

---

Please send this report to the Secretary-General of EUROMECH, within one month after the Colloquium.

---

EUROMECH Colloquium No: 361

Title: Active Control of Turbulent Shear Flow

Dates and location: 17-19 March, 1997; Technical University of Berlin

Chairman: Professor Dr.-Ing. H.H. Fernholz

Co-Chairman: Professor Dr.-Ing. H.E. Fiedler

Is there need of another Colloquium on the same or a related subject? Which year? 2000

---

Full registration fee: DM 130,--

What other funding was obtained? DFG

What were the participants offered? Book of Abstracts, coffee, tea, buffet dinner at reception

---

Number of members of EUROMECH (reduced registration fee): 13 (3 new members, DM 45,--)

Number of non-members of EUROMECH (full registration fee): 25

Number of participants from each country:

Austria	_____	Germany	<u>34</u>	Romania	_____
Belgium	_____	Great Britain	<u>4</u>	Russia	<u>3</u>
Byelorussia	_____	Greece	_____	Slovakia	_____
Bosnia	_____	Hungary	_____	Slovenia	_____
Bulgaria	_____	Ireland	_____	Spain	<u>2</u>
Croatia	_____	Italy	<u>3</u>	Sweden	<u>1</u>
Czech Republic	_____	Latvia	_____	Switzerland	<u>3</u>
Denmark	<u>1</u>	Lithuania	_____	Ukraine	<u>1</u>
Estonia	_____	Netherlands	_____	Yugoslavia	_____
Finland	_____	Norway	_____	Others	<u>5</u>
France	<u>5</u>	Poland	<u>1</u>	Total	<u>63</u>
Georgia	_____	Portugal	_____		

---

Please turn

## EUROMECH COLLOQUIUM 361

### *Active Control of Turbulent Shear Flows*

The Colloquium was held at Technische Universität Berlin on 17-19 March, 1997. There were 63 registered participants from 14 countries; 13 were members of EUROMECH.

#### **Scientific program**

The Colloquium was the second in a hopefully continuing series of colloquia on the control of turbulent shear flows which started with EUROMECH 328 in 1994.

The emphasis was on active control of free and wall bounded turbulent shear flows. Submissions on passive and transition control and drag reduction<sup>1</sup> were not encouraged. This reduced the scope of the meeting somewhat showing that research in this field in Europe is still on a limited level while it is growing rapidly in the United States.

The session topics were:

- Control of wakes (1),
- control of mixing layers, jets and wall jets (1),
- control of separating flows with fixed separation (1),
- receptivity and control (1),
- separating flows - lift control (2),
- general control mechanisms (1), and
- drag and separation control of boundary layers (2).

The time allotted to oral presentations was 20 minutes plus 5 minutes for discussion. There were 4 general discussion sessions of 30 minutes each.

The oral presentations were interesting throughout and well received by the audience. Discussions were lively, sometimes even passionate and were conducted in an open and constructive manner. The scientific talks were continued during the open house at the Hermann-Föttinger-Institute where participants had a chance to visit the laboratories.

#### **New research activities**

The Chairman announced that the working group „Control and management of turbulent shear flows“ within the framework of COST F1 was now coordinated by A.P. Dowling (Cambridge) and H.H. Fernholz (Berlin). The working group may serve to keep up contacts between researchers in the field of flow control between colloquia.

---

<sup>1</sup> A meeting on „Drag reduction “ was organized by D.W. Bechert as a back to back conference of the EUROMECH Colloquium.

Dr. J.F. Morrison (London) suggested the formation of an Interest Group on „Fluid dynamics and MEMS“ and asked interested participants to join. This working group could be incorporated in COST F1 and form another subgroup if the Management Committee of COST F1 were to agree at its next meeting in October 1997. Micro-Electro Mechanical Systems will play an important role for control mechanisms both as sensors and actuators.

Finally, the Chairman gave a review on the activities of the DFG Research Group „Control of Turbulent Shear Flows“ by which most of the research in this field at the Technische Universität has been financed and which is meant to form the base for an even larger DFG research project starting in 1998.

### **Financial report**

The registration fee was set at DM 130 (DM 70 for members of EUROMECH) and covered a buffet reception on the evening of 18 March, a book of abstracts, tea, coffee and beverages during the intervals, and secretarial and administration costs. The Technische Universität permitted us to use the lecture theatre free of charge and DFG paid for travel and accommodation of the DFG-reviewers and of some foreign guests who had cooperated in the FGH projects. DFG provided also travelling subsistence for two Russian participants and EUROMECH three scholarships (each DM 200) for participating research students. The recipients and the organizers are most grateful for this financial support.

### **Future Colloquia**

With a new CNRS project „Mécanique des Fluides Active“ in France and the two working groups within COST F1 we are certain that a further meeting on the topic of EUROMECH 361 will be proposed within the next 2 or 3 years.

Berlin, May 5, 1997



Professor Dr.-Ing. H.H. Fernholz  
(Chairman)