

# THE CANAVERAL FLYER

A NEWSLETTER OF THE CANAVERAL SECTION OF ASMEI

VOLUME 42, ISSUE 5

JANUARY 2002

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Newletter Editor Hugh Bain
Professional Development Scott E. Seigel
FSEC Representative Dave Chasar
FIT Student Chair Morgan Plamondon



## A Letter from the Chair



*Some good news to start the New Year!*

### **CANAVERAL SECTION EARNS DISTINCTION AGAIN AS "BEST IN ASME" CANAVERAL SECTION EARNS "NATIONAL MEMBER INTEREST AWARD"**

Let's review our other awards for 2001...

**CANAVERAL SECTION EARNS "MOST OUTSTANDING SECTION IN REGION XI"**

**CANAVERAL SECTION EARNS "MOST IMPROVED SECTION IN REGION XI"**

**CANAVERAL EXECUTIVE CHAIRMAN EARNS "CANAVERAL COUNCIL OF TECHNICAL SOCIETIES (CCTS) 2001 TECHNICAL AWARD"**

*I don't think I forgot any awards but if I did please let me know.*

All these awards have been earned by the great job performed by our Board Members and their Committees. Please take note of their names and congratulate them. They are a great bunch of people who make me very proud to lead them. The entire organization looks at the Canaveral Section as the Best in Class along with our Regional Leadership being especially proud of us. I am regularly contacted by other ASME Section Leadership asking for advice and information on how they can operate their section as good as ours. Yesterday, I was discussing ASME data with a gentleman from the Pittsburgh area. I have spoken with ASME Leadership as far away as California. The reputation of the Canaveral Section knows no boundaries.

Now on to the future...

We have a very busy 6 months coming up starting with our Honors and Awards Dinner January 17<sup>th</sup>. At this dinner we honor those who have been ASME Members for 25 or 50 years, among others. We have about 14 members who qualify this year and hopefully will be in attendance. Our Honors and Award Chairman, Jim Phillips, is doing a great job contacting these Award Winners to ensure that as many as possible will be there to receive their award from the **Region XI Vice President, K.R. Rao**. The **Southern Regional Director, Burt Dicht**, will also be in attendance. I am asking that all Canaveral Section Members attend this meeting. The hotel has plenty of room for us all to bring our spouses.

February is Engineer's Month and we are looking for volunteers to speak to students throughout Brevard County. Please contact Stephanie Hopper, Women and Minorities Chair [sthopper@xch-bsco-06.ksc.nasa.gov](mailto:sthopper@xch-bsco-06.ksc.nasa.gov); in order to sign up. **Our Customer Service Skill Course is February 26<sup>th</sup>** so don't forget to sign up for this. I made an error in the last issue stating the price was \$195 versus the original price of \$395. A few people have taken advantage of this error already so I must offer this pricing to all members, though a year free membership will not be included with this course. **The Pressure Vessel Course is March 5-7<sup>th</sup>** and our **Fracture Mechanics Course is April 2-4<sup>th</sup>**. **The registration form is included in this newsletter.**

***We can't forget about the Harbor Branch Tour in March sponsored by our Vero Retirees Group and the joint Senior/Student Section Meeting that shortly follows. Also the Space Congress in May or Manatee game scheduled for June.***

***If you have any questions or would like to join a committee please contact the respective Chairman or e-mail me @ [scott.seigel@siemens.com](mailto:scott.seigel@siemens.com) I wish you and your family a prosperous New Year!***

**\*\*\* INSIDE THIS ISSUE \*\*\***

**HONORS & AWARDS DINNER - JAN 17TH  
SPECIAL REPORT FROM ROBERT BOSNAK, P.E.**

**4  
5-6**

## Canaveral ASME Section 2001-2002 Officer Listing

### **Executive Committee Chair**

Scott E. Seigel  
*Scott.e.seigel@swpc.siemens.com*

### **Executive Committee Vice-Chair**

Hugh Bain  
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### **Treasurer**

Tim Ehlers  
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### **Secretary**

Will Judd  
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### **Executive Committee Advisors**

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Bob Bosnak, P.E.  
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### **Industry Relations Chair**

Keith S. Conaughty, P.E.  
*keith.s.conaughty@lmco.com*

### **Newsletter Editor**

Hugh Bain

### **Honors and Awards Chair**

Jim Phillips  
*phillipj@xch-bsco-02.ksc.nasa.gov*

### **Membership Chair**

Korie Carter  
*since88@bellsouth.net*

### **Government Relations Chair**

Dale A. Shepherd, P.E.  
*dshepherd@h2energyinc.com*

### **Young Professional's Committee**

Dan Johnson, FL Institute of Technology  
*djohns08@harris.com*

Scott Mimbs, Cocoa High School  
*Scott.mimbs@swpc.siemens.com*

Nina Webb  
*WEBBJ@ASME.ORG*

### **Women and Minorities Committee**

Stephanie Hopper - Chair  
*STHopper@xch-bsco-06.ksc.nasa.gov*

Faye Tomimbang  
*faye.m.tomimbang@usago.ksc.nasa.gov*

### **Programming and Publicity Committee**

Hugh Bain - Chair

Diane Nguyen  
*diane.n.nguyen@lmco.com*

### **Professional Development Committee**

Scott E. Seigel - Chair

Nick Noparat  
*nnoparat@genphysics.com*

Steve Herridge, P.E.  
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Marvis Sylvers  
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### **College Relations Chair**

Pierre Larochelle  
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### **FIT Student Section President**

Morgan Plamondon  
*mtmons@aol.com*

### **Member Interests Chair**

Mark Greby  
*mark.j.greby@usago.ksc.nasa.gov*

### **FSEC Representative**

Dave Chasar  
*dchasar@FSEC.UCF.EDU*



# TREASURE COAST ASME RETIREEES



Meeting Minutes December 14, 2001

The December meeting of the Treasure Coast ASME Retirees was held on December 14, 2001 at the Conference Room of the Indian River County Council on Aging, 688 14th Street, Vero Beach, Florida.

Ed Holden, Chairman, called the meeting to order and provided some welcoming comments. Maurice Hoyt outlined tentative meeting plans through March: January-A speaker from the Environmental Learning Center; February-Dr. Richard Jolly or his representative from BRBP Architects-Engineers, Inc., March-A joint Saturday meeting with the Canaveral Section consisting of a tour of Harbor Branch Oceanographic Institution south of Vero Beach.

Kelly Mather, ASME Life Member and Chairman of the Board of the Council on Aging, gave a presentation on solar energy, past, present and future. He used supplemental materials supplied by the Florida Solar Energy Center. He also presented a video walk-through of the new Council on Aging Building that will soon be under construction. Several side discussions were held among members regarding the future of solar, nuclear, fossil-fuel and wind powered generating plants.

Fifteen persons were in attendance.

The next meeting is scheduled for 10 AM January 18, 2001 at the same location. A representative from the Environmental Learning Center will provide an update on the purpose and the activities that are available at the center.

## Financial Report

Initial Start-up (Canaveral Section)	\$150.00
Less stationary supplies (10-14-01)	\$3.75
Refreshments (10-19-01)	\$15.00
Refreshments (11-15-01)	\$15.00
Refreshments (12-14-01)	\$15.00
Balance	\$102.25

Submitted by: Maurice Hoyt,  
Secretary/Treasurer





## **JANUARY'S MEETING:**

### ***Honors and Awards Dinner***

*With Special Guests*

*Burt Dicht, Southern Regional Director*

**&**

*K. R. Rao, Region XI Vice President*

**WHEN: Thursday, January 17th, 2002**  
5:30pm - 6:30pm Registration and Social  
6:30pm - 7:30pm Dinner  
7:30pm - 8:30pm Presentation

**LOCATION: *HILTON, Cocoa Beach Oceanfront***  
1550 North Atlantic Avenue  
Cocoa Beach, FL  
(Tel: 321-799-0003)

**COST: \$17.00 ASME Members & Spouses**  
\$ 8.50 Students

**Dinner:** Iced Tea & Coffee  
Tossed Salad & Rolls  
Roast Beef -or- Chicken  
Dessert

**RSVP by Monday, January 14th, 2002**  
For Questions or to RSVP, contact Hugh Bain @ 321-768-0358.

The following people have achieved the status of 25/50 years membership in our prestigious organization and will be honored by the Canaveral Section, ASME Region XI Vice President, K. R. Rao, and the Southern Regional Director Burt Dicht at our Banquet:

John Aymonin, P.E. (50)	Stephen Boyce, P.E. (25)	Chris Demars, P.E. (25)
Oscar Furguson (50)	Mark Gross (25)	James Huggins (25)
Michael Katz, P.E. (25)	Peter Lindberg (25)	Brice Lytle, P.E. (25)
John MacMillin, P.E. (25)	John MacNeill, P.E. (50)	John Malphurs (25)
John Nail (25)	James Wilkins (50)	

Show these members your support by attending the banquet on January 17th. All 50-year members and their spouses will receive a complimentary meal.

Special Report from Robert J. Bosnak, P.E., Executive Committee Advisor

Attendance at the 3 rd North American seminar on the ASME Boiler & Pressure Vessel Code and the Pressure Equipment Directive (**PED**) of the European Community (EC) in Delray Beach, FL, on December 6 & 7, 2001. Report by Robert J. Bosnak, P.E.

The EC, also termed the European Union (EU), is a market with a population now of about 400,000,000 in 15 countries. Another six countries are expected to be added to the EU in the near future, with more added in the years to come. The **Pressure Equipment Directive 97/23/EC** was adopted by the European Parliament and the European Council in May 1997 and came into force on 29 November 1999. From that date until 28 May 2002, both the **PED** and any existing national legislative requirements may be used. From May 29, 2002 all manufacturers and users of pressure equipment with a MAWP exceeding 0.5 bar must conform to the **PED**. It will be obligatory throughout the EU. As written, assemblies of pressure equipment are subject to the **PED** and must meet "Essential Safety Requirements" (ESR). While piping is included, conveyance (transport) piping to or from an installation is not. An interesting commentary which may help convey the type of information contained in the **PED** is the following: If one placed the ASME B&PV Code in a stack of documents it would be about a meter in height whereas the **PED** is about 6 mm. The **PED** does not contain specific requirements for construction other than the very general discussion of what makes up the ESR (Essential Safety Requirements) found in Annex 1 of the **PED**.

Based on hazard level, the **PED** uses groups, categories, and modules to assist a manufacturer to perform a conformity assessment including a hazard analysis, prior to his affixing the **CE** mark on the pressure equipment.

Member states notify the Commission in Brussels of bodies that they have appointed to carry out the processes and procedures of the **PED**, hence the most important term and entity, "Notified Bodies". Three of the Seminar presenters are employees of Notified Bodies. In addition, the fourth presenter, giving **PED** issues from a manufacturer's viewpoint, was an employee of an Italian pressure equipment manufacturer, **ATB**. This presenter discussed a hydro-treatment reactor fabricated for installation in Portugal. Such equipment prior to the existence of the **PED** was built to ASME Section Div. 2. For this presentation ATB discussed how they are fabricating such equipment using Section VIII Div. 2, to meet the **PED**.

From all the presentations, it was evident that the key to success of manufacturers working to satisfy the EC's **PED**, is the relationship with the Notified Body (NoBo). Although not stated in the Seminar, a manufacturer's selection of a NoBo would involve "shopping around". In my opinion, coordination of NoBo's by the Commission, a stated goal, will take a long time to achieve, if ever. Manufacturers will pick and seek out the NoBo using the most liberal interpretations of the Essential Safety Requirements (ESR). In my opinion again, the **PED** is a legalistic political document to keep non-European suppliers out of Europe.

As an example of this, for many years ASME has been working on a systematic way to designate acceptable materials used by Sections of our Code for the **PED**, such as via the EAM method. For the **PED** as now written, materials must comply with a harmonized European standard, be covered by a European Approval of Material (EAM), or use a Particular Material Appraisal (PMA) performed in most part by a NoBo. Materials in Section II of the Code or ASTM materials are required to take the PMA route in which a NoBo decides if the ESR's have been met. The EC appears to have reserved EAM process for new materials. The **PED** permits any NoBo to be used, whereas previously the national body in a specific country,

Special Report Continued...

such as TUV in Germany, had to be used. However a PMA approved by one NoBo, may or may not be accepted by another NoBo.

One last area of interest involves the use of welding and non-destructive examination (NDE) during construction of pressure equipment. For these procedures a Recognized Third Party Organization (RTPO) must be used. RTPO's are recognized by member states and the Commission publishes a listing of accepted RTPO's. Section IX of the ASME B&PV Code is considered a harmonized standard for welding with certain exceptions to EN-287, EN 288, and EN 1418, which an RTPO would require to be addressed. A NoBo may also be an RTPO.

The ATB presentation described how their Notified Body was also an ASME Authorized Inspection Agency (AIA), thus speeding up the process of meeting both Section VIII and the **PED**. The discussion of differences between the two standards involved allowable stresses, a Hazard Analysis to meet the **PED** ESR's, and having their NoBo (Royal & Sun Alliance) carry out the **PED** required Particular Material Appraisal (PMA) for each material used even though all are totally acceptable to ASME.

The standards organization responsible to the EU for the **PED** is CEN (European Committee for Standardization). In closing it should be noted that the **PED** does not prohibit the ASME Code from being used, but that the extra work described above, particularly the PMA process for materials remains an issue for US manufacturers wishing to supply pressure equipment to the EU.

Prior to attending the Seminar, I attended a meeting of Codes and Standards Committee PT-STAC as a member. PT-STAC is charged by its charter with providing a two-way forum for interaction between the pressure equipment industry and the US Government with the goal of promoting global international trade of pressure equipment. PT-STAC is concerned globally but currently the Europeans occupy the most attention.

The US Government must be involved to interact with foreign governments or regional bodies and also the World Trade Organization (WTO). There is an Agreement on Technical Barriers to Trade (TBT) which is monitored by the WTO TBT Committee with the US Trade Representative (USTR) a member. There is much work yet to be accomplished internationally. ASME has worked for many years with technical experts under ISO Technical Committee TC-11 to develop a global standard for pressure equipment. It was to be an umbrella standard for listing all major existing pressure equipment standards around the world. A documented unfavorable recommendation by CEN resulted in all European countries block voting no in the ISO balloting process. ISO should be restructured to remove its current European dominance. Voting at ISO is by countries, which permits politics to enter the standards development process. The US has one vote at ISO with that vote cast by ANSI. To achieve a restructure of the ISO, the US Government at the highest levels in the Administration must take the lead in the required government to government negotiations invoking the WTO TBT process as necessary to assure agreements promoting market driven standards. ISO/CEN Committees are not balanced in membership. Owners and manufacturers are missing. Advocating a political structure based on national delegations as a prerequisite for the development of "recognized" voluntary international standards rejects and casts aside the US system and its de facto international standards. The TBT Agreement calls for the development of international standards created openly, transparently, and by consensus. It calls for Standards bodies with open membership. The US does not base its voluntary standards activities on structures political in nature. That of course makes us different. We need an inclusive definition of International Standards not just those limited to ISO and IEC. This can only be achieved if backed by the Administration in today's environment.

**Canaveral Section ASME  
2002 Course Enrollment Form  
FAX to Scott Seigel @ 1-407-736-5046**

**Feb. 26, 2002**

**Practical Customer Skills in Project Management**

In this highly interactive course, learn how to effectively communicate with internal staff, supervisors, and clients to determine realistic project goals and how to achieve them. You will also learn how to position yourself as a valued partner and a valuable resource in problem solving. This course offers a hands-on approach utilizing practical skills you'll use on daily business situations. You will leave the day prepared to become a problem-solver and ready to foster valued partnerships with your customers. **Cost: \$195**

**March 5-7, 2002**

**FAILURE, FAILURE PREVENTION AND REPAIR OF PRESSURE VESSELS, PIPING, BOILERS AND ROTATING MACHINERY:  
With Life-Extension Considerations**

Purchasing, fabricating, maintaining and repairing equipment at the lowest possible cost while assuring non-failure is always a priority. You will examine case studies detailing companies who have saved millions of dollars by successful repair welding of pressure vessels, turbines, boilers, piping, gears and other parts as a result of carefully planned and supervised procedures. Then you will make comparisons with similar situations in other plants where lack of available experience and expertise resulted in unnecessary dismantling and/or replacement of the same parts or components. Take this seminar and learn how to:

- Detect types and causes of failures
- Properly interpret nondestructive test results
- Make the right decision on equipment life-extension
- Analyze financial considerations before you repair/replace

**Cost: \$1295**

**April 2-4, 2002 (Reschedule from Nov 2001)**

**FRACTURE MECHANICS APPROACH TO LIFE PREDICTION**

This course will provide you with a practical understanding of fatigue and fracture calculations. It is pertinent to engineers who are required to perform such calculations, or who specify or evaluate testing and draft fatigue or fracture portions of design requirements. You are exposed to state-of-the-art methodologies such as the API 579 procedure and the British Standards PD 6493 approach. Related subjects such as damage tolerance analysis, reliability, and risk-based inspection will be discussed briefly. **Cost: \$1295**

Name \_\_\_\_\_

Phone \_\_\_\_\_

Company \_\_\_\_\_

Visa / MC Credit Card # \_\_\_\_\_

Street Address \_\_\_\_\_

\_\_\_\_\_

City / State / Zip \_\_\_\_\_

Expiration Date \_\_\_\_\_

## **Practical Customer Skills in Project Management**

A professional Development Course offered by  
The Canaveral Section of ASME to all interested Technical Professionals  
**Tel: 321-255-1965      FAX: 407-736-5046**

### **WHAT YOU WILL LEARN**

In this highly interactive course, learn how to effectively communicate with internal staff, supervisors, and clients to determine realistic project goals and how to achieve them. You will also learn how to position yourself as a valued partner and a valuable resource in problem solving. This course offers a hands-on approach utilizing practical skills you'll use on daily business situations. You will leave the day prepared to become a problem-solver and ready to foster valued partnerships with your customers.

This course is suitable for engineers, supervisors, and project managers of all levels. In particular, younger engineers will find the content extremely helpful as they advance their careers.

Communication and problem-solving strategies are important for engineers to learn in order to work effectively with others and complete projects successfully and on schedule.

### **BY THE END OF THE DAY YOU WILL KNOW HOW TO:**

- Communicate effectively with the right mix of listening, asking and informing
- Practice the process for planning successful interaction with others
- Develop interaction strategies to accomplish your goals
- Practice 10 kinds of influencing tactics
- Recognize common communication roadblocks and navigate around them
- Format written communication that effectively carries messages
- Write realistic strategies, with a group activity to put the process into action
- Build your credibility and others' trust
- Help others choose your ideas and like it – by focusing on their key issues and your project's benefits
- Become a valued problem-solving partner
- Create selling messages and visuals

### **SPECIAL FEATURES**

Course participants will discuss frequent communication roadblocks and ways to navigate around them. You will have many opportunities for hands-on practice in small teams of the skills featured during the day. The course is very interactive and questions are encouraged.

### **THE DAY'S AGENDA**

Program introduction and overview of strategic people skills

- The bigger picture of project management
- Preparing to succeed

#### **Brainstorming the problems**

- Soliciting audience perception of the roadblocks and hurdles to successful interaction with project management customers
- Using the brainstormed list to identify what you'll address in this workshop

#### **Planning interactions with customers**

- Developing interaction strategies
- Interacting: how we create a dialogue, position ourselves as a valued problem-solving partner, use a variety of tactics in influencing others, sell our ideas
- Updating strategies based on the dialog

### **ABOUT THE INSTRUCTOR**

**Brigham Thomas** is a Certified Instructor through Lore International Institute. With over 15 years experience in successful project management and business development, she also brings many real-life illustrations of customer interactions into the course. Brigham works at Lockheed Martin Energy Systems, where she is a Program Manager responsible for technology development for law enforcement, safeguards, and security applications.

## Practical Customer Skills in Project Management

A professional Development Course offered by  
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Tel: 321-255-1965      FAX: 407-736-5046

Brigham's broad working experience includes both the technical and the business aspect of project management, and covers a variety of areas: aerospace, automotive, energy efficiency, manufacturing, materials, technology transfer, economic competitiveness, proposal writing, proposal review, and funding selection. An active member of ASME, Brigham currently serves on the Board on Government Relations as the appointed Council on Engineering representative. She is also the past chair of the ASME Management Division.

### **Activity: Writing realistic strategies**

- Defining a Customer Skills Strategy
- Determining objectives: What needs to change? or What needs to be accomplished?
- Planning action steps: doable actions that will achieve the objective
- Writing the strategy

### **Positioning yourself as a valued problem-solving partner**

- The Lore Communication Model for conducting dialogue
- Building trust
- Building credibility
- Balancing the elements of the model

### **Determining needs – the facilitative questioning process**

- Describing the Facilitative Questioning Process
- The questions
- Practicing the questions for a scenario

### **Writing interaction strategies for influencing**

- The Influence model
- Ten influence tactics
- Identifying another person's influencing tactics
- Optimizing your ability to influence

### **Best practices for communicating your ideas**

Helping others choose your idea – and like it!

- Identifying their key issues and focusing on them
- Addressing their key issues and linking these issues to the benefits that will be received

*Activity: Building the elements of selling messages*

*Activity: Writing selling messages & theme statements*

### **“Best practices” in selling your ideas**

- Communicating with multiple audiences
- Formatting our written communication
- Why visuals are our most powerful communication device

**Course Date:** February 26, 2002

**Location:** Cocoa Beach Hilton

**Course Price:** \$195

Name \_\_\_\_\_

Company \_\_\_\_\_

Street Address \_\_\_\_\_

City / State / Zip \_\_\_\_\_

Phone \_\_\_\_\_

Visa / MC Credit Card # / Expiration Date \_\_\_\_\_

## **FAILURE, FAILURE PREVENTION AND REPAIR OF PRESSURE VESSELS, PIPING, BOILERS AND ROTATING MACHINERY: With Life-Extension Considerations**

Purchasing, fabricating, maintaining and repairing equipment at the lowest possible cost while assuring non-failure is always a priority. You will examine case studies detailing companies who have saved millions of dollars by successful repair welding of pressure vessels, turbines, boilers, piping, gears and other parts as a result of carefully planned and supervised procedures. Then you will make comparisons with similar situations in other plants where lack of available experience and expertise resulted in unnecessary dismantling and/or replacement of the same parts or components. Take this seminar and learn how to:

- Detect types and causes of failures
- Properly interpret nondestructive test results
- Make the right decision on equipment life-extension
- Analyze financial considerations before you repair/replace

### **WHO SHOULD ATTEND**

Users, manufacturers, repair organization and inspection agency representatives involved in repair of alterations of pressure vessels, boilers, piping, tanks, compressors, turbines, heat exchangers, digesters, valves and gears

### **SPECIAL FEATURES**

- Receive the textbook *Defects & Failures in Pressure Vessels and Piping* by Helmut Thielsch.

### **COURSE HIGHLIGHTS**

- Detecting types and causes of failures
  - Learn the inspection requirements as mandated by ASME and ANSI codes
  - Discover how to locate hidden defects, residual stress, metal straining, embrittlement due to hydrogen, graphitization and sensitization
  - Examine types of cracks, tears and other defects in welds, castings, forgings, and other base materials with respect to the conditions which cause or do not cause progressive or sudden failures
  - Discuss operational failures in pressure vessels, piping, tanks, compressors, turbines, heat exchangers, digesters, valves and gears including fabrication and welding defects, cracks and microfissures.
  - Learn to detect flaw propagation, creep deformation, fatigue, shock loading, stress corrosion, erosion and thermal cycling, base metal defects, laminations, and forging tears
- Nondestructive testing, inspections and test interpretations
  - Learn how to carefully select and utilize effective nondestructive testing procedures and inspection techniques
  - Understand the proper use of interpretation of various nondestructive tests using illustrations of stable, weakened and failed materials, and the benefits, when applicable, of periodic inspections
  - Identify conditions leading to failures which are not detected by common nondestructive tests
- Plant integrity and life-extension analyses
  - Learn details of boiler, piping and turbine performance analyses, involving operating periods of 40 to 60 years
  - Identify major potential failure locations in view of successful repair experience, and system upgrading and life-extension considerations
- Code alteration and repair procedures
  - Review design aspects, and detailed repair procedures such as welding, bolting, metal locking and heat treatment
  - Identify improper repair consequences that will be illustrated using examples of minor leaks which have subsequently resulted in progressive and/or catastrophic failures
  - Determine the adequacy of repairs to provide temporary or permanent solutions
  - Understand product liability and insurance coverage considerations

### **ABOUT THE INSTRUCTOR**

Helmut Thielsch, P.E., is President of Thielsch Engineering Associates, Inc. He was formerly vice president, Research, Development and Engineering at ITT Grinnell Corporation. He has been extensively involved in performing failure analysis and repairs of piping and pressure vessels, boilers, components, compressors, turbines, valves, pumps, fittings, gears, structures, deaerators and other metal products. Mr. Thielsch has served as a consultant to major utilities; petrochemical plants; pulp and paper mills; industrial plants; manufacturing companies; and insurance underwriters. He is a Fellow Member of the ASME, ASM and ASNT. Mr. Thielsch is author of the book *Defect's and Failures in Pressure Vessels and Piping*, and has written chapters for handbooks by ASME, ASM, and AWS, and the *Piping Handbook*.

**3 days / 2.1 CEUs/21 PDHs**

**Cost: \$1,295**

**Date: March 5-7, 2002 Cost: \$1295**

**Location: Cocoa Beach Hilton**

### **TO REGISTER:**

Contact your ASME Executive Chair Scott Seigel at:  
scott.e.seigel@swpc.siemens.com  
-or- 321-255-1965

# FRACTURE MECHANICS APPROACH TO LIFE PREDICTION

## WHAT YOU WILL LEARN

This course will provide you with a practical understanding of fatigue and fracture calculations. It is pertinent to engineers who are required to perform such calculations, or who specify or evaluate testing and draft fatigue or fracture portions of design requirements. You are exposed to state-of-the-art methodologies such as the API 579 procedure and the British Standards PD 6493 approach. Related subjects such as damage tolerance analysis, reliability, and risk-based inspection will be discussed briefly.

## BENEFITS

- Become familiar with the underlying assumptions and limitations of fracture mechanics.
- Gain a better understanding of material selection for fatigue and fracture resistance.
- Learn how to perform simple to moderately complex fracture mechanics calculations.
- Learn about codified procedures for flaw evaluation.

## WHO SHOULD ATTEND

Engineers who work with mechanical design, mechanics and structures as well as those involved in testing and equipment fabrication.

## SPECIAL FEATURE

- Receive the textbook *Fracture Mechanics: Fundamentals and Applications*, by T.L. Anderson

## COURSE HIGHLIGHTS

Linear elastic fracture mechanics

- Energy release rate parameter
- Stress intensity factor
- Examples of K solutions for structures and test specimens
- KIC testing

Fatigue initiation

- Mechanisms of crack nucleation
- Strain life curves

Fatigue crack growth

- Paris equation
- Life prediction
- Crack closure
- R ratio effects

Environmental cracking and corrosion fatigue

- Stress corrosion cracking
- Hydrogen embrittlement/hydrogen assisted crack growth
- Corrosion fatigue

Elastic-plastic fracture mechanics

- Crack tip opening displacement (CTOD)
- J integral
- ASTM Standards

Variable amplitude loading

- Fatigue retardation
- Life prediction models
- Cycle counting

Fracture control

- Leak before break criterion
- Failure assessment diagrams
- British Standards PD 6493 Method
- API 579 Method

Fatigue design

- Geometry considerations
- Material selection
- Damage tolerance analysis
- Defining inspection intervals

Probabilistic fatigue and fracture analysis

- Effect of uncertainty on input data
- Probability of detection curves
- Risked-based inspection

Fractography and failure analysis

- Ductile fracture (microvoid coalescence)
- Brittle fracture (cleavage)
- Ductile-brittle transition
- Fractography of fatigue failures

Fatigue behavior of various materials

- Steels, Aluminum alloys, Titanium alloys
- Polymers, Composites, Ceramics

**Date: April 2-4 Cost: \$1295**

**Location: Cocoa Beach Hilton**

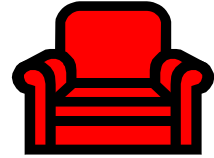
**Contact your ASME Executive Chairman Scott Seigel at [scott.e.seigel@swpc.siemens.com](mailto:scott.e.seigel@swpc.siemens.com) or 321-255-1965 to Register.**

## HOTEL INFORMATION:

**Cocoa Beach Hilton**

Hotel Rate \$89 Contact Scott Seigel prior to making hotel reservations

# **SOME FINAL WORDS FROM OUR CHAIR...**



## **Canaveral Section Board Meeting January 15<sup>th</sup>**

Your Canaveral Section Board will be having their first meeting of the year at the Suntree residence of the Executive Committee Chairman, Scott Seigel, January 15<sup>th</sup> 6pm. **All Section Members are invited to attend. Board Member's attendance is highly suggested.** RSVP call 255-1965 or e-mail scott.seigel@siemens.com for directions.

## **Canaveral Section Newsletter will soon be mailed electronic**

As postage rates continue to increase along with the "Canaveral Flyer" starting to look like a newspaper, the Canaveral Section Board is moving towards strictly e-mailing the newsletter to all in a word format. Reviewing the section roster indicates that 80% of members have e-mail addresses so please keep your email address updated with your section and ASME, NY (800-THE-ASME). Implementation will be in a few short months. Those without e-mail addresses will still be snail-mailed but snail mail will be phased out over time.

## **Canaveral Section Website coming to your computer soon...**

Dave Chasar, our Florida Solar Energy Center (FSEC) Representative, has volunteered to be your ASME webmaster and has obtained free server space on the ASME Website. Though the page is not yet ready don't forget log into www.ASME.org to catch up what is going on nationally and throughout Region XI. As Executive Chairman, I very much appreciate Dave's efforts. He has truly been a great find.

## **On a personal note...**

As Executive Chairman, I would just like to say that Dan Johnson and Stephanie Hopper have been doing a great job in their respective positions. Dan has done simply an outstanding job with the Student Section. Stephanie is doing a great job as W&M Chair and an outstanding job working to coordinate K-12 Student Activities. You should attend the Board Meetings just to hear their updates. These are exciting times in the Canaveral Section!

## **Nominate yourself and a friend to join our Executive Committee. It's just an election away...**

The Election of Officer's for next fiscal year (starts July 2002) will soon be at your mail bin and we are seeking nominees for the following positions...

Executive Committee Chairman  
Executive Committee Vice-Chair  
Treasurer  
Secretary  
Various Committee Members (volunteer positions)

We welcome all nominees and all volunteers. If you work with someone who is also an ASME member and you think that person would make a great Canaveral Section Officer please do not hesitate to nominate him or her. There is no need to ask their permission for if they are voted in to office by their peers, they have to serve for at least a year. This works well to nominate people you don't like also as it makes their life just a bit busier hopefully allowing them to leave you alone. If you think that was funny than **you are a great candidate for the Board** and I am looking forward to speaking with you soon. Call me at 255-1965 to nominate your friend, office PITA, or to volunteer. scott.seigel@siemens.com

### **Canaveral Section Membership up 20% since July!**

Your Executive Committee Chairman, Scott Seigel, and Membership Chair, Korie Carter, recently found a glitch in the ASME Membership Database. Apparently, some zip codes in Brevard County were inadvertently associated with the Florida Section. After that correction we received almost 50 transfers and membership is up to 396 members. We started July with 327 Canaveral Section members. Once we go over 400 members we move into the largest section category having to compete with the likes of the Atlanta, Florida and Florida West Coast Sections. The Atlanta Section has over 1400 members; The Florida Section (Orlando) has over 800 members; The Florida West Coast Section (Tampa) has also over 800 members. I think Korie going to need some help once we pass the 400 mark. Anyone who thinks they may be up to the task please contact her @since88@bellsouth.net

### **Cocoa Belle Holiday December Cruise**

We had over 20 members show up for our Canaveral Section sponsored Cocoa Belle Cruise last month. Everyone had a great time and with the open bar... Anyway... if you have a better idea for December 2002 contact Hugh Bain our Programs Chair, ehbain@collins.rockwell.com

### **Fiscally Yours...**

Tim Ehlers, our Treasurer Aficionado, has also been doing a great job and is recognized for doing so. Tim and his wife are both Mechanical Engineers... a match made in heaven if you ask me. Just think how intelligent their children will be. Perhaps I am a little bit prejudiced myself being a Mechanical Engineer.

### **ASME DUES REMINDER**

Just a reminder that you will be dropped from the roles after this newsletter if you have not yet paid your dues. You can pay your dues by either calling 800-THE ASME (800-843-2763) or by accessing [www.asme.org](http://www.asme.org). Only 77% of our membership have paid their dues so there is roughly a 1 in 5 chance that you have not paid yours. Please contact Korie Carter, Membership Chair, or call 800-843-2763 to ensure your continued involvement with "THE BEST PROFESSIONAL SOCIETY IN THE WORLD". Find out how to get your membership for free! It is very easy! All those who still haven't paid by February 1<sup>st</sup> shall receive a call from our Membership Committee to find out the reason. We do our best to foster a community relationship with our membership so let us know if you are pleased or not with your Canaveral Section. Join us at the Board Meeting January 15<sup>th</sup> in Suntree where dinner is free along with the advice. Floyd Rippetoe joined us at last month's meeting. His fiery discussion with Tal Webb was definitely worth the cost of admission. We can only do better with your help! Lord knows I need help.

# **HAPPY NEW YEAR!!!**





**AMERICAN SOCIETY  
OF MECHANICAL  
ENGINEERS**

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