

# GRANTS (run through IMS)

*DMREF: Collaborative Research: Polymeric Composites and Foams Based on Two Dimensional Surfactants*, PI: **Douglas Adamson**, NSF, 10/1/2015 – 9/30/2019, \$890,386

*Human Intestine Tissue Model by 3D Printing*, PI: **Kelly Burke**, Co-PI: Anson Ma, CT Regenerative Medicine Fund, 9/1/2015 – 8/31/2017, \$200,000

*Computation of Gas Dynamics and Measurement of Gas Temperature in Low Voltage Circuit Breakers*, **Yang Cao**, General Electric Company, \$100,000/2016, \$100,000/2017

*Grid Hardening against Geomagnetic Disturbance*, **Yang Cao**, Eversource, \$50,000, 1/1/2017-12/30/2017

*Promotion of Ethylene-Propylene Rubber Cable Technology*, **Yang Cao**, Exxon-Mobil, ECC, Kerite, Okonite, Lion-Copolymer, 11/01/1998 - 12/31/2018, \$2,133

*Subsea High Voltage Direct Current Connectors for Environmentally Safe and Reliable Powering of UDW Subsea Processing*, **Yang Cao**, DOE/Department of Energy, DOE (12121-6302-01), 10/01/2014 - 06/30/2016, \$158,000

*Nanostructured Dielectric Insulation for High Power Density Next Gen Propulsion Motor*, **Yang Cao**, ONR (N00014-15-1-2413), 05/15/2015 – 05/14/2019, \$600,000

*Laser Induced Pulse Pressure*, **Yang Cao**, ONR DURIP (N00014-16-1-2885), 7/15/2016 - 7/14/2017, \$100,000

*Nanocoating*, **Yang Cao**, ARL (W911NF-16-2-0146), \$25,000, 8/23/2016-12/22/2016

*Investigation of New Dielectric Fluid as SF6 alternative (Phase 1)*, **Yang Cao**, G&W Electric., 03/24/2016 – 3/14/2017, \$30,000

*Computer Modeling of Threaded Surfactant Aggregates*, PI: **Elena Dormidontova**, 9/1/2016 – 8/31/2018, Petroleum Research Fund by ACS, \$110,000

*NANO<sup>2</sup>: Gold Nanoclusters in Lipid Nanodiscoidal Bicelles as a Potential Nanodiagnostic Platform: Experiment and Computer Modeling*, Co-PI: **Elena Dormidontova** with PI: Dr. Mu-Ping Nieh, 6/15/2016 – 6/14/2019, NSF (CBET), \$348,489

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*Scalable One-Pot Theranostic Nanodiscs Formulations for Cancer Targeting*, Co-PI: **Elena Dormidontova** with PI: Mu-Ping Nieh and Sangamesh G. Kumbar, 5/1/2016 – 4/30/2017, 2016 Research Excellence Program Storrs (REP-Storrs), \$50,000

*Metal Oxide Nano-array Based Catalysts for Low Temperature Diesel Oxidation*, PI: **Puxian Gao**, 10/1/2014 – 12/31/2017, DOE, \$1,450,000

*SNM: Scalable and Sustainable Hydrothermal Manufacturing of Nano-array based Low Temperature Diesel Oxidation Catalysts*, PI: **Puxian Gao**, 10/1/2013 – 9/30/2017, NSF, \$1,450,199

*Metal Oxide/Nitride Heterostructured Nanowire Arrays for Ultra-Sensitive and Selective Multi-Mode High Temperature Gas Detection*, PI: **Puxian Gao**, 7/17/2013 – 5/31/2017, DOE, \$300,000

*Acquisition of a State-of-the-Art Close-loop Liquid Cell (S)TEM Sample Holder for Characterizing and Understanding Atomic Structure Evolution of Nanomaterials for Energy, Environmental and Biomedical Applications*, PI: **Puxian Gao** with Co-PI: Mark Aindow, 7/1/2016 – 6/30/2019, UConn Provost Office, \$176,000 (no F&A)

*Nano-array Based High Performance Catalyzed Diesel Particulate Filter*, PI: **Puxian Gao**, 5/15/2016 -5/14/2017, UConn Spark, \$50,000

*RIXS Investigations of Correlated and Topological Phases in F-Electron Materials*, PI: **Jason Hancock** with Co-PI: Maxim Dzero, 8/15/2016 – 8/14/2019, Department of Energy-Basic Energy Sciences, \$430,195

*Lattice Dynamics of Strong Negative Thermal Expansion Systems*, PI: **Jason Hancock**, 5/1/2015 – 4/30/2018, National Science Foundation, \$381,979

*Multiscale characterization of microstructural phenomena in metal additive manufacturing processing*, **Rainer Hebert**, (with Co-PI Aindow), FEI, 7/1/2016-6/30/2017, \$100,000

*Computational and experimental studies of laser-powder interactions in metal additive manufacturing*, **Rainer Hebert**, (with Co-PI Alpay, Hancock), PW, 1/1/2017-12/31/2017, \$62,000

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*UTAS Center of Excellence on Advanced Materials*, **Rainer Hebert** (Co-PI, with PI Alpay), UTC Aerospace Systems, 1/1/2017 – 12/31/2017, \$195,000

*Nanoscale Properties and Reliability of Solar Cells*, **Bryan Huey**, 11/2014 – 11/2016, DOE EERE Sunshout Postdoctoral Fellowship, \$180,000

Multiferroicity in Perovskite-Type Rare-Earth Manganites, **Menka Jain**, 6/01/13 – 5/31/17, National Science Foundation, \$272,987

Development of Small-Volume, High-Precision, and Reliable Cryogenic Linear Actuators by Using Novel Intermetallic Compounds, **Seok-Woo Lee**, 10/3/16 – 10/2/19, NASA, \$586,648

Giant Pseudoelasticity of Novel Intermetallic Compound Superconductor  $\text{CaFe}_2\text{As}_2$ , **Seok-Woo Lee**, 4/1/16 – 3/31/17, UConn Research Excellence Program, \$25,000

*Inkjet Printing*, **Anson Ma**, 12/1/16 – 5/31/17, Edgewell, \$25,000

*Pushing the Envelope of Inkjet and 3D Printing*, PI: **Anson Ma**, 2/24/2016 – 2/23/2019, 3M (Non-tenured faculty award), \$45,000

*Developing Next-generation Rheometers*, PI: **Anson Ma**, 5/1/2016 – 4/30/2019, Anton Paar, \$260,000 (\$200,000 equipment in-kind; \$60,000 discretionary fund)

*Printing flexible electronics*, PI: **Anson Ma**, United Technologies Research Center (UTRC), 8/31/2015 - 4/6/2017, \$64,200

*NSF I/UCRC Science of Heterogeneous Additive Printing of 3D Materials (SHAP3D)*, PI: **Anson Ma**, Co-PI: Rainer Hebert, NSF, 1/1/2017 - 12/31/2017, \$15,000

*Thermal and rheological characterization of resins*, PI: **Anson Ma**, GKN Aerospace, 1/10/2017 – 1/9/2018, \$74,687

*3D printing ceramics*, PI: **Anson Ma**, TTM Technologies, 10/1/2016 – 4/30/2017, \$15,000

*Mass transfer controlled lubricating strips*, **Richard Parnas**, Edgewell, 1/1/2017 – 6/30/2017, \$30,000

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*Value-Added Uses for Polyethylene Terephthalate (PET) Derived From Post-Consumer PET Carpets (PCC)*, **Richard Parnas**, Carpet America Recovery Effort (CARE), 1/19/2015 – 1/31/2017, \$435,565

*CAREER: Understanding the Roles of Strain and Mass Disorder on Fundamental Thermal Transport Processes in Two-Dimensional Materials*, PI: **Michael T. Pettes**, National Science Foundation, ENG/CBET/Thermal Transport Processes, 03/1/2016 – 2/28/2021, \$500,000

*Fluorite-Structured Oxides: A New Class of Multifunctional Materials*, **George Rossetti**, DoD, Army Research Office, 9/15/2015 – 9/14/2018 (renewal for period 12/15/2016 – 11/14/2017), \$240,000

*Porous Transition Metal Oxides: Synthesis, Characterization and Catalytic Activity*, **Steven Suib**, DOE/Department of Energy, 9/01/2016 - 8/31/2019, 10%, \$420,000

*Hydrothermal Manufacturing of Nano-array based Low Temperature Diesel Oxidation Catalysts*, NSF, PI: P. Gao, **Steven Suib** Share \$225,000, 10/01/2013 - 09/30/2017, 5%, \$1,450,199

*Batteries for Extreme Environments*, **Steven Suib**, CIA, 09/15/2014 - 12/31/2016, 2%, \$300,000

*Center of Excellence in Advanced Ceramic Chemistry*, **Steven Suib**, UTAS, 1/1/2016-12/31/2016, 2%, \$100,000

*Thin Film Coatings*, **Steven Suib**, General Electric, 4/1/16 – 3/31/17, 2%, \$100,000

*Metal Oxide Nano-Array Catalysts*, **Steven Suib**, DOE, 9/1/16 – 9/1/19, \$1,210,000, PI: P. Gao, **Steven Suib** Share, 2%, \$216,000

*Characterization of Wires*, **Steven Suib**, Loos, 6/1/16 – 5/31/17, 2%, \$40,000

*Composites*, **Steven Suib**, NASA, 9/1/16 – 8/31/17, 3%, \$150,000

*Microscopy studies of Materials*, **Steven Suib**, FEI, 4/1/16 – 3/0/17, 2%, \$100,000

*Evaluation of High Aspect Ratio Talc as Nanofillers for Higher Barrier Coatings*, **Luyi Sun**, Mineral Technologies Inc., 4/1/2016 – 5/31/16, \$11,297

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*Nanocoatings with Outstanding Thermal Insulation and Flame Retardancy for Aerospace Applications*, **Luyi Sun**, Connecticut Space Grant Consortium (Undergraduate Student – Faculty Summer Research Grant), 5/30/16 – 8/5/ 16, \$25,000

*Controlling Microstructure of Hybrid Thin Films through Flow-Induced Orientation*, **Luyi Sun**, NSF, 7/1/16 – 6/30/19, \$355,920

High Performance Organic/Inorganic Hybrids – Property Manipulation through Interface Tailoring, **Luyi Sun**, Kaneka Corporation, 7/1/2016 – 6/30/19, \$256,015