

Research Statewide to Benefit from Grant

Researchers across Oklahoma and their work will benefit from the \$18.4 Million IDeA Network for Biomedical Research Excellence grant. A number of research projects already have been identified for funding. These include:

- **Protein's Role in Cancer Progression and Cell Survival – Joseph Ahlander, Ph.D., Northeastern State University**
 - Researchers will focus on Ard1. At increased levels, this protein has been linked to a range of cancers. This research looks at how altered Ard1 levels impact cell growth, cell survival, tumor growth and cancer spread.
- **E. coli Infection in Newborns – Susana Chavez-Bueno, M.D., OU Health Sciences Center**
 - Researchers hope to identify genetic factors impacting Escherichia coli infection in newborns. E. coli is one of the most common infections in both premature and full-term infants. In preliminary studies, researchers identified biological and genomic differences linked to the bacteria's virulence and its ability to cause death in laboratory models.
- **Better Malaria Prevention – Noah Butler, Ph.D., OU Health Sciences Center**
 - Research focuses on the body's immune (T cell) response to infection –treatment-vaccination, an approach that combines exposure to malaria-causing organisms with anti-malarial drugs. The goal is to determine how this approach generates protective immunity at the molecular and cellular level in hopes of spurring development of an effective malaria vaccine.
- **Gene Signaling in Cancer and Other Age-related Diseases – Anna Csiszar, M.D., Ph.D., OU Health Sciences Center**
 - Research targets a better understanding of the genetic underpinnings of age-related diseases like cancer. Researchers aim to prove a link between levels of a specific growth factor at the onset of puberty and cancer risk in hopes it may lead to new ways to treat or prevent cancer.
- **Understanding the Genetic Mechanisms that Drive Common Childhood Cancer – J. Kimble Frazer, M.D., Ph.D., OU Health Sciences Center**
 - Researchers hope to identify a genetic mutation that causes T-cell acute lymphoblastic leukemia, a common pediatric cancer. In early studies, they identified a laboratory model with an unknown genetic mutation that induces the cancer. They hope to pinpoint the mutation and then determine its role in the genesis of cancer.
- **Prevention of Pressure Ulcers in Spinal Cord-Injured Wheelchair Users – Jicheng Fu, Ph.D., University of Central Oklahoma**
 - Pressure ulcers are listed as one of the seven most important health issues in the United States by the Agency for Healthcare Research and Quality, significantly impacting quality of life for people with spinal cord injury. Because the needs of those with spinal cord injury vary so greatly, researchers hope to utilize cutting-edge technology to develop personalized, pressure ulcer prevention tactics.
- **Enhancing human implant materials – Morshed Khandaker, Ph.D., University of Central Oklahoma**
 - Research aims to develop new biomaterials for implants that maintain long-term functionality when introduced into the human body.
- **Plant-Derived Clot Busters – Kevin Wang, Ph.D., Northeast State University**
 - Research focuses on utilization of plants to produce active, safe and inexpensive therapeutic proteins for use as clot-dissolving agents. The research could lead to new treatments for stroke patients.