

## THE CONFERENCE OPENING CEREMONY

The 19th ITTC was officially opened at a Ceremony in the Main Hall of the Escuela Tecnica Superior de Ingenieros Navales (Politechnical University of Madrid) on Monday 17th September 1990. The Ceremony was chaired by the General Director of Armament, D. Alberto Llobet Batllori.

Speeches were given by Prof. José A. Aláez, President of the Conference, by Prof. Manuel Balgañón, Vice-dean of the Politechnical University of Madrid and by D. Alberto Llobet, General Director of Armament, who declared open the Conference.

### OPENING ADDRESS

by Prof. José A. Aláez

President of the 19th ITTC

Ladies and gentlemen: just thirty three years ago the eighth ITTC, the first to have this name, took place in this very site. Today again our country has the great honor to organize a new conference, the nineteenth.

Following the traditional procedure which rules the organization of the Conference it has been my duty to chair the Executive Committee for the last three years since I received, in Kobe in 1987, the warrant from the hands of Professor Inui. It is therefore, from this position that I address my opening words to warmly welcome all the delegates and the distinguished ladies

accompanying them.

I also wish to salute the authorities presiding this meeting and to express to them our sincerest feelings of appreciation for the honor of their presence at this opening session. Gratitude which I kindly ask the General Director of Armament to accept and transmit to His Majesty The King of Spain, who has assumed the honorary chairmanship of the Conference.

Moreover I want to express likewise in the name of the Executive Committee our thanks to the members of the Spanish Organizing Committee who have worked in the preparation of this Conference and for the support they have given to make it possible.

I must also address a few words to my colleagues in the Executive Committee to express to them my deepest appreciation for their cooperation and the wise counsel with which they helped me in the planning and setting of this meeting.

The origin of the International Towing Tank Conference was the meeting on Hydrodynamic Problems of Ship Propulsion held in Hamburg in 1932. One of the consequences of this meeting was the decision to maintain regular ones to promote the improvement of all aspects of ship model work. The first Conference of Tank Superintendants, it was the name given at that time, was held in The Hague in

1933. There were three more conferences before the second world war, held in London, Paris and Berlin respectively. The first conference after the war took place in 1948, in London and it is at the end of that when the first technical committees were created, Cavitation, Propeller and Skin Friction. The Standing Committee was also established in 1948 and although it did not have specified terms of reference it had the aim of giving continuity to the conference, therefore it was in some way in charge of its management. Three years later, in Washington, in 1951, it was the first time the guiding principles in appointing technical committees were adopted. It was also in the Washington Conference when the suggestion of changing the name was given. The Scandinavian Management Committee formed to organize the seventh Conference in 1954 proposed a change of the name to International Conference on Ship Ship Hydrodynamics. This name was not accepted but adopted instead the name "International Towing Tank Conference" for the future conferences. With time going on, the number of technical committees and the topics covered by them were increasing according to the new standard of knowledge in such a way that presently there are nine full technical committees, one panel and one special group. Accordingly the number of attendants has considerably grown from twenty during the year preceding 1939 to two hundred and forty in 1990 in spite of the fact that the attendance to the technical sessions is closed and limited only to specialists.

Through the years special attention has been given during the Conference to the committee reports and the technical sessions have been devoted mainly to discuss. This time it has been convenient to introduce small changes in the development of the Conference. For this reason we now have four sessions called

presentation sessions in which it is allowed to present short papers related to the subjects of the committees but not directly with the contents of the report, which will be taken up in the committee session. In the opinion of the Executive Committee as well as the Advisory Council, this is a good way to enrich the results of the Conference.

Although the crisis of the shipbuilding industry has somehow darkened future work, the health of the ITTC is sound. A good evidence of it is your presence here and that in the last three years ten organizations have applied to become members.

It is also gratifying to sense the good nature of the relationship between the different institutions within the ITTC putting the technical cooperation above other considerations. I hope that in the future ITTC will continue to keep the same path in helping to the betterment of the shipbuilding industry.

With profound regret I would also like to mention those eminent colleagues who passed away and who had greatly contributed to the aims of the ITTC. Dr. Guenter Collatz, vice-director of the Hamburg Ship Model Basin, died on January 13th, 1989. Dr. Collatz was an active member of diverse committees of ITTC, Presentation Committee in 1972 and 1975, Resistance Committee 1978 and 1981 and since 1984 Powering and Performance Committee. For over 26 years Dr. Collatz worked for the Hamburg Ship Model Basin. He became head of the ship resistance and propulsion department at HSVA in 1965 and was highly regarded by industry and academia for his deep understanding of flow problems about ships hull forms as well as of the science of ship resistance and powering.

Dr. William E. Cummins, associated technical director

for ship performance at the David Taylor Research Center from 1964 until he retired in 1979 died on November 3rd, 1987.

Dr. Cummins was a pioneer in theoretical research on submarine section forces under a seaway, ship wave resistance and techniques for determining the seakeeping characteristics of surface ships. Dr. Cummins, an authority in ship hydrodynamics theory and ship motion theory, received the Navy's Distinguished Civilian Service Award in 1976.

Prof. Konstantin Kokkinowrachos, Head of the Division of Ocean Engineering at the Technical University of Hamburg died November 17th, 1988. He was serving his second term on the ITTC Ocean Engineering Committee. He was also a member of various technical committees within the International Ship Structures Conference. He was President of the German Committee for Marine Sciences. He was one of the most active members in the West European Graduate Education in Marine Technology.

Prof. Dr. C.W. Prohaska died in January 1990 at the age of 86 years. He was appointed as professor in shipbuilding at the Technical University of Denmark in 1937. In ITTC he was chairman of the frictional resistance committee from 1957 to 1963, chairman of the sea trials analysis committee for 1963-66 and member of the Executive committee from 1963 to 1969. Prof. Prohaska was the driving force in the establishment of the Danish Ship Model Basin and a Center for ship technical computations. Prohaska's method for form factor determination became standard in the current ITTC 78 extrapolation method. His pioneer work on ship stability paved the way for his chairmanship in 1960-71 of IMCO'S committee for ship stability.

Dr. Karl Schoenherr, a retired naval architect at the

U.S.A. Navy Department and a former dean of the college of Engineering at the University of Notre Dame, died on February 8th, 1990 at the age of 96. He was an authority on the propulsion of ships and best known for his work on the frictional resistance of fluids on plane surfaces.

Prof. Sigfried Schuster, Director of the Berlin Model Basin from 1957 to 1981, died on February 23rd, 1989. He was also teaching at the Technical University of Berlin since 1958. He served at the ITTC Propeller Committee for many years and from 1969 to 1972 he was President of the 13th ITTC.

Prof. Kuoyi Watanabe, Professor at the Department of Naval Architecture in the Nippon Bunri University and former General Manager of the Nagasaki Research and Development Center, Mitsubishi Heavy Industries, died on July 4th, 1989. He was a member of the ITTC Performance Committee from 1969 until 1975 and member of the ITTC Advisory Council until 1978. He worked specially in the improvement of the experimental accuracy of the basic model tests and in the development of the new testing techniques and instrumentations.

Dr. William Crago died on May 18th, 1990. His involvement with ITTC began with the 11th as a member of the Seakeeping Committee. This representation continued for the 12th Conference and from the 15th on he was a member of the Executive Committee for three terms. He was also member of the British Towing Tank Panel.

To all these great men who have helped in making the ITTC possible, our deep regret for their demise and our assurance that we shall do our best to continue the works they have so well done in the ITTC.

Now I must end this welcome speech and I hope that this conference will produce fruitful results and I extend once again my warmest welcome to all of you and hope that your visit will be a memorable one.

#### WELCOMING SPEECH

by Prof. M. Balgañón

Vice-Dean of the Politechnical  
University of Madrid

Your Excellency, honorable Sirs, distinguished ladies and gentlemen:

It is a great honour for the Universidad Politécnica de Madrid to welcome the delegates of the 19th ITTC. Though the Conference has been organized by the Ministry of Defence, the University has wanted to offer its settlements as the most appropriate frame for this opening ceremony. I know the ITTC is one of the best examples regarding the scientific collaboration between institutions, both official and private, of which many of them are Universities.

In this sense, the policy of the Universidad Politécnica de Madrid, and through its departments of the School of Naval Architecture, is to tighten links among these institutions and organizations participant, through three ways: the establishment of a frame of common action; the formalization of agreements and contracts of technical assistance, research and development and the exchange of researchers.

Starting from establishing the adequate legal frame in order to develop all the technical capacity of the personnel of our institutions, in subjects of Naval Engineering, must be the previous and singular step,

establishing the mid or long term goals and the procedures and mechanisms to act, that facilitate the later approach, without forgetting the "day after day" especially when the celebration of the V Centenary of the Discovery of America, in 1992, is so close, being this the adequate frame for this kind of collaborations, as it is being carried out in some national companies.

This approach, rendered into scientific and technical cooperation agreements in the frame of the naval sector, and that for our University, as an example, has meant the signing of 15 contracts, must be translated to the international field in an agile and profitable way, benefitting the sector in general and eliminating not only the physical obstacle imposed by the frontiers of the countries but the psychological as well.

Finally, this range of options would not be completed if the exchange of researches among the research institutions and the naval sector is not encouraged in such a way that an exchange of knowledgements and "know how" exist.

Hopefully, this 19th ITTC serve to join endeavours and to get future international collaborative lines rendered in research and develop lines, complementary among the countries, institutions and companies, without forgetting the social utility of the results.

Ceremonies like this are supports to the approach of the three points of view explained, now that it is established a direct communication, clear and sensitive and especially of understandable level for the goals that we pretend to reach.

## CONFERENCE ADDRESS

by Mr. A. Llobet

General Director of Armament

Ministry of Defence

Ladies and gentlemen:

On behalf of the Ministry of Defence, and as chairman of the Spanish Organizing Committee, it is my pleasure to welcome you to yet another meeting of the International Towing Tank Conference.

Since our country has a high level of interest in all matters related to the sea, we are especially happy to once again be the hosts. Furthermore it is a good opportunity for the Spanish Ministry of Defence to demonstrate its willingness to promote scientific research, not only in its own facilities, but also in collaboration with universities or any other institution.

It is a well known fact that towing tanks have played a major role in the development of ship hydrodynamics. The difficulties presented by the theoretical approach to solving hydrodynamic problems appearing in ship design, and the sheer physical size of the ships meant that the experimental work, carried out with models in towing tanks, was the only means to estimate the ships performance. However, nowadays, thanks to the tremendous advances in the procedures for numerical solutions to the theoretical approach, the physical models are very often complemented by numerical models.

I can see from the technical programme that the conference covers the major issues of marine hydrodynamics, and indicates the great amount of work that has been covered by you over the last three years. I hope that the technical results of the conference will be as productive as this eminent group of scientists deserves.

In organizing the conference, and with the idea of making your jobs easier, and of course your stay in Spain more pleasant, the Ministry of Defence has been joined, not only by shipbuilders and shipowners, who are of course the primary beneficiaries of any advances you may make, but also by other related scientific and professional organizations and institutions. It is precisely our technical and professional affinities which allow us to speak the same language and to work together towards the same objectives. I should like to thank the members of the Spanish Organizing Committee who have worked to make this meeting possible.

I very much hope your stay in Spain will be a pleasant one and that you and your ladies will enjoy some traditional Spanish hospitality.

Ladies and Gentlemen, I should now like to declare the Nineteenth International Towing Tank Conference open.

Thank you.