



ANNOUNCEMENTS

1. FORTHCOMING MEETING OF THE INSTITUTE OF ACOUSTICS

All enquiries about the Institute of Acoustics should be addressed to the Secretary, Institute of Acoustics, Agriculture House, 5 Holywell Hill, St. Albans, Herts AL1 1EU, England; telephone +44 (0) 1727 848195; fax +44 (0) 1727 850553; E-mail Acoustics@clus.ulcc.ac.uk.

2. 4TH FRENCH CONGRESS ON ACOUSTICS, MARSEILLE, 14–18 APRIL 1997

The Congress is a forum for engineers and scientists from universities, research centres and industries, working in all fields of Acoustics and Vibration. The Congress will include Plenary Lecture Sessions, Structural Sessions and Poster Sessions. The official languages will be French and English. General information (registration, accommodation and social programme) can be obtained from PROMO SCIENCES Secrétariat du 4^{ième} C.F.A., 48 rue du Lacydon, F-13002 Marseille, France; telephone (33) 91 90 10 10; fax (33) 91 90 44 87; E-mail bernadac@gia.univ-mrs.fr.

3. 3RD AIAA/CEAS AEROACOUSTICS CONFERENCE, ATLANTA, GEORGIA, U.S.A., 12–14 MAY 1997

The 3rd AIAA/CEAS Aeroacoustics Conference will take place in Atlanta, Georgia, U.S.A. on 12–14 May 1997. Topics for the conference include: acoustic/fluid dynamic phenomena, active noise control, advanced testing techniques, community noise and metrics, computational aeroacoustics, interior noise and structural acoustics, jet aeroacoustics, loads and sonic fatigue, propeller and prop-fan noise, rotorcraft and V/STOL noise, sonic booms, turbomachinery and core noise, airframe and high-lift noise, and duct acoustics. Further information can be obtained from Dr Stephen P. Engelstad, Acoustics, Lockheed Martin Aeronautical Systems Company, Dept. 73–74 Zone 0685, Marietta, GA 30063-0685, U.S.A.; telephone 1-770-494-9178, fax 1-770-494-3055.

4. XXII YUGOSLAV CONGRESS OF THEORETICAL AND APPLIED MECHANICS, YUCTAM BEOGRAD '97, BELGRADE, YUGOSLAVIA, 2–7 JUNE 1997

The Congress program includes six invited general lectures, six invited plenary section lectures and three Minisymposia. Subjects are classified in four sections: General Mechanics, Fluid Mechanics, Mechanics of Deformable Bodies, and Interdisciplinary and Multidisciplinary Problems (which includes vibrations). Further information can be obtained from YUCTAM BEOGRAD '97, VI. Knez Mihajlova 35, 11000-BEOGRAD, Yugoslavia, Professor Dr Katica (Stevanović) HEDRIH; telephone (381 18) 55-870, 41-663 (381 11) 630-170; fax (381 18) 52-780 or (381 11) 630-170; E-mail KATICA@MASFAK.MASFAK.NI.AC.YU.

5. 8TH INTERNATIONAL MEETING ON LOW FREQUENCY NOISE AND VIBRATION, GOTHENBURG, SWEDEN, 3–5 JUNE 1997

The meeting is sponsored by the *Journal of Low Frequency Noise and Vibration*. Topics of the Conference include the following: sources of infrasound, low frequency noise and vibration, including hand-arm and whole-body vibration; detection, measurement and analysis; control, especially active control; propagation; perception and subjective effects. Further information can be obtained from Multi-Science Publishing Co. Ltd.; 107 High Street, Brentwood, Essex CM14 4RX, U.K.; telephone (01277) 224632; fax (01277) 223453.

6. THERMAL STRESS '97, NEW YORK, U.S.A., 8–11 JUNE 1997

This is the Second International Symposium on Thermal Stresses and Related Topics. The Symposium will feature invited lectures and presentation of contributed papers. A trip of Niagara Falls is planned for Monday, 9 June 1997. Further information can be obtained from Richard H. Hetnarski, James E. Gleason, Professor of Mechanical Engineering, Rochester Institute of Technology, Rochester, NY 14623, U.S.A., telephone 716 475 5788; fax 716 475 7710; E-mail TS97@rit.edu, or Professor Naotake Noda, Department of Mechanical Engineering, Shizuoka University, 5-1 Johoku 3 chome, Hammamatsu, 432, Japan; telephone 81/53 478 1026; fax 81/53 474 7499; E-mail tmnoda@eng.shizuoka.ac.jp.

7. COMADEM 97, 10TH INTERNATIONAL CONGRESS AND EXHIBITION ON CONDITIONS MONITORING AND DIAGNOSTIC ENGINEERING MANAGEMENT, ESPOO, FINLAND, 9–11 JUNE 1997

Information can be obtained from Mr Erkki Jantunen, VTT Manufacturing Technology, P.O. Box 1702, FIN-02044 VTT, Finland; telephone +358-9-456 5319; fax +358-9-460 627; E-mail: Erkki.Jantunen@vtt.fi

8. NOISE-CON 97, PENNSYLVANIA STATE UNIVERSITY, 15–17 JUNE 1997

Noise-Con 97, the 1997 National Conference on Noise Control Engineering will be held at the Pennsylvania State University, University Park, Pennsylvania on 15–17 June 1997. It is being sponsored as a joint meeting by the Institute of Noise Control Engineering and the Acoustical Society of America. The theme of NOISE-CON 97 will be Frontiers of Noise Control. Three frontiers will be emphasized: active control; vibration analysis for machinery health prediction; numerical methods in noise control. NOISE-CON 97 will be held in conjunction with the 133rd meeting of the Acoustical Society of America which will take place at the Penn State Scanticon conference center from 16 to 20 June 1997. Concurrent technical sessions will take place on 16–17 June. Further information can be obtained from NOISE-CON 97 Conference Secretariat, Graduate Program in Acoustics, Applied Research Laboratory, The Pennsylvania State University, P.O. Box, State College PA 16804, U.S.A.; telephone +1 814865 6364; fax +1 814 865 3119; E-mail: NOISE-CON 97@aol.com.

9. 2ND EUROPEAN & AFRICAN CONFERENCE ON WIND ENGINEERING, 2EACWE, GENOVA, ITALY, 22–26 JUNE 1997

After the conference held in Guernsey, U.K., in 1993, the 2nd European & African Conference on Wind Engineering (2EACWE) will take place in Genova, Italy, in June 1997. It will bring together scholars and practitioners from the European and African regions and from other parts of the world to realize a scientific and technical forum in the field of Wind Engineering. The conference will include keynote lectures and technical

sessions on all topics of Wind Engineering, such as wind climate, wind structure in the atmospheric boundary layer, numerical modelling at atmospheric flow field, bluff body aerodynamics, vehicle and aircraft aerodynamics, computational wind engineering, wind-tunnel techniques, full scale measurements, wind loads on buildings and structures, glass and cladding behavior, wind-driven rain and permeable facades, wind and wave action on offshore structures, dynamic response of structures, wind-structures interaction, aeroelastic phenomena and chaotic vibrations, suppression of wind induced vibrations, passive and active control, reliability and risk, codes and standards, windstorm disaster assessment and reduction of wind effects on transportation, air ventilation and energy conservation, pedestrian wind environment, atmospheric dispersion of pollutants, forest fire propagation, snow loading and drifting, and wind energy. Printed Conference Proceedings will be made available to all registered participants at the Conference. Further information can be obtained from Mrs Anna Rizzo, 2EACWE Secretary, Istituto di Scienza delle Costruzioni, University of Genova, Via Montallegro, 1, 16645 Genova, Italy; telephone +39-10-353-2121; fax +39-10-353-2534/2185; E-mail 2eacwe@scostr.unige.it. The 2EACWE is organized by the Istituto di Scienza delle Costruzioni (ISC), University of Genova (UGE), in co-operation with the International Association for Wind Engineering (IAWE) and the Italian National Association for Wind Engineering (ANIV). The Conference Chairman is Professor Giovanni Solari (ISC/UGE), IAWE European and African Coordinator.

10. ASME FLUIDS ENGINEERING CONFERENCE: FORUM ON HIGH SPEED JET FLOWS, VANCOUVER, B.C., CANADA, 22-26 JUNE 1997

The Forum is sponsored by the Fluid Mechanics Technical Committee of the ASME Fluids Engineering, with co-sponsorship from the Coordinating Group on Fluid Measurements (CGFM) and the Coordinating Group for Computational Fluid Mechanics (CGCFD). Topics include, but are not limited to, the following: supersonic jet screech; shock wave interactions; jets confined within ejectors; swirling jets; jet impingement studies. Further information can be obtained from Professor S. Calisal, Department of Mechanical Engineering, UBC, Vancouver, B.C., Canada V6T 1Z4; telephone (604)-822-2836; fax (604)-822-2403; E-mail Calisal@mech.ubc.ca.

11. FIRST INTERNATIONAL CONFERENCE ON MARINE ELECTROMAGNETICS, LONDON, U.K., 23-25 JUNE 1997

The Conference is sponsored by the Defense Research Agency, the Institute of Physics and the Institution of Electrical Engineers. All topics are related to electromagnetics, magnetic and associated electric fields, the following in particular: coupled magneto-acoustic effects; electrokinetic effects; electromagnetic seismic effects; environmental noise; subsurface-atmospheric interactions. Further information can be obtained from MARELEC '97 Secretariat, Department of Electrical and Electronic Engineerings, Imperial College, Exhibition Road, London SW27 2BT, U.K.; telephone +44(0)171 594 6166; fax +44(0)171 823 8125; E-mail marelec@ic.ac.uk.

12. CONFERENCE ON HIGH FREQUENCY ACOUSTICS IN SHALLOW WATER, LERICI, ITALY, 30 JUNE-4 JULY 1997

This conference is being organized by the NATO SAACLANT Undersea Research Centre. Topics include the following: seabed topography, multi-beam systems, interferometric sidescan; seabed and sea surface scatter, backscatter, forward and bistatic; seabed classification, normal incidence, areal; seabed penetration, critical angle effects; seabed

properties, rapid collection of bottom truth, novel instrumentation; fluctuations, short range propagation, scintillation inversions; array processing, dynamic focussing and steering synthetic apertures. Further information can be obtained from NATO SAACLANT Undersea Research Centre, Vale San Bartolomeo 400, 19138 La Spezia, Italy (from North America, SAACLANTCEN, CMR 426, APO AE 09613-5000); telephone +39 187 540 238; fax +39 187 540 331; E-mail pace@saclantc.nato.int.

13. INTERNATIONAL CONFERENCE ON APPLIED NONLINEAR DYNAMICS NEAR THE MILLENIUM, SAN DIEGO, CALIFORNIA, U.S.A., 7–11 JULY 1997

The conference is co-hosted by the Naval Command, Control and Ocean Surveillance Centre, RDTE Division, San Diego, and the Institute of Pure and Applied Physical Sciences, University of California at San Diego, and co-sponsored by the University of California at San Diego and the U.S. Office of Naval Research. The meeting is intended to be a forum for discussion on translating the basic research in this area of the past two decades into real systems, devices and other applications. Preference will be given to younger researchers with bright ideas. Further information can be obtained from the following E-mail address: andm97@dracula.ucsd.edu.

14. ENGINEERED ADAPTIVE COMPOSITE STRUCTURES FOR NOISE AND VIBRATION CONTROL, BANFF, ALBERTA, CANADA, 13–18 JULY 1997

This conference is being organized by the Engineering Foundation and will be held at the Banff Center for Conferences. Presentations are invited. Attendance will be limited to 100 participants. Information for those who wish to be considered for invitations can be obtained from Engineering Foundation Conferences, 345 East 47th Street, Suite 303, New York, NY 10017; telephone +1-212-705-7836; fax +1-212-705-7441; E-mail: engfnd@aol.com. The Conference Chair is Professor Gary H. Koopmann, Center for Acoustics & Vibration, The Pennsylvania State University, and Co-Chairs are Professor Philip A. Nelson, Institute of Sound and Vibration Research, University of Southampton, and Professor Kenji Uchino, International Center for Actuators and Transducers, The Pennsylvania State University.

15. SIXTH INTERNATIONAL CONFERENCE ON RECENT ADVANCES IN STRUCTURAL DYNAMICS, SOUTHAMPTON, ENGLAND, 17–20 JULY 1997

The five previous conferences in the series were held in 1980, 1984, 1988, 1991 and 1994. The Institute of Sound and Vibration Research is pleased to announce that the sixth will be held in 1997. The Conference aims to bring together researchers and practising engineers, from different branches of engineering, to discuss recent advances in theoretical and experimental techniques for solving problems in structural dynamics. All papers presented at the conference will be published in book form, and will be available at the Conference. The Conference is being organized by the Institute of Sound and Vibration Research with the support of the following bodies: European Office of Aerospace Research and Development, London, England; Wright Laboratory, Wright-Patterson Air Force Base, Ohio, U.S.A., and Center for Structural Acoustics and Fatigue Research, Old Dominion University, Norfolk, Virginia, U.S.A. Keynote speakers will be invited to lead each session. More than 80 papers are to be presented on the following topics, in two parallel sessions where required: analytical methods; numerical methods; dynamics of modern materials; condition monitoring and diagnostics; system identification and inverse

problems; modal analysis and structural modification; passive vibration control; active vibration control and smart structures; nonlinear analysis; random vibration of nonlinear systems and optimization; vibro-acoustics; sonic fatigue; experimental techniques; vehicle dynamics; biomechanics. In addition to formal presentation of papers, there will be a work-in-progress session (WIP) to provide a forum for presentation of ongoing work. Interested individuals should submit a 200 word summary by 31 March 1997. Those accepted should prepare a four-page description of the work by 10 May 1997. These contributions will be printed in a separate volume and made available at the conference. Two copies of summaries should be sent to the Conference Secretary. It is intended that a programme of activities will be organized for accompanying partners during the conference. At the end of the conference there will be opportunities for participants to undertake trips in the U.K. (e.g., to London), pre-organized by ourselves and local travel agents. Please indicate if interested. Further information can be obtained from Maureen Strickland, ISVR Conference Secretary, University of Southampton, Southampton SO17 1BJ, England; telephone (0) 1703 592294; fax (0) 1703 593033; E-mail mzs@isvr.soton.ac.uk.

16. FOURTH INTERNATIONAL CONFERENCE ON NATURAL PHYSICAL PROCESSES RELATED TO SEA SURFACE SOUND, SOUTHAMPTON, U.K., 21–25 JULY 1997

The fourth in an international series of meetings on the Natural Physical Processes related to Sea Surface Sound will be held at Chilworth Manor, an 11th century building and estate which has recently been converted into the major conference facility of the University of Southampton. The previous three meetings were at ENEA in Lercici, Italy (1988); University of Cambridge, England (1991); and Lake Arrowhead, University of California, (1994). These proved to be very successful both as focal points for presenting recent research in the field, and as stimulants to explore new areas. The size of the meeting will be around 60 delegates, and the format informal, with presentations and substantial discussions at the end of sessions. Topics will include applications of natural ocean noise, ice, wind, precipitation, wave breaking, bubbles and seismic sources. It is hoped that a special session on the dynamics of the atmosphere-ocean interface will bring together researchers working in fields both above and below the sea surface. There will also be a work-in-progress session for short, informal presentations of ongoing work. The official language will be English. The conference will be organized by Dr. T. G. Leighton of the Institute of Sound and Vibration Research, University of Southampton. In 1995 the U.K. Institute of Oceanographic Sciences was relocated to Southampton to combine with the University of Southampton Departments of Oceanography, Geology and Chemistry, and part of the Institute of Sound and Vibration Research, to form the national centre for Oceanography. Tours of both this new facility, which also houses the Natural Environment Research Council research vessels (*Discovery*, *Challenger* and *Darwin*), and of the Institute of Sound and Vibration Research, will be available during the conference. Participants will be accommodated within Chilworth Manor. This conference facility supports a range of leisure facilities, including a 12-station, fully supervised gymnasium, golf, archery, clay pigeon shooting, sailing, snooker, tennis, badminton, five-a-side football, netball, and, set in 24 acres of gardens and parkland, ample opportunity for walking and jogging. One hour by rail, or 90 minutes by car, from London, Chilworth Manor is situated a few miles outside Southampton, which is itself served by an international airport. Famous for centuries for its sea-faring connections, the city was, according to legend, the site from where, in the 6th century, King Canute ordered the waves to retreat. From the city walls, along which guided tours today take place,

King Henry V addressed his troops before they sailed to the battle of Agincourt. Monuments to more recent events, such as the sailing of the Pilgrim Fathers in the *Mayflower* in 1620, and the launch of the *Titanic* in 1912, can be found. Only 8 miles west of the city begins the 400 000 ha of the New Forest founded in the 11th century by William the Conqueror, and site of the still controversial death by arrow of his son, King William Rufus (the Red), during a boar hunt (boars are currently being reintroduced into the forest to join the wealth of other wildlife). To the north of Chilworth Manor are the ancient cathedral cities of Winchester (notable for its connections with Alfred the Great, who “burnt the cakes”), Salisbury and, further north, the prehistoric site of Stonehenge. A programme of activities will be organized for accompanying partners during the conference. At the end of the conference there will be opportunities for participants to undertake trips in the U.K., pre-organized by ourselves and local travel agents if requested.

It is intended that the Proceedings be published prior to the conference, and be available to delegates at the meeting. Further information can be obtained from Maureen Strickland, ISVR Conference Secretary, University of Southampton, Southampton SO17 1BJ, England; telephone +44 (0) 1703 592294; fax +44 (0) 1703 593033; E-mail mzs@isvr.soton.ac.uk.

17. TENTH INTERNATIONAL CONFERENCE ON NUMERICAL METHODS FOR THERMAL PROBLEMS, UNIVERSITY OF WALES SWANSEA, SWANSEA, U.K., 21–25 JULY 1997

This conference will be the tenth in the series Numerical Methods in Thermal Problems. The first was held in Swansea in 1979, and they have been held biennially since then, with each alternate conference returning to Swansea. The continuing objective is to provide a forum for the presentation and discussion of recent advances in the development and application of numerical methods to the solution of heat transfer problems. Some key areas include the following: Fundamental—conduction, natural and forced convection, radiation heat transfer, combustion, phase change, thermal–structural interactions; Computer implementations—computational algorithms, adaptive remeshing techniques, innovations in pre- and post-processing; Applications—casting, welding, forging and other metal forming processes, processing of composites, ceramics, fibres, plastics and food products. It is expected that most papers will report on recent advances in both traditional and innovative computational techniques. However, papers involving the application of standard numerical models to industrial applications are also strongly encouraged. Papers dealing with the comparison of standard numerical models with experimental data are also welcome. The proceedings will be available at the conference and will provide an overview of recent and projected studies taking place in research centres and industrial organisations throughout the world. Extended versions of the best papers will be considered for publication in the journals *International Journal for Numerical Methods in Engineering*, *Communications in Numerical Methods in Engineering* and *International Journal for Numerical Methods in Heat and Fluid Flow*. One-page abstracts related to the above topics are invited as soon as possible. Completed manuscripts must be received by 1 April 1997, to be included in the proceedings. To ensure that the presentations are of maximum benefit to the greatest possible number of participants, authors are urged to stress the general significance of their work, as well as discussing detailed aspects of the study. Abstracts should be sent to Professor R. W. Lewis, Institute for Numerical Methods in Engineering, University of Wales Swansea, Singleton Park, Swansea, SA2 8PP, U.K.; fax +44 1792 295705; telephone +44 1792 295256; E-mail Thermal.Conference@swansea.ac.uk. The conference web site can be found at <http://www.swan.ac.uk/civeng/thermal/>.

18. TENTH INTERNATIONAL CONFERENCE ON NUMERICAL METHODS FOR LAMINAR AND TURBULENT FLOW, UNIVERSITY OF WALES SWANSEA, SWANSEA, U.K., 28 JULY–1 AUGUST 1997

This conference will be the tenth in the series Numerical Methods in Laminar and Turbulent flow. The first was held in Swansea in 1979, and they have been held biennially since then, with each alternate conference returning to Swansea. The continuing objective is to provide a forum for the presentation and discussion of recent advances in the development and application of numerical methods to the solution of laminar and turbulent flow problems. Some key areas include the following: external and internal flows; Navier–Stokes solution algorithms; turbomachinery; separation, circulation; vortex-dominated flows; turbulence models; transonic and hypersonic flows; natural and forced convection; coupled solid-fluid interaction; multidisciplinary applications; non-Newtonian flow; free-surface flows; offshore and river hydrodynamics; meteorology; acceleration techniques; iterative solvers; grid generations and mesh adaptation. Equal emphasis is placed on papers dealing with recent advances in both traditional and innovative computational techniques, and those involving the application of standard numerical models to industrial applications. Papers dealing with the comparison of standard numerical models with experimental data are also welcome. The proceedings will be available at the conference and will provide an overview of recent and projected studies taking place in research centres and industrial organizations throughout the world. Extended versions of the best papers will be considered for publication in the journals *International Journal for Numerical Methods in Fluids* and *International Journal for Numerical Methods in Heat and Fluid Flow*. One-page abstracts related to the above topics are invited as soon as possible. Completed manuscripts must be received by 1 April 1997, to be included in the proceedings. To ensure that the presentations are of maximum benefit to the greatest possible number of participants, authors are urged to stress the general significance of their work as well as discussing detailed aspects of the study. Abstracts should be sent to: Professor C. Taylor, Institute for Numerical Methods in Engineering, University of Wales Swansea, Singleton Park, Swansea, SA2 8PP, U.K.; fax +44 1792 295705; telephone +44 1792 295256; E-mail Flow.Conference@swansea.ac.uk. The conference web site can be found at <http://www.swan.ac.uk/civeng/flow/>.

19. 3RD EUROMECH SOLID MECHANICS CONFERENCE, STOCKHOLM, SWEDEN, 18–22 AUGUST 1997

The Conference, organized by the European Mechanics Society, will cover the entire field of theoretical and applied solid mechanics. As at the earlier conferences in Munich (1991) and Genoa (1994), the spirit will be that of a forum of friendly presentations and discussions of the state of the art. The scientific program will consist of one General Opening Lecture, eight invited Plenary Lectures and parallel Technical Sessions. Those who wish to receive further information about the conference or to be placed on the circulation list for subsequent announcements are invited to write to Dr Per-Lennart Larsson, Secretary General, LOC, Department of Solid Mechanics, Royal Institute of Technology S-100 44, Stockholm, Sweden; telephone +46-8-790 7540; fax +46-8-411 2418; E-mail 3esmc@hallf.kth.se.

20. ACTIVE '97, 21–23 AUGUST 1997, AND INTERNOISE '97, 25–27 AUGUST 1997, TECHNICAL UNIVERSITY OF BUDAPEST, HUNGARY

Active '97 will be a satellite symposium of INTERNOISE '97. INTERNOISE '97 will be the 26th in a series of international congresses on noise control engineering that have been held all over the world since 1972. It is sponsored by the International Institute of Noise

Control Engineering and is being organized by the Acoustical Commission of the Hungarian Academy of Science and the Hungarian Scientific Society for Optics, Acoustics, Motion Pictures and Theatre Technology. Technical papers in all areas of noise control engineering will be presented at the congress and published in the Congress Proceedings. Further information can be obtained from INTERNOISE '97 Congress Secretariat, OPAKFI, H-1027 Budapest, Föu. 68, Hungary; fax +36-1-202-0452.

21. 3RD INSTITUTE OF PHYSICS CONFERENCE ON MODERN PRACTICE IN STRESS AND VIBRATION ANALYSIS, UNIVERSITY COLLEGE DUBLIN, IRELAND, 3–5 SEPTEMBER 1997

The conference is being organized by the Stress and Vibration Analysis Group of the Institute of Physics, and is co-sponsored by the Society for Experimental Mechanics, The British Society for Strain Measurement, The Dynamic Testing Agency, The National Agency for Finite Element Methods and Systems, and The Institution of Engineers of Ireland. The conference proceedings will be published formally and will be available to delegates upon registration. Further information can be obtained from the Conference Secretariat, Dr Michael D. Gilchrist, Mechanical Engineering Department, University College Dublin, Dublin 4, Ireland; telephone +353-1-7061890; fax +353-1-2830534; E-mail svcon97@ucd.ie; Conference Web page at <http://www.keelp.ac.uk/depts/ma/people/am/mpisava.html>.

22. 3RD EUROMECH FLUID MECHANICS CONFERENCE, GÖTTINGEN, GERMANY, 15–18 SEPTEMBER 1997

The conference will be open to all those interested. A programme for accompanying persons will be organized. The conference office will be open from 14 to 18 September 1997. The conference programme includes the 1997 EUROMECH Fluid Mechanics Lecture (1 hour) by U. Frisch (Nice), entitled "Towards a theory of intermittency", ten 45 minute expository review lectures, an evening lecture (open to the public) by I. Rehberg (Magdeburg), entitled "Granular matter: shaken, not stirred. And very dry (with experiments)", and three half-a-day Mini-Symposia, on, respectively, "Turbulent mixing—mechanisms and control", "Dispersed multiphase flows" and "Forced flows with solidification". Contributed papers will be presented in parallel oral sessions. There will be long (20 min including discussion) and short (10 min including discussion) presentations. These papers may also be presented as posters. There will be publication of a volume of proceedings for this conference. The mailing address for contributed papers is Dr Christoph Voigt, Institut für Angewandte Mechanik und Strömungsphysik, Universität Göttingen, Bunsenstrasse 10, D-37073 Göttingen, Germany; telephone +49 551 5176 546; fax +49 551 5176 595; E-mail EFMC97@MSFD1.GWDG.DE Information about the conference can also be obtained from our WWW page at <http://msfm42.gwdg.de/efmc97/>.

23. HEARING AID RESEARCH AND DEVELOPMENT CONFERENCE, BETHESDA, MARYLAND, 22–24 SEPTEMBER 1997

The National Institute on Deafness and other Communications Disorders (NIDCD) and the Department of Veterans Affairs are sponsoring the second biennial Hearing Aid Research and Development Conference for the presentation of ongoing or completed research relevant to hearing aid design and functions. Further information can be obtained from NIDCD/VA, Hearing Aid Research and Development Conference, c/o Tascon, 7101 Wisconsin Avenue, Suite 1125, Bethesda, MD 20814, U.S.A.; telephone +301-496-7243; TDD 301-402-0252.

24. EUROMECH COLLOQUIUM 369: FLUID-STRUCTURE INTERACTION IN ACOUSTICS, DELFT, THE NETHERLANDS, 23–26 SEPTEMBER 1997

Topics covered include radiation and scattering from structural elements and fluid-loaded structures, including structures excited by flowing media. Both theoretical and experimental research included in the theme. Traditionally the Euromech Colloquia are informal; there will be no parallel sessions or formal published proceedings. The number of participants will be limited to approximately 60. Participation by invitation will have priority. Young researchers are encouraged to apply for participation. Further information can be obtained from the Chairman, Adrian H. P. Van der Burgh, Delft University of Technology, Faculty of Mathematics and Informatics, P.O. Box 5031, 2600 GA Delft, The Netherlands, telephone +31/15/2784420; fax +31/15/2787209; E-mail burgh@dv.twi.tudelft.nl—or from the Co-chairman, Paul J. T. Filippi, Laboratoire de Mécanique et d'Acoustique, 31 Chemin Joseph Aiguier, 13402 Marseille CEDEX 20, France; telephone +33/91/164068; fax +33/91/228248; E-mail Filippi@lma.cnrs-mrs.fr.

25. ASME 4TH INTERNATIONAL SYMPOSIUM ON FLUID-STRUCTURE INTERACTIONS, AEROELASTICITY, AND FLOW-INDUCED VIBRATIONS AND NOISE, DALLAS, TEXAS, U.S.A., 16–21 NOVEMBER 1997

This is the sequel to the successful 1984, 1988 and 1992 Symposia, co-sponsored by JSME, IMechE, CSME and IAHR. All three were sponsored by the ASME Division of Applied Mechanics, Fluids Engineering, Heat Transfer, Noise Control & Acoustics Nuclear Engineering, and Pressure Vessels & Piping. The upcoming symposium will be co-sponsored by the same Division, but this time also by the Aerospace Division (the Aerospace Sessions will be coordinated by Professor Peretz Friedmann). Co-sponsorship by the same international organizations is being sought for the 1997 Symposium. The 1984, 1988 and 1992 Symposia involved 70, 85 and 102 papers, and the proceedings were published in six, seven and eight volumes, respectively. The 4th International Symposium in 1997 is expected to increase in size, with ~25–30 sessions involving 100–130 papers. Papers in the general areas of fluid-structure interactions, aeroelasticity, hydroelasticity, flow excitation and flow-induced vibrations and noise, and unsteady fluid dynamics related to FSI are included—both fundamental papers, with no particular application, and papers related to or inspired by specific systems in aerospace, mechanical and naval engineering. Theoretical, experimental and computational papers are equally welcome. Further information can be obtained from Michael P. Paidoussis, Department of Mechanical Engineering, McGill University, 817 Sherbrooke Street West, Montreal, QC, Canada H3A 2K6; telephone (514)-398-6294; fax (514)-398-7365; E-mail maryf@mecheng.lan.mcgill.ca.

26. WESTPRAC VI 97, HONG KONG, 19–21 NOVEMBER 1997

The Western Pacific Regional Acoustics Conference is to be held for the second time in Hong Kong. Previous conferences have been in Singapore (1982), Hong Kong (1985), Shanghai (1988), Brisbane (1991) and Seoul (1994). The organizers are the Hong Kong Institute of Acoustics, the Hong Kong Polytechnic University and the Hong Kong Institute of Engineers. Co-organizers are the Acoustical Societies of America, Australia, Brazil, China, India, Italy, Japan and Korea, the Iberoamerican Acoustical Federation, the Institute of Acoustics, U.K., and the International Institute of Noise Control Engineering. Conference topics include the following: active noise and vibration control; architectural acoustics; computing technology for acoustics; environmental noise control; measurement and instrumentation; physical acoustics; speech analysis/signal processing;

transportation noise; underwear acoustics. Accepted papers will be published in the conference proceedings. Further information can be obtained from the Secretary, Dr S. K. Tang, Department of Building Services Engineering, The Hong Kong Polytechnic University, Hung Hom, Kowloon, Hong Kong; telephone -(852) 27665855; fax -(852) 27746146; E-mail besktang@polyu.edu.hk.

27. 7TH ICOSSAR, KYOTO, JAPAN 24–28 NOVEMBER 1997

The 7th International Conference on Structural Safety and Reliability (ICOSSAR) will be held on 24–28 November 1997 in the beautiful historical city of Kyoto, Japan. Four to five hundred participants are expected. ICOSSAR is a major international forum for the exchange of information and discussion of recent developments in structural safety and reliability. The Conference will address the decision-making process for design, quality assurance and construction of major structural systems. Topics include basic theory and methods, design concepts and methods, damage/maintenance, deterioration/rehabilitation, applications to geotechnical, earthquake, offshore and wind engineering, and social-economic impacts. Further information can be obtained from: ICOSSAR Secretariat, c/o School of Civil Engineering, Kyoto University, Kyoto, 606-01, Japan; telephone 81-75-753-5093; fax 81-75761-0646; E-mail; icos97@brdgeng.gee.kyoto.u.ac.jp.

28. 5TH INTERNATIONAL CONGRESS ON SOUND AND VIBRATION, ADELAIDE, AUSTRALIA, 15–18 DECEMBER 1997: PRELIMINARY ANNOUNCEMENT AND CALL FOR PAPERS

The 5th International Congress on Sound and Vibration will be held on 15–18 December 1997 at the University of Adelaide, South Australia. The second to be organized under the auspices of the International Institute of Aeronautics and Vibration, it is sponsored by the IIAV, the University of Adelaide and the Australian Acoustical Society. Contributed papers are invited, covering theoretical and experimental research as well as technology application in the following areas: active noise control; active vibration control; aero-acoustics; architectural acoustics; boundary element and finite element methods; condition monitoring and diagnostics; damping—passive and active; environmental/community noise; human response to sound and vibration; inverse methods; machinery noise and vibration control; materials for noise and vibration control; measurement techniques; mechanisms of human hearing; modal analysis; musical acoustics; noise control elements; non-destructive testing; non-linear acoustics; non-linear vibration; occupational noise exposure and control; outdoor sound propagation; scattering of sound; signal processing; sound intensity; sound sources; sound transmission; statistical energy analysis; structural acoustics and vibration; structural intensity; transportation vibration and noise; underwater acoustics; vibration and shock; vibration sources; and wavelet analysis. Further information may be obtained from the ICSV5 Secretariat, Department of Mechanical Engineering, University of Adelaide, South Australia 5005, Australia; telephone +61 8 8303 5460; fax +61 8 8303 4367; E-mail icsv5@mecheng.adelaide.edu.au.

29. EUROMECH MEETINGS IN 1997 AND 1998

The EUROMECH Council has overall responsibility for EUROMECH Colloquia and EUROMECH Conferences. EUROMECH Colloquia are informal meetings on specialized research topics. Participation is restricted to a small number of research workers actively engaged in the field of each Colloquium. The organization of each Colloquium, including the selections of participants for invitation, is entrusted to a Chairman. Proceedings are not normally published. Those who are interested in taking part in a Colloquium should

write to the appropriate Chairman. The Number, Title, Chairman or Co-chairman, Dates and Location for each Colloquium in 1997, and preliminary information for some Colloquia in 1998, are as follows: 357. *Material identification using mixed numerical/experimental methods*, Professor H. Sol, Vrije Universiteit Brussel, Engineering Faculty, Department of Structural Analysis, Pleinlaan, 2, B-1050 Brussel, Belgium, E-mail hugos@vnet3.vub.ac.be, Dr C. W. J. Oomens, Eindhoven, 7–9 April 1997, Kerkrade, The Netherlands; 358. *Mechanical behaviour of adhesive joints: analysis, testing and design*, Professor A. Aivazdedeh, Institut Supérieur de l'Automobile et des Transports, 49, rue Mademoiselle Bourgeois, BP 31, F-58027 Nevers Cédex, France, Professor R. D. Adams, Bristol, Professor A. H. Cardon, Brussel, and Professor A. Rigolot, Paris, 3–5 September 1997, Nevers, France; 359. *Stability and transition of boundary-level flows*, Professor S. Wagner, Institut f. Aero- & Gasdynamik, Universität Stuttgart, Pfaffenwaldring 21, D-70550 Stuttgart, Germany, E-mail wagner@iag.uni-stuttgart.de, Professor L. Kleiser, Zürich, 10–13 March 1997, Stuttgart, Germany; 360. *Mechanics of sandwich structures: modelling, numerical simulation and experimental identification*, Professor A. Vautrin, SMS/Department of Mechanical and Materials Engineering, École des Mines de Saint-Étienne, 158, Cours Fauriel, F-42023 Saint-Étienne Cédex 2, France, E-mail vautrin@emse.fr, Professor A. T. Marques, Porto, 13–15 May 1996, Saint-Étienne, France; 361. *Active control of turbulent shear flows*, Professor H. H. Fernholz, Hermann-Föttinger-Institut, Technische Universität, Berlin, Straße des 17. Juni 135, D-10623 Berlin, Germany, E-mail hfi@pi.tu-berlin-de, Professor H. E. Fiedler, Berlin, 17–19 March 1997, Berlin, Germany, 362 *Structural damage and failure under intense loading*, Professor S. R. Reid, Department of Mechanical Engineering, UMIST, P.O. Box 88, Sackville Street, Manchester M60 1QD, U.K., E-mail steve.reid@umist.ac.uk, Professor S. T. S. Al-Hassani, Manchester, 21–24 April 1997, Manchester, U.K.; 363. *Mechanics of laser ablation*, Dr N. M. Bulgakova, Institute of Thermophysics SB RAN, Prosp. Lavrentyev 1, 630090 Novosibirsk, Russia, E-mail nbul@otani.thermo-nsk.su, Professor V. E. Nakoryakov, Novosibirsk, Dr W. Marine, Marseille, and Dr M. R. Predtechensky, Novosibirsk, 23–26 June 1997, Novosibirsk, Russia; 364. *Dynamics and statistics of concentrated vortices in turbulent flows*, Dr S. Le Dizès, I.R.P.H.E., 12, avenue Général Leclerc, F-13003 Marseille, France, E-mail ledizes@marius.univ-mrs.fr, Professor H. K. Moffat, Cambridge, 24–27 June 1997, Marseille, France; 365. *Structural damage assessment using advanced signal processing*, Dr K. Worden, Department of Mechanical Engineering, University of Sheffield, Mappin Street, Sheffield S1 3JD, U.K., E-mail keith@mrbump.shef.ac.uk, Professor F. Brancaloni, Pescara, 30 June–2 July 1997, Sheffield, U.K.; 366. *Porous media—theories and experiments*, Professor R. de Boer, Institute of Mechanics, FB 10, University of Essen, D-45117 Essen, Germany, E-mail rb110@bauwesen-uni-essen.de, Professor K. Wilmanski, Essen, and Professor S. J. Kowalski, Poznan, 23–27 June, Essen-Heidhausen, Germany; 367. *Fluid mechanics of coating processes*, Professor P. Bourgin, Institut de Mécanique des Fluides, Université Louis Pasteur, 2 rue Boussingault, F-67000 Strasbourg, France, E-mail bourghin@imf.u-strasbg.fr, Dr H.-G. Wagner, Ludwigshafen, 22–24 July 1997, Strasbourg, France; 368. *Biomechanics of hearing*, Professor W. Schiehlen, Institute B of Mechanics, University of Stuttgart, D-70550 Stuttgart, Germany, E-mail wos@mechb.uni-stuttgart.de, Dr A. Eiber, Stuttgart, 10–12 September 1997, Stuttgart, Germany; 369. *Fluid-structure interaction in acoustics*, Dr A. H. P. van der Burgh, Faculty of Technical Mathematics and Informatics, University of Technology, P.O. Box 5031, 2600GA Delft, The Netherlands, E-mail burgh@dv.twi.dudelft.nl, Dr P. J. T. Filippi, Marseille, 23–26 September 1997, Delft, The Netherlands; 370. *Synthesis of mechatronic systems*, Professor M. Hiller, Fachgebiet Mechatronik, Gerhard-Mercator-Universität-GH Duisburg, Lotharstr. 1, D-47057

Duisburg, Germany, E-mail hiller@mechatronik-uni-duisburg.de, Professor H. van Brussels, Leuven, 15–17 September 1997, Duisburg, Germany; 371. *Efficient and reliable continuum finite elements for linear and nonlinear analyses*, Professor K. Schweizerhof, Institut für Mechanik, University Karlsruhe, Kaiserstrasse 12, D-76128 Karlsruhe, Germany, E-mail gs01@rz.uni-karlsruhe.de, Professor E Ramm, Stuttgart and Professor P. Wriggers, Darmstadt, 17–19 September 1997, Bad Herrenalb (near Karlsruhe), Germany; 372. *Reliability in nonlinear structural mechanics*, Professor J.-C. Mitteau, Institut Francais de Mécanique Avancée, BP 265, F-63175 Aubière Cédex, France, E-mail mitteau@ifma.ifma.fr, Professor O. Ditlevsen, Lyngby, 21–24 October 1997, Clermont-Ferrand, France; 373. *Modelling and control of adaptive mechanical structures*, Professor U. Gabbert, Otto-von-Guericke-Universität Magdeburg, Institut für Mechanik, Universitätsplatz 2, D-39106 Magdeburg, Germany, E-mail ulrich-gabbert@mb.uni-magdeburg.de, Professor E. Breitbach, Braunschweig, 11–13 March 1988, Magdeburg, Germany; 374. *Recent computational developments in steady and unsteady naval hydrodynamics*, Professor M. Guilbaud, C.E.A.T., 43 rue de l'Aérodrome, F-86036 Poitiers Cédex, France, E-mail guilbaud@univ-poitiers.fr, Dr G. Delhommeau, Nantes, 27–29 April 1998, Poitiers, France; 375. *Biology and technology of walking*, Professor F. Pfeiffer, Lehrstuhl B für Mechanik, TU/München, D-80290 Munich, Germany, E-mail Pfeiffer@lbm.mw.tu-muenchen.de, Professor H. Cruse, Bielefeld, 23–25 March 1998, Munich, Germany; 376. *Waves in two-phase flows*, Professor C. F. Delale, Department of Mechanical Engineering, Istanbul University, Avcilar Kampusu, 34850 Avcilar, Istanbul, Turkey, E-mail delale@yunus.mam.tubitak.gov.tr, Professor D. G. Crighton, Cambridge, April 1998, Istanbul, Turkey; 377. *Stability and control of shear flows with strong temperature or density gradients*, Dr F. Marsik, Institute of Thermomechanics, Academy of Sciences of the Czech Republic, Dolejskova 5, CZ-182 00 Praha 8, The Czech Republic, E-mail MARSIK.BIVVOJ.@IT.CAS.CZ, Professor P. A. Monkewitz, Lausanne, 20–22 May 1998, Prague, Czech Republic.

EUROMECH Conferences are broad in scientific scope. They comprise the EUROMECH Solid Mechanics Conference, the EUROMECH Fluid Mechanics Conference, the EUROMECH Turbulence Conference, the EUROMECH Nonlinear Oscillations Conference and the EUROMECH Mechanics of Materials Conference. They are open to all those interested and are expected to have a number of participants between 150 and 160. The general purpose is to provide opportunities for scientists and engineers to meet and discuss current research. The responsibility for each series of Conferences is delegated to a Standing Conference Committee. The organizational work is carried out by Local Organizing Committees (LOC). Those who are interested in taking part in one of the Conferences should write to the Chairman or Secretary of the appropriate LOC. Information about the Conferences in 1997 is as follows. ESMC-3, *3rd EUROMECH Solid Mechanics Conference*, Professor B. Storåkers (Chairman) and Dr P.-L. Larsson (Secretary), Department of Solid Mechanics, Royal Institute of Technology, S-100 44 Stockholm, Sweden, E-mail 3esmc@hallf.kth.se, 18–22 August 1997, Stockholm, Sweden; EFM3-3, *3rd EUROMECH Fluid Mechanics Conference*, Professor G. E. A. Meier (Chairman), DLR-Institut für Strömungsmechanik, Bunsenstrasse 10, D-37073 Göttingen, Germany, E-mail EFMC97@MSFD1.GWDG.DE, 15–18 September 1997, Göttingen, Germany.

30. VON KÁRMÁN INSTITUTE FOR FLUID DYNAMICS LECTURE SERIES

The 1997 Lecture Series Programme includes the following: Introduction to Turbulence (17–21 March 1997); Test Methodology for Multi-parametric Investigations

(7–11 April 1997); Inverse Design and Optimization Methods (21–25 April 1997); Noise Suppression in Air and Ground Vehicles (12–16 May 1997); Thin Liquid Film and Coating Processes (26–30 May 1997); Turbulence in Compressible Flows (2–6 June 1997). To encourage participation in the lecture series programme by university assistants and undergraduate students, the Institute has established a limited number of VKI Lecture Series Fellowships for participants from NATO countries which support the Institute. The recipient of a fellowship is entitled to attend the lecture series at a reduced fee. For example, the reduced fee applied to a lecture series carrying a full fee of 25 000 BF will be 12 500 BF for assistants or 1500 BF for undergraduate students. (In the latter case, meals are not included.) The request to be considered for an award must accompany the application to attend the lecture series, and the applicant must provide a recommendation from his professor. All possible alternative sources of funding should be investigated before aid is requested under this scheme, so that those most in need will benefit. Further information can be obtained from the von Kármán Institute for Fluid Dynamics Lecture Series Secretariat, Chaussée Waterloo 72, B-1640 Rhode-Saint-Genèse, Belgium; telephone 32-2-359.96.04; fax 32-2-359.96.00.

31. ISVR COURSES AND CONFERENCE PROGRAMME

Information may be obtained from the ISVR Conference Secretary, Institute of Sound and Vibration Research, The University, Southampton, SO17 1BJ; telephone +44 (0) 1703 592310; fax +44 (0) 1703 593190.

32. CISM COURSES PROGRAMME

Information on the short courses programme for 1997 of the International Centre for Mechanical Sciences, Udine, Italy, is available on <http://www.uniud.it/cism/homepage.htm>.

33. TOOLS FOR NOISE CONTROL ENGINEERS, ISTANBUL, TURKEY, 14–18 APRIL 1997

The lecturers on this short course include Professor Frank Fahy and Drs Michael Brennan, Maurice Petyt, Stuart Dyne and Paul White of the Institute of Sound and Vibration Research, University of Southampton. Further information can be obtained from Ms İsil Dayioğlu, “Sound Quality and Machine Diagnostic” course coordinator, TEE A.S. R&D Department, Davutpaa, Litros Yolu, Topkapi 34020, Istanbul, Turkey; telephone +(90) 212-613-85-00; fax +(90) 212-613-85-49 or +(90) 212-613-85-47.

34. EARTHQUAKES AND THE BUILT ENVIRONMENT CD-ROM

Nearly 90 000 bibliographic records from three of the world’s leading databases on earthquakes, earthquake engineering and related topics are available on *Earthquakes and the Built Environment Index*, a CD-ROM recently published by National Information Services Corporation (NISC). Comprising databases from the Information Service of the National Center for Earthquake Engineering Research (NCEER—State University of New York at Buffalo), the National Information Service for Earthquake Engineering (NISEE—University of California at Berkeley) and the Newcastle Earthquake Project (Newcastle Region Public Library of Australia), *Earthquakes and the Built Environment Index* was first introduced in the fall of 1994. It represents the co-operative effects of the three organizations and NISC to make these resources available to users worldwide, in one easy-to-reference format. The latest version combines the three databases with bilingual searching capabilities in English and Spanish. Further information may be obtained from

the NCEER Information Service, 304 Capen Hall, University of Buffalo, Buffalo, NY 14260-2200, U.S.A.; telephone 716/645-3377; fax 716/645-3379; E-mail ner-cak@ubvms.cc.buffalo.edu, or Katie Frohberg at NISEE, University of California at Berkeley, 1301 South 46th Street, Richmond, CA 94804-4698, U.S.A.; telephone 510/231-9401; fax 510/231-9461; E-mail katie@rock.eerc.berkeley.edu, or Ajita Lewis, Newcastle Earthquake Database, Newcastle Region Public Library, Newcastle, NSW, Australia: telephone intl +61 + 49 258314; fax intl + 61+49 294157; E-mail exatl@dewey.newcastle.edu.au.

35. EUROPEAN UNION LARGE-SCALE FACILITIES PROGRAMME: ACCESS TO LARGE SHAKING TABLES AND REACTION-WALL FACILITIES

The Commission have agreed to provide funded access for research to the large shaking tables and reaction-wall facility listed below under its Training and Mobility of Research (TMR) Programme. Application for such access from nationals of a Member State of the Community or Associated State is now invited. Applications with interests in research in Structural Engineering and Dynamic Testing (earthquake engineering) should apply in writing to the Director of one of the laboratories for considerations by a Management Panel appointed by the Commission. Details should be given of the research proposed and the likely amount of access required. Approved users will receive travel and subsistence costs from the host laboratory. More precise details are available from the Director of each of the following laboratories: Dr E. Carvalho, Laboratorio Nacional de Engenharia Civil, Avenida do Brasil 101, 1799 Lisbon, Portugal, fax +351-1-8497660, telephone +351-1-8482131; Professor P. G. Carydis, Laboratory of Earthquake Engineering, National Technical University, 15700 Polytechniupoli Zografou, Athens, Greece, fax +30-1-7721182, telephone +30-1-7721185; Dr J. Donea, ELSA Reaction Wall Facility, Joint Research Centre, I-21010 Ispra (VA), Italy, fax +39-332-789049, telephone +39-332-789989; Dr G. Franchioni, Structural Dynamic Testing, Laboratory, ISMES S.p.A., 24068 Seriate (BG), Italy, fax +39-35-302999, telephone +39-35-307111; Madame F. Gantenbein, CEA Saclay, DMT/SEMT, 91191 Gif sur Yvette, France, fax +33-1-69086905, telephone +33-1-69082027; Professor R. T. Severn, Earthquake Engineering Research Centre, University of Bristol, University Walk, Bristol BS8 1TR, U.K., fax +44-117-9287783, telephone +44-117-9287708.

36. CONFERENCE PROCEEDINGS—EUROMECH—2ND EUROPEAN NONLINEAR OSCILLATIONS CONFERENCE, PRAGUE, SEPTEMBER 1996

Approximately 110 copies are available of the Proceedings of the 2nd European Nonlinear Oscillations Conference, held in Prague, on 9–13 September 1996. The Proceedings are in three volumes containing 190 papers, including eight invited papers, which cover the following Conference topics: qualitative analysis of nonlinear dynamic systems; quantitative methods for nonlinear systems; bifurcation theory; numerical methods in nonlinear dynamics; nonlinear random vibrations; phenomena and criteria of chaotic oscillations; computer aided symbolic methods in dynamics; vibration control; experimental methods in vibration theory; nonlinear continuous systems; applications in mechanical and electrical engineering, physics, biology, chemistry and other sciences; education of nonlinear dynamics. The price of the Proceedings is US \$80, inclusive of postage. Further information is available from Ing. F. Peterka, Dr. Sc., Institute of Thermomechanics of the AS CR, Dolejškova 5, 182 00 Prague 8, Czech Republic, fax +42/2/8584695; E-mail peterka@bivoj.it.cas.cz.

37. VIBRATION DATABASES ON THE INTERNET

Databases containing information on vibrations produced by road vehicles and hand-held machines are now accessible on the internet at <http://umetech.niwl.se>. Contacts are: Professor Ronnie Lundström, NIWL, Umeå; telephone +46 90 16 50 97; E-mail Ronnie.Lundstrom@niwl.se, and Bert Jacobsen, University Hospital of Northern Sweden, Umeå; telephone +46 90102756.

38. NAR TO BECOME IJAV

Of the two abstract journals *Noise Abstracts and Reviews* (in English) and *Noise* (in Russian) which have in recent years been published in St Petersburg, Russia, as a co-operative effort of Russian, German and U.S.A. scientists, the first is to become, with a change of format to include four or five articles instead of just one review article, the *International Journal of Acoustics and Vibration* (IJAV), and as such will serve as the official journal of the International Institute of Acoustics and Vibration. The Editor-in-Chief of IJAV will be Dr H. Heller (Germany), the Scientific Editor Professor M. J. Crocker (U.S.A.), and the Deputy Chief Editor Professor N. Ivanov (Russia).

39. REPORT FROM THE WORKSHOP ON SOURCE CHARACTERIZATION—LIVERPOOL '96

There is an increasing belief that models and measurement methods used for characterization of acoustic fluid sources and structural sources have substantial similarities. At the same time, those working with structural sources do not read the work on fluid sources and *vice versa*. In view of this and the background given above, it appeared timely to bring the two groups together. A one-day workshop, "International Workshop on Fluid-borne and Structure-borne Sound Source Characterization", was held in Liverpool, with around 30 invited specialists, in conjunction with Inter-Noise '96. The organization committee consisted of Mats Åbom and Hans Bodén, Royal Institute of Technology, who are concerned with characterization of fluid sources in ducts, and Björn Petersson, Loughborough University and Barry Gibbs, Liverpool University, who are concerned with characterization of structural sources. The three principle aims of the workshop were as follows: to define what is meant by source characterization; to identify areas for continued research; to establish a forum for exchange of ideas and information. The workshop was informal, without detailed presentations by the participants. However, it was structured into four sessions, at which different aspects were addressed. (1) General aspects included the rationale for combining fluid- and structure-borne source characterization, machines or internal mechanisms as sources, linear or non-linear source models, unified or specific approaches, is a source characterization possible(?), and terminology. 2. Specific aspects included fluid-borne sources, structure-borne sources, fluid-structure interaction, influence of receiver and simplifications for classes of sources. 3. Source data included tonal and broadband sources, low or high frequency dominance, influence of multiple interfaces and operational conditions. 4. Future work included continuation, priorities, collaboration, research funding and a forum for exchange of information.

From the open discussions addressing the topics listed, the moderators of the sessions were able to extract the following items summarizing the discussions: (i) the black box approach is a useful conceptual tool; (ii) a complete set of data is required to give power under any load; (iii) the black box approach is necessary to test efficiency of noise control proposals, but there is also a need for a fundamental understanding of generating processes; (iv) research is required into the influence of test conditions on source mechanisms; (v) the study of fluid-borne sources is more advanced in terms of

understanding of basic mechanisms; (vi) structure–fluid interaction remains an important issue; (vii) tonality of sources should be differentiated from correlation; (viii) frequency modulation should be explored experimentally and analytically; (ix) the meetings should continue; (x) practitioners should be invited to future meetings.

The following concluding remarks can be made: in view of the confusion perceived at the workshop over terminology, the organizing committee offers the following nomenclature: source mechanism, a physical process, an outcome of which is generation of sound and vibration; source, an assembly of one or more source mechanisms, or units containing source mechanisms, with boundaries defined by the application or parties involved; receiver, the medium to which sound and vibration energy is transferred; interface, the part or parts of the source boundary defined over which sound and vibration transmission to the receiver takes place; active characteristics, a map of the effect of the source mechanism or mechanisms *at the interface*; passive characteristics, the fluid or structural properties *at the interface* which are *independent* of the source mechanism or mechanisms; source characterization, the acquisition and organization of the active and passive characteristics of the source; emission, the *net* vibro-acoustic effect of the source at or remote from the interface. Note in connection with this nomenclature that a source characterization requires both the source active and passive characteristics for a complete description: The emission requires the receiver passive characteristic, in addition; Therefore, a source characterization alone cannot give emission and, *vice versa*, emission does not yield unambiguously a source characterization.

Those wishing to receive the complete minutes from the workshop or information on future activities, can get in touch with a member of the organizing committee at the following addresses: Dr Hans Bodén, and Dr Mats Åbom, The Marcus Wallenberg Laboratory for Sound and Vibration Research (MWL), Department of Vehicle Engineering, KTH, S-10044 Stockholm, E-mail hansb@fkt.kth.se, and matsa@fkt.kth.se; Professor Björn Petersson, Department of Aeronautical and Automotive Engineering, Loughborough University, Loughborough LE11 3TU, E-mail B. A. Petersson@lboro.ac.uk; Dr Barry Gibbs, School of Architecture and Building Engineering, Liverpool University, P.O. Box 147, L69 3BX, E-mail bmg@liv.ac.uk.