# FELLOWSHIP AWARD

## * PAST RECIPIENTS

1981

The Ohio State University, Dept. of Welding Engineering: “NDE Characterization of Weld Metal”

Laszlo Adler, professor

Shaio-Wen Wang, graduate student

1982

Colorado State University, Dept. of Electrical Engineering: “Residual and Active Leakage Field Modeling”

William Lord, professor

Scott Heath, graduate student

1983

Johns Hopkins University, Dept. of Material Science and Engineering: “Nondestructive Measurement of Crack Propagation during Fracture Mechanics Testing of Compact Tension in Metal Specimens”

Robert E. Green, Jr., professor

Sanford Buxbaum, graduate student

1985

Drexel University, Mechanical Engineering and Mechanics Department: “Anomaly Identification in Composite Materials”

Joseph L. Rose, professor

1986

Oklahoma University, School of Aerospace: “Mechanical and Nuclear Engineering”

Davis M. Egle and Ronald A. Kline, professors

Chia-Pin Hsiao, graduate student

1987

University of Alabama in Huntsville, Dept. of Mechanical Engineering: “A Fiber-Optic Based Thermal Acousto-optic System for Non-contacting Nondestructive Evaluation”

John A. Gilbert, professor

Bruce R. Peters, graduate student

# FELLOWSHIP AWARD

## * PAST RECIPIENTS

1989

Duke University, Dept. of Mechanical Engineering and Material Science: “Correlation Studies of Positron Annihilation Spectroscopic Measurements with Dielectric Loss and Dynamic Mechanical Loss Spectroscopic Measurements in Amorphous Polystyrene”

Phil Jones, professor

Kevin R. Lyn, graduate student

1990

Pennsylvania State University, Engineering Science and Mechanics Department: “Development of a System for In-Process Characterization of Properties and Forming Characteristics of Copper Alloy Strip”

Clayton Ruud, professor

Krzystofer “Kris” Kozaczek, graduate student

1991

The Ohio State University: “Development of Stereoscopic Three-Dimensional Computer-aided Tomography”

Stanislav I. Rokhlin, professor

Michael Donahue, graduate student

1992

University of Missouri–Columbia: “A Model-Based Approach to Acoustic Noise Power Spectrum Estimation”

Steven P. Neal, professor

Mark D. Russell, graduate student

1993

Johns Hopkins University: “Nondestructive Testing of Defects in Thick Composites Containing Imbedded Sensors”

Robert E. Green, Jr., professor

Christopher Byrne, graduate student

1993

Rutgers University: “Nondestructive Testing of Pavements by the Spectral Analysis of Surface Waves”

Nenad Gucunski and M.H. Maher, professors

Vahid Ganji, graduate student

# FELLOWSHIP AWARD

## * PAST RECIPIENTS

1993

Cornell University: “Detecting Voids in Post-tensioned Concrete Structures Using the Impact Echo Method”

Mary Sansalone, professor

Barbara Jaeger, graduate student

1994

Wayne State University: “Nondestructive Characterization of Interlaminar Fracture Toughness of Polymer Composite Laminates by Use of Damping Measurements”

Ronald F. Gibson, professor

Hui Zhao, graduate student

1994

Georgia Institute of Technology: “Nondestructive Measurement of Fatigue in Thin Metal Films”

Steven Danyluk, professor

Kasey Ghaffari, graduate student

1994

Clarkson University: “Nondestructive Temperature Measurement in Enclosures with Hidden Surfaces Using the Inverse Radiation Heat Transfer Method”

Eric F. Thacher, professor

Joseph C. Craparo, graduate student

1995

The Ohio State University: “Development of a New Ultrasonic Method for Residual Stress Determination in Anisotropic Materials”

Stanislav I. Rokhlin, professor

Andrey Degtyar, graduate student

1995

The University of Virginia: “High Resolution Neutron Radioscopy and Computed Tomography”

Jack S. Brenzier, professor

Dudley A. Raine, III, graduate student

# FELLOWSHIP AWARD

## * PAST RECIPIENTS

1995

Colorado State University: “Ultra High Resolution Thickness Measurements of Slabs and Disbonds Using an Open-Ended Waveguide”

Reza Zoughi, professor

Sheila D. Gray, graduate student

1996

Iowa State University: “Fatigue and Stress Corrosion Crack Modeling”

William Lord, professor

Gregory Kobidze, graduate student

1996

Johns Hopkins University: “Determination and Monitoring of Through Hole Diameters in Printed Circuit Boards during Electrolytic Plating”

Robert E. Green, Jr., professor

Tobias P. Berndt, graduate student

1996

Virginia Polytechnic Institute and State University: “Development of Image Analysis Techniques for Assessment of Pavements and Infrastructure Components”

John C. Duke, Jr., professor

Michael Scott, graduate student

1997

Johns Hopkins University: “Microwave Dielectrometry of Plastics”

James W. Wagner, professor

Jennifer Schlegel, graduate student

1997

Pennsylvania State University: “Corrosion Detection with Ultrasonic Guided Waves Using Comb Tranducers”

Joseph L. Rose, professor

Michael J. Quarry, graduate student

# FELLOWSHIP AWARD

## * PAST RECIPIENTS

1997

Rensselaer Polytechnic Institute: “Proposal for Acoustic Emission Technique for Machine Insulation Diagnosis”

J. Keith Nelson, professor

Hong Li, graduate student

1998

Colorado State University: “Microwave Analysis and Modeling of Surface Crack Detection in Metals Using Open-ended Coaxial Lines”

Reza Zoughi, professor

Yong Wang, graduate student

1998

Johns Hopkins University: “NDE of Ultra-light Metals”

Robert E. Green, Jr., professor

Amy Waters, graduate student

1998

University of Missouri–Columbia: “Measurement of Acoustic Fields within Materials and Inversion to Elastic Constraints and Attenuation”

Steven P. Neal, professor

Matthew L. Wicks, graduate student

1999

State University of New York at Buffalo: “A Nondestructive Magnetic Testing Method for Assessment of Mechanical Properties and Materials Damage in Ferritic Steels”

Harsh Chopra and Robert Wetherhold, professors

Kevin Kankolenski and David Yang, graduate students

1999

The Georgia Institute for Technology: “Nondestructive Measurement of Residual Stresses in Crystals by Automatic Near Infrared Photoelasticity”

Steven Danyluk, professor

Tieyu Zheng, graduate student

# FELLOWSHIP AWARD

## * PAST RECIPIENTS

1999

Johns Hopkins University: “High Resolution Laser Ultrasonic C-scan of Protective Coatings”

James Spicer, professor

Christopher Richardson, graduate student

2000

Pennsylvania State University: “Guided Wave Frequency and Phase Velocity Tuning for Remote Detection of Hidden Defects in Aircraft Structure”

Joseph Rose, professor

Thomas R. Hay, graduate student

2000

Colorado State University: “Crack Dimensional Analysis and Modeling Optimization of Tight Crack Detection in Metals Using Coaxial Sensors at Microwave Frequencies”

Reza Zoughi, professor

Narisi Wang, graduate student

2000

Virginia Polytechnic Institute and State University: “Health Monitoring of an FRP Bridge Deck”

John C. Duke, professor

Marybeth Miceli, graduate student

2001

University of Akron: “A Transmission Line Model (TLM) for Microwave Nondestructive Evaluation”

Nathan Ida, professor

Razvan Ciocan, graduate student

2001

Johns Hopkins University: “Noncontact and Remote Methods for Railroad Track Inspection and Long Range Detection for Broken Rails”

Robert E. Green, Jr., professor

Shant Kenderian, graduate student

# FELLOWSHIP AWARD

## * PAST RECIPIENTS

2001

Dartmouth College: “Damage Localization in Smart Structures Using Vibration-Based Nondestructive Evaluation Metrics”

Laura R. Ray, professor

Bong-Hwan Koh, graduate student

2002

University of California at San Diego: “Load Measurement and Health Monitoring in Cable Stays via Guided Wave Magnetostrictive Ultrasonics”

Francesco Lanza di Scalea, professor

Piervincenzo Rizzo, graduate student

2002

University of Missouri at Rolla: “Microwave Evaluation of Cyclical Chloride Ingress in Mortar”

Reza Zoughi, professor

Kristen Muñoz, graduate student

2003

Iowa State University: “A Novel Nondestructive Testing Approach for Evaluating the Integrity of Superconducting Layered Structures (Planar and Cylindrical Formations)”

Mani Mina, professor

Norm Anderson, graduate student

2003

Pennsylvania State University: “Guided Wave Tuning for Enhanced Tomographic Imaging”

Joseph L. Rose, professor

Bian Hongxin, graduate student

2003

University of Cincinnati: “Nondestructive Testing and Evaluation of Bridges: Development of Modal Test Calibrated Modeling and Rating Software Tools”

Arthur Helmicki and James Swanson, professors

Scott Kangas and Xiaoyi Wang, graduate students

# FELLOWSHIP AWARD

## * PAST RECIPIENTS

2004

Colorado School of Mines: “Nondestructive Determination of Nitrogen and Thermally Induced Stress in Austenitic Stainless Steel Weldments Utilizing the Seebeck Effect”

David L. Olson, professor

Angelique N. Lasseigne, student

2004

Michigan State University: “Application of Finite Element Modeling for Magnetooptic Imaging”

Lalita Udpa, professor

Xin Liu, student

2004

University of Missouri – Rolla: “High Resolution Three Dimensional Microwave and Millimeter Wave Imaging”

Reza Zoughi, professor

Rajesh Koganti, student

2005

Brigham Young University: “D-fiber for Multidimensional Sensor Applications”

Richard H. Selfridge, professor

Stephen M. Schultz, professor

Tyson Lee Lowder, graduate student

2005

Colorado School of Mines: “Real-Time Determination of Solid Fraction in Semi-solid Metal Melts Using Ultrasound Techniques”

David L. Olson, professor

Patricio F. Mendez, professor

Joshua E. Jackson, graduate student

# FELLOWSHIP AWARD

## * PAST RECIPIENTS

2005

Pennsylvania State University: “An Optimized Sensor Grid for Structural Health Monitoring of Modern Aircraft”

Joseph L. Rose, professor

Huidong Gao, graduate student

2006

Iowa State University: “Air-Coupled Ultrasonic Inspection of a Carbon Composite Wing Spur – An Industrial Application”

David K. Hsu, professor

Adam H. Kite, graduate student

2006

University of California – San Diego: “Built-in System for the Structural Health Monitoring of Adhesively-Bonded Components in Aerospace Structures”

Francesco Lanza di Scalea, professor

Ivan Bartoli, graduate student

2006

University of Missouri – Rolla: “Combination of Chirped Microwave and Embedded Modulated Scatterer Techniques for Composite Inspection”

Reza Zoughi, professor

Kristen M. Muñoz, graduate student

2007

Pennsylvania State University: “Improved Performance of Long-Range Guided-Wave Ultrasonic Inspection of Pipeline”

Joseph L. Rose, professor

Jason K. Van Velsor, graduate student

2007

Stevens Institute of Technology: “Fabrication and Characterization of Nano AFCs as Acoustic Emission Sensor”

Yong Shi, professor

Shiyou Xu, graduate student

# FELLOWSHIP AWARD

## * PAST RECIPIENTS

2007

University of Maryland, Baltimore County: “Vibration-Based Structural Damage Detection with Application to Joint Damage Detection”

Weidong Zhu, professor

Kun He, graduate student

2008

Massachusetts Institute of Technology: “Far-Field Airborne Radar for the Condition Assessment of Critical Civil Infrastructures Pipeline”

Oral Buyukozturk, professor

Tzu-Yang Yu, graduate student

2008

University of Missouri – Columbia: “Raman Spectroscopy for the Nondestructive Testing of Composite Materials”

Glenn A. Washer, professor

Frank D. Blum, Jr., graduate student

2008

Virginia Polytechnic Institute and State University: “Development of an NDE Tool for SHM of Advanced Fiber reinforced Composite Material Components”

John C. Duke, professor

Arnab Gupta, graduate student

2009

Iowa State University: “Quantitative Capacitive NDE for Materials Characterization”

Nicola Bowler, professor

Tianming Chen, graduate student

2009

Missouri University of Science and Technology: “Extension of Microwave and Millimeter Wave Synthetic Aperture and Holographic (3D) Imaging to Complex Composite Structures”

Reza Zoughi, professor

Mojtaba Fallahpour, graduate student

# FELLOWSHIP AWARD

## * PAST RECIPIENTS

2009

Pennsylvania State University: “Defect Characterization Potential in Buried Pipe with Ultrasonic Guided Waves”

Joseph L. Rose, professor

Jia Hua, graduate student

2009

University of Pittsburgh: “Highly Nonlinear Solitary Waves for NDT of Civil Structures”

Piervincenzo Rizzo, professor

Xianglei Ni, graduate student

2009

Virginia Polytechnic Institute and State University: “Global/Local Distributed Strain/Temperature Measurements in Composite Materials”

John C. Duke, Jr., professor

Douglas A. Harold, graduate student

2010

Case Western Reserve University: “Advanced NDT Technology for Preventing Freezing Damage of Early-stage Concrete”

Xiong (Bill) Yu, professor

Chen-Yuan Chung, graduate student

2010

Michigan State University: “Time Reversal Microwave Studies for NDE of Composite Structures”

Lalita Udpa, professor

Charles Bardel, graduate student

# FELLOWSHIP AWARD

## * PAST RECIPIENTS

2010

Missouri University of Science and Technology: “Improving Efficiency of Microwave Imaging Systems Using Compressive Sensing Technology”

Yahong Rosa Zheng, professor

Reza Zoughi, professor

Hamed Kajbaf, graduate student

2010

Southern Illinois University, Carbondale: “Intelligent Nondestructive Evaluation Expert System for Aircraft Carbon/Carbon Composite Brakes Using Infrared Thermography and Air-coupled Ultrasound”

Tsuchin Philip Chu, professor

Anish Poudel, graduate student

2010

University of California, San Diego: “Stress Prediction through Nonlinear Ultrasonics in Waveguides”

Francesco Lanza di Scalea, professor

Robert Phillips, graduate student