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For Immediate Release

Minnesota Partnership Launches Six State-Funded Research Studies

ROCHESTER and MINNEAPOLIS, Minn. — Ovarian cancer, heart disease and malaria are three of the diseases targeted by new research projects funded recently by the Minnesota Partnership for Biotechnology and Medical Genomics. Other projects are aimed at therapies for irritable bowel syndrome and stress-related obesity, while another seeks to develop a new tool to manipulate DNA. The two-year projects mark the beginning of the second decade of scientific study sponsored by the formal collaboration of the University of Minnesota, Mayo Clinic and the state.

"These projects reflect strong science and the potential for real health care solutions in critical diseases," says Partnership program director Eric Wieben, Ph.D., of Mayo Clinic. "The topics focus on problems either directly affecting Minnesotans or on conditions that have global impact with solutions that would be highly marketable."

"All the projects were competitively reviewed by an expert panel that examined the quality of the science and the uniqueness that a University of Minnesota/Mayo Clinic collaboration brings to the project," says Partnership program director Tucker LeBien, Ph.D., of the University of Minnesota.

The six projects share a total of $4,485,000.

Recurring Ovarian Cancer: Tumor Genomics and Mouse Avatars
University researchers will be determining the effectiveness of chemotherapies on specific ovarian cancers by studying the individual genome of each tumor. Mayo researchers will be re-establishing those tumors in immune-deficient mice, avatars in which the tumor can be studied against potential new drugs.
Dan Kaufman, M.D., Ph.D., University of Minnesota
Paul Haluska, M.D., Ph.D., Mayo Clinic

Smart Socks to Track Heart Failure
The feet offer telltale symptoms of heart failure and obesity. These researchers will be developing and testing a pair of sensor-socks that people at risk for problems can wear so physicians can monitor subtle changes in body weight, water gain, edema and variations in heart rate. The goal is to have a marketable product that will detect early signs of trouble

and prevent heart attacks before they happen. The University is engineering the socks; Mayo will do the physiological tests.
Raj Rajamani, Ph.D., University of Minnesota
Bruce Johnson, Ph.D., Mayo Clinic

Malaria-Detecting Lasers
Still a problem around the world, malaria cases have dropped by nearly a third in the last decade thanks to rapid diagnostic tests. But those tests, while fast, are not sensitive enough to detect lower levels of malaria or all strains of the disease. The goal of this project is to develop a series of laser prototypes that can be used to enhance rapid diagnostic tests for malaria. The laser work will be done at the University and a new reference lab measurement technique will be developed at Mayo.
John Bischof, Ph.D., University of Minnesota
Bobbi Pritt, M.D., Mayo Clinic

Microbiotic Therapies for Irritable Bowel Syndrome
Experts in diet and the microbiome, the bacteria that live in the gut, will combine forces to find causes and targeted therapies for irritable bowel syndrome. No biomarkers for it are known and researchers have only begun to understand the microbiome. The study will involve 90 participants in a clinical trial at Mayo and concurrent studies in germ-free mice will be conducted at the University.
Purna Kashyap, M.B.B.S., Mayo Clinic
Dan Knights, Ph.D., University of Minnesota

Genomic Altering Technologies: Improving the Toolkit
From cancer to addictive diseases, an increasing range of conditions are being studied at the genetic level. To easily conduct experiments to find new therapies, researchers need accurate tools to alter gene sequences in laboratory tests. The goal of this project is to develop a new, readily accessible tool for the scientific community. The collaborators bring expertise in genetic research involving yeast and zebrafish.
Stephen Ekker, Ph.D., Mayo Clinic
Dan Voytas, Ph.D., University of Minnesota

Triggers for Obesity and Stress
While conducting other research, the collaborating scientists found indicators of reduced stress, reduced obesity and longer life in the mice they were studying. The researchers want to continue their investigation to find the molecular and chemical causes of those aspects and, ultimately, find patentable technology to help manage stress and obesity in humans.
Stephen Brimijoin, Ph.D., Mayo Clinic
Marilyn Carroll, Ph.D., University of Minnesota

The Minnesota Partnership for Biotechnology and Medical Genomics is a collaboration among the University of Minnesota, Mayo Clinic and the state of Minnesota. To learn more about the Partnership, visit www.minnesotapartnership.info.