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## Report on the 24<sup>th</sup> Conference

The Princess Royal opened the 24th International Towing Tank Conference (ITTC), hosted by the School of Marine Science and Technology at Newcastle University. The Conference was held in Roxburghe Hotel in Edinburgh during 4-10<sup>th</sup> September 2005.

Stressing the importance of the maritime sector to the World and UK economies, Her Royal Highness welcomed the delegates and went on to praise the School for its leadership in many aspects of marine technology and for hosting the conference.

A total of 194 delegates from 29 different countries attended the conference, the end of which was marked with a gala banquet in Hopetoun House.

All the General and Specialist Committee reports presented and the presentations given during Group discussions can be found on <http://www.ittc.ncl.ac.uk/reports/papers.htm>

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## Message from the Chairman

The 24th ITTC Conference in Edinburgh was both technically and socially most successful, making a significant contribution to the tankery business. It is worthwhile to note in a long ITTC history that we introduce the ITTC fee to make more contribution to an international maritime community as a technical professional and also to serve member organizations to provide the ITTC Newsletter, ITTC Recommended Procedures and Guidelines and the ITTC permanent website. The ITTC secretary is newly appointed for these services. Mr. Aage Damsgaard kindly accepted this important job. It was never forgettable to have a technical session with Princess Ann and to have a pleasant talk and lunch with her. The social programs, Receptions at Edinburgh Castle and Royal Yacht Britannia, Tour to Glasgow and Banquet at Hopetoun House were very enjoyable events. The success of the 24<sup>th</sup> ITTC Conference was made possible through the excellent work of all of the ITTC Committee members and the Organizing Committee. Once again I would like to record our gratitude to Professor Attila Incecik and Dr. David Clarke for organizing and hosting the conference. The support of the School of Marine Science and Technology, University of Newcastle upon Tyne was also much appreciated.

I am very pleased to note that a number of technical committees have already started their activities, as we have about twenty-four months from now to complete the main Committee tasks. In order to organize the 25th ITTC Conference in Fukuoka, Professor Masashi Kashiwagi, Secretary of the Executive Committee and friends are planning the venues proposed for the conference and social events.

## Takeshi Kinoshita, Chairman 25th ITTC Executive Committee

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## News from the Executive Committee

The Executive Committee held two meetings during the Conference in Edinburgh, viz. the final meeting of the 24th ITTC and the first meeting of the 25th ITTC. The following summarises some of the elements discussed.

### *Members of the Executive Committee*

The new Chairman, Professor Takeshi Kinoshita, welcomed the following new members of the Executive Committee:

Arne H. Hubregtse representing Central Europe  
Seung-il Yang representing East Asia  
Yasuyuki Toda representing Pacific Islands  
as well as the new ex-officio members  
Masashi Kashiwagi, EC Secretary  
Aage Damsgaard, AC/ITTC Secretary

The full list of EC members is found on the ITTC website.

### *ITTC membership fee*

This item is presented under a separate heading in this issue of ITTC News.

### *ITTC Rules*

A Working Group including the EC Chairman, the AC Chairman and Arne Hubregtse was established to formulate a proposal for revision of the ITTC Rules for adoption by the next conference.

### *Volume III of proceedings of 24th Conference*

The outgoing Chairman was urged to issue Volume III of the proceedings within a period of 6 months after the conference.

## News from the Advisory Council

The 24th Advisory Council had its final meeting spread over two days during the Conference in Edinburgh.

### *Change in AC membership*

Two member organisations have decided to withdraw from the AC, Mitsui Akishima Laboratories, Japan, and Seoul National University, Korea. The AC thereafter has 30 members. The full list of AC members and representatives as well as ex-officio members of the AC is available on the ITTC website [ittc.sname.org](http://ittc.sname.org).

### *New member representatives*

The following new member representatives to the AC were welcomed by the Chairman: Professor Chen Gang, SJTU, China; Dr. S-W Hong, MOERI, Korea; Dr. C. Stansberg, Marintek, Norway; Mr. A.H. Hubregtse, MARIN, The Netherlands.

### *Tasking and monitoring the work of the Technical Committees*

During the 24th ITTC a revised procedure was introduced for following the work of the Technical Committees more closely. Four Working Groups were formed, having the following tasks:

- To draft recommendations for terms of reference (ToR) for general committees
- To identify requirements and propose terms of reference for specialist technical committees
- Review and make recommendations on proposed ITTC procedures
- Review and propose topics for group discussions at the full Conference
- Support the new Committees as regards the start up and interpretation of their tasks.
- Report to the full Council at its meetings.

The division of the technical committees between the WGs is given in the table below.

| <b>TCs for the 25<sup>th</sup> ITTC</b> | WG 1 | WG 2 | WG 3 | WG 4 |
|---|------|------|------|------|
| <b>General Committees</b>               |      |      |      |      |
| Resistance                              | x    |      |      |      |
| Propulsion                              |      | x    |      |      |
| Manoeuvring                             |      |      | x    |      |
| Seakeeping                              |      |      | x    |      |
| Ocean Engineering                       |      |      |      | x    |
| <b>Specialist Committee</b>             |      |      |      |      |
| Azimuthing Podded Propulsion            |      | x    |      |      |
| Cavitation                              |      | x    |      |      |
| Ice                                     |      |      |      | x    |
| Powering Performance Prediction         | x    |      |      |      |
| Stability in Waves                      |      |      | x    |      |
| Uncertainty Analysis                    | x    |      |      |      |
| Vortex Induced Vibrations               |      |      |      | x    |
| Wakefield                               |      | x    |      |      |
| <b>Group</b>                            |      |      |      |      |
| Quality System                          |      |      |      |      |

The WG chairmen are

Group 1G Strasser  
Group 2M Mehmel  
Group 3A H Hubregtse  
Group 4R Beck

The WGs are currently active supporting the TCs during their start-up. At the time of writing (30.01.2006) the WGs have assisted three committees to clarify their Terms of Reference.

*Chairman, Vice Chairman and Secretary of the 25th ITTC*

At the AC meeting in April, 2005 David Murdey was unanimously re-elected as Chairman for the 25th Advisory Council. Likewise, Naoji Toki was re-elected as Vice Chairman.

Willem van Berlekom had announced that this would be his last term as Secretary of the Advisory Council, and Aage Damsgaard, FORCE Technology, Denmark, was appointed new Secretary for the 25th Advisory Council. The Advisory Council members applauded Willem van Berlekom for his excellent work during his two periods as Secretary.

*Dates and venues for future meetings*

2006: Rome, Italy, 18th – 19th September  
2007: Kyushu, Japan, August-September  
2008: Copenhagen, Denmark, March-April

## **News from Technical Committees**

Membership and tasks of the Technical Committees as approved by the 24th Conference in Edinburgh are posted on the ITTC website and shall not be repeated here.

*Resistance Committee*

The first meeting of the Resistance Committee is to take place on 6-7 February in Launceston, Tasmania (Australia) hosted by the Gregor MacFarlane (AMC). All the members have confirmed their attendance. Juha Schweighofer (HUT) who resigned from his office has been replaced by Tommi Mikkola (HUT) on the RC

Meanwhile, the world-wide series to identify fa-

cility biases promoted by the RC is going on successfully. Several ITTC members decided to join the campaign at the conference in Edinburgh. The updated list of participants is shown elsewhere in these News.

*Propulsion Committee*

A kick-off meeting was held in Edinburgh on September 9, 2005 right after the 24<sup>th</sup> ITTC Conference, among six members who participated in the conference. Dr. Stephen Turnock of the University of Southampton was unanimously elected Committee Secretary. A detailed work assignment has been completed. The first Committee meeting is scheduled for 1-3 February 2006 in Istanbul, Turkey hosted by Professor Emin Korkut of Istanbul Technical University.

*Manoeuvring Committee*

The first meeting of the MC was hosted by Dr. R. Broglia at INSEAN in Rome on January 19<sup>th</sup> and 20<sup>th</sup>. All committee members were present. Prof. Fred Stern was appointed secretary of the MC. The tasks obtained from 24<sup>th</sup> ITTC Conference have been discussed and accepted. Members have been assigned to be in charge of the different tasks and corresponding chapters of the report, as well of the procedures to be reviewed and the one to be rewritten.

*Seakeeping Committee*

The first meeting of the 25<sup>th</sup> ITTC Seakeeping Committee is to take place at QinetiQ, Haslar in Gosport, UK, hosted by committee member Paul Crossland on 9-10 January 2006. At this time, all but two committee members have confirmed their attendance.

*Ocean Engineering Committee*

First meeting planned at MARIN, Wageningen, 15-16<sup>th</sup> June 2006, hosted by Jaap deWilde. Appointment of secretary and task distribution shall be finalized during this first meeting.

*Specialist Committee on Azimuthing Podded Propulsion*

The first meeting will be held 27 - 29 March 2006 at NMRI (National Maritime Institute) of Japan.

The main subject of the first meeting is drafts of questionnaire which will be sent to main facilities where they can conduct a pod propulsion test.

Other topics are as follows:

- (1) Procedure of model tests incl. cavitation test
- (2) Powering Methods
- (3) IMO Criteria
- (4) Recent POD activity in the world

*Specialist Committee on Cavitation*

Not reported.

*Specialist Committee on Ice*

The Specialist Committee on Ice has scheduled the first Committee meeting for 7th and 8th of March, 2006. The meeting will be hosted by Aker Arctic Research Centre (AARC) in Helsinki, which then has moved into new ice test facilities. A second meeting is scheduled to be held already in June in connection with the OMAE conference in Hamburg. Task leaders have been assigned for the three working tasks of the Ice Committee and requested to prepare a scope of work for each tasks and to submit it to the Committee members before the first meeting.

*Specialist Committee on Powering Performance Prediction*

The committee held its first meeting in Shanghai on November 28-30, hosted by CSSRC Shanghai Branch. 7 out of 9 members attended. Maria J. Bobo from CEHIPAR was elected as secretary of the committee.

Of the tasks assigned to this committee (see ITTC website), the committee is of the opinion that the first is the most significant. The Speed/Power Prediction procedure (7.5-02-03-01.4) is the so-called ITTC'78 method of powering performance prediction. Key topics of a revision of this procedure includes "hot" topics like choice of friction line, determination of form factor, roughness correction and method of correlation. The committee would like to obtain the opinion of ITTC members that are not represented in the committee. We plan to do this by sending out a questionnaire on current and considered best practices.

The committee would like to bring the attention of the ITTC community to the fact the existing procedures contain some contradictions. One example is shown below.

In the current Speed/Power Prediction procedure (7.5-02-03-01.4) the tow force in the self propulsion test is expressed as:

$$F_D = \frac{1}{2} \rho_M S_M V_M^2 [C_{FM} - (C_{FS} + \Delta C_F)]$$

However, in the procedure on Propulsion Test (7.5-02-03-01.1), the same value is expressed as follows:

$$F_D = \frac{1}{2} \rho_M S_M V_M^2 [(1+k)(C_{FM} - C_{FS}) - \Delta C_F] + (1-\beta)(R_{TMA} - R_{TM})$$

where  $\beta$  is the scaling factor of the appendage resistance.

*Specialist Committee on Stability in Waves*

The Committee had a preliminary meeting at Roxburghe Hotel, Edinburgh, UK on 10 September, 2005. Drs. Shigesuke Ishida, Jan Otto de Kat and Naoya Umeda attended this meeting. Here Mr. Andy Peters was nominated as the Secretary of this committee. And the first meeting is scheduled to be held at MARIN, Wageningen, the Netherlands on 10 February 2006 for allocating tasks among the committee members. These were endorsed by the other committee members via e-mails later on. The second meeting is planned to be held together with the 9<sup>th</sup> International Conference on Stability of Ships and Ocean Vehicles (STAB2006) in Rio de Janeiro, Brazil on 25-29 September 2006. This conference will cover all aspects of ship stability with refereed papers from the world. Its web site is now available with following address: <http://www.oceanica.ufrj.br/stab2006>.

It is worthy of note that the International Maritime Organization (IMO) expressed a view that the ITTC should include further benchmark testing and assessment of computer codes that simulate time-to-flood and related ship motion behaviour of damaged ships. (SLF 48/21, IMO, 26 September 2005) The Committee understands that this is an extension of one of our tasks from the 24<sup>th</sup> ITTC and is ready to plan its execution if requested by the Executive Committee.

### *Specialist Committee on Uncertainty Analysis*

The Uncertainty Analysis Technical Committee is a new committee that has been formed for the 25th ITTC. The members include Joel T. Park of the United States (Chair), Ahmed Derradji-Aouat of Canada, Bao Shan Wu of the Peoples Republic of China, Shigeru Nishio of Japan, and Erwan Jacquin of France. The initial topics for the committee are to develop 4 new procedures and review 5 existing procedures. The new procedures to be considered are captive model tests, free running model tests, LDV and PIV flow measurements, and full scale measurements. The existing procedures to be reviewed include 7.5-02-01-01, 7.5-02-01-02, 7.5-02-3-01.2, 7.5-02-3-02.2, and 7.5-02-3-03.2.

The initial meeting of the committee is tentatively scheduled for the week of March 20. The location is yet to be determined but, Rouen, France, is being considered.

### *Specialist Committee on Vortex Induced Vibrations*

The first meeting of the 25th ITTC VIV is hosted at INSEAN, in Roma, Italia 6-7 March. The objective of the committee work shall be based on the Terms of Reference for the committee.

### *Specialist Committee on Wakefields*

The first meeting of the 25th ITTC Wakefields Committee is hosted by MOERI, Daejeon, Korea on 23-25 January 2006. The issues raised in the Terms of Reference for the Wakefields Committee will be discussed at this meeting.

### *Quality Systems Group*

Not reported.

## **Introduction of ITTC fee**

During the 24th Conference in Edinburgh it was decided by majority voting among those present to introduce a membership fee of US\$600 for the three year period to cover general ITTC secretarial functions. It is acknowledged that many of the ITTC members already contribute extensively to the ITTC work through their participation in the Technical Committees by highly skilled professionals funded by themselves. Likewise, it is acknowledged that the members

of the Advisory Council pay a separate fee for the secretarial functions related to the council's activities. The additional general membership fee is intended to cover general secretarial functions such as maintaining the website, producing the ITTC News, editing and publishing the ITTC Recommended Procedures and Guidelines, organising the ITTC activities relating to the IMO observer status, and other services to the members. These functions are delegated to the AC Secretary who then also takes the position as ITTC Secretary and as such issues the invoices for the membership fee.

## **ITTC approved as NGO-member of IMO**

By letter of 14th December, 2005, ITTC received the formal endorsement of its membership as an NGO with consultative status at IMO. The process of obtaining this status has been ongoing for several years, so it is now important that ITTC shows its willingness and ability to fill the position and contribute actively to the technical work, which is within our interest sphere. Several ITTC members already participate actively in the work of IMO, specifically in the SLF and DE sub-committees, as members of their national delegations, and their information to ITTC on ongoing work is very valuable. However, ITTC needs to find a way of being represented at the relevant meetings. This will be discussed at the next EC meeting in Rome. In the meantime, it has been considered if the ITTC Secretary should participate in the SLF meeting in September 2006 with the objective of exploring, together with the other ITTC members present, how ITTC's representation can best be organised and report to the EC/AC on the matter.

ITTC has already received a request from the Director of the Marine Safety Division of IMO to address the subject of further benchmarking and assessment of computer codes that simulate time-to-flood and related ship motion behaviour of damaged ships, with a specific view to passenger vessel safety. This question falls naturally under the work of the ITTC Specialist Committee on Stability in Waves, and the EC Chairman is communicating with the SC on the matter.

## ITTC website

The permanent ITTC website is now running smoothly on the SNAME server and may be reached on <http://ittc.sname.org>. The website is being regularly updated and therefore to a large extent replaces the function of the ITTC News, which consequently refers extensively to the website with regard to information of a more permanent nature such as membership lists, task lists, rules, etc. The ITTC News is also posted on the website, only, and is no longer issued to the members after this issue.

Scanning of proceedings from earlier conferences is being performed by CSSRC, China, and the proceedings are uploaded as the scanning work proceeds. So far, it has been decided to upload proceedings from the 15th ITTC and later.

ITTC Recommended Procedures 2002 have been uploaded on the website earlier. In addition, amended and new Recommended Procedures 2005 have been uploaded and may be accessed on the website. The QSG is presently

## SIMMAN 2007 Test Plan (updated 20-01-06)

Columns in **grey** are basic benchmark data i.e. appended hull deep water tests i.e. PMM, CMT and free running tests for all hull forms. Fields in **green** are tests that have been finalized to date.

| <i>Hull</i>    | <b>PMM appended deep water</b> | <b>PMM appended shallow water</b> | <b>PMM bare hull deep water</b> | <b>PMM bare hull Shallow water</b> | <b>CMT appended deep water</b> | <b>CMT Bare hull deep water</b> | <b>Free running appended deep water</b> |
|----------------|--------------------------------|-----------------------------------|---------------------------------|------------------------------------|--------------------------------|---------------------------------|---|
| <b>KVLCC 1</b> | <b>MOERI (1999)</b>            | INSEAN (oct 2006)                 | -                               | -                                  | -                              | -                               | HSVA (nov 2006)                         |
|                | INSEAN (oct 2006)              |                                   |                                 |                                    |                                |                                 |   |
| <b>KVLCC 2</b> | <b>MOERI (1999)</b>            | INSEAN (oct 2006)                 | FORCE/INSEAN (jan 2006)         | FORCE/INSEAN (jan 2006)            | -                              | -                               | HSVA (nov 2006)                         |
|                | INSEAN (oct 2006)              |                                   |                                 |                                    |                                |                                 |   |
| <b>KCS</b>     | <b>NMRI (dec 2005)</b>         | BSHC (sep 2006)                   | -                               | -                                  | <b>NMRI (dec 2005)</b>         | -                               | SVA (feb 2006)                          |
|                | CEHIPAR (may 2006)             |                                   |                                 |                                    |                                |                                 |   |
| <b>5415</b>    | <b>FORCE (2000)</b>            | -                                 | <b>FORCE (2004)</b>             | -                                  | -                              | BEC (jun 2006)                  | <b>MARIN (2000)</b>                     |
|                |                                |                                   | <b>IHR (2005)</b>               |                                    |                                |                                 |   |
|                |                                |                                   | <b>INSEAN (2005)</b>            |                                    |                                |                                 |   |

considering how other information of common interest such as Guidelines and databases should be organised.

## SIMMAN 2007

SIMMAN 2007, a Workshop on Verification and Validation of Ship Manoeuvring Simulation Codes is organised with the support of the ITTC Manoeuvring Committee and will be held in Copenhagen in October, 2005. The purpose of the workshop is to benchmark the capabilities of different ship manoeuvring simulation methods including systems and CFD based methods through comparisons with results for tanker, container ship and surface combatant hull form test cases. As part of the preparations, a world-series of model tests are performed with the participation as shown in the table below.

*Further information on participation may be found on the workshop website*  
[www.simman2007.dk](http://www.simman2007.dk)

**ITTC Worldwide Series for Identifying Facility Biases, Provisional Schedule – 15 Sep. 05**  
**5.720 meters length model**

| Institution                                   | Country | Contact Person                      | e-mail  | Scheduled Month | Check model |
|---|---------|-------------------------------------|---|-----------------|-------------|
| CEHIPAR                                       | Spain   | Jesús Valle                         | jvalle@cehipar.es                               | June 2004       | X           |
| INSEAN  | Italy   | Emilio F. Campana                   | e.campana@insean.it                             | September 2004  |             |
| Helsinki University of Technology             | Finland | Juha Schweighofer<br>Harri.Soininen | juhaschw@cc.hut.fi<br>Harri.Soininen@vtt.fi     | November 2004   |             |
| Krylov Shipbuilding Research Institute        | Russia  | A. Pustoshny                        | krylov@krylov.spb.ru Fax: +7<br>(812) 127 96 04 | February 2005   |             |
| ICEPRONAV S.A.                                | Romania | Norman Pirvulescu                   | roman.pirvulescu@icepronav.ro                   | September 2005  | X           |
| Vienna Model Bassin                           | Austria | Richard Anzbözk                     | sva@sva.at                                      | November 2005   |             |
| Huazhong University of Science and Technology | China   | Liu Weibin                          | lwbjeffrey@163.com                              | February 2006   |             |
| Samsung Ship Model Basin                      | Korea   | Se-Eun Kim                          | se-eun.kim@samsung.com                          | April 2006      |             |
| Akishima Laboratories                         | Japan   | Yuzo Kusaka                         | kusakay@ak.mes.co.jp                            | June 2006       |             |
| National Maritime Research Institute          | Japan   | Yoshiaki Kodama                     | kodama@nmri.go.jp                               | September 2006  | X           |
| Naval Surface Warfare Center (NSWC)           | USA     | Joseph Gorski                       | gorskijj@nswccd.navy.mil                        | November 2006   |             |
| Institute for Ocean Technology (IOT)          | Canada  | David Murdey                        | David.Murdey@nrc-cnrc.gc.ca                     | February 2007   |             |
| QinetiQ                                       | UK      | Peter Bull                          | pwbull@qinetiq.com                              | April 2007      |             |
| Bassin d'Essais des Carenes                   | France  | J-Marc Quenez<br>Erwan Jacquin      | quenez@bassin.fr jac-<br>quin@bassin.fr         | June 2007       |             |

|  |              |
|--|--------------|
|  | Tested       |
|  | New facility |

**3.048 meters length model**

| Institution   | Country   | Contact Person             | e-mail                                       | Scheduled Month | Check model |
|---|-----------|----------------------------|--|-----------------|-------------|
| Canal de Ensayos Hidrodinámicos - ETSIN (CEHINAV)         | Spain     | Luis Pérez-Rojas           | lperezr@etsin.upm.es                         | February 2005   | X           |
| Laboratory for Ship and Marine Hydrodynamics -(LSMH/NTUA) | Greece    | T.Loukakis<br>Sofia Peppas | loukakis@mail.ntua.gr<br>speppa@mail.ntua.gr | April 2005      |             |
| Inha University   | Korea     | Seung-Hee Lee              | shlee@inha.ac.kr                             | September 2005  |             |
| Pusan National University                                 | Korea     | H. H. Chun                 | chunahh@pusan.ac.kr                          | November 2005   |             |
| Osaka Prefecture University                               | Japan     | Yusuke Tahara              | tahara@marine.osakafu-u.ac.jp                | February 2006   | X           |
| Harbin Engineering University                             | China     | De Bo Huang                | debo_huang@hotmail.com                       | April 2006      |             |
| Universiti Teknologi Malaysia                             | Malaysia  | Omar Yaakob                | omar@fkm.utm.my                              | June 2006       |             |
| Australian Maritime College                               | Australia | Gregor Macfarlane          | G.Macfarlane@mte.amc.edu.au                  | September 2006  | X           |
| Canal de Experiencias de Arquitectura Naval               | Argentina | M.Colpachi                 | mcolpac@fi.uba.ar                            | November 2006   |             |
| University of Iowa – IIHR                                 | USA       | Fred Stern                 | frederick-stern@uiowa.edu                    | February 2007   |             |
| Stevens Institute of Technology                           | USA       | Raju Datla                 | rdatla@stevens.edu                           | April 2007      |             |
| University of Glasgow and Strathclyde                     | UK        | A. H. Sandy Day            | s.day@na-me.ac.uk                            | June 2007       | X           |
| University of Liège – ANAST                               | Belgium   | André Hage                 | a.hage@ulg.ac.be                             | September 2007  |             |
| Ecole Centrale de Nantes                                  | France    | Pierre Ferrant             | Pierre.Ferrant@ec-nantes.fr                  | November 2007   |             |
| Istanbul Technical University                             | Turkey    | Mustafa Insel              | insel@itu.edu.tr                             | February 2008   |             |
| INSEAN)   | Italy     | Emilio F. Campana          | e.campana@insean.it                          | April 2008      |             |
| CEHIPAR   | Spain     | Jesús Valle                | jvalle@cehipar.es                            | June 2008       |             |