

President's Introduction

This newsletter contains essential information regarding the elections to the EUROMECH Council for 2004. EUROMECH Members are invited to vote on the candidates listed in the ballot papers enclosed with this newsletter.

The Advisory Board has prepared a list of eight candidates to fill five vacant seats on the EUROMECH Council. All these seats are for a six-year term, starting on 1 January 2004. Short biographical statements by the candidates are included in the newsletter.

The next two years will see important changes among EUROMECH Officers. Miloslav Okrouhlik, our Secretary-General, and Emil Hopfinger, our Treasurer, have expressed the wish to gradually relinquish their responsibilities. Bernhard Schrefler, University of Padova, who has been very involved in the Society, particularly as chairman of the EUROMECH Solid Mechanics Conference Committee, has kindly accepted to gradually take over from Miloslav Okrouhlik the position of Secretary-General. Wolfgang Schröder, RWTH-Aachen, has also been very active in EUROMECH, as a member of the EUROMECH Fluid Mechanics Conference Committee and the organizer of several successful Colloquia. He has kindly accepted to succeed Emil Hopfinger as Treasurer. Both Bernhard Schrefler and Wolfgang Schröder therefore appear unopposed as candidates in the first two slots on the election ballot. Their willingness to serve as officers is warmly appreciated.

The Advisory Board has selected six candidates for the remaining three slots on the election ballot, having regard for subject and geographical balance on the Council. It is very gratifying to see that such distinguished scientists are prepared to devote some of their time to work for EUROMECH.

Please vote and be sure to send in your ballot sheet to the Treasurer, Emil Hopfinger, in order to meet the arrival deadline of 15 December 2003.

I am very pleased to announce that at the yearly meeting of the Council, held in Genoa on 11–12 April 2003, we took the decision to award the 1st EUROMECH Fluid Mechanics Prize to Professor Keith Moffatt, University of Cambridge, and the 1st EUROMECH Solid Mechanics Prize to Professor Franz Ziegler, Technical University of Vienna. We report on these important events in this newsletter. The EUROMECH Council did feel the immediate impact of its decisions since a mild but definitely noticeable earthquake took place at 11 : 26 am on 11 April!

In closing, let me again encourage members of the Society to submit proposals for EUROMECH Colloquia. Information regarding their format and organization is available on our website www.euromech.cz. Proposals for Colloquia to be held in 2005 and 2006 should reach us before 28 February 2004, in order to be examined at the next Council meeting in April 2004.

I wish you a productive and rewarding academic year.

Patrick Huerre
President, EUROMECH

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John Peter Finley 1937–2003

John P. Finley, the Editor of the EUROMECH Newsletter from 1996 to 2003, died from cancer in London, England, on 24 February 2003.

John, born in Birmingham on 22 February 1937, attended Shrewsbury School and came up to the University of Cambridge (Major and Senior Scholar of Emmanuel College) in 1956. He gained first-class honours in Part I of the Mechanical Sciences Tripos and Honours in Part II in 1959 and stayed on at Cambridge to pursue his PhD, which he received in 1964. After three years as a lecturer at the Engineering Department of the University of Malaya in Kuala Lumpur he moved to the Department of Aeronautics at Imperial College London in 1967 where he stayed until his retirement 35 years later.

During his thesis work on a counterflowing jet in a supersonic airstream John became interested in compressible viscous flows gaining the experience for the arduous task years later to evaluate and catalogue all the published data on compressible turbulent boundary layers. This work was encouraged by D. Küchemann and undertaken in cooperation with H.H. Fernholz at the Technical University Berlin. It brought John to Berlin for a sabbatical and many months in the summers between 1974 and 1988. The last of the four volumes, published as AGARDographs, appeared in 1989.

John was a dedicated university teacher and set about developing and giving lecture courses on many of the fundamental topics on the 'aero side' of the Aeronautical Engineering degree course. He will be remembered with affection by the many generations of undergraduate students to whom he taught the basics of aerodynamics and thermodynamics. John was Senior Tutor in the Aeronautics Department and Warden of Beit Hall from 1985. Both these posts brought him further considerable involvement with the students which he always regarded as a major part of his professional life.

In addition to his teaching and research he took on the co-editorship of Progress in Aerospace Sciences after the sudden death of D. Küchemann in 1976 and carried it out for many years with his customary attention to editorial detail. Then he transferred to editing the Newsletter of the EUROMECH Society from 1996 to 2003 and gave it the sound foundation of today. John has been well known for his interests outside academia, including love of science fiction, old cars, music and cooking, the latter accompanied by an extensive knowledge of wine. We remember John as a scholar of the true Cambridge style, his sharp intellect and his unassuming personality. He is still present with us in many ways and his untimely death is a great loss to his sons, his many friends and colleagues.

H.-H. Fernholz

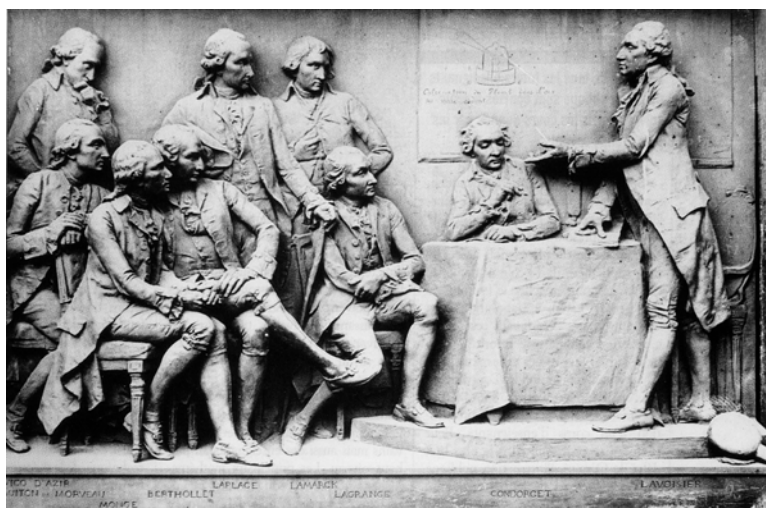
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J.M.R. Graham

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ALIVE
Christopher Clanet¹

Scientific biographies often focus on a scientific leader as a star who does not need anything to shine but himself. . .



Bas-relief from the second half of the XIX century
exposed Place de la Madeleine in Paris and destroyed in 1940.

Giuseppe 8 May 1794, after a trial that lasted less than a day, a revolutionary
Lodovico tribunal condemned Antoine Laurent Lavoisier to death. He was
Lagrangia 51 and guillotined on the same afternoon.

- It took only a moment to cause this head to fall and a hundred years will not suffice to produce its like.

Joseph Louis Lagrange, the day of Lavoisier's execution.

Lagrange remembers that eight months ago, this man had probably saved him from death. In September 1793, during the Terror, a law was passed ordering the arrest of all foreigners born in enemy countries and all their properties to be confiscated. Lagrange, who certainly fell under the terms of the law, was granted an exception, thanks to Lavoisier. He is now 57 years old and is not sure to survive the French Revolution. Looking into the past, he remembers his first thirty years in Turin, setting

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up the Royal Academy of Science, the next 20 years in Berlin and those amazing last 7 years in Paris [1].

He remembers his friendship with d'Alembert who died 11 years ago after a whole life spent in Paris and dedicated to Mathematics and to the Encyclopaedia with Diderot; a whole life also dedicated to quarrels with almost everyone around him, Clairaut, Daniel Bernoulli and Euler in particular. D'Alembert, who had declined the offer of Frederick the Great to become the president of the Berlin Academy after Maupertuis and who knew by March 1766 that Euler was leaving the Berlin Academy for St Petersburg. Euler was obviously not an easy member to replace but d'Alembert had suggested Lagrange to accept that post in Berlin. Which he did, staying there for 20 years, regularly winning the prize from the Academy of Sciences of Paris in 1772, 1774 and 1780.

Lagrange remembers that on 18 May 1787, following the death of Frederick II, he left Berlin to become a member of the Académie des Sciences in Paris, invited by Louis XVI [2]. This was a Revolution ago. . .

What he does not know at the moment is that he will live almost another 20 years, and that he will play a major role in the organization of French scientific higher education as a professor at the École Normale and at the École Polytechnique, both founded in 1794. He will share this role with two other leading scientific actors of the revolution, Monge and Laplace.

During the first year, his best student at the École Normale is Jean-Baptiste Fourier who wrote:

- His voice is very feeble, at least in that he does not become heated; he has a very pronounced Italian accent and pronounces the s like z. . . The students, of whom the majority are incapable of appreciating him, give him little welcome, but the professors make amends for it.

Fourier is engaged the following year as a lecturer at the École Polytechnique. He will succeed Lagrange in 1797, being appointed to the chair of analysis and mechanics. He was renowned as an outstanding lecturer.

During his first year at the École Polytechnique, Lagrange's best student is Antoine-Auguste Le Blanc. Monsieur Le Blanc does not attend classes but receives the lectures by mail and sends back his homework directly to the school. The people in charge of marking his work are quite amazed by his ability to present intelligent and insightful solutions to the problems. One day Lagrange decides to meet this remarkable student, goes to his house, and finds out that 'Monsieur Le Blanc' is an eighteen

year old woman, by the name of Sophie Germain². Lagrange, recognizes her talent and becomes her mentor. She will later become Fourier's friend and will be the first woman to win a prize of the Academy and to attend its sessions. She will die at the age of 55, on 27 June 1831, after a battle with breast cancer. Shortly before, Gauss, one of her earliest mentors, will have convinced the University of Göttingen to give Sophie an honorary degree.

Conte When Charles Bossut leaves the *École Royale du Génie* at Mézières,
de Gaspard Monge is appointed to succeed him at age 23 in January 1769.
Péluse He will remain a Professor in Mézière for 20 years, teaching and doing
 research in Mathematics. Politically Monge is a strong supporter of the
Revolution. He is appointed by the National Convention on 11 March 1794 to establish the *École Centrale des Travaux Publics* (soon to become the *École Polytechnique*).
About his teaching, Fourier reports:

- *He has a loud voice and is active, ingenious and very learned.*

In 1798, Monge becomes a friend of Bonaparte and is in charge, together with Claude-Louis Berthollet, of selecting gifted young scientists for the Egyptian expedition³ [3]. He also chooses Fourier to join as a technical advisor for engineering and technical research. This expedition is decided by the Directory government to destroy British trade with the Middle East. In May 1798, Bonaparte sails for Egypt with about 38 000 men. Among them, 167 are part of the famous 'Commission des Sciences et Arts', the majority are scientists with an average age of 20 years. While in Egypt Fourier helps founding the Cairo Institute and becomes its secretary during the entire French occupation (1798–1801).

The members of that institute are as follows:

Mathematics: Andreossi, Le Roy, Bonaparte, Malus, Costaz, Monge, Fourier, Nouet, Girard, Quesnot, Le Père, Say

Physics: Berthollet, Desgenettes, Champy, Dolomieu, Conté, Dubois, Delile, Geoffroy, Descostils, Savigny

Political economy: Caffarelli, Shulkowski, Glotier, Sucey, Poussielgue, Tallien

Literature and arts: Denon D.V., Raphal, Dutertre, Redouté, Norry, Rigel, Parseval, Venture

The final result of all this research and hardship is the monumental *Description of Egypt*, which took over a quarter of a century to complete, and which starts with an

²Women were not allowed to enroll at the *École Polytechnique* until 1972, when Anne Chopinet was admitted and ranked first. She was one of the first six women to be admitted out of 300 men.

³Those who agreed to go were not told the destination. Even Monge and Berthollet could not be persuaded to spill the beans. Monge's wife, Catherine Huart (6 April 1798), remarked with exasperation "*I got him to drink a whole bottle of champagne, but he still would not say anything*". Most trusted themselves entirely to Napoleon.

introduction by Fourier.

When Fourier comes back to France, he is nominated by Napoleon as the Prefect of the Department of Isère and moves to Grenoble. His work on the theory of heat is elaborated there around 1804 and by 1807 he has completed his important memoir *On the Propagation of Heat in Solid Bodies*. After several controversies, he wins the mathematics prize of the Academy in 1811. While in Grenoble, he is efficiently helped in his administrative tasks by Champollion-Figeac who is also in charge of his younger brother Jean-François Champollion. Fourier is elected to the Académie des Sciences in 1817 and becomes its Secretary in 1822.

Monge will remain faithful to Napoleon all his life, taking all the honours (grand officer of the Legion of Honour in 1804, President of the Senate in 1806, Count of Péluse in 1808) and the disgrace after Waterloo in 1815. He will die 3 years later after having been expelled from the Institut de France and replaced by Cauchy [4].

Marquis de Laplace Contrary to Monge, Laplace changes his political views to adapt to shifting circumstances: he becomes Count of the Empire in 1806 with Napoleon and is named a marquis in 1817 during the Bourbon restoration [5].

Laplace is the third most important figure in the French scientific elite after the end of the Terror period, in 1794. Laplace is then 45 years old. He was 19 when he arrived in Paris from Normandy, with just a recommendation letter for d'Alembert. This was enough. Not only did d'Alembert begin to direct Laplace's mathematical studies, he also found him a position as a Professor of Mathematics at the École Militaire. In 1784 Laplace was appointed as examiner at the Royal Artillery Corps, and in this role in 1785, he examined and admitted the 16 year old Napoleon Bonaparte.

The most famous exchange between these two men will occur 20 years later after Laplace will have given Napoleon a copy of his great work, the *Celestial Mechanics*.

Napoleon: - *You have written this huge book on the system of the world without any mention to its creator.*

Laplace: - *Sire, I had no need of that hypothesis.*

Later, when told by Napoleon about the incident, Lagrange will comment: - *Ah, but that is a fine hypothesis. It explains so many things...*

During the Terror Laplace leaves Paris with his family. Under Napoleon he becomes a member and then chancellor of the Senate, and receives the Legion of Honor in 1805. Around the same time he creates the Société d'Arcueil, with his neighbour, Claude Bertholet. Laplace and Bertholet are both Professors at the École Polytechnique and convince their best students, Biot and Gay-Lussac to work together on different topics. The spirit of the Société d'Arcueil is to follow Newton's method by coupling

clean experiments with pertinent theories. Gay-Lussac, Candolle, Biot, Arago, Poisson, Malus, all from the École Polytechnique, belong to the Société d'Arcueil [6]. The problems they tackle come from a variety of fields such as chemistry, thermodynamics, optics, electricity, magnetism, astronomy. . .

The Société d'Arcueil, after a few years of intense activity, becomes less so after 1812. Arago, who was initially a staunch member and supporter of the Society, begins to favor the wave theory of light as proposed by Fresnel around 1815. This theory is directly opposed to the corpuscular approach developed by Biot and defended by Laplace. With the active support of Arago and Ampère, Augustin Fresnel will finally win the Academy prize of 1819 for his work on the diffraction of light after successfully addressing a final question raised by Poisson.

I have tried, in this article, to illustrate the strong relations and interactions that have existed between outstanding scientists. These relations are summarized in figure 1. Even if, for historical reasons, I have restricted my attention mostly to Paris, similar connecting networks can be found in other places such as Berlin, Copenhagen, London. . . . This network was structured through Student-Professor or Friend-Friend type of relations. One can conclude that apart from (or due to) some quarrels that arose for questions of paternity of ideas⁴, exchanges and discussions between researchers do make science. . .

Acknowledgements: Patrick Huerre is the instigator of this article. He also provided the illustration of the bas-relief. Together with Paul Clavin, Geoffrey Searby and David Quéré, they have read and criticized the original version of the paper. All their comments have improved the article. May all of them find here the expression of my recognition.

Apart from the quoted references, I have used information from the book [7] and from the web-site: <http://www-gap.dcs.st-and.ac.uk/history/Mathematicians>.

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⁴between d'Alembert and Euler or between Arago and Biot.

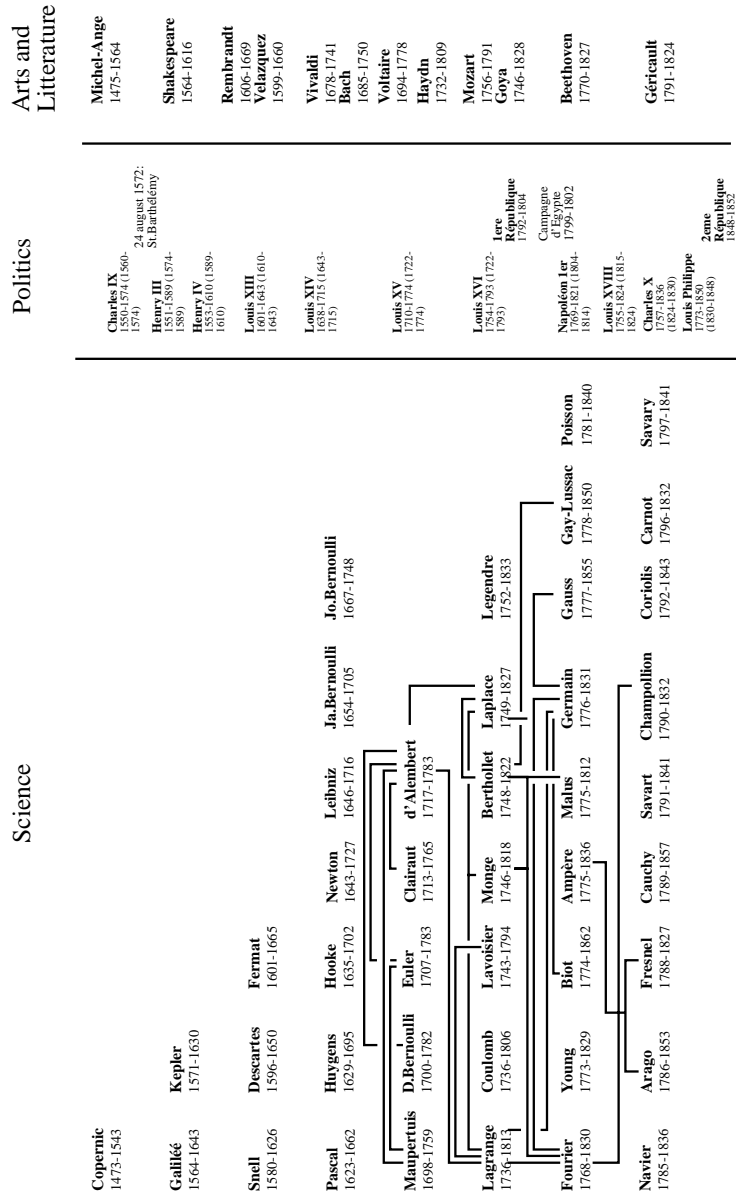


Figure 1: The History of the period: Science, Politics, Arts and Literature

Curricula Vitae of Candidates for the EUROMECH Council

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Professor at the Mechanical Engineering Department of Instituto Superior Técnico of the Technical University of Lisbon, his main research interests have been in the area of Solid Mechanics with special emphasis in Multibody Dynamics. Research interests also include Biomechanics, Vehicle Dynamics, Crashworthiness, Structural Analysis, Nonlinear Finite Elements and Computer Methods. These activities lead to involvement in numerous National and European projects of Research and Development, among which the European projects TRAINCOL, SAFETRAIN and UPDYN and a National PEDIP project on Railway Dynamics should be emphasized.

The various scientific activities undertaken also include the organization and direction of diverse Conferences and Colloquia among which EUROMECH Colloquium 404 on Advances in Computational Multibody Dynamics (1999), NATO-ASI on Crashworthiness of Transportation Systems (1996), the NATO-ARW on Computational Aspects of Nonlinear Structural Systems (2000), CISM Advanced School in Crashworthiness (2000) and ECCOMAS Conference Multibody 2003 are noteworthy. Participation in several EUROMECH Colloquia and Conferences as member of the scientific committee, invited lecturer or participant should also be mentioned.

The editorial activities include being Co-editor of the Journal Multibody System Dynamics and member of the editorial board of other international journals. Besides the involvement with EUROMECH, other societies with which he has connections are APMTAC, ECCOMAS, IACM and SAE.

Professor Peter Gudmundson
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Peter Gudmundson is Professor in Material Mechanics and Head of the Department of Solid Mechanics, Royal Institute of Technology, Stockholm since 1993. Previous positions have been managing director of the Swedish Institute of Composites - SICOMP 1989–93, lecturer at KTH 1986–89, consultant at a small engineering company 1983–86, research associate at Brown Boveri Research Centre in Switzerland 1979–83. The current research is focused on modelling of small-scale deformation mechanisms in solid materials and in particular the connection to macroscopic material behaviour. Material classes under investigation are composites, metals, polymers and paper. Typical research targets are development of models for constitutive behaviour and damage evolution.

Professor Gudmundson organized together with Dr. R. Talreja EUROMECH Colloquium 277 in 1991 on 'Micromechanical Models for Strength and Fatigue of Polymer Based Fibre Composites'. The Department of Solid Mechanics, KTH, organized the 3rd EUROMECH Solid Mechanics Conference in 1997. He was a member of the Local Organizing Committee.

Apart from research and education, the free time is spent with the family and on various kinds of sport activities. Professor Gudmundson was a semi-professional ice hockey player during his undergraduate studies at KTH 1975–79.

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Research interests: Modelling of the mechanical behaviour of materials, material instabilities, interface fracture mechanics, thin film delamination.

Professional interests: Co-organiser of mini-symposium on 'Mechanics of thin films and nano-structures' at 21st International Congress of Theoretical and Applied Mechanics, Warsaw 2004. Invited Plenary Lecturer at 15th European Conference of Fracture, Stockholm 2004. Member of the Scientific Committee of the IUTAM Symposium 'Mechanical Behaviour and Micro-mechanics of Nano-structured Materials' in Beijing, China, 2005. Member of International Scientific Committee for ISM2E-YS, Hunan 2001. Member of Editorial Advisory Board for International Journal of Non-linear Mechanics. Member of the Danish Academy of Technical Sciences. Reviewer for the Swedish Research Council.

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Detlef Lohse got his master thesis in theoretical nuclear physics in Bonn in 1989 and his PhD on the theory of turbulence in Marburg/Germany in 1992, with Prof. Siegfried Grossmann. He then was a postdoc with Prof. Leo Kadanoff in Chicago, where he also started to work on sonoluminescence, the light emission from sound-driven bubbles. In 1995 he returned to Marburg and obtained his habilitation in 1997. In 1998 he was appointed Chair of Physics of Fluids at the University of Twente, The Netherlands, succeeding Prof. Leen van Wijngaarden. The present main research subjects in his group are two-phase and bubbly flow, turbulence and in particular thermally driven turbulence, ultrasound diagnostics, high-speed photography, and granular matter. In the group experimental, theoretical, and numerical work are all covered. Lohse is Fellow of the American Physical Society, Division of Fluid Dynamics, and was elected Member of the German Academy of Science (Leopoldina).

Within Euromech, he has organized the Euromech Colloquium 443 on High Rayleigh number thermal convection, is member of the Euromech Turbulence conference committee, and has participated in various other Euromech conferences and colloquia. His vision on the Euromech conferences is that they should become the European analog to APS-Division of Fluid Dynamics Meetings. He moreover would like to contribute to further bridge the gap between fluid dynamics research in Physics and in Engineering.

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Born 1962.

1987 MSc (civil engineering) at Cracow University of Technology.

1994 PhD (computational mechanics) at Delft University of Technology under the supervision of Prof. R. de Borst.

Since 1995 Assistant Professor at the Faculty of Civil Engineering of Cracow University of Technology.

1998–1999 Research Fellow at Koiter Institute Delft.

2002 Humboldt Fellow at the Institute of Applied Mechanics, University of Kaiserslautern.

His professional interests in theoretical and applied mechanics focus on computational constitutive modelling of solids, higher order continuum formulations for numerical analysis of material instabilities and localization phenomena, and discretization methods for nonlinear structural and solid mechanics.

Author or co-author of 1 monograph, 1 chapter in a book, 17 journal papers and 42 conference papers. In 2000 was granted the first award of the Committee for Mechanics of the Polish Academy of Sciences for a set of works published by the age of 35.

Since 1997 Secretary of the Section of Structural Mechanics of the Committee for Civil Engineering of the Polish Academy of Sciences. Scientific Secretary of the European Conference on Computational Mechanics ECCM-2001, Cracow, June 2001. Member of International Editorial Board of 'Computers and Concrete'. Member of EUROMECH since 2000, participated in EUROMECH Colloquium 417 in Troyes, France.

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1988-1992: Group Leader, Institute for Space Systems, Stuttgart University (Germany)

1992-1997: Senior Staff Engineer, European Space Agency, ESA-ESTEC (Netherlands)

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Dr. Bernhard A. Schrefler is Professor of Structural Mechanics at the University of Padua (since 1980) and Secretary General of the International Centre for Mechanical Sciences (CISM) in Udine. He obtained his Ph.D. and D.Sc. at the University of Wales. He received an honorary doctorate from the St. Petersburg State Technical University in 1999, from the University of Technology in Lodz in 2002 and a Guest Professorship from the University of Technology of Dalian in 2001.

In 1998 he was elected Fellow in the International Association of Computational Mechanics and received the Computational Mechanics Award in 2002. He has published over 300 papers on structural engineering, soil mechanics, environmental mechanics, and on technology for nuclear fusion, and has written or edited 23 books. He serves on the editorial board of 15 International Journals and is Associate Editor of Computer Methods in Applied Mechanics & Engineering .

He is council member and chairman of the Solid Mechanics Conference Committee of EUROMECH. Further he serves on the Executive Council of IACM (International Association for Computational Mechanics), in the Bureau of ECCOMAS (European Community of Computational Methods in Applied Sciences) and on the Executive Council of the Congress Committee of IUTAM (International Union of Theoretical and Applied Mechanics).

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Dr. Schröder received his doctorate degree at the RWTH Aachen in 1987. After his postdoc time at the California Institute of Technology he worked at MBB (Messerschmitt-Bölkow-Blohm GmbH, today EADS) and the University of Applied Sciences in Braunschweig before he took over the chair of fluid mechanics and became head of the Institute of Aerodynamics at the RWTH Aachen in 1998.

His main research interests are in the fields of turbulence, aeroacoustics, vortex dynamics, biological and medical flows, and supersonic flows, where he generally emphasizes a coupled numerical and experimental approach. In addition, another focus of his studies is in the areas of computational fluid dynamics and computational aeroacoustics. He strongly supports interdisciplinary European projects such as the French/German research program, which he initiated and whose German part is coordinated by him.

He is reviewer of various international journals, serves, among other committees, as a member of the EUROMECH Fluid Mechanics Conference Committee, and is active in organizing EUROMECH Colloquia such as Colloquium 433 Dynamics of Trailing Vortices and Colloquium 456 Experimental and Computational Biofluid Mechanics. Moreover, Dr. Schröder is a member of the Gesellschaft für Angewandte Mathematik und Mechanik (GAMM), the Confederation of European Aerospace Societies/Aeroacoustics Specialists' Committee (CEAS/ASC), and the American Institute of Aeronautics and Astronautics (AIAA).

First Announcement and Call for Papers
10th EUROMECH European Turbulence Conference
ETC10

Tuesday 29 June – Friday 2 July, 2004

Trondheim, Norway

<http://www.etc10.ntnu.no>

The 10th European Turbulence Conference, organized by EUROMECH (the European Mechanics Society), will take place at the Norwegian University of Science and Technology (NTNU) in Trondheim.

The conference aims to provide an international forum for exchange of information on most fundamental aspects of turbulent flows, including instability and transition, intermittency and scaling, vortex dynamics and structure formation, transport and mixing, turbulence in multiphase and non-Newtonian flows, reacting and compressible turbulence, acoustics, control, geophysical and astrophysical turbulence, and large-eddy simulations and related techniques.

Eight prominent scientists have already accepted the invitation to give keynote lectures in their respective field of expertise. These are (in alphabetical order):

- G. Boffetta (Italy) - intermittency and scaling
- C. Cambon (France) - stratified and rotating turbulence
- D. Henningson (Sweden) - transition and control
- Y. Kaneda (Japan) - turbulence simulations
- T.S. Lundgren (USA) - turbulence theory
- S.B. Pope (USA) - reacting turbulent flows
- N. Sandham (UK) - aeroacoustics
- Z. Warhaft (USA) - scalar mixing.

In addition to these 8 invited lectures, contributions are solicited from the worldwide turbulence research community. The paper selection will be made by the EUROMECH Turbulence Conference Committee on the basis of two-page abstracts submitted by e-mail to abstract@etc10.ntnu.no by 31 October 2003. The proceedings 'Advances in Turbulence X' will be published by CIMNE and made available at the conference. For further information, or to register your interest in ETC10, please visit the website <http://www.etc10.ntnu.no>. Any enquiries should be sent to admin@etc10.ntnu.no

EUROMECH Conferences in 2004 and 2005

The general purpose is to provide opportunities for scientists and engineers from all of Europe to meet and to discuss current research. Europe is a very compact region, well provided with conference facilities, and this makes it feasible to hold inexpensive meetings.

The fact that the EUROMECH Conferences are organized by Europeans primarily for the benefit of Europeans should be kept in mind. Qualified scientists from any country are of course welcome as participants, but the need to improve communications within Europe is relevant to the scientific programme and to the choice of leading speakers.

A EUROMECH Conference on a broad subject, such as the ESMC or the EFMC, is not a gathering of specialists all having the same research interests, and much of the communication which takes place is necessarily more in the nature of the imparting of information than the exchange of the latest ideas. A participant should leave a Conference knowing more and understanding more than on arrival, and much of that gain may not be directly related to the scientist's current research. It is very important therefore that the speakers at a Conference should have the ability to make ideas clear and interesting and should select and prepare their material with this expository purpose in mind.

EETC

10th EUROMECH European Turbulence Conference

DATES: 29 June – 2 July 2004

LOCATION: The Norwegian University of Science and Technology, Trondheim, Norway

CONTACT: Prof. Helge I. Andersson

E-MAIL: helge.i.andersson@maskin.ntnu.no

E-MAIL: admin@etc10.ntnu.no

WEB: <http://www.etc10.ntnu.no>

ENOC

5th EUROMECH Nonlinear Oscillations Conference

DATES: 7–12 August 2005

LOCATION: Auditorium Building, Eindhoven University of Technology, The Netherlands

CONTACT: Prof. Dick H. van Campen, Dept. Mechanical Engineering, Eindhoven University of Technology, P.O. Box 513, 5600 MB Eindhoven, The Netherlands

E-MAIL: D.H.v.Campen@tue.nl

FAX: +31 40 243 7175

WEB: <http://www.enoc2005.tue.nl>

EUROMECH Colloquia 2004 and 2005

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 selection 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. Number, Title, Chairperson or Co-chairperson, Dates and Location for each Colloquium in 2004, and preliminary information for some Colloquia in 2005, are given below.

EUROMECH Colloquia for 2004

448

Vortices and field interactions

CHAIRMAN: Dr. Maurice Rossi, Laboratoire de Modélisation en Mécanique, Université Pierre et Marie Curie (Paris 6), CNRS (UMR n07607), 8 rue du Capitaine Scott, 75015 Paris, France

E-MAIL: maur@ccr.jussieu.fr

CO-CHAIRPERSON: Dr. Andrew Gilbert, School of Mathematical Sciences, University of Exeter, Exeter, EX4 4QE, UK

E-MAIL: a.d.gilbert@ex.ac.uk

CO-CHAIRPERSON: Dr. A. Maurel, CNRS, Lab. Ondes et Acoustique, ESPCI, 10 rue Vauquelin, 75005 Paris, France

E-MAIL: anges.maurel@espci.fr

EUROMECH CONTACT PERSON: Prof. Patrick Huerre

DATE AND LOCATION: 6–10 September 2004, ESPCI, 10 rue Vauquelin, 75005 Paris France

Remarks: postponed from 2003

450

Studies on Splashes, a Century after A.M. Worthington

CHAIRMAN: Professor Christophe Clanet, IRPHE, Technopole de Château Gombert, 49 rue Frédéric Joliot-Curie, 13384 Marseille, France

E-MAIL: clanet@irphe.univ-mrs.fr

CO-CHAIRMAN: Prof. David Quéré, Physique de la Matière Condensée, Collège de France, 11 place Marcelin Berthelot, 75231 Paris, France

CO-CHAIRMAN: Prof. Jean-Marc Chomaz, LADHYX, École Polytechnique, Laboratoire d'hydrodynamique, 91128 Palaiseau, France

EUROMECH CONTACT PERSON: Prof. Patrick Huerre

DATE AND LOCATION: September 2004, Carry le Rouet, France

Remarks: postponed from 2003

452

Advances in Simulation Techniques for Applied Dynamics

CHAIRMAN: Professor M. Arnold, Martin-Luther-University Halle-Wittenberg, Department of Mathematics and Computer Science, Institute of Numerical Mathematics, Theodor-Lieser-Str. 5, 06120 Halle (Saale), Germany

E-MAIL: arnold@mathematik.uni-halle.de

CO-CHAIRMAN: Prof. Dr.-Ing. Dr. h.c. W. Schiehlen, Institute B of Mechanics, University of Stuttgart, Germany

EUROMECH CONTACT PERSON: Prof. W. Schiehlen

DATE AND LOCATION: 1–4 March 2004, Halle, Germany

Remarks: postponed from 2003

454

Large Eddy Simulation (LES), Coherent Vortex Simulation (CVS) and Vortex methods for incompressible turbulent flows CHAIRMAN: Professor Kai Schneider, L3M & CMI, Université de Provence (Aix-Marseille I), 39 rue Joliot-Curie, 13453 Marseille cedex 13, France

FAX: +33 4 91 11 35 02

PHONE: + 33 4 91 11 85 29

E-MAIL: kschneid@cmi.univ-mrs.fr

CO-CHAIRPERSON: Prof. Marie Farge, LMD-CNRS, École Normale Supérieure, 75231 Paris cedex 5, France

E-MAIL: farge@lmd.ens.fr

CO-CHAIRPERSON: Prof. Joel Ferziger, Department of Mechanical Engineering, Stanford University, Stanford, USA

E-MAIL: ferziger@ecoule.stanford.edu

EUROMECH CONTACT PERSON: Prof. Patrick Huerre

DATE AND LOCATION: 12–16 April 2004 at CIRM, Marseille, France

Remarks: accepted 2002

455

Semi-active Vibration Suppression

CHAIRMAN: Professor Michael Valasek, Department of Mechanics, Faculty of Mechanical Engineering, Czech Technical University, Karlovo nám. 13, 12135 Prague 2, The Czech Republic

E-MAIL: valasek@fsik.cvut.cz

CO-CHAIRMAN: Prof. André Preumont, Active Structures Laboratory, Department of Mechanical Engineering and Robotics, Faculty of Applied Sciences, Université Libre de Bruxelles, Bruxelles, Belgium

EUROMECH CONTACT PERSON: Assoc. Prof. Miloslav Okrouhlik

DATE AND LOCATION: July 2–4, 2004, Prague, the Czech Republic

Remarks: accepted 2002

456

Experimental and Computational Biofluid Mechanics

CHAIRMAN: Prof. W. Schröder, Fluid Mechanics and Institute of Aerodynamics, RWTH Aachen, Wuellnerstr. zw. 5 u. 7, 52062 Aachen, Germany

PHONE: +49 241 80 95410

FAX: +49 241 80 92257

E-MAIL: office@aia.rwth-aachen.de

CO-CHAIRMAN: Prof. H. Reul, Helmholtz Institute for Biomedical Engineering,
RWTH Aachen, Universitätsklinikum of the RWTH Aachen, Pauwelsstr. 20, 52074
Aachen, Germany

E-MAIL: reul@hia.rwth-aachen.de

EUROMECH CONTACT PERSON: Prof. Patrick Huerre

DATE AND LOCATION: May 2004, RWTH, Aachen, Germany

457

Non-linear modes of vibrating systems

CHAIRMAN: Prof. Claude-Henri Lamarque, ENTPE, DGCB-LGM, 3 rue Maurice
Audin, 69518 Vaulx-en-Velin cedex, France

PHONE: +33 4 72 04 70 75

E-MAIL: claude.lamarque@entpe.fr

CO-CHAIRMAN: Prof. Bruno Cochelin, LMA-CNRS, Marseille, France

EUROMECH CONTACT PERSON: Prof. Franz Rammerstorfer

DATE AND LOCATION: 7-9 June 2004, Frejus, France

458

Validation and Identification of Non-linear Constitutive Equations in Solid Mechanics

CHAIRMAN: Prof. R.A. Vasin, Institute of Mechanics, Lomonosov Moscow State Uni-
versity, Michurinski Prosp. 1, 117192 Moscow, Russia

PHONE: +7 095 939 5285

FAX: +7 095 939 5285

E-MAIL: vasin@imec.msu.ru

CO-CHAIRMAN: Prof. Georges Cailletaud, Centre de Materiaux, École National
Supérieure des Mines de Paris, UMR CNRS 7633, BP87, 91003 Evry cedex, France

CO-CHAIRMAN: Prof. B.E. Melnikov, St. Petersburg State Tech. University, Poly-
technicheskaya Street 29, 195 251 St. Petersburg, Russia

PHONE: +7 812 552 63 03

E-MAIL: strength@mtr.hop.stu.neva.ru

EUROMECH CONTACT PERSON: Prof. Irina Goryacheva

DATE AND LOCATION: September 2004, Moscow, Russia

459

Mechanical Behaviour of Cellular Solids

CHAIRMAN: Prof. J.F. Ganghoffer, LEMTA-ENSEM, 2 Avenue de la Forêt de Haye,
BP 160, 54504 Vandoeuvre les Nancy cedex, France

PHONE: +33 3 83 59 57 24

FAX: +33 3 83 59 55 51

E-MAIL: jfgangho@ensem.inpl-nancy.fr

CO-CHAIRMAN: Dr. P. Onck, University of Groningen, The Netherlands

EUROMECH CONTACT PERSON: Prof. Eric van der Giessen

DATE AND LOCATION: 7-10 June 2004, Nancy, France

464

Fibre-reinforced solids: constitutive laws and instabilities

CHAIRMAN: Prof. R.W. Ogden, Department of Mathematics, University of Glasgow,
Glasgow G12 8QW, UK

PHONE: +44 141 330 4550

FAX: +44 141 330 4111

E-MAIL: rwo@maths.gla.ac.uk

CO-CHAIRMAN: Dr. J. Merodio, University of Cantabria, Santander, Spain

DATE AND LOCATION: 28 September–1 October 2004, La residencia Castro Urdiales,
Cantabria, Spain

EUROMECH Colloquia for 2005

460

Numerical Modelling of Concrete Cracking

CHAIRMAN: Professor G. Hofstetter, Institute for Structural Analysis and Strength
of Materials, University of Innsbruck, Technikerstrasse 13, A-6020 Innsbruck, Austria

PHONE: +43 512 507 6720

FAX: +43 512 507 2908

E-MAIL: guenter.hofstetter@uibk.ac.at

CO-CHAIRMAN: Prof. Günther Meschke, Institute for Structural Mechanics, Ruhr
University Bochum, Universitätsstrasse 150, 44801 Bochum, Germany

TELEPHONE: +49 234 32 29051

FAX: +49 234 32 14149

E-MAIL: Guenther.Meschke@ruhr-uni-bochum.de

EUROMECH CONTACT PERSON: Prof. F. Rammerstorfer

DATE AND LOCATION: 21–23 February 2005, Innsbruck, Austria

461

Vortex and Magnetohydrodynamics - Structure, Symmetry and Singularity

CHAIRMAN: Prof. R.L. Ricca, Dip. Matematica, Università di Milano - Bicocca, Via
Bicocca degli Arcimboldi 8, 20126 Milano, Italy

PHONE: +39-02 6448 7762

FAX: +39-02 6448 7705

E-MAIL: ricca@matapp.unimib.it

CO-CHAIRMAN: to be nominated

EUROMECH CONTACT PERSON: Prof. P. Huerre

DATE AND LOCATION: April 2005, Italy

462 – Cancelled

Fluid Mechanical Stirring and Mixing

463

Size-dependent Mechanics of Materials

CHAIRMAN: Prof. P.R. Onck, University of Groningen, Micromechanics of Materials,
Nijenborgh 4, 9747 AG Groningen, The Netherlands

PHONE: +31 50 363 8039

FAX: +31 50 363 4886

E-MAIL: p.r.onck@phys.rug.nl

CO-CHAIRMAN: Prof. Dr. T. Pardoen

Université Catholique de Louvain Materials Science and Processes Department PCIM,
Bâtiment Réaumur Place Sainte Barbe 2 1348 Louvain-la-Neuve Belgium

EUROMECH CONTACT PERSON: Prof. E. van der Giessen

DATE AND LOCATION: May 2005, Groningen, The Netherlands

EUROMECH Conference Report

5th EUROMECH Solid Mechanics Conference

Chairperson: Prof. E. Aifantis

The 5th EUROMECH Solid Mechanics Conference was held in Thessaloniki on 17–22 August 2003. See <http://mech3.gen.auth.gr>

The Conference started by a General lecture *Unified thermodynamics framework for nonlocal/gradient continuum theories* presented by Professor G. Polizzotto from Italy. Besides this lecture, there were two plenary lectures each day.

The main conference sessions were *Elasticity, Waves, Plasticity, Gradient/Non-local theories, Fracture, Damage, Composites, Contact, Mathematical/Numerical models, Novel Materials, Micromechanics, Nanomechanics, Dynamics, Vibration, Stability, Optimization/Control, Computational Mechanics, Geomechanics*.

Furthermore, there were the Conference Symposia and Mini Symposia which were specialized in content and scope for participants invited by the organizer of each symposium.

The following Conference Symposia were organized: *Advanced modeling of heterogeneous material - Homogenization and generalized continua, Mechanics and physics of microstructures and nanostructures - Size effects, identification and control of dynamical systems, Nonlocal plasticity: Continuum vs. discrete formulations, Behavior of woven structures: fabric and other reticulated media*.

The Mini-Symposia were as follows: *Identification problems for materials and structures, Dislocation and disclination models for work hardening and failure, Configurational mechanics, Environmental effects in fracture and material degradation, Mechanical Modeling in natural hazards and Petroleum geomechanics - from theory to industrial applications*.

The Conference featured two cultural events. The first was a Musical Session with lectures on *Music-Science-Technology Relations* and performances on classical and contemporary music. The second was a General Session dedicated to the memory of Nobel Prize Winner Ilya Prigogine with plenary lectures on *Science-Technology-Society Interactions*.

For the first time in history of EUROMECH the EUROMECH Solid Mechanics Prize was awarded. After careful consideration the EUROMECH Council during its spring meeting chose **Professor Franz Ziegler** from Vienna University of Technology, Austria, as the EUROMECH Solid Mechanics Prize winner for his life-long contribution to mechanics. During the Conference Prof. F. Ziegler presented the EUROMECH Solid Mechanics Prize Lecture titled *Eigenstrain controlled deformation and stress state*.

Young conference participants, below 35 years, competed for the Best Oral and Best Poster Presentation Prizes. The EUROMECH Solid Mechanics Committee members chose A.E. Markaki from the University of Cambridge, UK, who presented her contribution titled *Elastic properties of thin sandwich panels with fibrous metallic cores* as the best oral presentation while the best Poster Prize was awarded to C. Tekoglu from the University of Groningen, The Netherlands, for his poster titled *Identification of Cosserat constants for cellular materials*.

The conference was well organized and ran smoothly. Thanks should be attributed to Professor Elias Aifantis, the Chairman of the Conference and to his organizing staff.

The 6th EUROMECH Solid Mechanics Conference will be held in Budapest, Hungary, 2006.

M. Okrouhlik

EUROMECH SOLID MECHANICS PRIZE 2003

Laudatio pronounced by **Franz G. Rammerstorfer** at the 5th EUROMECH Solid Mechanics Conference in Thessaloniki

Ladies and Gentlemen, dear Colleagues:

The EUROMECH Council decided last year to honour every three years an outstanding scientist in the field of Solid Mechanics by a prestigious prize, the EUROMECH Solid Mechanics Prize.

It is my great pleasure to introduce to you the first recipient of this prize:

Professor Franz Ziegler

Franz Ziegler studied Mechanical Engineering and received his diploma with honours in 1961. As an assistant of the late Professor Heinz Parkus he then entered the ranks of the 'Vienna School of Mechanics'. In 1964, he obtained his Doctorate in Technical Sciences, again with honours, at the Vienna University of Technology (Technische Hochschule Wien). Already at that time, he laid down important foundations of wave propagation due to random excitation, taking into account the coupling of mechanical and thermal fields. Shortly after his habilitation in Mechanics in 1971 he was appointed as a Full Professor at the Vienna University of Technology in 1972. From that time on, he has contributed intensively and successfully to the development of Mechanics, as an internationally renowned researcher and as a highly influential academic teacher, obtaining an outstanding renommee and influence in the Mechanics community worldwide.

Franz Ziegler laid down his scientific results in about 250 scientific publications such as books, book-chapters and original papers in international journals and refereed proceedings.

Another aspect of the extraordinary merits of Professor Ziegler is teaching Mechanics. With his unified view on Mechanics of solids and fluids he has been contributing very successfully to the development of modern education in Mechanics. He is a shining example of an academic teacher, for his clearness in expressing the basic concepts, as well as for his rigour in applying these concepts to complex problems of engineering practice. From this, Professor Ziegler developed and disseminated a unique concept of teaching Mechanics, which he documented in his famous books on 'Mechanics of Solids and Fluids', available in German, in English and - in Russian.

Franz Ziegler is a Fellow of the Austrian Academy of Sciences, and he serves as Foreign Member of the Russian Academy of Natural Sciences and the Russian Academy of Sciences. He has been working intensively, passionately and successfully on the development of the international Mechanics community. He is co-editor and member of editorial boards of important international scientific journals in many fields of Mechanics. He has held numerous invited plenary lectures on international congresses, symposia and at universities.

Professor Ziegler served as Secretary-General of IUTAM and as President and Vice-President of GAMM, the Gesellschaft fuer Angewandte Mathematik und Mechanik. In these important international positions, he contributed enormously to the co-operation of the various European and international scientific organisations devoted to Solid Mechanics. One of his main concerns has been to increase the co-operation between the Western and Eastern part of Europe. In appreciation of his scientific-work, Professor Ziegler obtained an Honorary Doctor degree of the St. Petersburg State Polytechnical University in 1996, the Peter Kapitza Medal of the Russian Academy of Natural Sciences in 1997, and he was awarded a Honorary Professorship by the Perm State Technical University in 2002. Moreover, Professor Ziegler has served as an "ambassador" of European Mechanics in the USA, where he often worked as Visiting Professor and Lecturer, for instance, at Northwestern University, Stanford University, and Cornell University.

Dear colleagues, I would like to tell you what is written on the Prize Certificate which I will now present to our recipient of the prize:

"Prof. Franz Ziegler

has been awarded the EUROMECH SOLID MECHANICS PRIZE

for his outstanding contributions at the very frontier of research in a remarkably broad spectrum of solid mechanics; in particular for his work in wave propagation in layered and random media, vibrations of structures, and stochastic dynamic processes; furthermore for the impact of his research on multifield problems including interactions between thermal, piezoelectric and mechanical fields, as well as fluid-structure interaction problems, and for his ingenious and outstanding results of lasting importance in engineering mechanics, e.g., in earthquake engineering and geomechanics."

Dear Professor Ziegler: Congratulations for this prestigious prize!

EUROMECH FLUID MECHANICS PRIZE 2003

Laudatio pronounced by **H.-H. Fernholz** at the 5th EUROMECH Fluid Mechanics Conference in Toulouse, 24 August 2003

Ladies and Gentlemen, Professor Moffatt,

The EUROMECH Council agreed in 2001 that Prizes would be given to members of the mechanics community for outstanding and fundamental research accomplishments in Mechanics. These Prizes will be awarded every three years at the occasion of the EUROMECH Solid and Fluid Mechanics Conferences, for the first time in 2003. They will consist of a money prize of 5000 Euros.

I have the privilege and the great pleasure to present to you the first EUROMECH Fluid Mechanics Prize. This is on behalf of the EUROMECH Society represented by the EUROMECH Council and its President. The first recipient of this prize:

Professor Keith Moffatt

The citation written on the Prize document reads:

“Professor Henry Keith Moffatt has been awarded the EUROMECH Fluid Mechanics Prize for his outstanding accomplishments and beautifully creative ideas in theoretical fluid mechanics which have had a lasting impact in the development of the field, in particular for his seminal contributions to the study of turbulence and magnetohydrodynamics with the identification of helicity as a key concept in the understanding of global flow features and the creation of the new field of topological fluid dynamics, for his equally impressive analysis of low Reynolds number flows with the introduction of the notions of Moffatt eddies in flows near a sharp corner and cusp singularities in free surface flows.”

The recipient of the Fluid Mechanics Prize is invited to give a Prize Lecture at the EUROMECH European Fluid Mechanics Conference. The all-wise and far-seeing Fluid Mechanics Conference Committee had invited you to give the EUROMECH Fluid Mechanics Lecture long before the new Fluid Mechanics Prize was announced in NEWSLETTER 21 (June 2002). So the two lectures will be combined this year.

Before you start your lecture, let me present a few facts from your curriculum vitae to the audience:

Keith Moffatt was born in Edinburgh, Scotland, in 1935 where he began his studies in Mathematics in 1953. With a Ferguson Scholarship he continued to study Mathematics at Cambridge University and graduated as a B.A in 1959 (Wrangler). In 1962 he obtained his Ph.D. with a thesis on ‘Magnetohydrodynamic Turbulence’ followed by an Sc.D in 1987.

His career started with a lectureship at DAMTP from 1964 to 1976, continued with a Professorship of Applied Mathematics at Bristol (1977–1980) from where he returned to Cambridge University to become a Professor of Mathematical Physics (1982–2002),

Head of Department of Applied Mathematics and Theoretical Physics (1983–1991) and Director of the Isaac Newton Institute for Mathematical Sciences (1996–2001). During all this time from 1961 to 2001 Keith Moffatt was a Fellow of Trinity College. He was an Assistant Editor of the Journal of Fluid Mechanics (1962–1965) and an Editor together with G.K. Batchelor (1966–1983). While Cambridge remained his home base, Keith Moffatt held many visiting appointments and Professorships at various universities in the US, France, Japan and Russia.

After having held several functions in IUTAM since 1976 he became its President in 2000.

Professor Moffatt was honoured by three honorary doctorates, is a member of the Royal Societies of London and of Edinburgh, and a foreign member of the Royal Netherlands Academy of Arts and Sciences (1991), the Academia Europaea (1994), the Académie des Sciences, Paris (1998) and the Accademia Nazionale dei Lincei, Rome (2001).

He has more than 130 publications in learned journals and books and written two monographs.

EUROMECH Colloquium Report

EUROMECH Colloquium 445

Chairpersons : Paul Steinmann, Gerard A. Maugin

EUROMECH Colloquium 445 was held at the University of Kaiserslautern on 21–24 May 2003. There were 49 participants from 13 countries and 38 oral presentations.

The colloquium covered new theoretical and numerical developments in the area of ‘Mechanics of Material Forces’. Conceptually speaking, common continuum mechanics in the sense of Newton, which gives rise to the notion of spatial (mechanical) forces, considers the response to variations of spatial placements of ‘physical particles’ with respect to the ambient space, whereas continuum mechanics in the sense of Eshelby, which gives rise to the notion of material (configurational) forces, is concerned with the response to variations of material placements of ‘physical particles’ with respect to the ambient material. Well-known examples of material forces are driving forces on defects like the Peach-Koehler force, the J-Integral in fracture mechanics, energy release and the like. The consideration of material forces goes back to the works by Eshelby who investigated forces on defects, therefore this area of continuum mechanics is sometimes denoted Eshelbian mechanics.

Based on the notion of material forces the study of the tendency of a variety of defects, such as e.g. :

- cracks
- dislocations
- inclusions
- precipitates
- phase boundaries
- interfaces and the like

to move relative to the ambient material is an active branch of research in continuum physics and therefore constituted the main issue of the colloquium.

Thus main topics of the presentations were :

- 4-dimensional formalisms
- evolving interfaces and phase transitions
- growth and biomechanics
- numerical aspects of material forces
- dislocations and Peach-Koehler-Forces
- multiphysics and microstructure
- strength of materials and structural optimization
- path integrals and fracture
- delamination and discontinuities
- plasticity and damage

The colloquium brought together international and European physicists, mathematicians and engineers with background in mechanics. The presentations provoked a number of fruitful and sometimes controversial discussions on different approaches to the above mentioned areas. As a result it is believed that this colloquium will stimulate and pilot the future work on the ‘Mechanics of Material Forces’.

Important Information for Chairpersons of EUROMECH Colloquia

- EUROMECH Colloquia are organised under the auspices of the EUROMECH Council. The Chairpersons (i.e. Organisers) of Colloquia are appointed by the Council and are fully responsible for the planning and running of their Colloquia.
- EUROMECH Colloquia should be specialised in content, small in size and informal in character. Participation in Colloquia is on the invitation of the Chairpersons. Number of participants : 40–60 ; duration : 3–4 days ; no parallel sessions!
- The cost and, thus, the registration fee should be kept low. The registration fee for participants who are not members of EUROMECH must include 32 Euros. This is additional to the amount which the Chairpersons charge in order to cover local costs, and is to be transferred to the Treasurer of EUROMECH after the colloquium. The two categories of registration fee (non-members, members) should be indicated as follows : (I) the full registration fee and (II) the reduced registration fee (32 Euros lower).
- **Chairpersons' actions when preparing the Colloquia :**
 1. Decide on definite title, date and location for the Colloquium.
 2. Write an approximately 100-word description (a Word Document or e-mail would be appreciated) of the intended scope and topics. Send it as soon as possible to the Secretary General of EUROMECH.
 3. Prepare an Announcement for the Colloquium, with a description of the intended scope and the topics to be discussed, and send it to prospective participants, to anyone who could help to enrol participants, and to the Secretary General. Use the notation 'EUROMECH Colloquium ### ' in all written material. Ask the prospective participants to provide a summary of the work they wish to report (unfinished work is welcome).
 4. Invite the selected participants. Prepare the programme of the Colloquium. Collect the summaries of the contributions into a booklet for distribution to participants before or at the meeting.
 5. Provide information material about EUROMECH to the participants and encourage them to become members of EUROMECH.
 6. Stay in contact with your EUROMECH contact person (assigned member of the EUROMECH Council).
 7. EUROMECH will provide up to 600 EUR for support of young scientists participating in the Colloquium. This money should be reserved from the income from the registration fees. The amount of money used for such fellowships can be deducted from the amount to be sent to the Treasurer (see item 3 below). The recipients of such fellowships must be identified on the Final Report form (see item 1 below).
 8. The EUROMECH Council cannot be held responsible for any financial deficit resulting from running the Colloquium.

• **Chairpersons' actions within a month after the Colloquium is finished :**

1. Prepare a brief final report on the Colloquium using the Final Report form (to be downloaded from the EUROMECH website) and send it also as a Word Document or by e-mail.
2. Compile a set of the documents prepared for the Colloquium and send it together with the Final Report to the Secretary General.
3. Contact the Treasurer of EUROMECH and send him the EUROMECH component of the registration fee for non-members (32 Euros each).

Objectives of the European Mechanics Society

The Society is an international, non-governmental, non-profit, scientific organization, founded in 1993. The objective of the Society is to engage in all activities intended to promote the development of mechanics in Europe as a branch of science and engineering. Mechanics deals with the motion, flow and deformation of matter, be it fluid or solid, under the action of applied forces, and with any associated phenomena. The Society is governed by a Council composed of elected and co-opted members.

Activities within the field of mechanics range from fundamental research on the behaviour of fluids and solids to applied research in engineering. The approaches used comprise theoretical, analytical, computational and experimental methods. The Society shall be guided by the tradition of free international scientific co-operation developed in EUROMECH Colloquia.

In particular, the Society will pursue this objective through

- the organization of European meetings on subjects within the entire field of mechanics;
- the establishment of links between persons and organizations including industry engaged in scientific work in mechanics and in related sciences;
- the gathering and dissemination of information on all matters related to mechanics;
- the development of standards for education in mechanics and in related sciences throughout Europe.

These activities, which transcend national boundaries, are to complement national activities.

The Society welcomes to membership in the Society all those who are interested in the advancement and diffusion of mechanics. It also bestows honorary membership, prizes and awards to recognize scientists who have made exceptionally important and distinguished contributions.

Members may take advantage of benefits such as reduced registration fees for our meetings, a reduced subscription to the European Journal of Mechanics, information on meetings, job offers and other matters in mechanics. Less tangibly but perhaps even more importantly, membership provides an opportunity for professional identification and for helping to shape the future of our science in Europe and make it attractive to young people.