
THE ROYAL INSTITUTE OF NAVIGATION

Aims and Objects

The objects of the Institute are to unite in one body those who are concerned with or who are interested in navigation and to further its development. Navigation is conceived as applying to locomotion of all kinds and is perceived as encompassing aspects of: command and control, psychology and zoology, operational research, risk analysis, theoretical physics, operation in hostile environments, instrumentation, ergonomics, financial planning and law as well as electronics, astronomy, mathematics, cartography and other subjects traditionally associated with navigation.

The aims of the Institute are to encourage the creation and dissemination of knowledge through research and development, to co-ordinate information from all the disciplines involved, to provide a forum in which new ideas and new products can have the benefit of informed and professional scrutiny and to further education and communication.

The Institute initiates conferences and symposia on specific subjects and has a programme of meetings at which lectures are given and discussed. There are standing Special Interest Groups (SIGs) which keep under constant review pertinent aspects of navigation. The success of these Special Interest Groups is crucially dependent on the active involvement of members.

The Institute publishes *The Journal of Navigation* three times a year. It contains papers which have been presented at meetings together with the ensuing discussion, other original papers, selected papers and reports from Special Interest Groups, and book reviews. The Institute also publishes *Navigation News* six times a year which contains a full account of the Institute's proceedings and activities. This includes Branch News, a record of current navigational work, a diary of events, topical articles, news about Membership and advertising. A great deal of the Institute's work is international in character and is co-ordinated with that of similar organizations in other countries.

Membership

There are six classes of Membership of the Institute:

(1) HONORARY MEMBERS: Distinguished persons upon whom the Council may see fit to confer an honorary distinction.

(2) FELLOWS: Members, of at least three years' standing, holding certain qualifications laid down in the by-laws; these qualifications include having made a contribution of value to navigation.

(3) MEMBERS: Persons over twenty-one years of age who satisfy the Council of their interest in navigation.

(4) STUDENT MEMBERS: Persons under twenty-five years of age studying at a recognized school or university with a view to making navigation, or an allied interest, their career.

(5) CORPORATE MEMBERS: Organizations such as universities, navigation schools, government departments or companies, here and abroad, who are directly or indirectly interested in the science of navigation. Corporate Members are entitled to send representatives to all Institute meetings and to receive six copies of its publications. They are encouraged to take an active part in the Institute's work. Applications should be sent by letter addressed to the Director.

(6) RETIRED MEMBERS: Fellows or Members of 65 years of age or over who have paid no fewer than 6 annual subscriptions.

There is also Associateship of the Institute, which gives entitlement of membership to one SIG, but not to receipt of the *Journal of Navigation*.

Subscriptions

Annual subscriptions to the Institute are payable in advance as follows:

Members and Fellows	£50.00
Student Members	£10.00
Corporate Members	£350.00 + VAT
Retired/Associate	£30.00

The Institute's financial year begins on 1 July. Members in any category who are elected after 1 January in any year are only due for one half of their subscription until 1 July, when the full subscription for the next year becomes due.

THE JOURNAL OF

Navigation

VOLUME 48 NUMBER 1 JANUARY 1995

C O N T E N T S

The Use of Airborne Differential GPS to Detect Coordinate and Calibration Errors in DME Navigation Aids	1
V. Ashkenazi, C. J. Hill, T. Moore, W. Y. Ochieng, J. Storey, R. Rawlings and C. V. Cleasby	
Display Requirements for ECDIS/ARPA Overlay Systems	13
G. P. Smeaton, W. O. Dineley and S. M. Tucker	
Stabilizing the Radar Picture and ARPA Data	29
B. Berking and J. Pfeiffer	
The Management of Marine Traffic, A Survey of Current and Possible Future Measures	53
T. Degré	
Development and Testing of a Radar Target Enhancer for Navigation Buoys	70
N. Ward	
Military Needs for Personal Navigation	77
J. A. Starbuck	
The Application of Inertial Navigation Technology in Land Vehicles	81
J. Mitchell	
Microwave Front End for True Ground Speed Measurements	88
J. Kehrbeck, E. Heidrich and W. Wiesbeck	
A Visual Interpretation of an ERS-1 SAR Image of the Thames Estuary	97
S. T. Culshaw	
Multiple Crossing Encounters	105
W. G. P. Lamb and J. M. Hunt	
Integration of Navigation Data	114
A. Svensson and J. Holst	
GRI Ranking Based on Cross Rate Interface	136
A. K. Nieuwland	
'Conflicts in Inshore Waters'	153
D. Pike	
'Conflicts in Inshore Waters' – A Yachtsman's View	154
T. Bartlett	



0373-4633(199501)48:1;1-U