPharm, Inc. Inc. moved to the NCRC in 2010 as the first onsite public-private partnership tenant. Due to the NCRC's availability of specialized space, BoroPharm was able to remain in Michigan– a win for BoroPharm, the NCRC and the Michigan economy at large. BoroPharm has been successful in utilizing a specialized chemistry building to continue production of chemicals for drug and agricultural companies.

Lycera, a biopharmaceutical company pioneering innovative approaches to the discovery and development of novel oral medicines for treating autoimmune diseases, is slated to move to the NCRC by the end of the calendar year. The move is of great benefit for U-M, as plans have been made for Lycera to share equipment with U-M faculty, including a nuclear magnetic resonance spectrometer (NMR). Lycera will also support education through the funding of a scientific seminar series and multiple graduate student interns.

Both of these companies have grown out of universities, with BoroPharm coming from Michigan State University and Lycera from U-M.

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EXIT

NCRC Community

AS THE NEWEST PART of U-M's campus, the NCRC has seen significant growth over the last year. More than 700 people now work there every day, and thousands are using conference and event space throughout the year. This growth has helped foster a sense of community and enabled us to increase the number of state-of-the-art services and amenities available there.

Pictured left to right: Debra Haslam, Data Security Analyst/Compliance Coordinator, MICHR; Domenick Silvio, Application Programmer/Analyst Intermediate, MICHR; Aalap Doshi, Intermediate Business Systems Analyst, MICHR; Emma Hung, IT Project Intermediate Manager, MICHR

NCRC community members attend a yoga class.

Amenities

Art Program: Providing visual and performing arts experiences to the NCRC community, the U-M community and the general public, the NCRC Art Program includes topics in science, social commentary and technology. The Program's first event, "Looking Both Ways: A Contemporary Art Exhibition Coinciding with the Centennial of the Xinhai Revolution," is in collaboration with Eastern Michigan University and the U-M Confucius Institute. It seeks to raise awareness of China through an exhibition of contemporary Chinese Art. It will take place in September and October.

Childcare: Opened in July 2011, the North Campus Children's Center, located on the NCRC campus, is the result of the merger of two long-standing U-M programs known for their excellence in providing high-quality early childhood education – the U-M Children's Center located at 300 North Ingalls and the Northwood Child Development Center located on McIntyre Drive. The facility serves children ages 3 months to 5 years, year-round.

Fitness: MHealthy wellness classes, such as body sculpting, yoga and Nordic walking, are available at the NCRC. In addition, the NCRC is home to a fitness center that will be renovated and reopened in Fall 2012.

Food: Java City provides breakfast and lunch daily. Vending machines are also available throughout the NCRC campus.

Green Space: Deer, ducks, geese and a multitude of other wildlife enhance the peaceful atmosphere at the NCRC. Miller's Creek flows throughout this parcel of land before traveling to the Huron River. A cattail wetland graces property, and a contemplative sculpture installation further embellishes the already beautiful prairie. The 11-acre native landscape designed by Pollock Design Associates uses plants that have been growing in southeastern Michigan since before European settlers arrived in the 1700's.

Library Services: The U-M Library provides NCRC community members with tailored information services and common resources. The site is served by the library's NCRC liaison, Judy Smith.

Parking and Transportation: Ample parking and transportation options are offered at the NCRC. All levels of U-M parking are available, including paid visitor parking. The Park & Ride Lot, located on Green Road south of the Plymouth Road intersection, is within one mile from the facility. The new Research Link bus route connects the NCRC to the medical campus. The Intercampus and Commuter routes service the NCRC, as well.

NCRC environment

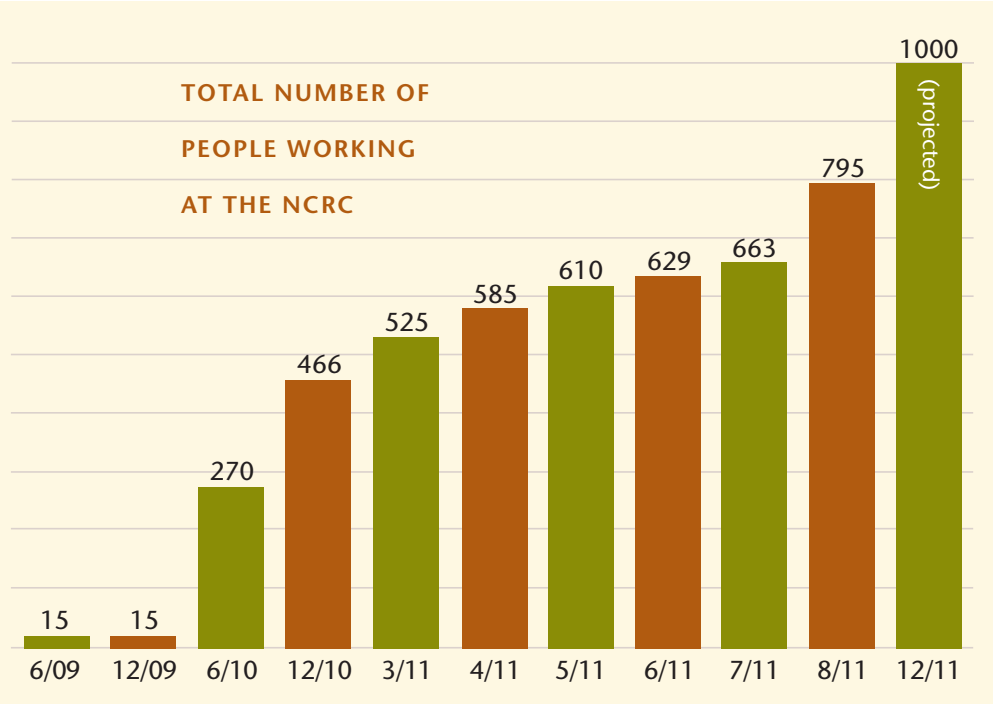
Onsite Events

The NCRC hosted approximately 70 events over the last year, including:

- Business & Finance Town Hall Meetings
- Business Engagement Center/Office of Technology Transfer Open House
- BioArbor
- Biointerfaces Symposium
- Cardiovascular National Advisory Board Meeting
- Children's Theater Camp
- Health Services Research Day/Institute for Health Policy and Innovation Kickoff
- InterFace Lab Workshop
- Masters Series Leadership Program
- U-M Medical School Match Day
- TEDxUofM Celebration Reception
- United Way Campaign Events
- University Musical Society Dinner

Indicators of Growth

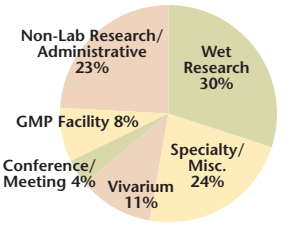
A review of the NCRC's employee count and space allocation tells an exciting story of significant growth at the NCRC.



Space Allocation

The NCRC is known as a 2 million square-foot site, which translates to a little over 1 million net square-feet of assignable space. Assignable square footage at the NCRC is broadly grouped into six categories: wet research lab space, non-laboratory research/administrative space, research support space, conference/meeting space, the good manufacturing practices (GMP) facility and specialty/miscellaneous space (i.e. cafeteria, clinical research facilities, loading dock, materials handling and other site-based amenities). Wet research labs and non-laboratory research/administrative space account for approximately 53 % of the total assignable space. How much of that space is committed?

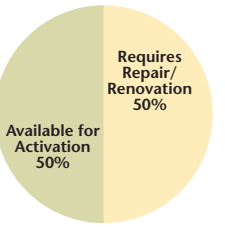
SPACE ALLOCATION (1 million ft^2)



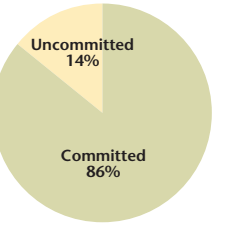
Wet Research Labs (~320,000 square feet)

Upon acquisition of the site, a review of facilities indicated which lab buildings were ready for quick occupancy and which were highly specialized or required some repair or renovation. Buildings 14, 20W, 26, 36, 40 and 520 comprised those buildings that could be rapidly activated. These buildings represent approximately net assignable 160,000 square feet. Almost 86 % of this space is committed, leaving just 22,400 square feet of programmable wet research lab space available for near-term occupation, distributed across three buildings (Buildings 14, 36 and 520).

WET RESEARCH SPACE (320,000 ft^2)



WET RESEARCH AVAILABLE FOR ACTIVATION: COMMITMENTS (160,000 ft^2)

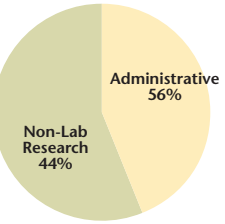


Non-Laboratory Research/Administrative Space (~238,000 square feet)

Non-laboratory research/administrative space can be split into two cohorts. Roughly half of the offices are in lab buildings and are designed to house the laboratory researchers. The other half is available to deploy for non-lab based research and administration.

Of this latter space, 50 % is occupied, and an additional 47 % is committed to support incoming programs, leaving only about 3 % or 4,000 square feet of assignable space for future programming. Of course all space at the University turns over as programs grow and contract, but the current planning efforts have largely consumed our office-based research space.

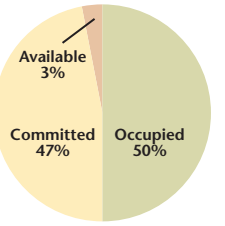
NON-LAB RESEARCH/ADMINISTRATIVE SPACE ALLOCATION (238,000 ft^2)



Planning for Future Use of NCRC Facilities

As is indicated by this information, the NCRC is close to reaching capacity within its buildings that are ready for quick occupancy. The next step will be to determine when and how to bring the remaining wet lab space online.

ADMINISTRATIVE SPACE: COMMITMENTS (133,000 ft^2)



Future Directions

THE NCRC REPRESENTS a wealth of opportunity, not only for U-M but regionally and nationally, as well. A look ahead to the next year serves as a reminder of the NCRC's vast potential.

Translational Research

The NCRC campus will continue to support the growth of U-M research initiatives through the population of office space, laboratories and other facilities over the next year. Approximately 500 researchers and staff will move to the NCRC between the Biointerfaces program, the Center for Computational Medicine and Bioinformatics, the Cardiovascular Center, Jobst Vascular Research Laboratory, Reproductive Sciences and Translational Oncology. The microscopy lab will also be brought on-line in the fall.

Collaboration

Building interdisciplinary relationships will continue to be a focus over the next year. Building 16 will be renovated, making room for the various members of the IHPI, who will co-locate to the new space beginning in June 2012. The University's partnerships with the China Clean Energy Research Center (CERC) and Shanghai Jiao Tong University (SJTU) will be supported at the NCRC, as both CERC and SJTU will have access to on-site workspace.

NCRC community members

Critical Partnerships

The NCRC will continue to promote productive, creative relationships through critical partnerships. The U-M Venture Accelerator is in high demand, with several U-M spin-off companies requesting the opportunity to secure a lease and participate in Accelerator services. As many as 12 companies are expected to call the Accelerator home by the end of the fiscal year. Before the end of 2011, Lycera will move 20 staff on-campus and approximately 45 Veteran's Affairs researchers will relocate to the NCRC.

NCRC Community

With approximately 600 researchers, private company members and support staff moving to the NCRC over the next year, the importance of providing a rich, supportive environment remains a priority. Plans will be developed to bring the Building 16 fitness facility on-line. The Health System's Patient Food & Nutrition Services will occupy the NCRC cafeteria's kitchen facilities for the next year in order to meet their obligations for food service at the Hospital and *Meals on Wheels* while their space in University Hospital is being renovated.

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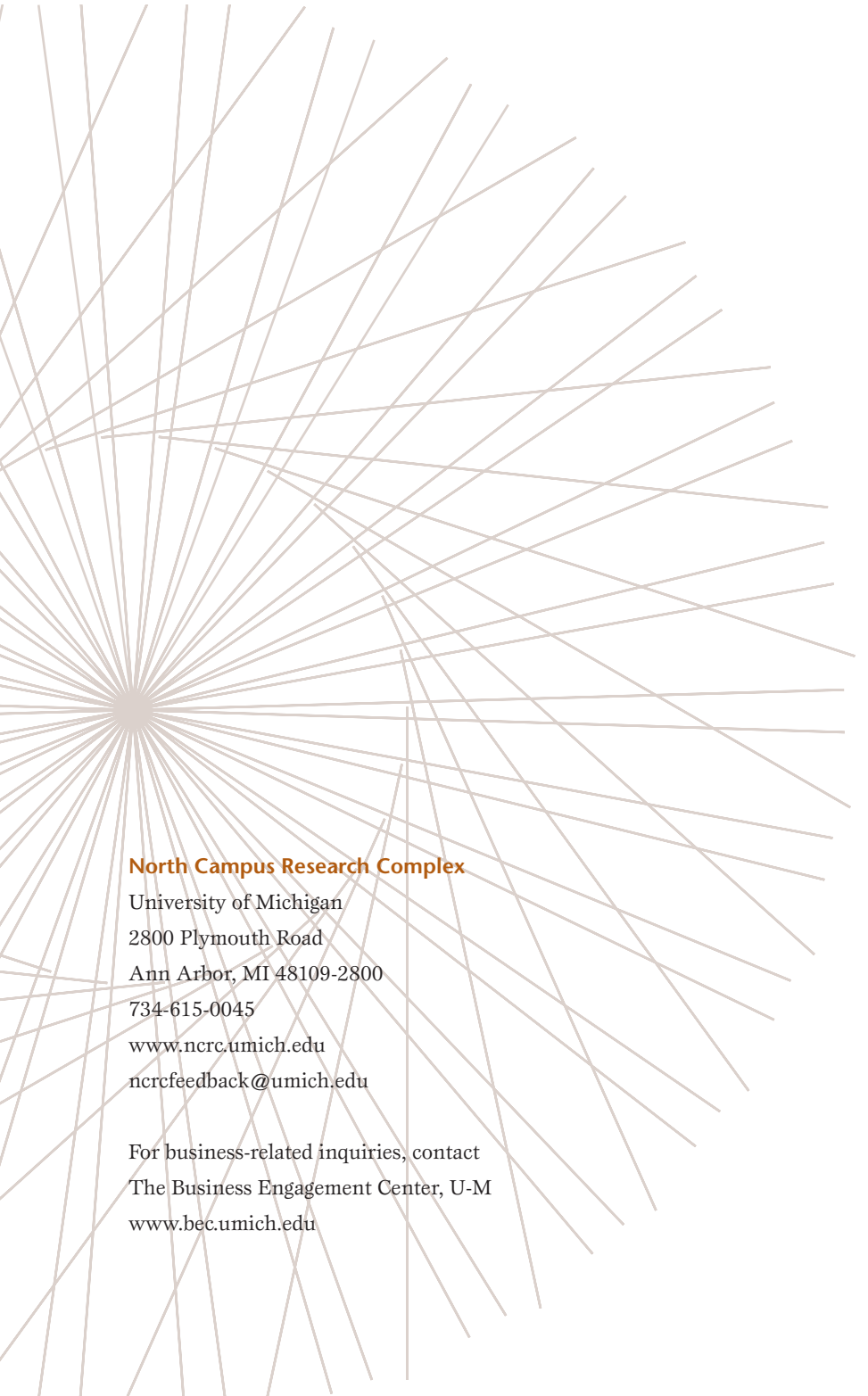

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