

## **GRANTS AND CONTRACTS FOR THE LAST FIVE YEARS:**

### **Completed:**

Date: Jan. 2008 - February. 2009

Title: Prognostic Applications for the Power Industry

Agency: EPRI

Date: Jan 2006 – Dec 2007 (Co-PI)

Title: KEPRI Collaborative Research with UT

Agency: KEPRI

Date: January 2006-Sept 2007 (PI)

Title: Application of Empirical Modeling for Intrusion Detection of SCADA Systems

Agency: Idaho National Laboratory

Date: Aug. 2006-Aug 2007 (PI)

Title: On-Line Monitoring and Diagnostics for Drilling Operations

Agency: Baker Hughes Inteq

Date: Jan 2006-March 2007 (PI)

Title: Empirical Model Optimization for Computer Monitoring and Diagnostics

Agency: Sun Microsystems

Date: December 2005-December 2006 (PI)

Title: Improved Probability of Failure Analysis Using On-Line Equipment Condition Monitoring Data

Agency: Electric Power Research institute

Date: Jan. 2006 – March 2006 (PI)

Title: Setpoint Analysis

Agency: Nuclear Regulatory Commission

Date: Sept 2005-December 2006 (PI)

Title: Uncertainty Analysis Module for On-Line Monitoring

Agency: Expert Microsystems

Date: Jan 2006 – Dec 2007 (Co-PI)

Title: KEPRI Collaborative Research with UT

Agency: KEPRI

Date: Aug. 2004 – December 2006 (PI)

Title: On-Line Monitoring Regulatory Research Needs

Agency: Nuclear Regulatory Commission

Date: Oct. 2004 – May 2005 (PI)

Title: Reduced Order Modeling with Error Correction

Agency: Measurement Control and Engineering Center (ORNL)

Date: Oct. 2004 – June 2005 (PI)  
Title: On-Line Thermodynamic Efficiency Monitoring and Optimization Using Empirical Modeling Techniques  
Agency: Tennessee Valley Authority

Date: Oct. 2002 - May 2005 (PI)  
Title: Research Experience for Undergraduates Supplement to Transfer Facilitation for Engineering  
Agency: National Science Foundation

Date: June 2002 - May 2005 (PI)  
Title: Transfer Facilitation for Engineering Students  
Agency: National Science Foundation

Date: Sept. 2002 - Oct. 2004 (Co-PI)  
Title: Advanced Warning Methodologies for Solar particle Event Radiation Exposures  
Agency: NASA

Date: May 2004 – Aug 2004 (PI)  
Title: SARIF Graduate Research Assistantship  
Agency: UTK Office of Research

Date: Feb. 2004 – Oct. 2005 (PI)  
Title: On-Line Power Plant Monitoring and Optimization  
Agency: SmartSignal, Inc.

Date Jan 2004-Sept 2004. (PI)  
Title: Redundant Sensor Online Monitoring and Evaluation Using Redundant Sensor Estimation Technique (RSET)  
Agency: TVA

Date: Sept. 2001 - Aug. 2004 (Co-PI)  
Title: Automated On-Line Monitoring and Diagnostics of the Integrity of Nuclear Plant Steam Generators and Heat Exchangers  
Agency: U.S. Department of Energy Nuclear Engineering Education Research (NEER)

Date: Jan. 1999 - July 2004 (Co-PI)  
Title: Cooperative Research Project on Monitoring and Diagnosis of Process System Components  
Agency: National Science Foundation, Division of International Programs

Date: April 2002 - March. 2004 (PI)  
Title: Sensor Fault Detection for CAVIS  
Agency: BWXT Y-12 Plant

Date: August 2003-Jan 2004 (PI)

Title: Multivariable State Estimation Technique Regularization and Optimization

Agency: SmartSignal, Inc.

**Funded and in Process:**

Date: Jan 2009 – June 2009

Title: Advanced Prognostic and Health Management (PHM) and Model Based Prognostic Useful Life Remaining Capabilities for Aircraft Tactical Information and Communication Systems for the U.S. Navy SBIR 2007.1 - Topic N07-010

Agency: Global Strategic Solutions:

Date: Jan 2009 – Dec 2009

Title: Improving Facial Recognition using Empirical Models

Agency: Department of Justice

Apr 2009 – Mar 2010

Title: Development and Application of Process Monitoring Techniques for Feed and Withdrawal Facilities

Agency: Oak Ridge National Laboratory

Date: Jan 2009 – Jun 2009

Title: Aircraft Electrical Power System Diagnostics and Health Management

Agency: Global Strategic Solutions:

Date: March 2009- March 2011

Title: On-Line Monitoring, Diagnostics and Prognostics for Drilling Operations

Agency: BHI

Date: October 1 2007 – Sept 31 2010

Title: Project Title: Advanced Instrumentation and Control Methods for Small Export Reactors with IRIS Demonstration

Agency: DOE NERI-C

Date: May. 2008-May 2009 (PI)

Title: On-Line Monitoring, Diagnostics and Prognostics for Drilling Operations

Agency: Halliburton

Date: Feb 2007 – Jan 2009

Title: Prognostics and Health Management (PHM) for Digital Electronics Using Existing Parameters and Measurands for the U.S. Navy, Topic N052-093.

Agency: Ridgetop Group through Navy SBIR

Title: Advanced Prognostic and Health Management (PHM) and Model Based Prognostic Useful Life Remaining Capabilities for Aircraft Tactical Information and Communication Systems for the U.S. Navy SBIR 2007.1 - Topic N07-010

Agency: Global Strategic Solutions:

Date: Sept. 2006 - Oct. 2008 (Co-PI)

Title: Advanced Warning Methodologies for Solar particle Event Radiation Exposures

Agency: NASA

Date: Dec. 2007 - Dec. 2008 (PI)

Title: Prognostic Applications for the Power Industry

Agency: EPRI