

An Outline of JAPAN SOCIETY OF COMPUTATIONAL FLUID DYNAMICS

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Activities of CFD in Japan before Inauguration of JSCFD

The research activities on CFD have been continued separately splitting into four or five groups.

Aerospace group: NAL Symposium on Aircraft Computational Aerodynamics has been held every year since 1983, and the proceedings (Special Publication of NAL, about 250 pages) issued. On the other hand, Japan Society of Computational Fluid Dynamics (different from the present JSCFD) was declared in July 1983 by Prof. K. Oshima (ISAS), and a series of International Symposia on Computational Fluid Dynamics has been begun from 1985.

1985	Tokyo	conference chairman Prof. K. Oshima
1987	Sydney	Dr. C.A.J. Fletcher
1989	Nagoya	Profs. M. Yasuhara and H. Daiguji
1991	Davis, USA	Prof. H.A. Dwyer
1993	Sendai	Prof. H. Daiguji
1995	Lake Tahoe, USA	Prof. M. Hafez

Mechanical engineering group: The activities of this group have been performed laying stress on those of research committees in the Japan Society of Mechanical Engineers. The research committee is organized by the members of researchers from universities and engineers from companies. Some research funds from the companies are shared to the researchers, and the results including CFD program are preferentially distributed to the companies.

FEM group: Meetings for Study on Numerical Methods in Fluid Dynamics were started from 1979 by the Union of Japanese Scientists and Engineers. 6 time meetings every year. Chair persons were Prof. T. Kawai (Univ. of Tokyo) and Prof. M. Kawahara (Chuo Univ.). The Fourth International Symposium on Finite Element Methods in Flow Problems was held in Tokyo, July 1982 by this group.

Scientific Research on Priority Areas "Computational Fluid Dynamics"

This research project was selected as a research theme of Grant-in-Aid for Scientific Research on Priority Areas by the Ministry of Education, Science and Culture of Japan during fiscal years of 1987-89. The chairman was Prof. M. Yasuhara (Nagoya Univ.), the number of members about 40 persons, and the total budget ¥230,000. The research project was very effective for the mutual cooperation of researchers in the different fields — physics, aerospace, mechanical engineering, and civil, architectural and environmental engineering. In order to present the results of this research project, a series of Symposia on Computational Fluid Dynamics has been held every year since 1987.

Activities of JSCFD

Japan Society of Computational Fluid Dynamics was inaugurated in October 1993. The chairmen till now are

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|------------------------|---------------------------------------|
| Oct. 1992 - Sept. 1993 | Prof. K. Oshima (Emeritus Prof. ISAS) |
| Oct. 1993 - Sept. 1994 | Prof. H. Daiguji (Tohoku Univ.) |
| Oct. 1994 - Sept. 1995 | Prof. H. Honma (Chiba Univ.) |

The chief secretary is Prof. F. Higashino (Tokyo Noko Univ.). The most important activities of this society are to hold the Symposium on Computational Fluid Dynamics, and to issue the Journal (in Japanese) and Computational Fluid Dynamics Journal (in English). The symposia have been held for the end of every December in Kasuga Campus of Chuo University. The journals are issued quarterly (more than 100 pages), and CFD Journal is edited as an annexed paper. The society has an annual general meeting in December, and usually five steering committee meetings per year, and from last year short courses twice a year.

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| No.1 "Flow Simulation by the Navier-Stokes Equations" | Aug. 1994 |
| No.2 "Flow Simulation by the Navier-Stokes Equations" | Oct. 1994 |
| No.3 "Physics and Modelling of Turbulent Flows" | May 1995 |
| No.4 "Fundamentals of Flow Analyses by FEM and Their Applications" | Oct./Nov. 1995 |

International Symposia Co-sponsored by JSCFD

Integral Methods in Science and Engineering — '93
Sendai, Aug. 27-29, 1993

Sponsor: International Steering Committee of Integral Methods in Science and Engineering

Chairman: Prof. C. Constanda (Univ. of Strathclyde)

5th International Symposium on Computational Fluid Dynamics
Sendai, Aug. 25 - Sept. 3, 1993

Organizing Committee of 5th ISCFD

Prof. H. Daiguji

The Fourth Japan-Russia Joint Symposium on Computational Fluid Dynamics
Kyoto, Aug. 23-24, 1994

JSCFD and Kyoto Institute of Technology

Prof. N. Satofuka (Kyoto Institute of Technology)

AWCFD'94 — China-Japan CFD Workshop

China Aerodynamics Research and Development Center, Mianyang, Sept. 14-16,
a boat cruising of the Yangtse River, Sept. 17-23. 1994

The Organizing Committee

Prof. H. Zhang (China Aerodynamics Research and Development Center)

The First Asian Computational Fluid Dynamics Conference

Hong Kong, Jan. 16-19, 1995

Dept. Mathematics & Institute of Scientific and Engineering Computation, Hong Kong University of Science and Technology

Prof. G.W.H. Fui

6th International Symposium on Computational Fluid Dynamics

Lake Tahoe, USA, Sept. 5-9, 1995

Local Organizing Committee

Prof. M. Hafez (University of California, Davis)

Financial Affairs of JSCFD

Incomes: Membership fee (¥5,000 per year for regular member, ¥2500 for student, ¥50,000 for patron member and ¥100,000 for patron corporation), initiation fee (¥2,000, free, ¥10,000 and ¥20,000 in order), reprint fee and sales of CFD Journal, and remaining money of short courses.

Expenditures: Printing fee of Journal and CFD Journal, mailing fee, committee meeting expence, and office expences. The editing fee, traveling fee, ... are covered by volunteer.

Scientific Research on Priority Areas "Mathematical Modelling of Turbulent Flows"

This research project was also selected as a research theme of the Grant-in-Aid by the ministry during three fiscal years. The chairman is Prof. H. Daiguji, and the budget and member are as follows:

1993	k¥167,400	24 members and 23 contributed themes
1994	k¥188,000	33 members and 19 contributed themes
1995	k¥171,000	44 members

The research project consists of six main themes and some contributed themes.

1. Development of Schemes for DNS	chair person Prof. H. Daiguji
2. Modelling of Elementary Turbulent Flow Processes	Prof. N. Kasagi
3. One-Point Closure Model of Turbulent Flows	Prof. T. Kobayashi
4. Subgrid Scale Model in LES	Prof. Y. Miyake
5. Model of Compressible Turbulent Flows	Prof. A. Yoshizawa
6. Model of Multiphase Turbulent Flows	Prof. Y. Matsumoto

Laboratories and Sections being Deeply Connected with CFD Research in Tohoku University

Faculty of Engineering

laboratory	professor	associate professor
Aerodynamics	C. Park	K. Sawada
Aerospace Aerodynamic Design	K. Nakahashi	S. Obayashi
Computer Aided Engineering	H. Daiguji	S. Yamamoto
and some chemical, metallurgical and civil engineering laboratories		

Institute of Fluid Science

section	professor	associate professor
Low-Density Gas	K. Nanbu	V.V. Serikov
Ultra-High-Speed Flow	T. Itohagi	
Computer Simulation	O. Inoue	
Nonequilibrium Magnetofluid-dynamic Flow	S. Kamiyama	H. Nishiyama
Shock Wave Research Center	K. Takayama M.E.H. Van Dongen E.F. Toro	A. Sasoh