

Twenty-five years of Engineering Mathematics

Now that the *Journal of Engineering Mathematics (JEM)* has just completed its first twenty-five years, it may be an appropriate time to reminisce about its history, describe its present state and look forward to the years ahead. More than a quarter of a century ago a group of Dutch applied mathematicians, associated with the Universities of Technology at Delft, Eindhoven and Twente and with the University of Groningen, got together under the inspired leadership of the late Reinier Timman, thinking that it would be a good idea to create a journal devoted primarily to mathematics arising from engineering contexts. In the mid-fifties, in Delft, it had been Timman himself who had promoted the concept of the mathematical engineer, whose foremost interest was in tackling problems of engineering significance. In those years there were only a few journals in the world, notably *QAM*, *QJMAM*, *SIAM J. Appl. Math.* and *ZAMP*, which sought to publish papers in the general area of applied mathematics. None of these were dedicated to serving the fuzzy area between applied mathematics and engineering. Therefore, the idea to create a new journal for the sole purpose of attracting papers of an engineering-mathematics nature seemed a good one, coming from mathematicians active at universities of technology and universities with applied-mathematics departments.

Despite its Dutch origins, *JEM* is now and in fact always has been a truly international journal. In the initial stages the Editorial Board was composed mainly of scientists who had their base in The Netherlands. Under the responsible guidance of the previous Managing Editor, the Board was rapidly internationalised, so that more than half of them are now from other countries. This trend is likely to continue. Most of our papers originate from the United Kingdom and the U.S.A., in that order, with The Netherlands taking a historically understandable third place. After these three we see countries such as Canada and Australia. Evidently, our journal shows a very strong bias towards the English-speaking scientific world. One can justifiably wonder why this is so. Is it true that our kind of mathematics, which relies more on intuition than on mathematical proof, is less popular outside the above-mentioned areas? Or is there a more mundane reason, namely that the possibilities of *JEM* have not yet been fully discovered in large sections of the world?

Over the years, the journal's editors have found that it is very difficult to define exactly what engineering mathematics is. First of all, some things which are indeed fully fledged engineering mathematics are unsuitable for *JEM*, since the mathematics of these papers is simply lacking in both depth and substance. Whenever such papers are sent to us, we advise authors to resubmit their work to a technical journal specialised in the engineering subject they address. On the other hand, papers which are clearly mathematical exercises for their own sake, devoid of all but the remotest reference to a field outside mathematics, are usually returned to the authors. Our advice is then for them to look for a journal devoted to applied mathematics per se. Ideally, papers published in *JEM* commence with a mainly verbal introduction in which the technical, i.e. non-mathematical, background is sketched. This is followed by a derivation or statement of the mathematical model. If at all possible, a paper should be concluded with a section in which the results of the paper are discussed, particularly in relation to the non-mathematical engineering background. The mathematics should be non-trivial.

Much as it is difficult to define clearly what engineering mathematics is, it is far from easy to delineate where engineering mathematics ends and applied mathematics begins. Many of the papers we publish, perhaps the majority of them, are sound applied mathematics. At the same time, much of what is called "applied mathematics" nowadays is not suitable for *JEM*. Even so, large sections of this particular branch of mathematics belong to the field we cover. This is why, henceforth, the term *applied mathematics* will appear on the cover of the journal.

We have also added the term *industrial mathematics*. This neologism was coined, possibly half a century ago, since it was recognized that a lot of mathematical modelling was and still is going on within large industrial laboratories, outside the direct sphere of influence of academia. Again, our journal does not intend to cover everything that comes under this heading. Industrial-mathematics papers which have a strong engineering-mathematics aspect (see Aims and scope) are welcome.

At twenty-five years old one can safely say that a scientific journal has come of age. If it has managed to survive for that period of time, it has proved its right to exist. Having said this, we believe that there is cause for celebration. We wish to do this in a way that seems to us the most suitable, which is to publish a special issue filled entirely with papers written by members of the Editorial Board. Who better than these people to show what is going on in engineering mathematics and its overlap region in both applied and industrial mathematics? It may be fitting to mention here that the Publisher also thinks there is cause for celebration, as it has allowed us to offer a greatly expanded first issue at no extra cost to the subscriber.

Finally, it may be good to try and look into the future. Ours is an expanding field. This is why we believe that *JEM* should expand commensurately. Although no definite date has been set as yet, we plan to increase the number of issues published annually from four to six in the not too distant future. Special issues will be produced as from 1993. Such issues will each be devoted to a single topic of great interest. Occasionally, review articles dealing with important areas in engineering mathematics will appear. We do hope that our regular audience will remain as loyal to our journal as ever and that their numbers will be ever-increasing.

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January 1992

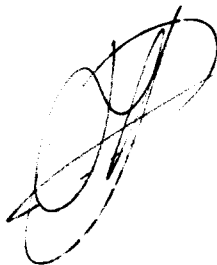
Dear reader,

The *Journal of Engineering Mathematics (JEM)* has just completed its twenty-fifth year. During all these years the Editor-in-Chief and the Members of the Editorial Board have done all we could to maintain a high standard of work published in the journal. To illustrate this, we have produced an Anniversary Issue which you now see before you as a greatly expanded first issue of volume twenty-six. It consists entirely of contributions by Members of the Editorial Board.

In the years ahead we shall do all we can to serve the community interested in the general area of applied, industrial and engineering mathematics. Six eminent scientists have consented to support our journal's cause by serving on a newly instituted Honorary Advisory Board. Their association with our journal is evidence of its continued high quality.

Of course, we always welcome good suggestions and new ideas. Please let me know what you think of *JEM*. Do you feel that we should also cover fields that at present we do not? Would you welcome an expansion of *JEM* to six or maybe more issues each year? In any case, I hope that you will remain an interested reader of, and possibly an enthusiastic contributor to, our journal for many years to come.

Yours faithfully,

A handwritten signature in black ink, appearing to be 'H.K. Kuiken', written in a cursive style.

H.K. KUIKEN
Editor-in-Chief