

# *Instructor Resumé*

## **JACK G. GIOIA**

Consultant and Lecturer in  
Electronic, Electrical and System Design and Instrumentation to  
**Technology Training, Inc.**

Jack G. Gioia has over thirty-eight years of experience in Electronic, Electrical and System Design, Project Supervision, Project Management and Team Leadership with particular expertise in System Design, Analog Design, PLC controls, Power Systems, I&C, Vacuum Systems and Controls Design, Fiber Optic/RF Design, Electrical and Electronic Controls, Noise Reduction Techniques, Phase Lock Loop, Low Level Signal Detection, System Grounding, High Voltage, Magnets and Pulsed Power Supply Design.

### **PROFESSIONAL EXPERIENCE**

1999-Present **Los Alamos National Laboratory**, Los Alamos, NM *Principal Engineer/Consultant/Electrical Engineer/Project Leader/R&D Engineer*. At Sandia, Mr. Gioia has been involved in numerous programs. He has worked as an R&D Engineer for X-Ray Pulsed Power Systems and as Electronics Team Leader and DESO for ISR, IAT & D divisions at LANL. He designed the Gamma Ray Detector section for the DAWN Spacecraft Project and was a team member for system engineering, grounding, SOH, combined instrument electronics, EMI/EMC and cabling design support on special sensors, systems and components for radiation detection. He also served as principal Electrical Engineer supporting the SNS Accelerator Project at ORNL, providing electrical support on water, vacuum, power supplies, magnets, diagnostic, RF and controls systems. He performed power supply design, specifications and system design for the SNS DTL CCL & SCL Linear Accelerator.

Mr. Gioia also designed and delivered Magnet Mapping system for CCL & SCL magnets for ORNL, and supported ORNL electrical conventional facilities design effort. He performed cable and signal routing design for all Linac systems and was the overall System Electrical Engineer for magnets, power supplies, water, vacuum diagnostic and RF systems of the warm section SNS Linac. He provided design support for beam line power supplies, vacuum systems, RFQ, CCL and Superconducting Cryo Module sections for the APF accelerator. He participated in the design support effort for 700 MHz RF cavity and power coupler development. He was involved in development of spark tolerant electronics for the 80kV ion source and 120 kV HV power supply system for the LANSCE Accelerator. He headed the I&C development for the APT Cryomodule testing effort at LANL.

1998-1999 **General Atomics**, Los Alamos, NM. As a *Principal Engineer*, Mr. Gioia supported ED&D effort for the 170 MW linear accelerator at Los Alamos National Laboratory. He developed power supply specs for beam line magnetics, vacuum system for the RFQ and Superconducting Cryomodule Cavity Section. He was project leader for testing of a 210 kW 700 mHz RF power coupler. He also served as WBS Manager for the power coupler portion of the ED&D effort with General Atomics and LANL.

1996-1997 **Datascope, Patient Monitoring Division**, Paramus, NJ As a *Senior Electronic Engineer*, Mr. Gioia redesigned, and performed worst case and reliability analysis for analog, digital and power supply PCBs on medical monitoring systems. He developed design specifications and test plans for validation of subsystems, and performed validation testing for engineering compliance and FDA approval.

1992-1995 **Princeton Plasma Physics Laboratory**, Princeton, NJ. As a *Project Engineer*, Mr. Gioia was responsible for redesign of nuclear vacuum system controls and systems for Tritium experiments. He was a certified vacuum system engineering and electronics engineer/group supervisor for operation, repair and maintenance of electrical/mechanical systems and sub-systems for a nuclear test reactor. He developed training, procedures for operation, maintenance, test, installation and calibration.

1991-1992 **Carl Zeiss, Inc, Medical Laser Division**, Princeton, NJ. *Senior Process Engineer*

1990-1991 **Science Applications International Corp.**, Princeton, NJ. *Principal Electronic Engineer*

1983-1989 **Princeton Plasma Physics Laboratory**, Princeton, NJ. *Project Manager/Engineer*

1982-1983 **Physical Acoustics Corporation**, Princeton, NJ. *Project Engineer*

1977-1982 **Mettler Instrument Corp.**, Hightstown, NJ. *Senior R&D Technician*



## CONSULTING EXPERIENCE

**Loma Linda University Medical Center**, Loma Linda, CA. Consultant for Cancer Treatment Proton Accelerator System, AC to DC HV power supplies, vacuum and controls hardware.

**Evaluation Associates**, Bala Cynwyd, PA. Performed QA, production analysis, static control, vendor and plant operations evaluation.

**Hybrid Systems**, Bell Mead, NJ. Electrical and electromechanical design for assembly line automation equipment and solar cell fabrication equipment.

**Cohen Construction and Engineering**, Trenton NJ. Consultant for industrial electrical design, computer network design and installation, project management, scheduling and cost estimation.

In addition, Mr. Gioia has acted as consultant for many of the organizations listed in the "Professional Experience" section.

## TEACHING EXPERIENCE

Trenton State College: Adjunct Professor.

University of New Mexico, Los Alamos: Electrical/Electronic Engineering Department

## EDUCATION

BS Electrical Engineering, COLLEGE OF NEW JERSEY, Ewing, NJ, 1986.

MBA, UNIVERSITY OF PHOENIX, 2008

AAS, MERCER COUNTY COMMUNITY COLLEGE, Trenton, NJ, Electrical Engineering/Electronics Technology, 1971.

Technical/CEU courses: GE Series Six PLC, Vacuum Technology and Engineering, Analog Signal Processing, Digital Signal Processing, RF design and Active Filter design seminars, Fiber Optic design and fabrication, Cryogenic application seminars. LabView programming and various high level language computer programming courses.

Mr. Gioia currently holds an FCC General Radiotelephone License and an Amateur Extra Class Radio License.

## PUBLICATIONS

A list is available on request, of technical papers Mr. Gioia published between 1995 and 1999 on the subjects of vacuum technology, tritium and deuterium experiments, RF superconductivity and particle accelerators.

