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THE LARGEST FEDERAL GRANTS AT UWM

The University of Wisconsin-Milwaukee is one of the nation's top research universities, as recognized by the Carnegie Classification of Institutions of Higher Education. In FY 2022, the university had $54.1 million in research awards. More than three-quarters of that amount – $41.5 million – came from federal agencies. Here is a look at the largest federal grants.

ENVIRONMENT AND CHILDREN'S BRAINS

Krista Lisdahl, psychology

$8 million over seven years, National Institutes of Health

A partner in the largest long-term study of brain development and child health, UWM is tracking biological and behavioral factors in 384 Wisconsin children to identify how environment and biology interact to affect brain development. The children are being followed from ages 9 or 10 through young adulthood.

GRAVITATIONAL WAVE DATA ANALYSIS

Patrick Brady and Warren Anderson, physics

$7.5 million over four years, National Science Foundation

The Laser Interferometer Gravitational-Wave Observatory (LIGO) is part of a global network of detectors that use gravitational waves to learn more about the universe. This grant invests in LIGO's massive computational data analysis and cyber infrastructure.

A BETTER WAY TO WEIGH

Michele Polfuss, nursing

$3.6 million over five years, National Institutes of Health

Children with spina bifida, a developmental disability, have higher rates of obesity than typically developing peers. But aspects of the disease make it difficult to obtain body measurements. This project aims to develop an accurate method of measuring body composition in a clinical setting.

RISK AND RESILIENCE IN BLACK TRAUMA SURVIVORS

Christine Larson, psychology

$3.6 million over five years, National Institutes of Health

This project explores neurobiological factors that predict risk for long-term, post-traumatic stress disorder in Black trauma survivors. The study focuses on assessment of people soon after they have experienced trauma, with the goal of earlier intervention to improve health after trauma.

CHILDREN, TRAUMA AND PTSD RISK

Christine Larson, psychology

$3.5 million over five years, National Institutes of Health

This study uses brain imaging and machine learning techniques to assess neurological and social factors among children who have experienced violence. The goal is to identify predictors of post-traumatic stress disorder risk, enabling early interventions.

OCEAN FARMING A BIOFUEL SOURCE

Filipe Alberto, biological sciences

$2.8 million over three years, U.S. Department of Energy

Giant kelp, the fastest growing organism on Earth, could be a valuable biofuel source. UWM researchers are creating a seed bank and using genomic selection to improve traits. This will allow others to not only breed the crop and farm it in the ocean, but also protect it from environmental threats.

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ALCOHOL AND INTIMATE PARTNER VIOLENCE AMONG LGB PEOPLE

Ryan Shorey, psychology
$2.7 million over five years, National Institutes of Health

The researchers are conducting the most comprehensive look at the associations between alcohol use and intimate partner violence among people who identify as lesbian, gay or bisexual – a population overlooked in this research. The goal is to improve prevention efforts.

REVEALING HOW AUTISM BEGINS

Christopher Quinn, biological sciences
$1.7 million over five years, National Institutes of Health

The onset of autism usually involves complicated interactions between many genes. In order to better understand how autism begins at the genetic level, this project studies a simplified model: a single-gene mutation that causes a childhood disease called Timothy syndrome. A symptom of this gene mutation is autism.

ASTRONOMY WITH GRAVITATIONAL WAVES

Jolien Creighton and Patrick Brady, physics
$1.5 million over three years, National Science Foundation

A global network of gravitational wave detectors, including LIGO detectors in the U.S., is detecting gravitational waves at an increasing pace. This project aims to identify and interpret signals as the detection rate increases to facilitate multimessenger astronomy – coordinated observations from multiple observatories.

PUBLIC TRANSIT SOLUTIONS TO IMPROVE ACCESS TO JOBS

Robert Schneider, urban planning
$1 million for one year, National Science Foundation

In this project, two on-demand microtransit service models will be implemented and compared. The models coordinate public transit services across county jurisdictions so that job seekers in segregated, urban Black neighborhoods can access jobs in surrounding suburban counties where employers need workers.

Inclusion in the list is determined by aggregated funding actions in fiscal year 2022 on federal research grants led by UWM employees. The grants are ordered by total amount over the life of the grant.

FIVE PENDING FEDERAL GRANTS, 2022-23

Roger O. Smith, health sciences
U.S. Department of Health & Human Services, $4.6 million

Using Artificial Intelligence to Ease Home-Life Challenges for People with Disabilities

Mohammad Rahman, biomedical engineering and mechanical engineering
U.S. Department of Health & Human Services, $4.6 million

Augmented Reality Systems to Reduce Social Isolation for People with Disabilities

Jeanne Erickson, nursing
National Institutes of Health, $3.95 million

Can Physical Activity Reduce Fatigue in Adolescents with Cancer?

Krista Lisdahl, psychology
National Institutes of Health, $3.8 million

Determining the Onset of Alcohol and Cannabis Binging in Adolescents Enrolled in Brain Development Study

Ryan Shorey, psychology
National Institutes of Health, $3.2 million

Alcohol Use, Intimate Partner Violence, and LGBT Stress as Predictors of Suicide Contemplation