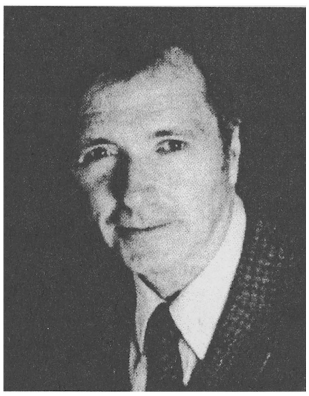
COMMENTS



It is with deep sadness that I retire in June 2001 as editor of *Fusion Technology (FT)*. Despite the extensive time involvement, I have immensely enjoyed serving as editor. Discussions with authors and reviewers were continuously stimulating, and I always enjoyed a feeling of satisfaction from providing this service to the fusion community and to the American Nuclear Society (ANS). There were, of course, a few downsides, largely concerned with occasional financial struggles, debates over rejected manuscripts, and continued attempts to control paper backlogs that slowly oscillated back and forth from being either too large or too small as circumstances in the fusion community changed.

As is often said, "Time flies when you're having fun," and it seems to me that I started the job "only yesterday!" Yet, as some readers may remember, I was initially appointed in 1980, as Associate Editor of *Nuclear Technology*, to manage the then new *Journal of Nuclear Technology/Fusion (NT/F)*. The first issue of *NT/F* came out in January 1981. Topics covered in that inaugural issue included trends and developments in fusion reactor concepts and methods to handle diverter ion and energy fluxes. Indeed, these topics along with a growing list of fusion technology subjects recurred many times in papers in subsequent issues. Interest in this new journal steadily grew. Thus, in 1984, I was able to convince the board of directors of ANS, with the endorsement and strong encouragement of Roy Post (then editor of *Nuclear Technology* and my mentor in the field of editorial practices), to create a separate, freestanding journal named *Fusion Technology*. The first issue of *FT* appeared in July 1984. Included with the papers in it was a special section titled "Plasma Engineering." This topic was one that has continued to be emphasized in *FT* as a bridge between fusion engineering and plasma physics. Papers in that section typified this topic and included pellet ablation during injection into a tokamak, simulation of a plasma current quench, plasma physics of a tandem mirror startup, and double layer formation in an inertial electrostatic confinement (IEC) plasma. While fusion plasma engineering remains a strong area in *FT*, as readers realize, the total coverage of topics is quite broad. As a reminder of this, a listing of the current topical areas is included in the back of the present issue.

Shortly after the initiation of *FT* as a freestanding journal, a serious competition arose as other technical journals began to publish proceedings from major fusion meetings and also bid to publish proceedings from the ANS topical meetings on fusion. To meet this challenge, *FT* took two steps: First, a separate sister publication, *Transactions of Fusion Technology,* was initiated in December 1991 to handle special conference proceedings. Second, a system for fast review of meeting papers, largely using "on-site" reviews, was developed for *FT* itself.

The *Transactions* series was designed for publications from meetings where a limited review of papers was performed, often by a conference program committee. This separation of *Transactions* from *FT* preserved the high peer-review

standard of *FT*. At the same time, it allowed ANS to publish, via *Transactions*, high-quality papers from meetings where the organizers and participants did not desire, for various reasons, an in-depth peer review. *Transactions* has had a number of very successful issues, including continuing volumes from the *Carolus Magnus Summer School on Plasma Physics* and single issues from various key international meetings such as the *Sixth International Toki Conference on Plasma Physics and Controlled Nuclear Fusion—Research for Advanced Concepts in Magnetic Fusion* and the *Fourth International Conference on Cold Fusion*. Papers from the ANS Topical Meeting series on *The Technology of Fusion Energy* have undergone a full peer review and have been published as supplements to *FT*. The first of this seminal series began in 1983, and these extensive meetings have continued to date so that the *14th Topical* is scheduled to be held in Park City, Utah, this fall. That proceedings is scheduled for publication in *FT* in early 2001.

In addition to ANS topicals, *FT* has also traditionally published supplemental issues with peer-reviewed papers from the important series of topical meetings on *Tritium Technology in Fission, Fusion, and Isotopic Applications*. This series began with the second topical meeting held in 1985 and has continued through the fifth topical in 1995. Plans for the next topical in this series are still underway, and hopefully, *FT* will remain involved.

More recently, *FT* has begun publication of peer-reviewed papers from the *Target Fabrication Specialist Meetings* (*TFSM*). This series was initiated in December 1995, with the 10th meeting in the series, and has continued through the *14th TFSM*. Indeed, continuation of such special issues is a high-priority objective for *FT*. In fact, the present issue of *FT* features reviewed papers from the *Fourth International Workshop on Beryllium Technology for Fusion.* This collection of papers was organized by Dr. Ulrich von Möllendorff, Associate Editor, Europe, together with Dr. Francesco Scaffidi-Argentina. Several other special issues are also now in the planning stage. For example, Kiyoshi Yoshikawa, Associate Editor, Asia, has initiated work on an issue devoted to IEC technology, which is expected to be published in early 2001.

In addition to coverage of topical meetings, *FT* has had a number of issues devoted to special topics organized by guest editors. These have ranged from alpha-particle physics and burning plasmas to fusion reactor control systems. Space does not permit a listing of all the past topics and issues, but special thanks are again due to all the guest editors and authors who devoted much time and effort to these issues. This effort has clearly been an essential element in maintaining the vitality of *FT* by bringing together groupings of papers to focus on the status of technology in a given area.

Several other aspects of *FT* deserve comment. In addition to standard manuscripts, *FT* includes sections on Technical Notes, Book and Meeting Reviews, and Letters to the Editor. The Technical Notes classification was initiated to provide rapid communication of important specialized topics. These notes were very efficiently used during the early days of "cold fusion" research where authors wished to quickly transmit results dealing with special niches of this rapidly evolving area. However, in recent years, technical notes have not been used as much as originally anticipated. Authors should not overlook the advantage of using this avenue for more rapid publication of results than is possible with a full-length paper. Two peer reviewers are still used on these notes, thus the standards for publication remain very high. But, because such notes are shorter in length, it is possible to squeeze them into an earlier issue.

The sections on Book and Meeting Reviews have been heavily used and are appreciated by the readers. Letters to the Editor have been sporadic but have been important for pinpointing occasional issues in *FT* publications that deserve attention and possible debate.

Another department in *FT* that was initiated in 1996 is a category termed Reports. Such papers cover technical topics of general interest to the community.

However, unlike standard research papers, they tend to deal with technical policy and planning issues. An example was an earlier report on "The Development of Fusion Safety Standards." Further information about the Reports section is contained in my editorial in *FT*, Vol. 29, July 1996, page iii.

Finally, I would note that *FT* has a category for Critical Reviews. An example is the critical review on the "Evolution and Status of D-^{3}He Fusion" that appeared in the May 1996 issue of *FT*. Such reviews are handled through a special critical review committee set up by the ANS Journals Committee. This procedure is intended to include reviewers from outside the field along with persons from the explicit area of fusion involved. To date, only three critical reviews have come through *FT*. The small number is apparently due to the fact that this field is moving ahead so rapidly that there has not been a strong motivation to evaluate topics in this matter. However, as the base technology continues to mature, more activity in the area of critical reviews would be very beneficial.

Inclusion of papers on "cold fusion" (or anomalous nuclear reactions in solids) in *FT* has been one of the more controversial decisions I made as editor of *FT*. Rather than rehash the issues involved, I would simply repeat my view expressed in an early preface that it is the "responsibility of a journal to publish scientific work related to its field of coverage that can pass through peer review." Indeed, all papers on this topic in *FT* have undergone a rigorous peer review. In the early years (1987–1990) following Pons and Fleischmann's original announcement, reviewers ensured that the papers were technically sound but allowed speculations about mechanisms since the field was so new. However, starting in 1990, as the field matured, review standards reverted to the same guidelines as other papers in *FT*. Further, based on discussions in the *FT* Editorial Advisory Committee, an additional reviewer from outside the "cold fusion community" was typically added on these manuscripts. Readers who are interested in more detail about events during this period from my point of view as an editor are referred to an article titled "Some Personal Reflections on Scientific Ethics and the Cold Fusion 'Episode'" that I prepared for a fall issue of the *Journal on Accountability in Research: Policies and Quality Assurance,* Vol. 8, No. 1 (2000).

Like the fusion field itself, *FT* has faced various ups and downs. By 1988, the journal had expanded to nine issues per year, and there was still a backlog of accepted manuscripts. However, shortly after that, the U.S. fusion budget suffered the first of several severe funding cuts, and the number of issues of *FT* was reduced in expectation of a drop in subscriptions and submission of manuscripts. Fortunately, the situation has stabilized and is slowly beginning to recover. During the last period, subscriptions increased slightly, reversing several years downtrend. Likewise, paper submissions have increased. Papers received from outside the United States have steadily increased over the last three years generating ~72% of *FT*'s submissions today. Most importantly, throughout these fluctuations, *FT* has been able to maintain the high standards for peer review that continually place it in the top category of archival scientific journals.

Another change instigated by the cost-cutting measurements that came along with downsizing the number of issues has involved *FT*'s format. The artist's drawings for the cover were abolished in 1995, and the section with photographs plus biographical data was cut back to biographical data alone. Based on conversations and letters I have received, I believe the photos of authors are most missed and should be revived when financing permits. These photographic impressions provided a personal touch that allowed researchers in the fusion community to feel they "knew" each other better.

Fortunately, *FT* remains a vigorous and vital journal as I turn it over to the new editor-elect, Dr. Nermin Uckan. I know that she intends to see that it stays that way and will work hard to see that it continues to improve and grow in the future. During the interim period, until she takes over in June 2001, I will continue to handle manuscripts already in progress. Nermin will receive all new manuscripts after October 1, 2000. After that date, as indicated in the authors' instruction

section of this issue, all manuscripts should be mailed directly to ANS headquarters. Nermin will, I am sure, inform the community further about her plans for *FT* when we are closer to the start of her tenure as editor.

At this point, I must stress as strongly as possible how much I owe to the authors, reviewers, and subscribers of *FT* who have made this outstanding journal possible. As in any endeavor where a peer review occurs, debates are not uncommon. Still, even in some of the more heated situations, we have been fortunate that all concerned have maintained a common goal: ensuring that *FT* has high-quality papers that can communicate key advances in basic science/technology to the community.

Others who have immensely contributed to the operation of *FT* over the years include the journal staff at ANS headquarters, the Associate Editors, and the Editorial Assistants in Illinois. There have been turnovers in these positions over the years and our deep thanks are due all these past workers. The individuals who are ably handling today's operations and to whom we owe special thanks include the Associate Editors and Editorial Advisory Board Members listed on the cover of this issue; the ANS Journals Committee, chaired by Dr. Ken Schultz; Mary Beth Gardner, Publisher/Scientific Publications Manager (ANS); Stephanie Palubicki, Staff Editor (ANS); Christine Yoelin, *Transactions* Editor (ANS); and Nancy Stacey, *FT* Editorial Assistant. Nancy, in particular, has been instrumental in maintaining contacts with authors and reviewers and with the mechanics of "nursing" a manuscript through from receipt to publication.

Clearly, the journal will be left in able hands, and I look forward to participating in it in the future as a reader and as an author.