

**JEFFRESS RESEARCH GRANT AWARDS**

The Allocations Committee of the Thomas F. and Kate Miller Jeffress Memorial Trust has announced the award of Jeffress Research Grants to the institutions listed below to support the research of the investigator whose name is given. The Jeffress Trust, established in 1981 under the will of Robert M. Jeffress, a business executive and philanthropist of Richmond, supports research in chemical, medical and other natural sciences through grants to non-profit research and educational institutions in the Commonwealth of Virginia. The Jeffress Research Grants being announced here have been awarded in 1999.

The Jeffress Memorial Trust is administered by Bank of America. Additional information about the program of the Trust may be obtained by writing to: Advisor, Thomas F. and Kate Miller Jeffress Memorial Trust, Bank of America, Private Bank, P. O. Box 26688, Richmond, VA 23261-6688.

Samuel A. Abrash, University of Richmond. Photochemistry of Complexes of Hydrogen Sulfide with Acetylene and Ethylene and Hydrogen Halides with Propyne and Propylene in Argon Matrices. \$15,000 (one year renewal).

Bao Ling Adam, Eastern Virginia Medical School. Identification and Characterization of Prostate Cancer Associated Proteins. \$29,500. (one year).

Todd D. Averett, The College of William and Mary. Investigations of the Structure of the Nucleon by Parity Violating Electron Scattering. \$30,000. (one year).

Carey K. Bagdassarian, The College of William and Mary. Enzymatic Activity and Protein-Matrix Flexibility: The Energetics and Dynamics of Catalysis by Cytidine Deaminase. \$13,000 (one year renewal).

John W. Bigbee, Virginia Commonwealth University/Medical College of Virginia. Studies on a Cell-substratum Adhesive Role for Neuronal Acetylcholinesterase. \$18,795. (one year).

Peter Blackmore and Roy Williams, Eastern Virginia Medical School. Regulation of Platelet Aggregation by Phytoestrogens. \$29,971. (one year).

Amy H. Bouton, University of Virginia. The Role of p130<sup>cas</sup> in Cellular Growth Regulation. \$15,000 (one year renewal).

Amy H. Bouton and Joanna B. Goldberg. University of Virginia. *Helicobacter Pylori* and Its Effect on Host Cell Proliferation and Survival. \$20,000. (one year).

James D. Burgess, Longwood College. DNA Binding of Platinum Based Anti-Cancer Drugs. \$27,976. (one year).

Maria Bykhovskaia and John Hackett, University of Virginia School of Medicine. Mechanisms Underlying Time-Course of Transmitter Release During Facilitated Neurosecretion. \$15,000. (one year renewal).

Christopher Carone, The College of William and Mary. Topics in Intermediate and High Energy Particle Theory. \$23,062. (one year).

Frank J. Castora, Eastern Virginia Medical School. The Molecular Biology of Human Mitochondrial DNA Topoisomerase I. \$29,450. (one year).

Vittorio Celli, University of Virginia. Opto-Electronic Processes in a Frozen Rydberg Gas. \$20,000. (one year).

Richard P. Ciavarra, Eastern Virginia Medical School. Characterization of Primary Th1 and Th2 Cytokine Response by ELISPOT Assay. \$15,000. (one year renewal).

Raymond J. Colello, Virginia Commonwealth University/Medical College of Virginia. Gene Delivery to the CNS: A Novel Approach Using Retroviral Vectors. \$27,790. (one year).

Barry Condron, University of Virginia School of Medicine. Regulation of Commissural Growth Cone Path Choice. \$30,000. (one year).

Michael E. Cox, University of Virginia School of Medicine. Transcriptional Profiling of Prostate Tumor Cells Undergoing Neuroendocrine Differentiation. \$29,735. (one year).

Charlene Crawley, Virginia Commonwealth University. Probing Immunochemical Responses to Environmental Contaminants. \$28,000. (one year).

Harry Dankowicz, Virginia Polytechnic Institute and State University. Passive Gait in Anthropomorphic Bipedal Mechanisms Including Muscular Skelatal Modeling. \$25,582. (one year).

Yuping Deng, Eastern Virginia Medical School. Quantitative and Functional Analysis of the Loss of Varicella-Zoster Virus Specific Memory T- Cells in Older Adults. \$29,864. (one year).

Rafael de Sá, University of Richmond. A Molecular Phylogeny of the Frog Genus *Leptodactylus*. \$15,000. (one year renewal)

Robin Lee Davies, Sweet Briar College. Investigations of the Cytotoxicity of Novel Diimene Complexes of Platinum (IV) and Palladium (IV). \$15,000. (one year renewal).

Michael Deschenes, The College of William and Mary. Recovery of Neuromuscular Junctions from Space Flight. \$19,220. (one year).

William A. Ducker, Virginia Polytechnic Institute and State University. Role of Counterion Specificity for Adsorbed-Aggregate Structure. \$15,000. (one year renewal).

Klaus D. Elgert, Virginia Polytechnic Institute and State University. Tumor Avoidance of Macrophage Tumoricidal Activity: Modulation of NF-Kappa B Activity. \$9,632. (one year renewal).

Hani Elsayed-Ali, Old Dominion University. Adsorbate Chemical Bond Dynamics Studied with Time-Resolved Electron Stimulated Desorption. \$29,700. (one year).

Alan R. Esker, Virginia Polytechnic Institute and State University. Polymer Dynamics in Confined Geometries and Biomimetic Systems. \$30,000. (one year).

Erik J. Fernandez, University of Virginia. Mass Spectrometry-Detected Hydrogen Exchange: A New Method for Analysing Protein Aggregation at the Residue Level. \$27,417. (one year).

Helen Fillmore and Kathryn Holloway, Virginia Commonwealth University-Medical College of Virginia. Biology and Genetics of Neural "Stem" Cells Isolated from Adult Brain. \$26,000. (one year).

Jonette R. Foy, Virginia Polytechnic Institute and State University. The Effect of Enzymatic Alteration on the Tribological Performance of Articular Bearings. \$27,250. (one year).

Alpha A. Fowler, III, Virginia Commonwealth University/Medical College of Virginia. Nitric Oxide Modulation of Human Lung Inflammation. \$15,000. (one year renewal)

Anthony Frankfurter, University of Virginia. The Role of Transcription Factor NRSF in Neuronal and Neuroendocrine Tumor Differentiation. \$15,000. (one year renewal).

Cassandra Fraser, University of Virginia. Synthesis of Metal Core Polyoxyazoles by Living Polymerization Methodologies. \$15,000. (one year renewal)

Glenda Gillaspay, Virginia Polytechnic Institute and State University. Signal Termination in *Arabidopsis*. \$30,000. (one year).

Shobha Ghosh, Virginia Commonwealth University/Medical College of Virginia. Cholesterol Ester Metabolism in Macrophage Foam Cells. \$15,000. (one year renewal).

Robert M. Granger, II, Virginia Military Institute Research Laboratories. Synthesis and Characterization of a Series of platinum(IV)diimine complexes. \$15,000 (one year renewal).

Tai Liang Guo, Virginia Commonwealth University. Genistein Modulation of the Immune Responses in Mice. \$30,000. (one year).

Chin-lo Hahn, Virginia Commonwealth University/Medical College of Virginia. Oral Streptococci, Interferon-, and Coagulation. \$30,000. (one year).

Georgia Ann Hammond, Radford University. Molecular and Genetic Characterization of *Cercospora zeae-maydis*, a Fungal Pathogen of Corn. \$27,555. (one year).

Brian E. Hanson, Virginia Polytechnic Institute and State University. Catalytic and Stoichiometric Pauson-Khand Reactions as a Potential Route to Novel Monomers for Polymeric Materials Synthesis. \$30,000. (one year).

Kirdir W. Hilu, Virginia Polytechnic Institute and State University. Origin and Molecular Differentiation of Prolamin Multigene Families in Grasses. \$18,370. (one year).

Robert J. Hinkle, The College of William and Mary. Expanding the Scope of Alkenyl(aryl)iodonium Substitutions. \$15,000 (one year renewal).

Brian Holloway, The College of William and Mary. Investigation of the Atomic Arrangement of Nitrogen in Amorphous Carbon Nitride Thin Films. \$28,325. (one year).

Shawn E. Holt, Virginia Commonwealth University/Medical College of Virginia. Characterization of a Model System for Identifying Telomerase Interaction. \$30,000. (one year).

Todd A. Houston, Virginia Commonwealth University. Design of Boron-Based Glycosidase Inhibitors. \$15,000. (one year renewal).

Scott D. Hyman, Sweet Briar College. A High Resolution Study of Discrete Radio Sources in Nearby Spiral Galaxies. \$15,000 (one year renewal).

Helen I'Anson, Washington and Lee University. Metabolic Signals and Onset of Puberty. \$11,270. (one year).

Mohammed Kalimi, Virginia Commonwealth University/Medical College of Virginia. Protective Effects of Steroids Against Neurotoxin-Induced Hippocampal Cell Death: Cellular and Molecular Mechanisms. \$15,000. (one year renewal).

Julie Kerry, Eastern Virginia Medical School. Isolation and Characterization of the Human ATF-1 Promoter. \$15,000. (one year renewal).

Karen Kester, Virginia Commonwealth University. Microsatellite Analysis of Spatial and Temporal Variation. \$23,995. (one year).

Richard J. Kreig, Virginia Commonwealth University/Medical College of Virginia. Growth Hormone Secretagogue and Growth During Chronic Renal Insufficiency. \$29,028. (one year).

Gary M. Kupfer, University of Virginia. Function of the Fanconi Anemia Protein Complex. \$20,000. (one year).

Stephen D. Landy, The College of William and Mary. Advanced Measures of Large-Scale Structures Utilizing the Las Campanas Redshift Survey. \$12,500. (one year renewal).

Daniel A. Lanning, Virginia Commonwealth University/Medical College of Virginia. Differential Homeobox Gene Regulation in Fetal and Adult Skin. \$15,000. (one year renewal).

Muriel Lederman, Virginia Polytechnic Institute and State University. Using a Mammalian Virus to Create Plants for Site-Specific Transgene Intergration. \$15,000. (one year renewal).

Rong Li, University of Virginia School of Medicine. Mutational Analysis of the BRCT Motif in BRCA1. \$15,000. (one year renewal).

Xue Z. Liu, Virginia Commonwealth University/Medical College of Virginia. Search for New Genes Causing Non-Syndromatic Hearing Loss. \$30,000. (one year).

Timothy E. Long, Virginia Polytechnic Institute and State University. Thermally Reversible Macromolecules: New Concepts for Environmentally Benign Polymers and Processing. \$30,000. (one year).

Gunter Lüpke, The College of William and Mary. Vibrational Relaxation of Hydrogen-Related Defects in Silicon. \$29,500. (one year).

Richard T. Marconi, Virginia Commonwealth University/Medical College of Virginia. Identification of Genus Wide Themes in *Borrelial* Pathogenesis: The Role of the Rep Gene Family. \$13,000. (one year).

Kurt McCammon and Paul Ratz, Eastern Virginia Medical School. Calcium Regulation of the Detrusor Contractions. \$30,000. (one year).

Michael A. McVoy, Virginia Commonwealth University/Medical College of Virginia. Class I Down-Regulation by Human Herpesvirus 6 and Guinea Pig Cytomegalovirus. \$30,000. (one year).

Jonathan D. Monroe, James Madison University. Structure-Function Studies on Apoplastic -Glucosidases of *Arabidopsis thaliana*. \$30,000. (one year).

John R. Morris, Virginia Polytechnic Institute and State University. Molecular Beam Studies of Interfacial Reactions Using Functionalized Self Assembled Microlayers. \$30,000. (one year).

David C. Muddiman, Virginia Commonwealth University. Development of Analytical Electrospray Ionization Fourier Transform Mass Spectrometry for the Quantification and Structural Elucidation of Biological Materials. \$15,000 (one year renewal).

Suzanne F. O'Handley, University of Richmond. Discovery and Characterization of New Enzymes from the Nudix Hydrolase Family: Probing Substrate Specificity and Catalytic Activity. \$15,000. (one year renewal).

Linda L. Phillips and Thomas Reeves. Virginia Commonwealth University/Medical College of Virginia. \$29,500. (one year).

Gregory M. Plunkett, Virginia Commonwealth University. Interpreting Biogeographic Patterns in Araliacea. \$26,496. (one year).

Lin Pu, University of Virginia. Asymmetric Epoxidation of  $\alpha,\beta$ -Unsaturated Ketones Catalyzed by Polybinaphthols. \$15,000 (one year renewal).

Robert E. Ratzlaff, Old Dominion University. The Neurogenic Component of Cutaneous Allergic Reactions in Mice. \$15,000 (one year renewal).

Anne C. Reilly, The College of William and Mary. Investigation of Pulsed Laser Deposition of Magnetic Multilayer Systems. \$30,000. (one year).

Gerald L. Roberts, George Mason University. Investigation of the Electrolytic Properties of Thin-film Niobate Coated Electrodes. \$18,480. (one year).

Raina S. Robeva, Bessie H. Kirkwood, Tim Loboschewski, Sweet Briar College. Electroencephalographic and Psychometric Differences Between Female College Students With and Without Attention Deficit/Hyperactivity Disorder. \$15,000. (one year renewal).

James R. Roesser, Virginia Commonwealth University/Medical College of Virginia. Regulation of an Exonic Splice Enhancer. \$15,000. (one year renewal).

Miriam D. Rosenthal, Eastern Virginia Medical School. Effects of Estrogen on Expression of Cytosolic Phospholipase A2 in Baboon and Human Placenta. \$15,000 (one year renewal)

Sarah C. Rutan, Virginia Commonwealth University. Characterization of Chemical Dynamics in Complex Systems. \$21,600. (one year).

Charles Rutherford, Virginia Polytechnic Institute and State University. Investigating Differentiation in *Dictyostelium discoideum* through the Analysis of Glycogen Phosphorylase 2 Gene Regulation. \$15,000 (one year renewal).

Ravi F. Saraf, Virginia Polytechnic Institute and State University. Interfacial and External Field Effects on Self-Assembled and Ultra Thin Polymer films. \$28,863. (one year).

David E. Scott, Eastern Virginia Medical School. Trauma Induced Neuronal Stem Cell Mobilization and Neuroblast Migration in the Adult Mammalian Brain. \$28,989. (one year).

Jill C. Sible, Virginia Polytechnic Institute and State University. The Role of XChkl in the Acquisition of Cell Cycle Checkpoints During Development. \$27,600. (one year).

Albert T. Sneden, Virginia Commonwealth University. New Phenylpropanoid Glycosides from Virginia *POLYGONUM* Species. \$14,200 (one year renewal).

Steven R. Snyder, Virginia Commonwealth University/Medical College of Virginia. Locus-Specific Regulation of MHC Class I Gene Expression by CCAAT Displacement Protein (CDP/cut) in Human Tumors. \$20,000. (one year).

Daniel E. Sonenshine and Wayne Hayes, Old Dominion University. Immune Dysfunction in Ticks: Why Certain Ticks Transmit *Borrelia Burgdorferi* and Other Disease-Causing Microbes. \$30,000. (one year).

Dorothy Spangenburg and Frank Lattanzio, Eastern Virginia Medical School. Thyroxine Hormone in Metamorphosing Jellyfish. \$30,000. (one year).

Michael W. Stacey and William G. Kearns, Eastern Virginia Medical School. The Myelodysplastic Syndrome and Genetic Instability. \$30,000. (one year).

Charles I. Sukenik, Old Dominion University. Ultracold Molecular Physics. \$10,000. (one year renewal).

Douglas R. Taylor, University of Virginia. Molecular Techniques in Conservation: Population Structure of Endangered North American *Hustonia*. \$15,000. (one year renewal).

Joan M. Taylor, University of Virginia School of Medicine. Role of FRNK, the Autonomously Expressed Carboxy-Terminal Domain of Focal Adhesion Kinase in Vascular Smooth Muscle Growth and development. \$29,995. (one year).

Gary C. Tepper, Virginia Commonwealth University. Development of a Microwave-Based Gamma Radiation Detector. \$18,500. (one year).

Robert M. Tombes, Virginia Commonwealth University. Role of Novel Human CaMK-II Isozymes in Cell Cycle Control. \$15,000 (one year renewal).

Bruce J. Turner, Virginia Polytechnic Institute and State University. Immunogenetic Variation in Natural Populations of a Homozygous Clonal Vertebrate. \$15,000. (one year renewal).

Kenneth E. Van Ness, Washington and Lee University. Viscous Behavior of Miscible Polymeric Blends. \$15,000. (one year renewal).

Scott W. Walsh, Virginia Commonwealth University/Medical College of Virginia. Leukocytes and Placental Dysfunction in Preeclampsia. \$15,000. (one year renewal).

William J. Wasilenko, Eastern Virginia Medical School. SHC Adapter Proteins in Prostate Tumor Cells. \$15,000. (one year renewal).

Stephen P. Watton, Virginia Commonwealth University. Immobilization of Transition Metal Complexes in Porous Silicate Media. \$15,000. (one year renewal).

Fang-Sheng Wu, Virginia Commonwealth University. Direct Gene Transfer of a Intact Plant Cells. \$30,000. (one year).