Adhesion, Friction and Lubrication in Polymeric and Biological Systems, **Douglas Adamson**, 7/1/14 - 6/30/17, NSF, $323,431


Computational and Experimental Studies of Laser-Powder Interactions for Additive Manufacturing, Co-PI: **Pamir Alpay**, PI: R. Hebert, Pratt and Whitney, 8/23/14 - 7/31/16, $283,311 with $179,000 UConn matching

*Mesoporous Ferromagnetic Materials for Antenna Applications, Co-PI: **Pamir Alpay**, with S. L. Suib, 2/15/2014 - 2/14/2015, Rogers Corp., $84,159*

*Metals and Alloys for Electrical Circuit Breaker Contacts, PI: **Pamir Alpay**, with M. Aindow, 1/01/13 - 1/01/16, GE Industrial Solutions, $711,753*

*MOCVD of High Performance Complex Oxide Films for Switchable Film Bulk Acoustic Resonators, **Pamir Alpay**, subcontract from SMI Inc., NJ via Department of Defense, Army Research Office STTR, Phase II, 2/01/2013 - 1/31/2015, $120,000*

*Improving the Life Expectancy of High Voltage Components Using Nanocomposite Surface Solutions, **Yang Cao**, 8/18/14 - 2/17/15, DOD/Navy/Poly K Technologies, $32,406*

*Subsea High Voltage Direct Current Connectors for Environmentally Safe and Reliable Powering of UDW Subsea Processing, **Yang Cao**, 10/1/14 - 6/30/16, General Electric Company, $158,090*


*A New Paradigm for Understanding Multi-Phase Ceramic Waste from Performance, **Wilson Chiu**, 10/1/14 - 8/30/17, Clemson University/DOE/Department of Energy, $57,221*
Scaling Relationships for Mesoscale Modeling of Dynamic Failure in Titanium and Titanium Alloys, Avinash Dongare, 06/10/14 - 11/09/15, DOD/Army Research, $93,965

Atomistic Simulations Based Rational Design of Stacked 2D Layered Materials, Avinash Dongare, 7/23/14 - 7/22/15, DOD/Army Research, $99,964

CAREER: Mesoscale Modeling of Defect Structure Evolution in Metallic Materials, Avinash Dongare, 2/1/15 - 1/31/20, NSF, $500,000

Curvature-Dependent Polymer Hydration in Biomaterials, Elena Dormidontova, 9/15/14 - 8/31/17, NSF, $300,000

Metal Oxide Nano-Array Catalysts for Low Temperature Diesel Oxidation, Puxian Gao and Steven Suib, 9/30/14 - 12/31/16, DOE/National Energy Tech Lab, $1,210,000

Metal Oxide Nano-array Catalysts for Low Temperature Diesel Oxidation, Puxian Gao, 10/1/14 – 12/31/16, DOE, $1,450,000

SNM: Scalable and Sustainable Hydrothermal Manufacturing of Nano-array Based Low Temperature Diesel Oxidation Catalysts, Puxian Gao, 10/1/13 – 9/30/17, NSF, $1,450,199

Metal Oxide/Nitride Heterostructured Nanowire Arrays for Ultra-sensitive and Selective Multi-mode High Temperature Gas Detection, Puxian Gao, 7/17/13 – 6/30/16, $300,000

Synthesis of Inorganic Nanostructures as Field Emitters, Puxian Gao, 9/1/07 – 12/31/15, $161,287

Computational and Experimental Studies of Laser-powder Interactions for Additive Manufacturing, Rainer Hebert, 7/14 – 12/31/14, Pratt & Whitney, $70,000

Computational and Experimental Studies of Laser-powder Interactions for Additive Manufacturing, Rainer Hebert, 1/1/15 – 12/31/15, Pratt & Whitney, $62,000

Gradient Rig Simulation of CMAS Damage Progression, Eric Jordan, 12/15/14 - 12/31/15, Pratt & Whitney, $70,000
Ultra High Temperature TBCs, Maurice Gell (PI) and Eric Jordan (Co PI), 3/1/13-2/28/15, Hifunda LLC/DOE-STTR, $397,304.

Eric Jordan (PI sub to Clemson with PI Zoran Filipi this is our portion of the program) Thermal Barrier Coatings for LTC Engine-Heat Loss, Combustion, Thermal vs. Catalytic Mechanisms, Emissions, and Waste Heat Recovery, NSF 01/01/13-06/30/16, $210,000.

Eric Jordan (PI) CMAS Effects on TBCs, Pratt and Whitney, $70,000,000, 1/1/14-12/31/14. CMAS Effects on TBCs, Pratt and Whitney, $183,000, 1/1/14-12/31/14.

Eric Jordan (PI) CMAS and High Temperature Resistant LaMg11O19 Using a Microwave Based Uniform Melt State Plasma Process, Army, Subcontract from Amastan LLC, 1/1/2015-12/31/2017, $215,165.

Eric Jordan (PI) Thermographic Phosphor coating of Turbine Blades, NASA, $5300, 1/1/2015-7/15/2015.

Eric Jordan (PI) Thermographic Phosphor coating of Turbine Blades, Metro Laser, $5300, 1/1/2015-7/15/2015.

Eric Jordan (PI) Maurice Gell (Co-PI) and Ultra High Temperature TBCs, 3/1/13-4/21/15, Hifunda LLC/DOE-STTR Phase II, $376,103. 4/22/15-4/21/17.


M. W. Renfro (PI), E. H. Jordan (Co PI) Remaining life estimation for contaminated thermal barrier coatings,” Rolls-Royce, 3/1/14-12/31/14, $60,000

DNA Floor Boards, Challa Kumar, 8/1/14 - 7/31/16, NSF/DMR, $174,000


“Career: Cooperative Supramolecular Polymerization from Polypeptide-containing Macromolecules”, Yao Lin, 5/1/12 – 4/30/2017, National Science Foundation, $500,000

“Supramolecular Assembly of Charged Nanoparticles: Understand the Nucleation Process that Connects Kinetic and Equilibrium Behaviors”, Yao Lin, 6/1/14 – 5/31/17, National Science Foundation, $300,000
Characterization of BMI Resin Phase II, Anson Ma, 1/1/15 - 5/17/15, GKN Structures, $49,000

“EAGER: The Effects of Molecular Architectures on Lipid-Based Nanoparticulate Interaction through Polymer Linkers”, Mu-Ping Nieh, 6/1/14 – 11/30/15, $149,920

Value-Added Uses for Polyethylene Terephthalate (PET) Derived From Post-Consumer PET Carpets, Richard Parnas, 1/19/15 - 7/18/16, Carpet America Recovery Effort (CARE), $435,565

“PFI: AIR TT: Prototyping Bioabsorbable Composites for Bone Fixation Applications Involving Low to Medium Loads,” Montgomery Shaw, NSF/ENG, 5/1/2014 – 10/31/2015, $199,999 (with Mei Wei)


Electroluminescent Devices, Gregory Sotzing, 3/1/15 – 7/15/15, New Balance Athletic Shoe, $34,697

Formation, Dynamics, and Applications of Ultracold Molecules, William C. Stwalley, 9/1/12 – 8/31/15, NSF PHY-1208317, $460,000

Hydrothermal Manufacturing of Nano-array based Low Temperature Diesel Oxidation Catalysts, $1,450,199 Puxian Gao (PI), Steven Suib, NSF, Share $225,000, 10/01/13 - 09/30/17

Thin Film Coatings, Steven Suib, 4/1/14 – 3/31/15, General Electric, $100,000

Metal Oxide Nano-Array Catalysts, $1,210,000 Puxian Gao (PI), Steven Suib, Share $216,000, DOE

Magnetic Materials, Steven Suib, Rogers Corporation, 4/1/14 - 3/31/15, $60,000

Porous Solid Electrolytes for Advanced Lithium Ion Batteries, Steven Suib, 09/01/2014 – 08/12/2016, Office of the Director of National Intelligence/IARPA, $240,000

Characterization of BMI Resin, Steven Suib, 8/1/14-11/30/14, GKN Structures, $45,000
Environmentally Friendly Flame Retardants Based on Nanosheets, Luyi Sun, 9/1/14 - 8/31/15, EPA, $15,000

PFI: AIR-TT: Prototyping Bioabsorbable Composites for Bone-Fixation Applications Involving Low to Medium Loads, Mei Wei, 5/1/14 – 11/31/15, NSF, $200,000

Charge Inhomogeneity in Correlated Electronic Systems, Barrett Wells, 1/1/15 - 12/31/17, Department of Energy, $350,000 (continuation).

NSF CAREER: Understanding Behavior and Properties of Nano-Sized Particles in Cement-Based Materials, Kay Wille, 09/01/2015 – 08/31/2020, $500,000