

General Information

- 0830 **Paper 9:** **Micro-Packaging of COTS MEMS for Remote Monitoring Systems**
Michael Kranz
Morgan Research Corp.
Ralph Fenner
Hygrometrix, Inc.
- 0900 **Paper 10:** **Measuring Structural Dynamics to Understand Penetrating Weapon Systems**
Patrick L. Walter
Endevco Corporation
Texas Christian University
- 0930 **Paper 11:** **A University-Based Program Developing Design-Engineers for Instrumentation and Control Systems**
Patrick L. Walter
Endevco Corporation
Texas Christian University
- 1000 **BREAK**
- 1030 **Tutorial:** **Comprehensive Review of Low and High Impedance Piezoelectric Transducers**
Vito Cristiano and Mike Insalco
Kistler Instrument Corporation.
- 1230 **LUNCH** **On Site (included)**
- 1330 **Panel** **Advantages and Disadvantages of Different Types of Transducers, A Panel Discussion of Experts**
Anthony Chu, Endevco
Jim Lally, PCB
Patrick L. Walter, Endevco and TCU
Jon Wilson, The Dynamic Consultant

The Twentieth Transducer Workshop will be held June 18-19, 2002 at the Hope Center, (Wright-Patterson Air Force Base) Dayton Ohio

The registration consists of a completed registration form and a fee of \$50.00 payable to:

Ray Faulstich, Treasurer
Transducer Workshop
P.O. Box 954
Patuxent River, MD 20670

Advance registration is desirable. If possible, please use the registration form; include a check or money order for \$50.00 and mail to the Workshop Treasurer. **Purchase orders and Credit Cards are not acceptable.** Register by telephone at (301) 342-1553 or by email to faulstichrj@navair.navy.mil. Late registration will be at the Workshop registration desk in the hotel.

Hotel Accommodations

Hope Hotel & Conference Center
Building #823 Area A
Wright-Patterson Air Force Base, Ohio 45433-5000
937-879-2696
Fax 937-878-8731
www.hopehotel.com

Early hotel reservations are strongly encouraged as a fixed block of rooms is reserved for the Transducer Workshop until May 17th. Government employees may contact the VOQ at 937-257-3810 and *request* quarters at the Hope Center.

Tour

No formal tour is planned; however, the Air Force Museum is located nearby and is open daily.

Format and Background

Workshops are just what the name implies: everyone should come prepared to contribute something from their knowledge and experience. In a workshop, the attendees become the program in the sense that the extent and enthusiasm of their participation determine the success of the workshop. Participants will have the opportunity to hear what their colleagues have been doing and how it went; to explore areas of common interest and common problems, and to offer ideas and suggestions about what's needed in transducers, techniques, and applications.



TWENTIETH TRANSDUCER WORKSHOP

DAYTON, OHIO

JUNE 18-19, 2002

Sponsored by
**Vehicular Instrumentation/
Transducer Committee of the
Range Commanders Council
Telemetry Group**



Definition of The Transducer Workshop

History

The Workshop is sponsored by the Vehicular Instrumentation/Transducer Committee, Telemetry Group, of the Range Commanders Council. This committee develops and implements standards and procedures for instrumentation applications. The previous workshops, beginning in 1960, were held at two-year intervals at or near various U.S. Government installations around the country.

Attendees

Attendees are working-level people who must solve real-life hardware problems and are strongly oriented to the practical approach. Their field is making measurements of physical parameters using transducers. Test and project people who attend will benefit from exposure to the true complexity of transducer evaluation, selection, and application.

Subjects

Practical problems involving transducers, signal conditioners, and read-out devices will be considered as separate components and in systems. Engineering tests, laboratory calibrations, transducer developments, and evaluations represent potential applications of the ideas presented. Measurands include force, pressure, flow, acceleration, velocity, displacement, temperature, and many others.

Emphasis

The Workshop

1. Is a practical approach to the solution of measurement problems,
2. Strongly focuses on transducers and related instrumentation used in measurements engineering,
3. Has a high ratio of discussion to presentation of papers, and
4. Allows attendees to share knowledge and experience through open discussion and problem solving.

Goals

The workshop brings together those individuals who use transducers to identify problems and to suggest solutions,

identifies areas of common interest, and provides a communication channel within the community of transducer users. The primary goals are to:

1. Improve the coordination of information regarding transducer standards, test techniques, evaluations, and application practices among the national test ranges, range users, range contractors, other transducers users, and transducer manufacturers;
2. Encourage the establishment of special sessions so that attendees with measurement problems in specific areas can form subgroups and remain to discuss these problems after the workshop concludes; and
3. Solicit suggestions and comments on past, present, and future Vehicular Instrumentation/Transducer Committee efforts.

General Chairman

Teresa Telles
NAVAIR, Naval Air Warfare Center Weapons
Division – China Lake

Program

Monday, June 17, 2002

1900 Social Hour, courtesy of the Vehicular Instrumentation/Transducer Committee

Tuesday, June 18, 2002

0700 REGISTRATION

0745 **Teresa Telles** General Chairman
Twentieth Transducer Workshop

Session Chairman:

0800 **Paper 1: Ceramic Strain Gages for Use at Temperatures Approaching 1450 °C**
O.J. Gregory, Q Luo and E E Crisman
Air Force Research Laboratory
Hanscom Air Force Base

0830 **Paper 2: An Optical Fiber Integrated Strain Sensor for Air Frame**
E E Crisman, O J Gregory and W Euler
Air Force Research Laboratory
Hanscom Air Force Base

0900 **Paper 3: Capabilities and Standardization of Mixed-Mode transducers**
Mike Dillon
The Modal Shop – A PSB Group Co.

0930 **Paper 4: Using Adaptive Processing for Machine Tool Vibration Monitoring**
Mike Dillon
The Modal Shop – A PSB Group Co

1000 **BREAK**

1030 **Paper 5: High Speed Turbomachinery Measurements with a High Spatial Resolution MEMS Surface Pressure Sensor Array**
T Leger, D A Johnson, J M Wolff
Wright State University

1100 **Paper 6: Final Report for the Pressure Measurement in a 62 Caliber Navy 5 inch Gun**
David Porter
Aberdeen Test Center

1130 **Paper 7 The Use of Multiple Technology Measurements to Diagnose Weapon Chamber Pressure Measurement Anomalies in Piezoelectric Pressure Transducers**
Scott Walton
Aberdeen Test Center

1200 **LUNCH On Site (included)**

1300 **Tutorial Performance Based Sensor Selection**
Jon Wilson
The Dynamic Consultant, LLC

Wednesday, June 19, 2002

Session Chairman:

0800 **Paper 8: Laboratory Assessment of Vacuum-Based Crack Monitoring Sensor**
Kenneth L LaCivita
Air Force Research Laboratory
Wright-Patterson Air Force Base
Dr. Duncan Barton
Structural Monitoring Systems, Ltd.