

*Robertson, K.G.\*, September 1997*

## **Synopsis of the International Marine Technicians' Workshop (INMARTECH 96)**

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### The background

In the ten years of its existence the International Ship Operators Meeting (ISOM) has had discussions on technical problems and subsequently lost equipment. This led to the idea that international exchange of knowledge and experiences between marine technicians might help in improving equipment performance during scientific cruises on board research vessels. The first step of this exchange was the Workshop on Cable Technology held in Brighton (UK) in 1994. This workshop was organised by the UK partners of ISOM and financed by the EC. The fact that marine technicians were able to discuss a particular subject during a workshop also helped to start a marine technicians network. If this network was to be maintained it was suggested that the marine technicians should meet each other on a regular basis.

In international research programmes scientists are working together more and more to study the global environment and mankind's influences on it (i.e. JGOFS, WOCE, GLOBEC). Measurement procedures are discussed and agreed upon. The marine technicians for each country separately however, are facing problems to improve the research performance with many types of instruments. Every country seems to solve its own problems differently. If the knowledge of marine technicians could be combined, how many more problems might they solve together? Also should it not be possible to define more common problems, like the Cable Technology Workshop did, to encourage manufacturers to come up with a better product?

The exchange of knowledge can only be done by marine technician to marine technician. It was therefore proposed that a three-day international meeting should take place in Southampton (UK) in October 1996. Specialists on certain subjects were invited to give a presentation to an audience working on the same subject. To enhance the best exchange of ideas simultaneous interpretation was provided. It was proposed that this international gathering should be biannual in future, held in USA and Europe in turn. The main topics for 1996 in Southampton were:

1. Mooring Operations
2. Calibrations and Standards
3. Fishing Technology

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### The Programme

#### General

The 3-day Workshop was attended by approximately 60 marine technicians from 8 different countries. The working concept was that a leading scientist began by giving a scientific overview of the subject involved. This was followed with a lecture by a senior marine technician to make clear the role of marine technicians and then an open question and answer forum involving the marine technicians on various topics related to the

main subject. The third day was used for lectures and discussion on fishing technology but also included a presentation about the Internet for Marine Technicians and finally, a conducted tour of parts of the new Southampton Oceanography Centre.

### Day 1 - Mooring Operations

At present, time-series are essential to study the marine environment. More and more instruments are placed in the sea for a long period of time. The first lecture of this workshop was given by Dr. Harry Bryden and offered a presentation on the role of moored equipment both now and in the future, from the scientific point of view. This set the framework for the technological implications presented by a leading marine technician. A representative from a related industry spoke of satellites and the ARGOS service. Full discussion was entered into from the floor.

### Day 2

#### Calibration & Standards

Any instrument related to marine science that measures a parameter or property must be properly calibrated and regularly checked or the data it produces are of limited use. The trend has been to higher resolution, data exchange and hence more and more severe demands on standards and calibration. The topic discussed this year dealt mainly with measurements in and sampling of the water column. The first lecture of the second day was given by Dr. Kees Kramer, who chose to entitle his presentation "Analysis starts with sampling". This was followed by an overview of the importance of calibration and international standards to the data presented to national databases and archives. A senior technician and an equipment manufacturer described advances in the measurement of water column parameters and a provider of commercial calibration services spoke of the importance of regular calibration and the consequences of neglecting it. The day finished with practical demonstrations and enlightening information from a major company engaged in the supply and use of precise temperature standards. Very full discussion took place throughout the day, involving all delegates and speakers.

### Day 3

#### Fishing Technology

Fishing Technology was fairly broad in that it covered the technology for a variety of biological sampling systems. The subjects of the lectures included Plankton sampling, using a new type of 'Multinet' and a full description of a newly developed benthic dredge. It had been hoped that a representative from the British Antarctic Survey would be able to attend to speak of the particular techniques, problems and solutions that are necessary in the near polar regions but this was not possible due to conflicting commitments. However, two video presentations on the work of the Marine Laboratories in Aberdeen created much interest and discussion.

#### The Internet

The afternoon began with a lecture by Dr. Katherine Bouton and a demonstration about electronic-mail, Internet and World Wide Web sites and their use for marine technicians. In particular, the OCEANIC Database was described in some detail and examples given of the value of these new and exciting techniques to the marine technician.

#### Visit to SOC

Finally, after a summing up session, delegates and speakers were offered the opportunity to tour the Southampton Oceanography Centre, accompanied by staff of the NERC Research Vessel Services. Many old

working acquaintances were renewed during this time.

## Attendees

## Speakers

A number of guest speakers were invited to give presentations over the three days of the Workshop. They included both leading scientists and expert technical people in the relevant fields of interest. They were chosen on the basis of the sphere of knowledge and acquaintance of the organisers. Once the confirmation of funding had been received, a number of appropriate industry contacts were also approached to give them the opportunity to present an unbiased and "non-marketing" view of the state of the art in equipment and services. The response was highly gratifying and effective. Only one scientist, who had earlier signified his interest, was unable to respond in the short time scale that the late notification of funding brought about and another, with experience of Antarctic fishing research, had contracted another conflicting engagement. The industry representation was most welcome and could, with advantage, be expanded upon in future workshops. All took a full and active part in the whole proceedings over the three days of the Workshop.

## Delegates

The intention throughout was to ensure that the participation would be truly multi-national and in order to pursue this objective as effectively as possible, it was decided to use the existing network of the members of the International Ship Operators Meeting (ISOM) to convey the information about the Workshop to the appropriate contacts in their respective countries.

## Organisation

### The Venue

From an early stage in the planning for the Workshop, it had become clear that the most effective method of mounting the event would be if the services of a hotel in the Southampton city area were engaged. Delegates would need to be accommodated over night, at a location convenient to where the meetings would be taking place, close to major public transport facilities and within easy reach of the centre of the city. Most of the larger hotels were able to offer conference or meeting functions in addition to their normal room and catering facilities. The alternative idea of using lecture theatres within the nearby University of Southampton was explored but as the timing of the Workshop clashed with the beginning of academic teaching commitments and the influx of new students, this was rendered impossible.

Accordingly, a number of hotels within the area were contacted and visited and eventually, the choice was made to employ the Novotel. The management were able to meet all the demands for conference facilities and were able to confirm the availability of sufficient accommodation for the expected number of delegates. By comparison with the others contacted, their quoted prices were very competitive. The decision to use a hotel was undoubtedly correct and would be recommended again for a similar event.

### Timing/Dates

The chairman and secretary of the ISOM group had declared their wish that the Workshop be held immediately prior to the ISOM meeting, so that members of the latter could choose to attend both events if they wished but also so that I, as organiser and chairman for the Workshop, could report to the group on the success of the technical sessions. Thus, a decision about the dates had to be made much earlier in the year so that participants in both events could be given the maximum amount of notice to set aside the time. The initial wish was to hold both meetings earlier in the month of September but when the availability of hotel rooms was checked, it was found that the whole of September was going to be so busy with other major events and

attractions in Southampton that the very first chance of success would be the week beginning Sunday 29th September. Accordingly, with little choice left open, that was agreed.

### Interpretation

From earlier enquiries, it was clear that up to about 70 participants from a number of countries might be expected to join the Workshop and so seating and space for that number was a starting point. However, one of the basic promises and requirements was the provision of simultaneous interpretation between a range of languages. Fortunately, a company was found and ultimately engaged, who were able to take on the provision of not only an expert team of interpreters but also the necessary public address, speakers' microphones, personal headphone sets, infra-red transmitters, etc. They also had the equipment and skill to make a continuous audio recording of all proceedings at very little extra cost and this has proved invaluable in the post meeting composition of a full written record of the Workshop. A decision on the range of languages was made on the basis of the replies received from the initial invitations and in the event, French, Spanish and Japanese covered all the essential needs of the delegates. In discussions during and since the Workshop, the facility of simultaneous interpretation was much appreciated and was clearly an attractive and wise decision. In its absence, there could have been a diminished number of participants, from a smaller number of countries and this would have been contrary to the fundamental aims of establishing an international technicians' network.

### Audio/Visual aids

The provision of public address equipment was an essential, given the number of people who attended and the size of the conference room in which all sessions were held. As stated above, the company who were engaged for the interpretation, provided all the necessary microphones, loudspeakers, headphone sets, etc., for the smooth running of the interactive sessions.

In response to the wishes and needs of the speakers, a number of audio/visual presentational aids were necessary. These included overhead projector, photographic slide projector, multi-standard video playback and colour projector, flip chart and consumable and lapel microphone. For the presentation about the Internet and the World Wide Web, on the last of the three days, a personal computer with LCD projection panel was hired in addition.

### Sound recording

The whole proceedings were recorded, to allow for reference to individual presentations and discussions at the stage of composing the final working report. This was achieved through the same company that provided the interpretation services and at very little additional cost. In hindsight, it is possible that the resultant need to use a microphone throughout may have deterred some people from making the kind of free responses they would otherwise but I think that if this was the case it was only confined to a few and did not seriously affect the overall success.

### Conclusions

An appraisal questionnaire form was handed to each participant during the Workshop, with the request that he/she would complete the form and either post it, or hand it, back. I deliberately omitted asking for the name of the respondent to make it anonymous and encourage as much frank and open comment as possible. The returns are not complete yet but a brief summary of some of the comments received so far is interesting and will be useful when planning for the next occasion of the Workshop. Generally, there was a good degree of satisfaction amongst those who attended. Many had not formed a totally clear impression of what they would gain from coming but all, without exception so far, confirm they benefited from attending and the majority would be keen to attend again.

The overriding reaction is that there is a great demand for the type of gathering of technical people that this Workshop achieved and to some degree, the extent and variability of the constructive advice about the content of future meetings, is seen as a reflection of the unsatisfied needs that we have now begun to address. Thus, this was just a beginning and the momentum now established must not be allowed to wane. The technicians see themselves as either individuals or small groups, in either case, relatively isolated compared to some of their scientific colleagues. The need to meet with each other and so form a set of international contact points has begun to be satisfied. Future Workshops should build upon this initiative. The programme for future events in the series will include more time for this interaction in smaller and more specialised groups.

Attached is a list of the names of attendees and their affiliations. This is also included in the final printed report, in an expanded format. Several have told me that the contact and network processes begun in Southampton have continued and increased in the intervening months.

#### INMARTECH '98

It has been an intention from the outset that, if successful, the Workshop should be repeated at approximately two yearly intervals, hosted by a European country and USA alternately. It is pleasing to report that the prospects for an International Workshop to be held in USA during 1998 are looking favourable and soon after the completion of the 1996 event, I was asked by the UNOLS office to work with a small team to put together a plan to go forward for approval. I was very gratified at this show of confidence and we have since begun detailed correspondence and discussion.

#### Guest Speakers

Mr D Ayres - Isothermal Technology Ltd. - UK

Dr M Bergman - NIOZ - NL

Mrs K Bouton - College of Marine Studies, Un. of Delaware - USA

Dr G J Brummer - NIOZ - NL

Dr H Bryden - James Rennell Division for Ocean Circ, SOC - UK

Mr J Dunn - Marine Labs, Aberdeen - UK

Dr C J Kramer - Mermaid, Bergen - NL

Mr N Larson - Sea-Bird Electronic Inc, Washington - USA

Dr R Lowry - BODC Bidston - UK

Mr S Ober - NIOZ - NL

Mr P Ridout - Ocean Scientific International Ltd. - UK

Mr R Winterburn - Marine Environmental Systems - UK

Mr S Worriow - Woods Hole Oceanographic Institution - USA

Residential Delegates

Mr Atsuo Ito - Nippon Marine Enterprises - Japan

Mr Masaki Hanyu - Nippon Marine Enterprises - Japan

DrTakeaki Miyazaki - Nippon Marine Enterprises - Japan

Mr A Hartling - Bedford Institute of Oceanography - Canada

Mr J Schilling - NIOZ - Netherlands

Mr E Bos - NIOZ - Netherlands

Mr W Polman - NIOZ - Netherlands

Mr R Groenewegen - NIOZ - Netherlands

Mr J Derksen - NIOZ - Netherlands

Mr K Bakker - NIOZ - Netherlands

Mr M Hiehle - NIOZ - Netherlands

Mr M Manriquez - Institute de Ciencias del Mar (CSIC) - Spain

Mr J Sorribas - Institute de Ciencias del Mar (CSIC) - Spain

Mr C Garcia - Institute de Ciencias del Mar (CSIC) - Spain

Mr B Horton - MAFF, Lowestoft - UK

Mr B Fogg - MAFF, Lowestoft - UK

Mr B Riches - MAFF, Lowestoft - UK

Mr J Read - MAFF, Lowestoft - UK

Mr A Pike - Dept. Geology/Geophysics, Un.Edinburgh - UK

Mr J Smith - Dept. Geology/Geophysics, Un.Edinburgh - UK

Mr S Bradley - Dept of Zoology, University of Aberdeen - UK

Mr S Addison - Dept of Zoology, University of Aberdeen - UK

Mr A Pollentier - Ministry of Environment, MUMM, Ostend - Belgium

Mr J P De Blauwe - Ministry of Environment, MUMM, Ostend - Belgium

Mr J Backers - Ministry of Environment, MUMM, Ostend - Belgium

Mr H Polet - Ministry of Environment, MUMM, Ostend - Belgium

Mr J Cisneros - University of Las Palmas, Gran Canaria - Spain

Mr C Christodolou - Institute of Marine Biology, Un. of Crete - Greece

Ms E Dieter - National Science Foundation (NSF) - USA

Mr J Ashley - Proudman Oceanographic Laboratories - UK

Mr G Hargreaves - Proudman Oceanographic Laboratories - UK

Mr K Riddell - Oceano Instruments - UK

Mr D Heiden - Cousin Frères - UK

Mr K G Robertson - Scientific Superintendent, RVS - UK

(Organiser of the Workshop and Chairman of all working meetings)

#### Day delegates

Mr B Boorman - George Deacon Division, SOC - UK

Mr I Waddington - George Deacon Division, SOC - UK

Mr S Bremner - British Antarctic Survey, Cambridge - UK

Mr G M Batten - Head of SEG, RVS - UK

Mr E B Cooper - Head of ISG, RVS - UK

Mr G W Miller - Head of SIG, RVS - UK

Mr R Phipps - SEG, RVS - UK

Mr R Lloyd - ISG, RVS - UK

Mr J Wynar - SIG, RVS - UK

Mr A Jones - SIG, RVS - UK

Mr D Jolly - SIG, RVS - UK

Mr P Howard - SIG, RVS - UK

Mr D Teare - SIG, RVS - UK

Mr P Mason - SEG, RVS - UK

Mr A Shearing - SEG, RVS - UK