

# From “Applied Scientific Research” to “Flow, Turbulence and Combustion”: 60<sup>th</sup> Anniversary of a Lasting Legacy

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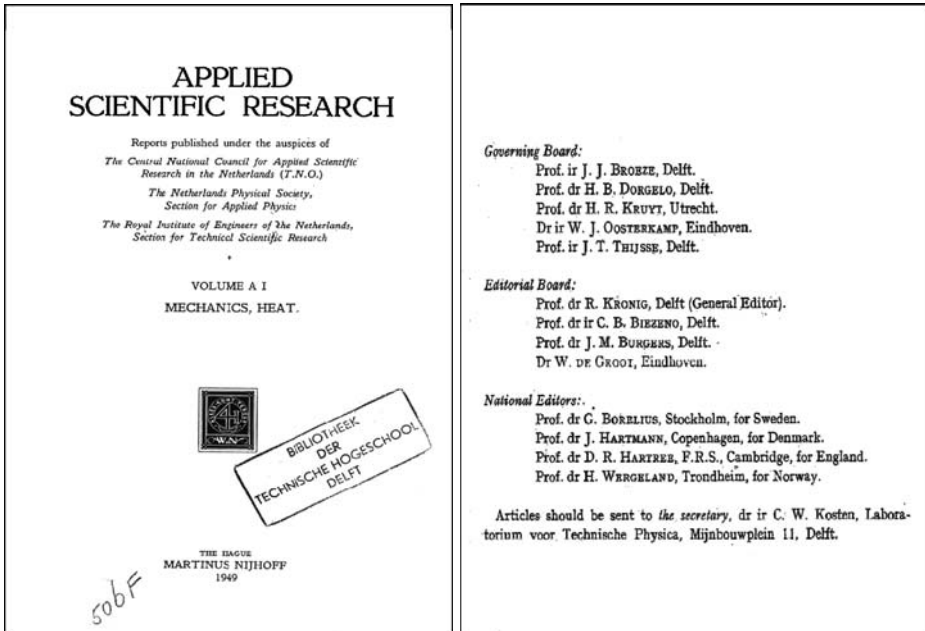
The year 2008 marks the 60th anniversary of the continuous publication of our journal, *Flow, Turbulence and Combustion*. Its title, character, scope and focus, evolved over time to reflect trends and demands and to meet ever changing challenges, but the original aim and mission remained the same, namely to serve the scientific community as a forum for publishing novel ideas and research results in the field of applied physics.

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It all started in 1947 when a group of enthusiastic physicists from The Netherlands decided that the time had come and the circumstances were ripe to realise an idea, born and fermented during the grim days of the Second World War, to initiate “an organ of publication in the realm of applied science”. The new journal was entitled “Applied Scientific Research” and was intended for the publication of “essentially new results, by preference in the English language”. It took almost 2 years until the first issue appeared in 1949, published by Martinus Nijhoff in The Hague, but the real “date of birth” of the journal should be placed in 1948 when the formal decision regarding the foundation of the journal was taken, the first submissions received and the preparation for the first journal issue began.

The initiative seems to have been inspired by the practice of scientific publishing in the USA, specifically by the American Institute of Physics, aiming, as it seems, at a kind of European Physical Reviews. The focus was to be on applied research though, leaving the niche in the field of theoretical physics to the existing Dutch journal “Physica”. Initially, the journal had two sections. The first one, of which the FTaC claims to be the direct descendant, had a subtitle “Mechanics, Heat”, the other covering Electrophysics, Acoustics and Optics. The cautionary remark in the Preface of the first issue “Although these sections cover restricted fields of research...” reflects both the scarcity of publishable research output in the meagre post-war years, as well as the still prevailing broader analytical—“renaissance”—profiles of applied scientists at that time. Yet, the first issue containing the impressive number of 38 papers, filling over 400 pages, testified best of the needs for a new journal as well as of the good timing of its appearance.



The Preface reveals some other curiosities, prescient and avant-garde initiatives such as “...not only for practical reasons but also from idealistic motives the new organ should be given an international basis. It was felt that in post-war Europe cooperation in matters scientific, particularly between the smaller nations, should contribute to maintaining the standards of a civilisation so severely shocked by recent events”. The far-sighted internationally oriented aim was to be fulfilled by several prominent applied physicists from abroad—primarily Northern European countries, invited to serve as National Editors “as representatives or their respective countries”. The first Editorial Board consisting of R. Kronig (General Editor), C.B. Biezeno and J.M. Burgers (all from TU Delft) and W. de Groot from Eindhoven, indicated that the journal was destined to become a prominent platform for publications in fluid mechanics for years to come, but also that it would maintain permanent links with the Delft University. Indeed, more than half of the papers in the first issue dealt with fluid mechanics, heat transfer and thermodynamics. Among the authors was J.O. Hinze, who received worldwide recognition a few years later for his seminal textbook on Turbulence: Hinze authored two and co-authored another two papers.

After more than thirty years of continuous publishing in the original format, eventually it became clear that the scope of the journal was too broad and that the journal needed a new focus. The first revision appeared in 1981 when the journal appeared with a new cover “in a new streamlined form” and under the new subtitle as “An international journal on Thermal, Mechanical and Electromagnetic Phenomena in Continua”. Soon afterwards, in 1987, the word “Electromagnetic” was omitted and the journal began to show a definite shift towards fluid mechanics. This trend, incited primarily by the newly appointed Editor-in-Chief Frans Nieuwstadt and the two members of the Editorial Board, the prominent fluid mechanicians Gijs Ooms from Delft University and L. van Wijngaarden from the University of Twente, in 1990 resulted in another modification of the subtitle into “Applications of Fluid Dynamics”, which brings us to the journal profile as we know it today.

The final touch came in 1998, when the journal was renamed *Flow, Turbulence and Combustion*. This apparent narrowing of the journal scope was simply an adjustment to the time and the exponential growth of research output, much in line with the—admittedly extrapolated—Lumley-Yaglom equation for the number of “turbulence papers” (derived from the best fit of publications between 1900 and 1965, see *John Lumley and Akiva M. Yaglom: “A Century of Turbulence”, Flow, Turbulence and Combustion, vol. 66, 2001*). Just a glance at this enlightening recollection of history viewed by the two turbulence doyens, reveals how broad the spectrum of topics under the notion of “turbulence” is, covering almost every facet of fluid mechanics including combustion.

Besides indicating a further defining of the topical focus, the new name was also meant to reflect the newly established association with the European Research Community on Flow, Turbulence and Combustion (ERCOFTAC), which brought additional dimension, qualifying the journal as the major—though not exclusive—platform for exchange of research information among the European researchers. Julian Hunt from Cambridge University, Norbert Peters from the Technical University of Aachen and Wolfgang Rodi from the University of Karlsruhe were appointed as Editors and the list of Advisory Editors was renewed by incorporating a number of eminent and emerging names from many countries all over the Globe. The publishing remained with Martinus Nijhoff (later to become Martinus Nijhoff Publishers) until

TO THE CONTRIBUTORS AND SUBSCRIBERS OF  
"APPLIED SCIENTIFIC RESEARCH".

*During the time of the German occupation it was felt by several physicists in the Netherlands that as soon as the war had been terminated there would arise an urgent need for an organ of publication in the realm of applied science and that a concentration of the results of research in such an organ would be highly desirable from a national point of view*

*After the cessation of hostilities efforts were made to realize these plans. In the first place an agreement was reached with the editor of "Physica", to which journal physicists in this country had hitherto submitted all articles both in the field of pure and applied physics. In the second place steps were taken to enlist the necessary financial support.*

*The committee in charge of the preparations soon arrived at the conclusion that not only for practical reasons but also from idealistic motives the new organ should be given an international basis. It was felt that in post-war Europe cooperation in matters scientific, particularly between the smaller nations, should contribute to maintaining the standards of a civilization so severely shocked by recent events. As an ultimate goal a coordination of publication facilities in Europe along similar lines as e.g. the American Institute of Physics already provides for our American friends might be thought of.*

*As a first step in this direction the three organizations mentioned on the cover of this issue undertook to support a new organ entitled "Applied Scientific Research" and intended for the publication of essentially new results, by preference in the English language. To begin with, two sections were provided with the subtitles "Mechanics, Heat" and "Electrophysics, Acoustics, Optics". Although these sections cover restricted fields of research, it was decided that the general title of the organ should be adhered to, thus keeping open the possibility of adding new sections in the future, as e.g. for applied mathematics, applied biophysics and biochemistry etc.*

*In order to ensure the desired international character of the new organ of publication a number of persons outside of Holland were requested to act as representatives for their respective countries. The favourable replies received in all cases seem to justify the confidence in the aims followed.*

*The articles in the present issue still come exclusively from various laboratories in Holland. It is hoped, however, that in the future other countries will contribute actively as well, and in the measure in which this becomes the case, will assist to bear a part of the editorial expenses.*

*The Governing Board.  
The Editorial Board.*

Preface to the first issue of Applied Scientific Research, 1949

late eighties, when it was taken by Kluwer Academic Publishers, now Springer Science + Business Media, Dordrecht.

Today *Flow, Turbulence and Combustion* is a well established journal with a high reputation. Despite strong competition with a number of journals in the field, it has its own niche as a forum for soliciting and publishing original and novel research results and solutions of problems in a broad area of fluid flow, turbulence, combustion and related topics, including those relevant in industrial, geophysical and environmental application. The emphasis is on originality, novelty, timeliness and

clarity of presentation. The journal is abstracted and indexed in most international data bases.

The journal has kept pace with and benefited from the progress in modern electronic communications: since 2005, the manuscript submission and processing are handled electronically. Moreover, all old issues have been digitized and can be accessed through *SpringerLink*. Yet, the Internet has in no way threatened the journal future: scientific journals will continue to have their *raison d'être* to serve the respective communities because science needs reviewing.

The journal is currently published as half-year volumes, each containing four issues. The allocated page number per issue has recently been extended from 100 to 120 pages to accommodate growing interest among researchers and a steady increase in manuscript submissions, with prospects to be further expanded in the near future. Traditionally, every year the journal publishes one or two special issues, dedicated to some emerging topics or important events in the fluid mechanics, turbulence and combustion communities, containing invited papers or those selected from well-established and prominent conferences.

This positive trend could not be maintained without the great enthusiasm and determination of all past and present Editors, valuable contributions from Advisory Editors and numerous reviewers, as well as excellent technical support from Springer. I am convinced that in the years to come our journal will continue to expand in scope and depth, attracting more and more authors both from the traditional and emerging research fields, leading to further enhancement of the journal's reputation and international standing.

April 2008

Kemo Hanjalic  
Editor-in-Chief

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