50 years of MECCANICA

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Meccanica celebrates this year its 50th anniversary. The first issue appeared in September 1966, when *Meccanica* was launched as the official Journal of the Italian Association of Theoretical and Applied Mechanics AIMETA, founded the previous year by the renowned scientists Giovanni Bianchi, Carlo Ferrari, Bruno Finzi, Leo Finzi, Elio Giangreco, Emilio Massa, Giorgio Sestini and Giulio Supino.

Bruno Finzi, the first President of AIMETA, presented in the first Editorial the main purpose of the Journal “to gather the most significant works of Italian research—theoretical, experimental technical—which contribute to any of the numerous branches of Mechanics”. Ever since the publication of the first issue, *Meccanica* has been published in English in order to promote the scientific results of the Italian researchers on the international scene and to stimulate foreign scientists to contribute to the Journal. According to the interdisciplinary approach of AIMETA, the Journal was conceived as a forum focused on research advancements in all fields of Mechanics, from Theoretical Mechanics to its applied fields such as Fluid and Solid Mechanics and Mechanics of Machines and Structures, with an open and far-

sighted interest to emerging topics in theoretical and applied Science and Engineering. Interestingly, from the beginning the Editorial Board has been predominantly composed of renowned scientists from Engineering Schools, where theory and practice share a common ground.

The Journal became known for its high-quality scientific articles and, for at least two decades, most of the Authors were Italian. Submissions from foreign Authors gradually increased and in 1991 the Journal entered the international scene when Kluwer Academic Publishers became the new publisher. The popularity of the Journal grew in the following years and in 1995 the number of issues per year went from four to six. The Journal is currently published by the Springer publishing company, following the Springer-Kluwer merger in 2002. Over the years *Meccanica* stayed true to its tradition and implemented an editorial policy aimed at preserving the basic principles of the Journal, namely by valorizing the common methodological framework, combined with a strong focus on fundamental and applicative problems in the emerging fields of Mechanics. This second objective was pursued from the beginning of the new millennium by expanding the presence and the role of Special Issues on emerging topics, in some cases originated from Conferences and Symposia. These initiatives and the commitment of the Editors in Chief and of the members of the Editorial Board, along with the increasing interest in *Meccanica* by foreign

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Authors, mostly from Asia, considerably increased over the last ten years the number of articles published by year (see the diagram in Fig. 1). The transversal nature of the Journal to all fields of Mechanics, which is an intrinsic value of AIMETA, also entails a weakness of the Journal in comparison with other scientific journals dealing with Mechanics. The publishing scene has changed over the last thirty years and competition among scientific journals has risen considerably. Some classic journals in the field have strengthened their dominant position, while journals focused on new and emerging issues have spread, in several cases dealing with highly specialized topics tackled with multidisciplinary approaches, thus attracting many Authors to these editorial channels. Notwithstanding the competition with other journals, the number of submissions continued to increase and recently, from 2012 to 2014, due to a significant increment, the Journal moved gradually to 8, 10 and finally 12 issues per year, while maintaining the same level of selection in the review process. Under such circumstances, there was a need to change the composition of the Editorial Board and the management of the review process. About twenty renowned scientists from all over the world were invited to join the Editorial Board with the responsibility of managing, for their topics of expertise, the review process of each submission on invitation of the Editor in Chief.

In 2015 the Journal received 783 submissions and 281 papers were accepted for publication, with an acceptance rate amounting to 35%, while 284 papers were published. The geographical distribution of the papers accepted in 2015 is shown in Fig. 2. In the same

Fig. 1 Papers published by year 1997–2015 ([®] Journal Citation Reports)

Accepted papers per Countries 2015

Fig. 2 Geographical distribution of accepted papers 2015 (Other countries-collects countries contributing with less 2% of accepted papers)

year, the Journal had 2196 citations, an impact factor 1.828 and an impact factor without self cites 1.467. It was ranked in the first quartile of the Scimago Journal & Country Rank for the Condensed Matter Physics, Mechanical Engineering and Mechanics of Materials subject categories and in the second quartile of JCR ISI Web of Knowledge for the Mechanics subject category.

Looking ahead to the future, we intend to preserve the Journal tradition, mainly focused on the common

methodological framework shared by mechanical researchers in tackling theoretical and applied problems. Moreover, to increase the contemporary role of the Journal in the dissemination of research while remaining receptive to technological innovation, the fundamental and applied topics in established areas of research in Mechanics will be integrated with emerging research fields in Science and Engineering. Papers submitted on diverse topics in Mechanics by Authors from Italy and all over the world will be balanced with selected papers on emerging topics edited by outstanding scholars, also following the well established tradition of the Special Issue. A special effort will be devoted to maintaining the tradition of rigorous peer-review, with a reduced elapsed time.

In celebrating the 50th anniversary, we would like to pay a special tribute to the past Editors who contributed to make *Meccanica* an outstanding Journal: Emilio Massa and Giovanni Bianchi (1966–1981), Giulio Maier (1982–1985), Carlo Cercignani (1986–1989), Giuliano Augusti (1990–1997), Giuseppe Rega (1998–2003), Vincenzo Parenti Castelli (2004–2011) and Alberto Carpinteri (2012–2014). In these fifty years the Journal has had the strong support of the AIMETA Council and of its Presidents: Bruno Finzi (1966–1969), Giulio Supino (1970–1973), Carlo Ferrari (1974–1977), Giorgio Sestini (1978–1981), Giovanni Bianchi (1982–1985), Giulio Maier (1986–1989), Carlo Cercignani (1990–1993), Enrico Marchi (1994–1997), Gianfranco Capriz (1998–2001), Angelo Morro (2002–2005), Giuseppe Rega (2006–2009), Carlo Cini (2010–2013) and Paolo Luchini (2014–present). Special recognition must be reserved to all those who contributed to *Meccanica*, sometimes also with constructive criticism. Among them, we like to remember Piero Villaggio, who was among the most passionate supporters of the Journal, with his papers and notes.

We would like to express our deep gratitude and appreciation to the Associate Editors, renowned scientists who, with high expertise in their specific fields of mechanics, ensure an authoritative review process of the submissions and contribute with their excellent reputation to the prestige of *Meccanica*. Likewise, a great acknowledgment is due to the Reviewers, who provide, with their time and generous efforts, a precious help in assessing the merit of original articles and an invaluable contribute to the enhancement of the manuscripts.

Crucial to the success of the Journal is the professionalism of Mrs. Nathalie Jacobs, tireless Senior Publishing Editor of *Meccanica*. She has been instrumental in the management and growth of the Journal with her outstanding job over the years.

To celebrate the 50th Anniversary of *Meccanica*, the President and the Council of the AIMETA Association and I decided to publish this special issue. In consideration of this extraordinary circumstance, some renowned scientists who have had relationships with the Italian Academy, either through cooperation with the Journal or the AIMETA Association or through scientific collaboration with Italian researchers have been invited to contribute to the issue with a paper on topics of emerging interest in the international context. With great pleasure, we had a positive feedback. Thanks to the efforts of the Authors, we were able to collect excellent articles for an issue of *Meccanica* which highlights its transversal nature. We wish to express our grateful thanks to these Friends of *Meccanica*, who spent time and energy to celebrate this historic event.

Finally, as we celebrate our accomplishment in the past five decades, we welcome your comments, criticisms and suggestions on the Journal so that we can continue to provide an appropriate forum for intellectual exchange on all aspects of Mechanics.