Anthony (Nino) Piazza

2606 Paxton Ave - Palmdale, CA 93551
Cell (661) 733-9024 - Work (661) 276-2714

Instrumentation Specialist

Over 25 years of experience in the field of structural instrumentation and test. Specialize in acquiring strain measurements using both electrical and optical based sensors/systems.

Technical Proficiencies

- Thorough understanding of strain gage technologies: data acquisition and signal conditioning configuration and operation, bridge configurations and wiring methodology, experience with most substrate types
- Application of fiber optic (FO) strain and temperature measurements
- Development of thermal spray sensor attachment techniques for hot-structure applications
- Flight-test structural instrumentation

Employment History

NASA Civil Service (5/91-Present)
NASA Armstrong Flight Research Center (AFRC), Edwards AFB, California
Programs: NASP, X-33, X-37, X-43, 2nd and 3rd Gen RLV, X-37 Hot Structures Testing, NASA ARMD and Aero Sciences

Instrumentation Specialist (GS 13, IT Specialist)
Plan work, prepare work-orders and submit procurements necessary to operate the Instrumentation Development Laboratory (IDL), located in the Flight Loads Laboratory at NASA DFRC. Interface with principle investigators for specific measurement requirements applicable to 2nd and 3rd Generation Reusable Launch Vehicles, Structural Health Monitoring, and Aeronautics Research Missions Directorate (ARMD) projects.

Key Achievements

- Developed and applied liquid metal strain gage for aerostructure testing on low modulus high elastic materials
- Developed and tested fiber Bragg Grating (FBG) installation methods for application from LH_2 to 600°F using NASA DFRC/LaRC patented Optical Frequency Domain Reflectometry system. Familiar with WDM systems.
- Evaluated and characterized FO extrinsic Fabry-Perot interferometers (EFPI) static strain sensors to 1800°F on Inconel, carbon-carbon, and carbon-silicon/carbide substrates
- Responsible for high-temperature instrumentation and data reduction on Boeing X-37 ceramic composite control surface qualification tests at NASA DFRC
- Oversight (as COTR) phase II SBIR researching the development of a sapphire EFPI strain sensor for maximum operating temperatures to 2800°F
- Patented temperature-compensation method for flame-sprayed wire resistive strain gage to 1800°F

Education and Credentials

National Institute of Technology (formerly R.E.T.S.) East Detroit, Michigan
Electronic Engineering Technology courses included, Date of Graduation: 3/85 (EET 1920 contact hours/AAS equiv.)

Awards
- NASA Dryden Technician of Year, 2011
- R&D 100 Award 2013, Fiber Optic Strain System (group of four)
- PRC Inc., Program Manager's Award, 1993

Patent
"Alumina Encapsulated Strain Gage, Not Mechanically attached to the Substrate, Used to Temperature Compensate an Active High-Temperature Gage in a Half-Bridge Configuration"
Patent Number 6,301,775; Dryden Case No.: DFC 096-074; Docket No.: JPL/034-98
Published in NASA Tech Brief Magazine, August 2002, Vol. 26 No. 8

Committees
Currently NASA DFRC delegate to the Western Regional Strain Gage Committee (SEM)

Publications/ Presentations
Anthony Piazza, Craig A. Stephens, Larry D. Hudson, ***"****Combined Thermal-Mechanical Evaluations of Fiber-Optic Strain Sensor on Inconel and C-SiC Ceramic Composite to 1800°F*", 35th Annual Conference of Composites, Cocoa Beach, FL, January 2011

Other Publications/Presentation:
http://ntrs.nasa.gov/search.jsp?Ntx=mode%20matchallpartial&Ntk=All&N=123&No=0&Ntt=anthony%20piazza