



University of Minnesota Academic Health Center *Research Overview*

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Academic Health Center

- Six health professional schools and colleges:
 - medical school (with branch in Duluth)
 - schools of dentistry, nursing, and public health
 - colleges of pharmacy and veterinary medicine
- More than 1400 investigators
- AHC investigators have a wide range of expertise:
 - performing basic, translational, and clinical research
 - designing animal models of human disease to performing health outcomes studies

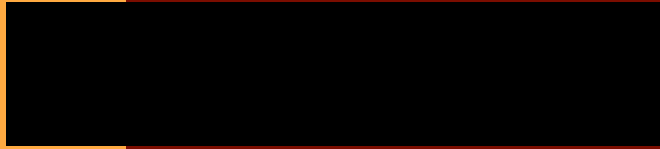
Expertise - Medical School

- Widely recognized for leadership in cardiovascular medicine and solid organ and bone marrow transplantation
- Recent additions to the list of “firsts”:
 - identification of the pathogen that causes Lyme disease
 - identification of the genes causing spinocerebellar ataxia
 - one of the world's first living-related donor bowel transplants
 - invention of a device that repairs the heart without surgery
 - transplantation of pancreatic islet cells to treat diabetes
 - the first gene therapy trial for Hunter's syndrome

Expertise - SPH

- The School of Public Health, long a leader in exploring dietary links to disease, is breaking ground with community programs to prevent substance abuse and violence, and also shaping public policy on health care issues.

Expertise – COP, CVM, Dentistry



- The College of Pharmacy is leading its field with pharmaceutical care, a new career direction that brings pharmacists into the clinic with patients and physicians to prevent adverse drug effects.
- The College of Veterinary Medicine is conducting basic research in genetics and immunology that will have applications for both human and animal health.
- At the School of Dentistry, faculty are working in partnership with industry to develop new technology and materials.

AHC Research



- Awards \$285 M (FY06)
 - Medical school \$158 M
 - National Institutes of Health (NIH) \$227.3 M (entire university)
 - Industry \$ ~20 M
 - University of Minnesota ranked 21st of all U.S. universities for NIH research expenditures
- Technology Transfer (FY05)
 - 21 patents, 114 new disclosures
 - 22 new licenses; 219 active licenses
 - Royalty revenues \$45.6 M

AHC Education

- 80 percent of the Minnesota's health care professionals are trained at the AHC.
- 5,000 students are enrolled in professional and graduate programs for careers as:
 - biomedical engineers
 - biomedical scientists
 - dental hygienists
 - dentists
 - health care administrators
 - medical technologists
 - morticians
 - nurses
 - occupational therapists
 - pharmacists
 - physical therapists
 - physicians
 - public health practitioners
 - veterinarians

Research Priority Areas

- Cancer
- Cardiovascular/pulmonary
- Developmental biology/children's health
- Genetics and genomics
- Immunology and infectious diseases
- Neurosciences
- Stem cell biology
- Imaging (particularly CNS MR)

AHC Interdisciplinary Centers

- Bioethics, AHC Center for
- Computational Genomics and Bioinformatics
- Biomedical Engineering Institute
- Biomedical Genomics Center
- Biomedical Imaging & Processing Laboratory
- Cancer Center
- Dental Research Institute
- Drug Design, Center for
- Electron Microscopy Facility

AHC Interdisciplinary Centers (2)

- Institute for Clinical and Translational Research
- Human Genetics, Institute of
- Immunology, Center for
- Infectious Disease Research and Policy, Center for
- Magnetic Resonance Research, Center for
- Molecular and Cellular Therapeutics Facility
- Muscle and Muscle Disorders, Center for
- Veterinary Clinical Investigation Center

New AHC Technologies

- Genomics and proteomics
 - genes and methods
- Drug development and delivery
- Diagnostics
 - MEMS
- Medical devices
- Veterinary medicine
 - vaccines and diagnostics

New AHC Technologies (2)

- Therapeutics
 - Aging (inherited disorders)
 - Cancer (immunotherapy, stem cells)
 - Diabetes (stem cells)
 - Infectious diseases (HIV, vaccines)
 - Neurological diseases