

Grants and Contracts Award Summary

July 1 – September 30, 2014

Chris Blodgett (PI) - Area Health Education Center

US Dept. of Human and Health Services, Substance Abuse and Mental Health Services Administration, Center for Mental Health Services

"Washington State CLEAR Trauma Center Yr 3"

This grant provides continued funding for WSU to serve as the lead agency for a statewide partnership of educational systems committed to addressing trauma as a primary threat to the success of schools. The goal is to help schools move significantly toward being trauma-informed systems with the capacity to provide evidence-based services to traumatized children, which will increase their opportunities to succeed in school. The partnership covers four in every ten children in Washington State and serves some of the most diverse communities, including rural, low income, Hispanic, and Native American populations.

Chris Blodgett (PI) - Area Health Education Center

US Department of Veterans Affairs, Office of Rural Health

"VA Rural Provider Education/Eastern Washington"

This is a new grant that provides the funds for the Area Health Education Center at WSU to coordinate trainings for rural providers to increase awareness and knowledge of the military and veteran population. Training events will be held in Spokane, Wash., and Yakima, Wash.

Chris Blodgett (PI) - Area Health Education Center

WA State Office of Financial Management

"Student Success in School (2739 S HB)"

This funding was given to WSU in response to Substitute House Bill 2739, which requires that the state Office of Financial Management's Education Research and Data Center contracts with the Area Health Education Center (AHEC) of Eastern Washington to conduct an analysis of the factors involved in student success. AHEC will use existing data to perform a geographic analysis to identify areas where the cumulative effect of family factors—such as employment, health status, safety, and stability—correlate with academic and behavioral indicators of student success in K-12 and postsecondary education. A report on the analysis is due to the Legislature in January 2015.

Lori Brown (PI) - College of Nursing

US Department of Human and Health Services – Health Resources and Services Administration, Bureau of Health Professions

"Washington State University Nurse Faculty Loan Program 2014"

These federal loan funds help the WSU College of Nursing prepare graduate nurses for careers as nurse educators. The funds support the WSU College of Nursing's Nurse faculty Loan

Program, which helps meet the financial needs of graduate nurse educator students for tuition, fees, and books.

Weihang Chai (PI); Ping Ye - College of Medical Sciences/College of Veterinary Medicine

National Institutes of Health

"Mechanisms of Fork Restart in Response to Genotoxic Stress"

This is a new grant for a research study of the potential role of CST protein complex in preserving genome stability. Genome stability is threatened by environmental exposure to genotoxins, which stress and sometimes stall the process by which DNA replicates. This can lead to damage in the form of a high frequency of changes and rearrangements of DNA sequences in cells—known as genome instability—which can lead to cancer and has also been linked to certain neurodegenerative diseases. Recent studies have shown that deficiencies in the CST complex—which consists of three genes known as Ctc1, Stn1 and Ten1—impair the restarting and repair of stalled DNA replication. The hypothesis of this study is that CST may somehow help facilitate replication and prevent breakage of DNA in fragile sites. The study may provide new insights into how cells counteract DNA damage caused by genotoxin-induced replication stress and has the potential to lead to improved screening for diseases linked to mutations in the genes in the CST complex, including type 2 diabetes, heart disease, pulmonary fibrosis and two rare conditions with aging-related symptoms—Coats plus syndrome and dyskeratosis congenita.

Cynthia Corbett (PI); Kenn Daratha; Dennis Dyck; Sterling McPherson; Sean Murphy - College of Nursing/College of Arts and Sciences, Department of Psychology/Department of Health Policy and Administration

National Institutes of Health/National Institute on Aging

"Chronic Care Management Model Translation to Multi-morbid Aging Adults at FQHCs"

This is continued funding for a study that tests the effectiveness of the Washington Department of Social and Health Services' chronic care management model in patients with multiple chronic conditions, such as diabetes and heart disease. Researchers are looking at whether the intervention increases patients' abilities to manage their own conditions and prevents hospitalizations, as well as the intervention's cost effectiveness for this population. The project will advance knowledge about community partnerships and best practices for health homes to provide patient-centered, team-based care in a way that empowers patients and results in more effective use of health care resources.

Cynthia Corbett (PI); Ruth Bryant - College of Nursing

Providence Medical Research Center

"Staff Assignment Agreement between WSU and PMRC 2014"

This funding is part of an agreement between Providence Health & Services—Washington and WSU to implement a Scholar in Residence for nursing research program at the Providence Medical Research Center. PhD in nursing student Ruth Bryant will be the first scholar in residence under the new program.

Alexander Cypro (PI); Kenn Daratha - College of Medical Sciences/College of Nursing

ASN (American Society of Nephrology) Foundation for Kidney Research

"Reliability of Diagnosis for AKI in the Administrative Record of Hospitalized Patients"

This is new grant funding for a medical student research project on the reliability of administrative records for identifying acute kidney injury in patients hospitalized with an acute myocardial infarction. Patients who are admitted for an acute myocardial infarction have an increased risk for developing acute kidney injury, a complex renal dysfunction that increases a patient's mortality risk. This study will help mend a pressing deficit in current-day clinical nephrology, as the study of renal care in the U.S. is increasingly driven by analysis of information in administrative records. Currently, very little information is available regarding the role acute kidney injury plays in clinical outcomes following an acute myocardial infarction.

Christopher Davis (PI); Ilia Karatsoreos; James Krueger; Hans Van Dongen - College of Medical Sciences/College of Veterinary Medicine/Sleep and Performance Research Center

National Institutes of Health

"Uncoupling Sleep Deprivation-Associated Stressors From Sleep Loss in Rodents"

Many conclusions about brain sleep mechanisms are derived from animal sleep deprivation experiments. Animal studies of sleep deprivation differ from human studies in that sleep loss in human experiments is voluntary, whereas in animal experiments it is typically induced by uncontrollable aversive stimuli (i.e., the animal's avoidance of punishing stimuli provided when it threatens to fall asleep). This research study seeks to uncouple the effects of these aversive stimuli from the effects of sleep loss per se through the use of intracranial self-stimulation (ICSS), a rewarding, self-chosen method for rodent sleep deprivation. The study will also look at a newly developed rodent attention task (nRAT) to test the hypothesis that sleep deprivation through ICSS produces performance data that are more similar to human psychomotor vigilance task data than the currently used rat psychomotor vigilance task. The study has the potential to improve sleep deprivation methodology and cognitive testing in animal brain mechanism studies.

Travis Denton (PI) - College of Pharmacy

WSU Spokane Office of Research

"Development of Stable Isotope Standards and a UPLC-MS/MS Assay to Delineate the Role of Lanthionine Biochemical Derivatives in Alzheimer's Disease"

This is a faculty seed grant for a project to develop an analytical method using ultra performance liquid chromatography tandem mass spectrometry to determine levels of lanthionine ketimine (LK) and its natural and synthetic derivatives in biological samples. Lanthionine ketimine is a natural brain amino acid metabolite whose derivatives have been shown to possess potent anti-oxidant, anti-neuroinflammatory, and neurotrophic actions in cell cultures and animal models of conditions that include Alzheimer's disease, amyotrophic lateral sclerosis (ALS), and stroke. The new method will allow for the analysis of LK and related biochemicals to further the scientific understanding of these debilitating neurodegenerative diseases and facilitate the creation of new chemical entities to combat them.

Elizabeth Duenwald (PI); Sue Marsh - College of Pharmacy

National Science Foundation

"NSF Graduate Research Fellowship Program – Anderson"

This funding supports a graduate research fellowship for PhD student Elizabeth Duenwald in the lab of Susan Marsh, an associate professor in the Department of Experimental and Systems Pharmacology. Duenwald will conduct research on the cardiovascular benefits of regular endurance exercise. To adapt to the beneficial stress of chronic exercise, the heart undergoes physiological changes at the cellular and transcriptional levels. Little is known about the mechanisms by which this cardiac remodeling progresses to either a physiologically "good" hypertrophy or a pathologically "bad" hypertrophy. As part of her study, Duenwald will alter gene regulation of proteins in the heart to determine the effects on endurance capacity and physical activity.

Dennis Dyck (PI) – College of Arts and Sciences, Department of Psychology

Washington Department of Social and Health Services/Children's Mental Health Services
"SOC Implementation Phase 2"

This is continued funding for a contract with the Washington State Department of Social and Health Services to provide staffing, infrastructure, and expertise for the development of statewide evidence-based peer support programs for mental health and substance abuse. The work under this contract includes the development of initiatives to increase youth and family engagement in behavioral health policy, planning, and service delivery; training and workforce development for providers and/or mental health consumers; identification, review, and development of peer support models and programs; and research and evaluation and development and implementation of evidence-based practice.

Dennis Dyck (PI) – College of Arts and Sciences, Department of Psychology

Mason County/Thurston County

"Division of Behavioral Health and Recovery Community Wellness and Prevention Grant"

This contract provides funding for WSU to help achieve Mason County achieve its goals and deliverables in a project with Thurston County that is funded by a Washington State Division of Behavioral Health and Recovery grant. As part of the contract, WSU will collaborate with the Shelton Students Against Destructive Decisions (SADD) club to produce public service announcements and advertisements focused on preventing the misuse of prescription drugs. The outcome of these outreach efforts will be evaluated through pre and post surveys that will measure changes in perceptions, attitudes, and behaviors related to the use, storage and disposal of prescription drugs.

Michael Ebinger (PI) – University Center for Innovation

U.S. Department of Commerce, Economic Development Administration

"EDA University Center at Washington State University"

This is continued funding for the operation of an Economic Development Administration (EDA) University Center at Washington State University. Based in Spokane, the center makes available university resources to the public to promote economic development in Washington state, western Idaho, and northern Oregon. It cultivates innovation and supports commercialization by

providing technical assistance to small businesses and startups; conducting applied research on the market viability of products and services that drive small businesses; and assisting distressed areas within its region by identifying areas of potential economic development and helping to develop that potential into sustainable jobs. The center also collaborates with the WSU Office of Commercialization to develop promising WSU technology into marketable products, ideas, and services.

Cynthia Fitzgerald (PI); Melvin Haberman; Eva Schiavenato - College of Nursing

US Department of Human and Health Services – Health Resources and Services Administration, Bureau of Health Professions

"Improving Primary Care in Washington State through Advanced Nursing Education"

This is new grant funding for the College of Nursing's Advanced Nursing Education Traineeship Program, which seeks to increase the number of primary care providers in Washington state by preparing graduate nurses for careers as family nurse practitioners. Through funding support for tuition, fees, and books and through other efforts, the program will help to increase enrollment of graduate nurse practitioner students from underrepresented communities and enhance and improve retention of these students. Designated nursing faculty members will recruit and mentor these students and follow up with them post-graduation. The project will improve the access of rural Washingtonians to local primary care provided by individuals with similar cultural and ethnic backgrounds.

Kari Gaither (PI); Gary Meadows - College of Pharmacy

National Science Foundation

"NSF Graduate Research Fellowship Program – Gaither"

This funding supports a graduate research fellowship for PhD student Kari Gaither in the lab of Gary Meadows, the Dorothy Otto Kennedy Distinguished Professor of Pharmaceutical Sciences. Gaither's study will examine how chronic diseases—including cancer—impair the functions of specific T cells that are important to inhibiting the progression of the disease.

K Michael Gibson (PI) - College of Pharmacy

Oregon Health and Sciences University/ National Institutes of Health – National Institute of Child Health and Human Development

"Sterol and Isoprenoid Disease Consortium"

This is renewal funding for a subcontract that funds a pilot project of the Sterol and Isoprenoid Diseases (STAIR) consortium, a collaborative group of investigators dedicated to clinical research on disorders related to cholesterol and other sterol and isoprenoid metabolism. This project evaluates cell surface biomarkers in patients with Hyper IgD syndrome (HIDS), a periodic fever syndrome resulting from a defect in the cholesterol pathway, mevalonate kinase deficiency. A mouse model of this disorder developed by the PI has shown innate and adaptive immunity abnormalities that could be causing the periodic fever and elevation of IgD. This study will ascertain whether the observed defects are reproduced in HIDS patients. If so, these anomalies may serve as surrogate biomarkers during clinical treatment to assess improvements and outcomes.

K Michael Gibson (PI) - College of Pharmacy

SSADH Association

"Treatment of Chronic Gamma-Hydroxybutyrate (GHB) Intoxication with GHB Receptor Ligands"

This grant provides funding for a research study that will examine the potential for two substances in treating chronic gamma-hydroxybutyrate (GHB) intoxication, which can occur as a result of both illicit GHB consumption and in succinic semialdehyde dehydrogenase (SSADH) deficiency, a rare inherited disorder of GABA metabolism. The researcher will use animal models to develop robust preclinical toxicology, pharmacokinetic and efficacy data on the high-affinity GHB receptor (GHBR) ligands, NCS-382 and HOCPCA. The data will guide eventual dosing guidelines and trial design for the treatment of GHB intoxication.

Brandon Gufford (PI) - College of Pharmacy

American Foundation for Pharmaceutical Education

"An Integrative Systems Approach to Identify and Quantitatively Predict Herbal Product-Drug Interaction Liability"

This is renewal funding for a pre-doctoral fellowship for Brandon Gufford, a PhD student in the lab of Mary Paine, an associate professor in the College of Pharmacy. As part of his fellowship, Gufford is working to develop a robust, systematic approach to identify and predict the interaction between herbal products and conventional medications. Assessing the risk of herb-drug interactions is challenging due to the complex composition of herbal products and the lack of knowledge on the individual constituents that perpetrate these interactions. The information gained from this effort will help to provide critical, evidence-based recommendations to clinicians and consumers about the risks of taking herbal products with prescribed and over-the-counter medications.

Brandon Gufford (PI) - College of Pharmacy

National Institutes of Health

"An Integrative Systems Approach to Identify and Quantitatively Predict Herbal Product-Drug Interaction Liability"

This is a loan repayment award for Brandon Gufford, a PhD student in the lab of Mary Paine, an associate professor in the College of Pharmacy. Gufford is working to develop a robust, systematic approach to identify and predict the interaction between herbal products and conventional medications. The information gained from this effort will help to provide critical, evidence-based recommendations to clinicians and consumers about the risks of taking herbal products with prescribed and over-the-counter medications.

Zachary Hamilton (PI) - College of Arts and Sciences, Department of Criminal Justice and Criminology

Washington State Department of Corrections

"DOC WSU Interagency Agreement"

This is continued funding for the research partnership between the Washington State Department

of Corrections and the WSU Department of Criminal Justice and Criminology. The contract provides for joint funding of a PhD-level graduate research assistant to manage, organize and prepare data to support research projects and to respond to grant solicitations as they evolve, based on the parties' collaborative efforts.

**Zachary Hamilton (PI); Jacqueline van Wormer - College of Arts and Sciences,
Department of Criminal Justice and Criminology**

Washington State Administrative Office of the Courts
"PACT Validation and Weighting Proposal"

This agreement with the Washington State Administrative Office of the Courts provides funding for WSU to examine the predictive validity of the Positive Achievement Change Tool (PACT) in measuring juvenile offenders' risk of reoffending. As part of the project, the researchers will provide recommendations for improvement of PACT.

Zachary Hamilton (PI) - College of Arts and Sciences, Department of Criminal Justice and Criminology

Washington State Department of Corrections
"Washington State Offender Risk Assessment Project"

This is renewal funding for WSU's assistance in creating and validating a series of models to assess the risk of re-offense for felons convicted and sentenced in the state of Washington.

Carrie Holliday (PI); Tamara Odom-Maryon - College of Nursing

WSU Spokane Office of Research
"The Impact of Suicide Assessment Training on Nursing Practice"

This is seed grant funding for a research project aimed at understanding how and if suicide assessment training impacts nursing practice. Suicide occurs in hospitals at three times the rate as in the general population. Nurses routinely treat patients that are considering suicide, but suicide assessment training for nurses is lacking and these patients are rarely identified as at-risk. As part of this study, the researchers will evaluate the impact of online suicide prevention/assessment training on RNs' knowledge, attitudes, and skills and describe RNs' perceptions and experience with online suicide prevention/assessment training and the impact it has on their practice.

Janet Katz (PI); Sandra Benavides-Vaello; Tamara Odom-Maryon; Roberta Paul - College of Nursing

US Department of Human and Health Services – Health Resources and Services Administration, Bureau of Health Professions
"Creating a Pathway to Nursing: Community Alliance for Health"

This is continued funding for a project aimed at increasing health care access by increasing the recruitment, retention, and graduation rate of disadvantaged students in the bachelor of science in nursing program who can go on to practice in underserved areas. The project specifically targets

disadvantaged rural families with Latino and Native American students. Strategies focus on educating and empowering disadvantaged students and parents; increasing community capacity for improving education, income levels, social support, networking, and quality health access; and engaging policy makers with community members.

Tracy Klein (PI); Janessa Graves - College of Nursing

American Nurses Foundation

"Nurse Practitioner Assessment and Management of Adolescent Concussion"

This is a new grant for a project to evaluate the influence of patient characteristics—such as gender and type of sport practiced—on nurse practitioner's assessment and management recommendations for adolescents with sports-related concussion symptoms. The results from this study will inform the creation and implementation of future nurse practitioner education modules for adolescent concussion evaluation and management. The overall goal is to ensure that nurse practitioners provide these patients with the most appropriate and safest evidence-based care available.

James Krueger (PI); Christopher Davis; Ping Taishi - College of Medical Sciences/Sleep and Performance Research Center

National Institutes of Health

"Molecular Mechanisms of Sleep Responses to Viral Infection"

This is continued funding for a project that looks at the effects of influenza on sleep. Influenza has been shown to cause an increase in the duration of non-rapid eye movement sleep (NREMS). The molecular and brain anatomical pathways for this response remain under investigation. This study looks at the potential involvement of the olfactory bulb, the part of the brain that transmits smell information from the nose to the brain.

Matthew Layton (PI) - College of Medical Sciences

Providence Medical Research Center/Sacred Heart Medical Center

"WWAMI Partnership with Providence Health"

This is renewal funding for a part-time staff assignment for Matt Layton, clinical associate professor of medical sciences, at Sacred Heart Medical Center. Under this agreement, Layton will serve as associate program director for the psychiatry residency program at Sacred Heart Medical Center.

Matthew Layton (PI) - College of Medical Sciences

Spokane Regional Health District

"Staff Assignment Agreement"

This is new funding for a part-time staff assignment for Matt Layton, clinical associate professor of medical sciences. Layton will serve as medical director, overseeing all aspects of medical care administered to individuals being treated for opioid dependency.

Philip Lazarus (PI) - College of Pharmacy

National Institutes of Health/National Cancer Institute

"Role of Pharmacogenetics on Exemestane Metabolism and Toxicity"

This is incremental funding for a study that looks at the drug Exemestane (EXE), which has been used as an equally or more effective and less toxic alternative to Tamoxifen in breast cancer patients. As part of the project, the researcher will explore the potential cause for inter-individual variability in the response to EXE by determining the mechanisms used to metabolize the drug.

Jennifer Lebeau (PI); Sylvia Oliver - College of Education

Grand Coulee School District

"STEM Pipeline to the Future"

This is continued funding for a subcontract to a STEM Pipeline to the Future grant awarded to the Grand Coulee School District by the US Department of Education. It provides funding for WSU College of Education faculty to evaluate the program, which aims to significantly improve the district's educational infrastructure, especially in science. It also provides support for faculty to assist in the implementation of the Project Lead the Way Biomedical Sciences program at Lake Roosevelt High School.

Patrick Muturi (PI) - College of Nursing

American Association of Colleges of Nursing

"Johnson & Johnson/AACN Minority Nurse Scholars Program Scholarship" Nursing PhD student Patrick Muturi was selected by American Association of Colleges of Nursing to receive this 2014-15 scholarship, which is extended to underrepresented minority nursing students who plan to work as nursing faculty after graduation. The scholarship program is designed to address the growing shortage of nurse educators while diversifying the nurse faculty population in the U.S. It is supported by the Johnson & Johnson Campaign for Nursing's Future.

Mary Paine (PI) - College of Pharmacy

National Institutes of Health

"Mechanisms Underlying Drug-Diet Interactions"

This is continued funding for a study in which clinical pharmacologists and natural products chemists collaborate to identify and characterize drug-diet interactions. The study will create a framework for the development of guidelines to evaluate drug-diet interactions and their role in explaining why drug response can vary significantly from one patient to another. This variation in drug response can delay, or even prevent, optimal therapeutic outcome, with consequent negative impact on quality of life and health care costs. This project will contribute to the long-term goal of providing firm information to clinicians for the appropriate management of drug-diet interactions.

Gregory Poon (PI) - College of Pharmacy

National Science Foundation, Division of Molecular and Cellular Biosciences

"Molecular Basis of Specific and Non-Specific DNA Recognition by ETS-family Transcription Factors"

This new grant focuses on unraveling the molecular basis of specific and non-specific DNA recognition by transcription factors in the ETS family, including PU.1 and Ets-1. PU.1 and Ets-1 are co-expressed in various immune cell types and have been shown to display very similar behavior, with an apparent origin in the use of hydration in their binding mechanisms. This study will investigate the differential site recognition of PU.1 and Ets-1 under conditions that more closely mimic the in vivo environment, in which specific DNA sites are embedded among nonspecific DNA. Since ETS-dependent gene regulation is absolutely dictated by site-specific DNA binding, this knowledge is essential to understanding how molecular specificity among ETS proteins may be achieved at the protein-DNA level.

Gregory Poon (PI) - College of Pharmacy

National Institutes of Health/National Institute of General Medical Sciences

"Osmotic Responsiveness of the Master Immune Regulator PU.1"

This is a new, three-year grant focused on understanding the mechanism of gene regulation by PU.1, an essential transcription factor in developing and mature macrophages and lymphocytes, important cells in the immune system. This study will look at the sensitivity to osmotic stress of PU.1 and other ETS transcription factors. Immune cells face osmotic stress as part of their normal development in lymphoid tissues and in immune response to pathogens and inflammatory disorders. A functional osmotic stress response is essential to the normal development and function of the human immune system. Physiologic osmotic stress is an emerging concept in immunology and our studies have potential implications for our understanding of gene regulation in the immune system, and may help lead to novel therapies for immune disorders associated with hyperosmolar stress.

John Roll (PI); Jane Cote - WSU Spokane Office of Research/WSU Vancouver

JP Morgan Chase

"Growing the Economy in Washington"

This new grant supports WSU initiatives across the state that grow existing and promote new entrepreneurial and small business activity, including the launch of a community business forum, *B2B Talks*, in the Vancouver area; the development and implementation of a model system to bridge the gap between faculty scholarship and entrepreneurial activity and job development in WSU Spokane biomedical research; and the coordination of a more integrated statewide approach to economic development through shared university resources and expertise.

Kawkab Shishani (PI); College of Nursing

National Institutes of Health

"Role of Contingency Management in Water-pipe Smoking Cessation"

Few studies have been conducted on water pipe smoking to investigate its harmful effect and evaluate treatments for smoking cessation in water pipe smokers. This represents continued funding for a project that will provide career development and training of a public health nurse scientist to conduct innovative and rigorous research around water pipe smoking prevention. In addition, it will include a study to test the effectiveness of an incentive-based treatment method to promote abstinence from water pipe smoking.

Grant Trobridge (PI); College of Pharmacy

Seattle Children's Research Institute/National Institutes of Health

"Second Generation Approaches to Foamy Virus Vector SCID-X1 Gene Therapy"

This is continued funding for an NIH-funded project that seeks to find a better pathway for the delivery of hematopoietic stem cell (HSC) gene therapy to patients afflicted with X-linked severe combined immunodeficiency (SCID-X1). SCID-X1 is an inherited disease that occurs almost exclusively in males. The disease causes those infected to be prone to recurrent and persistent infections caused by certain bacteria, viruses, and fungi and is fatal in the first years of life if left untreated. HSC gene therapy offers the best therapeutic option for many patients. However, researchers have found that HSC gene therapy delivered through gamma-retroviral vector proviruses have dysregulated nearby genes. The researchers are studying whether foamy virus vectors may be a safer alternative. As part of this study, they will seek to establish the relative safety of foamy virus vectors using a novel approach to assess genotoxicity; develop safer insulated foamy virus vectors; and improve the efficiency of foamy virus vector production.

Grant Trobridge (PI); College of Pharmacy

Seattle Children's Research Institute/National Institutes of Health

"Core Unit D: Vector Integration and Tracking"

This is a subcontract for WSU to establish a webserver for bioinformatics and perform custom bioinformatics in support of an NIH-funded project that seeks to find a better pathway for the delivery of hematopoietic stem cell (HSC) gene therapy to patients afflicted with X-linked severe combined immunodeficiency (SCID-X1). SCID-X1 is an inherited disease that occurs almost exclusively in males. The disease causes those infected to be prone to recurrent and persistent infections caused by certain bacteria, viruses, and fungi and is fatal in the first years of life if left untreated. HSC gene therapy offers the best therapeutic option for many patients. However, researchers have found that HSC gene therapy delivered through gamma-retroviral vector proviruses have dysregulated nearby genes. The researchers are studying whether foamy virus vectors may be a safer alternative.

Mark Vandam (PI) - College of Medical Sciences, Department of Speech and Hearing Sciences

WSU Spokane Office of Research

"Speech and Language Use in Families with a Hard-of-hearing Preschooler"

This seed grant provides funding to explore the influence of childhood hearing loss on the development of language and cognition in families with a hard-of-hearing preschool child. The study will use modern automatic speech recognition technology to analyze both child and family speech. The goal is to find out how mothers and fathers use language with their children and whether families with a hearing-impaired child use language differently from those with a typically developing child.

Jacqueline van Wormer (PI) - College of Arts and Sciences, Department of Criminal Justice and Criminology

Spokane County

"Spokane County Law & Justice Project Manager/Facilitator"

This contract provides funding for Jacqueline van Wormer to serve as a project manager and facilitator, overseeing regional criminal justice system reform efforts in Spokane County. In this role, she will facilitate Law and Justice Council meetings; provide research and education on critical topics of concern around reforms, and assist county and city departments and agencies with the proper implementation of reforms.

Bryan Vila (PI) - Sleep and Performance Research Center/College of Arts and Sciences, Department of Criminal Justice and Criminology

State University of New York at Buffalo

"Stress and Subclinical Cardio-Metabolic Disease in Police: A Longitudinal Study"

This subcontract renews the PI's participation in the Buffalo Cardio-Metabolic Occupational Police Stress (BCOPS) study, one of the first population-based studies to integrate psychological, physiological, and subclinical measures of stress, disease, and mental dysfunction.

Zhenjia Wang (PI) - College of Pharmacy

National Institutes of Health

"Caveolar Transport of Therapeutic Nanoparticles"

This represents a transfer of grant funding from the PI's previous institution. The grant funds a study that will increase the scientific understanding of therapeutic nanoparticles and how they are transported across blood vessel walls to an infection site. This study looks at the potential for targeting nanoparticles to caveolae—small invaginations of the plasma membrane in endothelial cells, which line the vessels. It will examine to what extent and how caveolae could transport therapeutic nanoparticles and whether nanoparticle size makes any difference in the effectiveness of this process.

Judy Zeiger (PI) - Office of Student Affairs

U.S. Department of Education/Office of Postsecondary Education (Upward Bound)

"Washington State University Upward Bound Project in Ferry and Stevens Counties"

This grant provides continuing funding for the Upward Bound program, which is designed to generate the skills and motivation necessary for success in education beyond high school among young people from low-income families and families where neither parent has acquired a bachelor's degree. Upward Bound provides program participants with fundamental support in their preparation for college entrance. This Upward Bound project housed at WSU Spokane focuses on four small high schools in Ferry and Stevens Counties.

Judy Zeiger (PI) - Office of Student Affairs

U.S. Department of Education/Office of Postsecondary Education (Upward Bound)

"TRIO: Washington State University Upward Bound Project in Ferry and Stevens Counties"

This grant provides supplemental funding from the federal TRIO programs for the Upward Bound program. Upward Bound is designed to generate the skills and motivation necessary for success in education beyond high school among young people from low-income families and families where neither parent has acquired a bachelor's degree. Upward Bound provides program participants with fundamental support in their preparation for college entrance. This Upward Bound project housed at WSU Spokane focuses on four small high schools in Ferry and Stevens Counties.