national research center ENEA. *Lectures content*: Generalities on flow boiling, flow regimes, void fraction, two-phase frictional pressure drop, subcooled and saturated flow boiling in circular tubes, critical heat flux in subcooled flow boiling, critical heat flux in saturated flow boiling, predictions methods for the subcooled flow boiling CHF: correlations and mechanistic models, predictions methods for the saturated flow boiling CHF: correlations and mechanistic models, post-CHF heat transfer, augmentation of CHF and post-CHF heat transfer, boiling of mixtures, flow boiling in microgravity.

R. Stanley Kistler (2 lectures) HTRI Vice President, Research and Software Development. *Lectures content*: Post-CHF regimes: transition boiling and film boiling; fundamentals and parametric effects; dry pacthes; minimal heat flux; correlations and mechanistic models, predictions methods, practical examples.

Peter Stephan (7 lectures) is Professor of Technical Thermodynamics and head of the eponymous institute at Darmstadt University of Technology. *Lectures content*: Microscale and multiscale modelling approaches to predict pool boiling heat transfer. Description of transport phenomena on different scales (from nano- to macroscale). Experimental studies aiming at the evaluation of microscale phenomena and the validation of micro- and multiscale models. Boiling in microstructured surfaces. Thermocapillary instability of falling evaporative films. The use of microstrucured surfaces to increase the evaporation rate and prevent a local dryout.

John R. Thome (6 lectures) is Professor of Heat and Mass Transfer at the Swiss Federal Institute of Technology in Lausanne (EPFL), Switzerland. *Lectures content*: Flow patterns map in horizontal and vertical tubes, heat transfer models based on flow patterns, pool boiling in liquid mixtures, forced convective boiling in liquid mixtures, critical heat transfer in liquid mixtures, models for heat transfer in pool and flow boiling of mixtures, flow boiling in microchannels, differences between microscale and macroscale in flow boiling in tubes, flow patterns in microchannels, modelling of flow boiling in microchannels.

Vishwas V. Wadekar (6 lectures) is Technology Director, HTFS Research at Aspen Technology Ltd. *Lectures content*: Passive and active methods, flow boiling in advanced geometries, flow boiling in compact heat exchangers: evaluation of the boiling heat transfer performances of different compact heat exchangers, flow boiling in multichannels, flow boiling instabilities, external flow boiling in tube bundles.

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The 1st International Colloquium on Dynamics, Physics and Chemistry of Bubbles and Gas-Liquid Boundaries (ICBB2007) September 25–28, 2007, Niseko, Japan

by Toshiyuki Sanada

The 1st International Colloquium on Dynamics, Physics, and Chemistry of Bubbles and Gas-Liquid Boundaries (ICBB2007) was held during 25-28 September, 2007 in Niseko, Hokkaido, Japan. The colloquium was organized by Professor S. Fujikawa (Japan), the chair and Dr. J. Magnaudet (France), Prof. A. Morita (Japan), Prof. A. Prosperetti (USA) and Prof. J. Thome (Switzerland), the co-chairs, for the purpose of summarizing the state-of-the-art development of dynamics, physics and chemistry of bubbles and gas-liquid boundaries and shedding light onto their problems for the future.

In the colloquium, 35 lectures each followed by an intensive discussion were made among 45 specialists in friendly and enthusiastic atmosphere in a single room. The lectures consisted of 4 lectures of 1 hour each given by guest speakers; Prof. A. Prosperetti, Prof. J.

Commemorative photo of ICBB2007

Magnaudet, Prof. B. C. Garrett (USA), and Prof. T. Yano (Japan), and 31 general lectures of 30 minutes each on

(1) Bubbly Flows in Microscales
(2) Shock-Bubble Interactions
(3) Bubble Motions
(4) Bubble Physics

A scene of one of the sessions

(5) Vapor-Liquid Interfaces
(6) Droplets, Microbubbles, Coastal Breaking Wave

The colloquium covered a wide spectrum of research field in multiphase flow, including bubbly flow in micro-scale, interaction between shock wave and bubble, non-equilibrium phase change on the interface and so on. All the participants stayed in the same hotel, enjoyed conversation and discussion everywhere and all the time, and were fully satisfied with the complete success of the colloquium. For additional information you can contact the chair:

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International Gas Turbine Congress 2007 Tokyo
December 2–7, 2007, Shinjuku, Japan

by Toshinori Watanabe

The International Gas Turbine Congress 2007 Tokyo (IGTC'07 Tokyo) was held at Keio Plaza Hotel, Shinjuku, from 2nd to 7th December, 2007. It was the ninth congress organized by the Gas Turbine Society of Japan (GTSJ), concerning gas turbine, turbo-charger, and related technologies. The GTSJ has been continuously hosting the congress since 1971 with the interval of four years.

A total of 147 papers were presented in the technical sessions for various fields of gas turbine related technologies, such as aerodynamics, combustion, heat transfer, materials and structures, system development, production technology, maintenance, environmental issues, and so on.

The technical program featured five keynote speeches (K-S) and an invited lecture presented by world's leading experts.

K-S 1: "The Role of Gas Turbine in the Global Energy and Environmental Resolution"
by Mr. Ichiro Fukue (Mitsubishi Heavy Industries, Ltd.)

K-S 2: "High Fidelity Integrated Numerical Simulations of Gas Turbine Engines"
by Prof. Parviz Moin (Stanford University)

K-S 3: "Opportunities for Advancing High Temperature Structural Materials"
by Dr. Robert E. Shafrik (GE Aviation)

K-S 4: "Challenges and Technological Chances for the Aero Engine Industry: The European Path Forward" by Prof. Klaus Broichhausen (Bauhaus Luftfahrt e.V.)

K-S 5: "Proactive Approach for Engine Reliability Improvement"
by Mr. Shigehiro Sugiura (Aviation Engineering & Business Consultant)

Invited Lecture: "Educating the Next Generation of Engineers - A Call to Action"
by Dr. David C. Wisler (GE Aviation)

The program also included Forum on the "Current Status and Future Strategy of Electricity and Energy Supply in Asian Countries." At the last stage, the panel discussion entitled "Global Environmental Problems, Energy Consumption and Contribution of Gas Turbine Power Systems" wrapped up the congress.