

**THERMAL ANALYSIS METHOD DEVELOPMENT COURSE ADDRESSES USERS' SPECIFIC NEEDS.** Perkin-Elmer conducts a customized course for organizations who require assistance with developing their thermal analysis methods. The course is designed for material scientists, chemical engineers, polymer scientists and all related fields. Students will learn the best approach to developing a method for their dynamic mechanical analyzer, differential scanning calorimeter, differential thermal analyzer and thermal mechanical analyzer. For complete detail on the course content and dates contact the Customer Training Administrator, The Perkin-Elmer Corporation, 203-761-2500 or fax 203-761-5062.

**L.C. (LARRY) SHULL**, well known for his expertise in the installation of strain gages, has started his own firm called **STRAIN GAGE ADVICE, Inc.** Larry has over 30 years of experience as a test measurement engineer. His specialty is hazardous and hostile environments and he has a wealth of experience in test procedures for static, dynamic, ordinance, wind tunnel, fire, shock-tube, sled track, and all procedures involving flame-spray bonding of strain gages. His services include consultation of installation procedures to assisting in test set-up procedures.

For further information, see the ad for **STRAIN GAGE ADVICE, Inc.** on page 38 of this issue.

**SEM'S WESTERN REGIONAL STRAIN GAGE COMMITTEE** will be celebrating its 40th anniversary at the meeting scheduled for February 6-7, 1996 in Scottsdale, Arizona; in conjunction with the WRS GC meeting. The following is the second article in a series on the "pioneers" of their day.

**Charles M. Kearns, Jr. - Inventor of the Bonded Electrical Resistance Strain Gage.** After graduating from Penn. State in 1936, Charles joined Hamilton Standard and began work on propeller blade fatigue failure in flight. "After a couple of months working with a terrible mixture of sulphur and graphite, which did indeed change its resistance with stress, but also just about everything else, I took a vacation. I got to thinking...having used carbon resistors as a radio ham, I simply ground one down, cemented it to a beam and it change resistance with strain more or less linearly. With this type gage we made hundreds of thousands of propeller stress measurements and succeeded in reducing the incidence of propeller failure to a minor problem. In 1939 there were six failures, in 1940 there were none. I am

proud of that as it lead to improved safety in flight."

The bonded carbon gage spread like wildfire around the world and was used into the late 40s when wire gages were well established. On the eve of WWII it gave the Allies a reliable means of measuring in-flight strains and resulted in superior aircraft designs. A number of prestigious awards were bestowed on Charles for his timely invention. For those who wish to hear the complete story, we urge you to attend the WRS GC meeting this February.

**THE 1996 BSSM ANNUAL CONFERENCE** has been announced. Its theme is "Reliability Aspects of Experimental Mechanics" and will be held at the Crossmead Conference Centre, University of Exeter, August 28-30, 1996. Papers are sought which discuss the precision and reliability of all forms of stress, strain displacement and force measurement on structures, vehicles and materials. Comparison with analytical or numerical solutions will be of particular interest. Authors should submit an abstract of not more than 200 words to the Hon. Secretary, BSSM, The Surrey Technology Centre, The Surrey Research Park, Guildford, Surrey GU2 5YG. Phone 01483 295715; Fax 01483 573704. **Abstracts are due March 1, 1996.**

## President's Corner

by Mark E. Tuttle

I was able to represent the SEM at the 1st International Conference on Mechanics of Time Dependent Materials, held in Ljubljana, Slovenia, this past September 11-13. The SEM was principal sponsor of this first-ever international conference, and I am happy to report that it was an outstanding success. This was my first visit to the lovely country of Slovenia, and I thoroughly enjoyed both the conference itself as well as the social events planned as a part of the meeting.

SEM Executive Board member, Prof. Igor Emri, served as Chair of the local organizing committee and host during the conference. A total of 69 papers were included in the Technical Program. The presentations were roughly balanced between five main topics: 1)

Fracture and Fatigue; 2) Creep and Relaxation; 3) Time Dependency in Structures; 4) Impact and High Rate Deformation; and 5) Polymer Physics. The conference participants formed a truly international group, representing 19 different countries from around the world.

Four SEM members were honored as plenary lecturers for their many contributions to the field of mechanics of time-dependent materials: Prof. Richard Schapery of the University of Texas at Austin; Profs. Wolfgang Knauss and Nicolais Tschoegl, both of the California Institute of Technology; and Prof. Albert Cardon of the Free University of Brussels (Belgium). Also honored for their many achievements were Prof. F.R. Schwarzl of the University of Erlangen-Nuremberg (Germany)

and Prof. J. Kubát of the Chalmers University of Technology (Sweden).

The need for a thorough understanding of the time-dependent behavior of structural materials is becoming ever more critical, due to the increased use of polymers in structural applications as well as the use of metals and/or ceramics at higher and higher service temperatures. The SEM intends to provide a forum for the discussion of advances in this area, and therefore we are planning a 2nd International Conference on the Mechanics of Time Dependent Materials. The second conference is tentatively planned for March, 1997, at a location in southern California, pending further details.