

GLOBAL Gas Turbine News

ATLANTA, GEORGIA USA • ASME INTERNATIONAL GAS TURBINE INSTITUTE

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PRACTICAL SOLUTIONS FOR GAS TURBINE END-USERS

December 6-9, 2005

Sands Expo & Convention Center
Las Vegas, Nevada, USA

Co-located with PennWell's Power-Gen International



Following on the success of the inaugural stand-alone Gas Turbine Users Symposium (GTUS) in 2004, ASME International Gas Turbine Institute invites you to attend the second annual GTUS on December 6-9, 2005, in Las Vegas, Nevada. According to John P. Platt, Jr., the GTUS Chair, the 2005 symposium will provide many solutions for day-to-day challenges confronting both hands-on gas turbine operators and management-level decision-makers. Platt is Senior Advisor, Machinery, for BP Exploration & Production Technology Group in Houston, Texas.

Over 250 registrants discovered the value of GTUS 2004, and the 2005 event promises to be even better, with updated viewpoints from industry experts on topics related to the three general tracks: Environmental, Maintenance, and Operations. Session organizers represent the entire spectrum of the gas turbine technology community: third-party service providers, EPCs, power generation operators, oil and gas operators, petrochemicals operators, governmental/regulatory bodies, and manufacturers of gas turbines and their major peripherals. The three-day program will be packed with panel sessions and tutorials on gas turbine technologies. A select number of user-oriented, peer-reviewed technical papers from the ASME Turbo Expo 2005 Technical Congress will be considered for re-presentation at GTUS 2005.

In addition to the high-caliber program content, a primary attraction will be the opportunity to make contacts and network with peers, including customers, suppliers, competitors, and people from other industries. Co-location with Power-Gen International affords GTUS attendees the opportunity to access the many resources an event of that scale can offer. At no additional charge, GTUS 2005 registrants will receive access to the exhibit floor (including the show floor lunches) and admission to the keynote session.

GTUS attendees also have the option to register (for an additional fee) for a pre-conference workshop to be held on Monday, December 5. Dr. Tim Lieuwen from the Georgia Institute of Technology will present "Combustion Humming in Gas Turbine Based Powered Plants," a full-day course on combustion instabilities, their causes and solutions, and monitoring and analysis strategies. See page 16 for details on this excellent educational opportunity.

Advance registration for GTUS and the pre-conference workshop will be available online and in the GTUS Advance Program. For details on GTUS sponsorship opportunities, email igtiexpo@asme.org. Follow program developments or sign up for the GTUS E-bulletin at IGTI's website: www.asme.org/igti/ *



VIEW FROM THE CHAIR

Ron Natole, Chair, IGTI Board of Directors



Ron Natole
Chair
IGTI Board of Directors

Our 50th Anniversary Turbo Expo 2005 in Reno, Nevada should prove to be a most memorable occasion. Among the highlights are a Heritage Dinner scheduled for Sunday evening, and on Monday morning a very special Keynote Panel Session, featuring the chief executives of several notable OEMs, including General Electric, Pratt & Whitney, Rolls Royce and Siemens-Westinghouse. Additionally, staff and volunteers are working on a one-time-only poster, "Historical Evolution of Gas Turbine Technology," and a commemorative lapel pin, both of which will be available to all paid attendees. Several Technical Committees will also present their own Heritage Sessions. All of this, along with a focused industry exposition and over 600 technical papers in more than 200 technical congress sessions in the course of three-and-a-half days.

As some of you may know, Don Greene resigned as IGTI Managing Director in April to accept the position of Executive Director for the Institute of Industrial Engineering. He had been with us for only a short but very interesting two years. With Don's departure, Judy Osborn has been selected to act as IGTI Operations Manager. While the search begins for a new IGTI Managing Director, Judy has oversight of the Institute's current and developing activities with the direction and assistance of the Board of Directors Executive Committee and ASME senior staff. We will be looking for a new director with industry experience and influence, and would appreciate any input from the IGTI membership regarding potential candidates.

Plans and contract negotiations are ongoing for the next two years of Turbo Expo. Location and dates have been set for 2006: May 8-11 in Barcelona, Spain. We can look forward to visiting Montreal, Canada, in 2007. Meanwhile, I'll see you in Reno.

Individual Staff Recognition

As part of a series of staff profiles, I would like to focus in this issue on Kevin Gaffney, Manager of Marketing Communications and Expositions for IGTI. Kevin is responsible for organizing the Exposition part of Turbo Expo, as well as getting the word out to you and the rest of the gas turbine community about the events, products, and services offered by IGTI. Kevin joined IGTI in 1996, and after a brief absence from September 2000 to February 2002 returned to oversee IGTI's marketing and exposition efforts. Kevin received a degree in Hospitality Administration from Georgia State University and is currently completing the requirements for IAEM's Certified Exposition Manager designation. Next time you run into Kevin, join me in thanking him for a job well done.

Thanks,

Ronald A. Natole

Upcoming IGTI Workshops

IGTI is pleased to announce the following gas turbine technology & operations workshops in 2005. For details and registration, visit the IGTI website at www.asme.org/igti, email igti@asme.org, or phone 404-847-0072.

Industrial Gas Turbine Operation and Performance

In conjunction with the West Coast Energy Management Congress 2005

Monday, June 27, 2005
San Diego Convention Center
San Diego, California USA

1:00 - 5:00 p.m. US \$350

Instructors

Rainer Kurz, Solar Turbines Incorporated
Klaus Brun, Southwest Research Institute

A practical course for gas turbine users and field engineers familiar with power generation and mechanical drive applications. Learn more about the how and why of gas turbine operation and performance, combustion systems, emissions, fuels and diagnostics. Case studies of real world problems will produce troubleshooting, operating and design issue solutions.

Gas Turbine Repair & Metallurgy Techniques

Friday, October 7, 2005
Fairmont Banff Springs
Banff, Alberta, Canada
8:00 a.m. - 5:00 p.m. US \$500

Instructors

Lloyd Cooke, Liburdi Engineering Limited
Warren Miglietti, General Electric Corporation
Paul Lowden, Liburdi Engineering Limited

The workshop is for operations & maintenance personnel who require an understanding of basic gas turbine metallurgy and repair technology to conduct business with repair shops and make "repair vs. replacement parts" decisions. The course presents the techniques used to assess component condition and provides an understanding of the conventional and advanced repair technologies used to extend component life. Case studies of actual repaired components will be presented and students will work in teams to determine the best course of action to repair sample components.

Combustion Humming in Gas Turbine Based Powered Plants

In conjunction with Gas Turbine Users Symposium 2005 and Power-Gen International

December 5, 2005
Sands Expo/Venetian
Las Vegas, Nevada USA

8:00 a.m. - 5:00 p.m. US \$500

Instructor

Tim Liewuven, Georgia Institute of Technology

This one-day course introduces students to combustion instabilities, often referred to as "humming." It begins with an overview of development and field experience with combustion instabilities, and features case studies from several DLN combustor development efforts. The instructor provides background on the mechanisms responsible for the occurrence of combustion driven oscillations, and discusses strategies for treating dynamics problems by combustor tuning. Finally, dynamics monitoring approaches, and various issues associated with instrumentation, data analysis, and data reduction, will be presented.

ASME Turbo Expo 2006

Exploring Global Markets and Cooperative Ventures by the Mediterranean

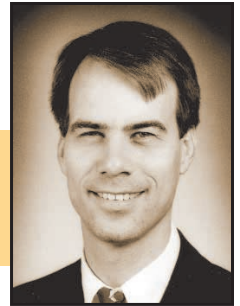
ASME TURBO EXPO
Power for Land, Sea & Air
MAY 8-11, 2006 • BARCELONA, SPAIN

For the first time in its 51-year history, ASME Turbo Expo will be held in Spain. For the event's first venue in Spain, the beautiful seaport city of Barcelona has been selected. On the Mediterranean coast, Barcelona is the second largest city in Spain, home to 1.6 million residents, and is an industrial and commercial center for the country.

According to Dr. Kenneth C. Hall, IGTI Chair of Conferences for the 2006 event, the tentative theme for the conference is "The Global Market and Cooperative Ventures." As an example of the importance of international cooperation, 2006 will mark the entry of the Airbus 380 into service, the largest passenger aircraft ever built. Airbus itself is a European consortium of French, German, Spanish and UK companies. The four-engine aircraft can be configured with either the Rolls-Royce Trent 900, or the Engine Alliance GP-7200, a cooperative venture of GE Aircraft Engines and Pratt & Whitney.

Chair of Conferences Kenneth Hall

Abele Professor & Department Chair
Mechanical Engineering and Materials Science
Duke University, Durham, NC, USA



Dr. Hall is currently the Julian Francis Abele Professor and Chair of the Department of Mechanical Engineering and Materials Science at Duke University. A graduate of the Massachusetts Institute of Technology, his main area of research is computational unsteady aerodynamics and aeroelasticity of turbomachinery and aircraft. Dr. Hall is an ASME Fellow, a long time volunteer for IGTI, past chair of the IGTI Structures and Dynamics Technical Committee, and currently serves on the IGTI Board of Directors.

The 2006 conference and exhibition activities will take place May 8-11 at the Barcelona International Convention Center (CCIB).

Visit turboexpo.org and make sure you are signed up for the Turbo Expo E-Bulletin, an easy way to stay informed as planning gets under way for ASME Turbo Expo 2006 in Barcelona. *

ASME Turbo Expo 2006

Technical Congress: Call for Papers

Technical Program Chair Ron Bunker

Senior Staff Research Engineer
GE Global Research Center
Niskayuna, NY, USA



IGTI is pleased to announce that the Technical Program Chair for ASME Turbo Expo 2006 is Ronald S. Bunker, Senior Staff Research Engineer at General Electric Global Research Center in Niskayuna, N.Y. Dr. Bunker has worked in nuclear engineering, aircraft engine gas turbine design, and heat transfer R&D. His gas turbine technology career began with his Ph.D. from Arizona State University in 1988, followed by a Humboldt Research Fellowship in Germany. He has been responsible for a wide range of gas turbine heat transfer research and innovation, encompassing internal cooling devices, external gas path effects, film cooling, and combustor systems cooling, only a portion of which has been documented in some 70 papers and publications, as well as 65 internal reports. In the course of this research, he has been awarded 30 U.S. patents, with 20 more pending. An active member of the IGTI Heat Transfer Committee since 1993, Dr. Bunker completed a two-year term as Chair of the committee in 2004. He is currently an associate technical editor for ASME's *Journal of Turbomachinery*, and in 2002 was elected a Fellow of ASME.

The abstract submittal, paper review, and program organization process for ASME Turbo Expo 2006 is conducted entirely online. You can find the Call for Papers at turboexpo.org. While you're there, subscribe to the Turbo Expo E-Bulletin to make sure you never miss an important announcement about the conference. *

IMPORTANT DATES

ABSTRACTS DUE:

August 1, 2005

DRAFT MANUSCRIPTS DUE:

October 10, 2005

DRAFT MANUSCRIPTS FINAL DEADLINE

October 24, 2005

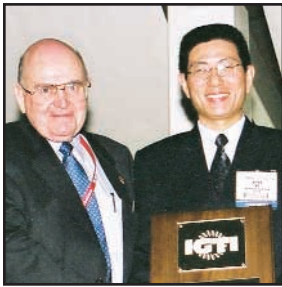
FINAL MANUSCRIPTS DUE

January 23, 2006

TURBO EXPO 2006

May 8-11, 2006

IGTI Presents This Year's



Cooke, left, presents John Yu with the 2001 John P. Davis Award.

A few words from David H. Cooke, Chair of the IGTI Awards & Honors Committee:

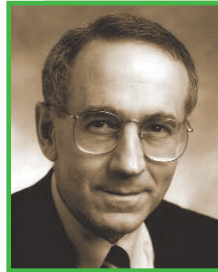
The various awards presented every year at ASME Turbo Expo are the culmination of the selection efforts of several different groups: the ASME Awards Committees and Committee on Honors, the IGTI Awards & Honors Committee, the IGTI Scholar Award Committee, and the IGTI Aircraft Engine Technology Award Committee.

The shared mission of these Committees is to review, on an annual basis, the most noteworthy individuals and publications associated with the ASME and the International Gas Turbine Institute. From the short list of people and papers, the committee selects those most deserving of recognition with an award.

The awards presented at ASME Turbo Expo each year are of two general types: literature and achievement. A literature award, such as the ASME Gas Turbine Award or the IGTI John P. Davis Award, focuses specifically on a single paper published at Turbo Expo two years previously. Every author of the paper receives an award. An achievement award, such as the ASME R. Tom Sawyer Award or the IGTI Aircraft Engine Technology Award, is bestowed upon an individual whose ongoing work in the field has been singled out for recognition. The IGTI Scholar Award, given every two years, is a special hybrid of the two types of award, being an invited paper and lecture from a recognized authority, chosen based on nominations from the committee. ASME confers its Dedicated Service Award as deemed necessary, in recognition of an individual's extended and exemplary service to the mission of the organization.

2005 R. TOM SAWYER AWARD

For important contributions to advance the purpose of the gas turbine industry and of IGTI over a substantial period of time, through sustained forthright effort.



Edward M. Greitzer

H. N. Slater Professor of Aeronautics and Astronautics
Massachusetts Institute of Technology (MIT)

Throughout his career, Dr. Greitzer has been active with IGTI and has earned numerous honors, including the Turbomachinery Committee Best Paper Award (1991, 1992, and 1995), the Controls and Diagnostics Committee Best Paper Award (1998), the Aircraft Engine Technology Award (1995), and the ASME Gas Turbine Award (1977, 1979, and 1996). He has acted as Chair of the Turbomachinery Committee and of the IGTI Scholar Award Committee, and served a full term on the IGTI Board of Directors (Chair, 1996-1997).

2005 AIRCRAFT ENGINE TECHNOLOGY AWARD

For sustained personal creative contributions to aircraft engine technology in the areas of design and/or research and development.

A N D

2005 IGTI SCHOLAR AWARD

Awarded to an individual submitting a learned and comprehensive paper that makes a significant and timely contribution to the science and practice of gas turbine engineering.



Ben T. Zinn

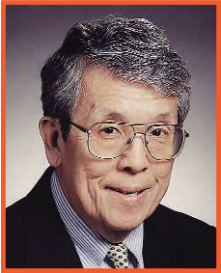
David S. Lewis, Jr., Chair and Regents' Professor
Georgia Institute of Technology

In fields of research including combustion instabilities, oscillatory flame phenomena, control of combustion processes, acoustics and pulse combustion, Dr. Zinn has published around 150 referred papers and 270 reports and non-refereed papers, and given nearly 450 presentations at various universities and conferences throughout the world. His 2005 Scholar Lecture, "Smart Combustors—Just Around the Corner," kicks off this year's Turbo Expo Technical Congress in Reno at 8:00 a.m. on Monday, June 6.

Award Recipients . . .

2005 DEDICATED SERVICE AWARD

For years of dedicated voluntary service to ASME and IGTI, marked by outstanding performance, effective leadership, prolonged and committed service, and enthusiasm.



Theodore H. Okiishi

*Associate Dean of Engineering and Professor of Mechanical Engineering
 Iowa State University*

Dr. Okiishi's ASME and IGTI activities include serving as Chair of the IGTI Turbomachinery Committee, member of the IGTI Board of Directors (as Chair in 1991-1992), ASME Vice President—IGTI, Editor of the *Journal of Turbomachinery*, ASME Fellow, and two-time George Wallace Melville Medalist (along with co-authors).

2003 ASME GAS TURBINE AWARD

For outstanding contributions to the literature of combustion gas turbines or gas turbines thermally combined with nuclear or steam power plants.

"Rich-Catalytic Lean-Burn Combustion for Low-Single-Digit NOx Gas Turbines"

ASME Paper GT2003-38129

**Lance L. Smith, Hasan Karim, Marco J. Castaldi, Shahrokh Etemad,
 William C. Pfefferle, Vivek K. Khanna, Kenneth O. Smith**



L. Smith



Karim



Castaldi



Etemad



Pfefferle



Khanna



K. Smith

2003 JOHN P. DAVIS AWARD

Recognizing technical papers that most significantly: describe new or continuing gas turbine applications; identify planning, installation, operating and/or maintenance problems and solutions; and exemplify candid exposure of real-world problems and solutions.

"Case Studies of Fatigue Life Improvement Using Low Plasticity Burnishing in Gas Turbine Engine Applications"

ASME Paper GT2003-38922

Paul S. Prevéy, Ravi N. Ravindranath, Michael Shepard, Timothy Gabb



Prevéy



Ravindranath



Shepard



Gabb

Award-Winning Papers on CD

Heritage Collections: Best of the Best

Since Turbo Expo first began as the ASME Gas Turbine Conference in 1956, over 12,000 gas turbine technical papers have been published and presented through the Technical Congress. Since 1964, IGTI has established several literature-based awards to acknowledge and honor authors whose published works have made noteworthy contribution to the evolution and advancement of gas turbine technology.

As part of the 50th year celebration of Turbo Expo in 2005, IGTI has assembled 20 different collections of these exceptional papers. These Heritage Collections, released at Turbo Expo this year, are now available on CD-ROMs for purchase online in the IGTI Store at asme.org/igti.

Select from the following Heritage Collections:

ASME Gas Turbine Award Papers: 1964-2003 US \$195

Outstanding contributions to the literature of combustion gas turbines thermally combined with nuclear or steam power plants.

John P. Davis Award Papers: 1985-2003 US \$125

Superior technical papers on subjects related to gas turbine applications and real-world solutions.

IGTI Scholar Award Papers: 1989-2005 US \$ 95

Erudite and comprehensive papers, written biannually, upon invitation, by various individuals with a considerable depth of knowledge in some aspect of gas turbine technology.

Committee Best Paper Awards: 1990-2004 US \$ 75

Peer-reviewed best papers selected annually by each committee from its sessions at Turbo Expo.

1 CD per Technical Committee

- Aircraft Engine
- Ceramics
- Coal, Biomass & Alternative Fuels
- Combustion & Fuels
- Controls, Diagnostics & Instrumentation
- Cycle Innovations
- Education
- Electric Power
- Environmental & Regulatory Affairs
- Heat Transfer
- Industrial & Cogeneration
- Manufacturing Materials & Metallurgy
- Marine
- Microturbines & Small Turbomachinery
- Oil & Gas Applications
- Structures & Dynamics
- Turbomachinery

ALSO AVAILABLE

INDEX OF ASME Gas Turbine Papers 1956-2005

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- paper title
- author
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- title key word
- topic area

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CALENDAR OF EVENTS

JUNE 7, 2005

IGTI Technical Committee Meetings

Reno Hilton • Reno-Tahoe, Nevada, USA

Aircraft Engine; Coal, Biomass & Alternative Fuels; Distributed Generation Task Force; Industrial & Cogeneration; Structures & Dynamics; Turbomachinery

JUNE 8, 2005

IGTI Technical Committee Meetings

Reno Hilton • Reno-Tahoe, Nevada, USA

Ceramics; Combustion & Fuels; Controls, Diagnostics & Instrumentation; Cycle Innovations; Education; Electric Power; Environment & Regulatory Affairs; Heat Transfer; Manufacturing Materials & Metallurgy; Marine; Microturbines & Small Turbomachinery; Oil & Gas Applications

JUNE 27, 2005

Industrial Gas Turbine Operation and Performance

San Diego Convention Center • San Diego, California, USA

A half-day course on gas turbine operation and performance, combustion systems, emissions, fuels and diagnostics.

<http://www.asme.org/igti/>

SEPTEMBER 12-15, 2005

34th Turbomachinery Symposium

George R. Brown Convention Center • Houston, Texas, USA

Technical program and exhibit addressing the interests of turbomachinery users.

<http://turbolab.tamu.edu/turboshow/turbo.html>

SEPTEMBER 19-23, 2005

International Symposium on Stability Control of Rotating Machinery (ISCORMA-3)

Sheraton Cleveland City Centre Hotel • Cleveland, Ohio, USA

A biennial forum on rotor dynamic stability in rotating machinery.

<http://www.iscorma.com/>

OCTOBER 7, 2005

Gas Turbine Repair & Metallurgy Techniques

Fairmont Banff Springs • Banff, Alberta, Canada

A one-day course in basic gas turbine metallurgy and repair technology for operations & maintenance personnel.

<http://www.asme.org/igti/>

DECEMBER 5, 2005

Combustion Humming in Gas Turbine Based Powered Plants

Sands Expo/Venetian • Las Vegas, Nevada, USA

A one-day course on combustion instabilities, their causes and solutions, and monitoring and analysis strategies.

<http://www.asme.org/igti/>

DECEMBER 6-9, 2005

ASME Gas Turbine Users Symposium 2005

co-located with Power-Gen International
Sands Expo/Venetian • Las Vegas, Nevada, USA

Ideas and practical solutions for gas turbine operating challenges.

<http://www.asme.org/igti/events/gtus05>

MAY 8-11, 2006

ASME TURBO EXPO 2006

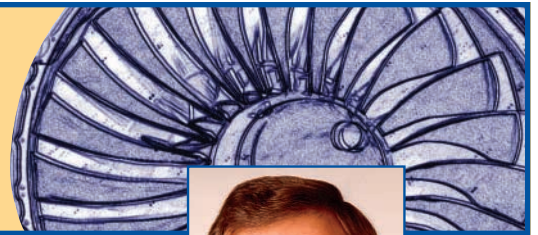
Barcelona, Spain

The best in gas turbine knowledge in an incomparable Mediterranean setting.

<http://www.asme.org/igti/events/gtus05>



JOURNAL OF TURBOMACHINERY



Improving the Review Process Version 2

from David C. Wisler, Editor

The last time I wrote, I summarized a great article that Max Miller sent to me entitled "The Task of the Referee," by Alan Jay Smith, published in the *Proceedings of the IEEE* (April 1990, pp. 65-71). The article focused on the role of the reviewer in deciding whether a paper makes a sufficient contribution to the field to be published in the Journal. It included some of Dr. Smith's insightful advice to help reviewers decide the merits of a technical paper. Near the end of the article I stated some issues that needed to be addressed for our Journals and said, "Your input is welcome." While I wasn't expecting to be flooded with an avalanche of responses, I had hoped for more than just one response. That's right—one response.

At only 770 words, my summary didn't seem to be too long; and in view of the lively discussion at some Committee meetings, the topic seemed to be of considerable interest. So I concluded that good folks are, like me, just really, really busy and the best thing to do was to have another "go" at it.

The questions that still need to be addressed are:

1. "What are the appropriate standards for our two journals?"

This includes the number of reviewers, their credentials, the review criteria, consistency of application of criteria, industry/academe relevance, conference standards and process for paper acceptance versus Journal standards, etc.

2. "How should these standards be applied?"

I really do want grassroots input before I go to the Chairs of the Turbomachinery Committee, the Heat Transfer Committee and the Structures & Dynamics Committee to request time to speak on this topic at their Committee meetings. If everyone is happy then there are no issues, but I doubt this is the case.

Incidentally, my ocean-boiling project hasn't been all that successful either.

Again, "Your input is welcome."

David
dave.wisler@ae.ge.com



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MISSION STATEMENT

The International Gas Turbine Institute of The American Society of Mechanical Engineers is dedicated to supporting the international exchange and development of information to improve the design, application, manufacture, operation and maintenance, and environmental impact of all types of gas turbines, turbomachinery and related equipment.



50TH ANNIVERSARY

ASME TURBO EXPO

Power for Land, Sea & Air

Having a Great Time...

Wish You Were Here!



**June 6-9, 2005
Reno-Tahoe, Nevada, USA**

What are you missing?

- Another terrific **Technical Congress**, IGTI's 50th, with over 200 sessions in 33 topical tracks
- The dynamic **Exposition**, featuring over 100 exhibitors from around the world and across the spectrum of turbine technologies, showing their equipment, making presentations, and sponsoring free receptions
- A stimulating glimpse of the future via the **Scholar Lecture** and the **Keynote Panel**
- A cavalcade of festivities marking **50 years of gas turbine conferences** from ASME

The good news is ...

- You can still get a taste of **ASME Turbo Expo 2005** with:
- **ASME Turbo Live:** A virtual trade-show experience, free on the Web at www.asmeturbolive.com
 - **Exhibitor Showcase:** An online buyer's guide featuring the exhibitors of Turbo Expo 2005, free on the Web at www.turboexpo.org
 - **CD-ROM Proceedings:** Purchase the complete collection of technical papers published at Turbo Expo 2005 on one convenient CD. Order online at members.asme.org/catalog

Hope to see you next year in Barcelona, Spain: May 8-11, 2006
Stay informed at www.turboexpo.org -- Subscribe to the **Turbo Expo E-Bulletin**

