TWENTY-FIVE YEARS OF ACTIVITY IN IFToMM

Introduction

IFToMM, the international Federation for the Promotion of Mechanism and Machine Science (MMS) is the international worldwide body aggregating individuals working in MMS thought territory organizations. Its history is the history of individuals, who have contributed to its success and development with contributions at many different levels. The author is one of them, who was attracted into international activities and frames of IFToMM and little by little he has contributed to IFToMM activities up to reach the leadership role as IFToMM president in the term 2008-2011. This year he has come back as one of the many IFToMMists, who believe in the mission of IFToMM and join those activity for technological developments but for the benefit of the society.

In particular, IFToMM as with the name of the international Federation for Mechanism and Machine Theory (TMM) was founded in September 1969 with the mission of promoting TMM (now MMS) by facilitating and improving international collaborations. The history of IFToMM has been outlined by personal perspectives by the past IFToMM Presidents in few occasions, like in (Ceccarelli Ed. 2000), but many aspects are not yet properly considered from historical viewpoints. The history of IFToMM is documented in several official documents and even personal in correspondences as stored in the IFToMM archive that is available at CISM (IFToMM Archive 2012). Historical data have been summarized in tables by the author in (Ceccarelli 2004) and a very short account of IFToMM history is given in the IFToMM web page (IFToMM webpage 2013).

The main characters of IFToMM history can be summarized as follows. IFToMM was founded as the International Federation for the Theory of Mechanisms and Machines in Zakopane, Poland on September 29, 1969 during the Second World Congress on TMM. The main promoters of the IFToMM World Federation were Academician Ivan I. Artobolevski (USSR) and Prof. Erskine F.R. Crossley (USA), whose principal aim was to bypass the obstacles of the time of the Cold War in developing international collaboration in TMM science for the benefit of the world society. IFToMM started as a family of TMM scientists among whom we may identify the IFToMM founding fathers, who signed or contributed to the foundation act with the initial 13 Member Organizations, in the persons: Academician Ivan I. Artobolevski (USSR), Prof. Erskine F.R. Crossley (USA), Prof. Michael Spirov Konstantinov (Bulgaria), Dr. Werner Thomas (GFR), Prof. B.M. Belgaumkar (India), Prof. Kenneth H. Hunt (Australia), Prof. J. Oderfeld (Poland), Prof. Jack Phillips (Australia), Prof. George Rusanov (Bulgaria), Prof. Wolfgang Rössner (GDR), Prof. Zénő Terplán (Hungary), Prof. Jammi S. Rao (India), Prof. Giovanni Bianchi (Italy), Prof. Adam Morecki (Poland), Nicolae I. Manolescu (Rumania), Leonard Mauder (UK), Douglas Muster (USA), Ilie Branisky (Yugoslavia).

The IFToMM community has grown over time and the TMM has evolved to encompass large engineering science, including even new disciplines. This led in the year 2000 to an update of the name of the IFToMM Federation as IFToMM International Federation for the Promotion of Mechanism and Machine Science and a change of the name of TMM to MMS (Mechanism and Machine Science), in order to emphasize the modernity and broader mission of the IFToMM community.

IFToMM activity has grown in many aspects, as for example concerning the number of (MOs) member organizations (from the 13 founder members to the current 48 members), the size and scale of conference events (with many other conferences, even on specific topics, at national and international levels, in addition to the MMS World Congress), and the number and focus of technical committees working on specific discipline areas of MMS.

The IFToMM community evolved in character from that of a family of a few beginners and founders into a scientific worldwide community through the following generations:

- 1950’s –79 First generation: founding fathers and their friend colleagues up to the 4-th
IFToMM World Congress in Newcastle-upon-Tyne in 1975 with Prof Maunder as Congress Chair

- 1980-95 Second Generation: students and people educated by founding fathers and their colleagues up to the 9-th World Congress in Milan in 1995 with Prof Rovetta as Congress Chair
- 1996-2011 Third Generation: educated people in the frame of IFToMM and within IFToMM activity with 48 organizations as IFToMM members up to the 11-th World Congress in Guanajuato in 2011 with Prof Lopez-Cajun as Congress Chair
- Today Fourth Generation: educated people in local frame linked to IFToMM and within IFToMM activity with 46 organizations as IFToMM members

In particular, Presidents and Secretaries General have had significant roles in guiding the growth and success of IFToMM. Their personalities are also representative of the IFToMM community in terms of reputation and visibility worldwide. The Presidents were Ivan I. Artobolevskii (USSR), Leonard Maunder (United Kingdom), Bernard Roth (USA), Giovanni Bianchi (Italy), Adam Morecki (Poland), Jorge Angeles (Canada), Kenneth J. Waldron (USA), Marco Ceccarelli (Italy), and now Yoshihiko Nakamura (Japan). The Secretaries General were Michael Spirov Konstantinov (Bulgaria), Emil Stanchev (Bulgaria), Adam Morecki (Poland), Elizabeth Filemon (Hungary), L. Pust (CSSR), Tatu Leinonen (Finland), Marco Ceccarelli (Italy), and now Teresa Zielinska (Poland).

Details of the History of IFToMM can be found in the first Chapter of Proceedings of the First International Symposium on History of Machines and Mechanisms HMM2000 (published by Kluwer – now Springer) in which all the Past IFToMM Presidents have outlined their historical perspective of IFToMM in contributed papers with references, (Ceccarelli Ed. 2000).

More historical aspects are in the memories of the individuals who paid significant influence in IFToMM at different roles through their direct experiences and participation in IFToMM activities, but in general these memories are not yet available to fully depict the historical evolutions of IFToMM and its richness. This paper is also an attempt to stimulate more written records that can help to illustrate but to understand not only the history of IFToMM but its significance in the personal growth of IFToMMists as well as of the MMS fields.

In this paper the author has outlined his experiences from his early contact with IFToMM as young researcher up to the very dense days of IFToMM presidency that he had the honor to serve. This year he has come back to the position of one of the many IFToMMists who believe in the mission of IFToMM and join the IFToMM activities with his personal contribution both in the organization and development of MMS.

Approaching IFToMM

I got aware of IFToMM and its activity by my prof. Adalberto Vinciguerra (1938-2012) since the end of master studies. He was an active IFToMMist of second generation with a strong experience of early days of IFToMM. He taught me the great value of international collaborations to become well aware of the value of our own expertise, without underestimation or overestimation of our results. Thus, when I started PhD program under his tutorship I was stimulated to attend IFToMM conferences. My first international experience was at the Spanish conference in 1984 during which prof. Vinciguerra introduced me to his friend-colleague prof. Justo Nieto, who became my second advisor for many years. With first good results of my PhD works, later I could attend my first IFToMM conference, which was Romansy in 1986 where I met prof. Adam Morecki, who considered me warmly since then as one of his students, Prof. Bianchi, co-Chair of Romansy, gave me the possibility to attend that event under his invitation. At that Romansy I also met prof. Bernard Roth, who helped me during many years since my first period of study with him at Stanford University in the winter semester of 1987.

Those first experiences with IFToMM leaders of outstanding personality both in technique and human relationship, gave me a strong feeling towards IFToMM and its values. I still remember the friendly advices and kind replies from Roth, Morecki, and Nieto to my questions that just later, with some more experience, I realized how much they were simple or even trivial. And I learned
how much more a learned person knows much more kind he/she is in guiding young colleagues with a gently open-mind attitude.

The spirit of IFToMM collaboration of those first IFToMMists influenced me positively for ever both in personal attitude and in patience for achieving valuable results with continuous study.

Another unforgettable meeting was with prof. Manolescu at his SYROM 1989 conference in Bucharest where I presented my first single authored paper (Ceccarelli, 1989). Since then he had a reputation of me that I always considered excessive but I was very pleased of it. In that occasion I knew prof. Jorge Angeles with whom I started a life-long friendship that permitted me to absorb his dynamism and vision for the future of IFToMM.

The years of my PhD studies were extremely dense of events, both in professional and personal life. I got married and my wife Brunella always supported my intense work and frequent travelling. The first time she came with me was at my first IFToMM World Congress in Seville, Spain in 1987, Fig. 1. She could share the fantastic atmosphere of those days, with lot of activities in the scientific and social program.

The first five years, from 1984 to 1989, opened me the doors into IFToMM community and gave me strong motivations for an academic career within the fields of MMS, with special attention to Mechanism Design and Mechanics of robots.

In 1990 I got the position of Assistant Professor in Cassino and just after I spent one year in Valencia, Spain, with Justo Nieto. My research activity gave results and I could attend more IFToMM conferences. But main experiences were at the IFToMM World Congress, namely in Prague in 1991 and then in Milan in 1995. In Milan prof. Rovetta asked me to present a paper on History of TMM since he knew my passion on historical aspects. There I presented my first paper on History of TMM, namely on the work of Giulio Mozzi in Screw Theory, (Ceccarelli 1995).

Teun Koetsier, Chair of the PC for History of TMM, was there and he listened my presentation because of which he asked me to become his successor in PC chair. I did not consider his offer seriously while discussing friendly with beers on the hands. But two years later in 1997 I received the letter of appointment with the signature of the IFToMM President, Jorge Angeles.

**Leadership of the IFToMM PC for History of MMS**

In December 1997 I went to Amsterdam to meet Teun Koetsier with the hope that he will have explained me the duties and plans for a fruitful PC Chairmanship. He received me in a raining
evening at Amsterdam railway station with a bag that he passed me immediately with the words: “this is the IFToMM Archives that I received from prof. Filemon, who received from Jack Philips, first PC Chair. Now you will keep it!” Then, we started to speak so friendly each other that we established a so strong collaboration that permitted me to reach many results not only in IFToMM, and still we have such a great relationship!

I started the activity for the PC by looking at a new PC with new members, as Teun Koetsier suggested me. In few months we succeeded to attract well reputed people with great interest on history of MMS. In September 1998 we were just 6, namely Teun Koetsier, Hanfried Kerle, Joe Duffy, Andreas Dimarogonas, Carlos Lopez Cajún and myself. But quickly after some activity with lectures and paper publications the PC attracted many others to become members and today the PC has more than 50 members from almost all the IFToMM member organizations. During my PC leadership I planned to stimulate visit exchanges among PC members with the aim of starting collaboration and supporting the other activities of the PC. Activities of the PC were planned in terms of conference events, meetings, publications. We started the HMM, IFToMM international symposium on History of Machines and Mechanism with a first events in Cassino, Italy, after a preparation since spring 1998. It was a great success! Proceedings were published by Kluwer (now Springer) and we had a very exiting program of presentations. We had a unique possibility to have all the past IFToMM presidents, who outlined a history of IFToMM from their personal experience perspectives. Thus, HMM was established and it was held very successfully every four years: again in Cassino 2004, in Tainan in 2008, in Amsterdam in 2012 and next one will be in Queretaro in 2016. The HMM symposium is now the reference conference event for the PC for publications of significant works on History of MMS. Its success suggested to plan an intermediate event as a Workshop where participants can exchange information and opinions on their ongoing works on History of MMS without the pressure for preparing a written contribution for publication. But the Workshop program is based just on oral presentations. Thus, we started this additional conference event in 2002 in Admont Abbey, in Austria, a wonderful place with a unique library with rare books. Since then we had a HMMS Workshop every year when no HMM or WC were held, namely Dresden 2004, Moscow 205, Queretaro 2005, Ithaca 2006, Bangalore 2007, Porto Alegre 2009, Beijing 2010, Athens 2013.

As referring for publications, PC was active not only through the Proceedings of HMM symposia, but we had papers published in journals and finally the topic of History of MMS was indicated as relevant also in the IFToMM affiliated main journal Mechanism and Machine Theory and later in the other IFToMM affiliate journals. The increase of publications in the field of HMMS gave the possibility to plan a book series, that some attempts was started with Springer in 2007 (http://www.springer.com/series/7481). The first volume was the first of a collection for a dictionary of biographies on MMS, (Ceccarelli Ed. 2007). But soon many other books were published with authors from the PC but not only, and from all around the world and still several book projects are on queue for publication.

During my PC leadership, I had several contacts, not only by e-mail, but even with visits with members of the PC. Meetings of the PC were organized frequently in any occasion where it was possible to have several members present. In particular, annual meetings were successfully attended with discussions to share plans of activities with all PC members. The most attended ones were in occasion of the IFToMM World Congress and at HMM Symposia.

My activity as chair of the PC for history of MMS has been focused on having as many as possible members with whom run and share initiatives like the HMM Symposia, the HMMS Workshops, editorial works, meetings, visits, and collaborations with the aim to attract and develop interests on History of MMS with technical contents by the actors of engineering developments, as IFToMMists are in the several disciplines of MMS. The continuation of the PC activity was ensured by new Chairs whose first two were Hong-Sen Yan and Hanfried Kerle, Fig.2.
A short account of the History of PC up 2004 is outlined in (Koetsier and Ceccarelli 2004) with some details. In particular, my activity of PC Chair from 1998 to 2003 is recorded in details in the annual reports of the PC to EC and they are stored at IFToMM archives in (Ceccarelli 2003).

Activity as Secretary General of IFToMM in 2004-2007

While I was running the second term of PC Chairmanship in 2002 I was asked to be available for a position in the IFToMM Executive Council, also because of the good results in PC activities, (Ceccarelli 2001). Then, at the end of 2003 I was elected Secretary-General (SG) through an email ballot among MO chairs due the fact that SARS disease in China forced to postpone the IFToMM World Congress in Tianjin to April 2004. I stared the activity as SG in January 2004 and immediately I was asked to help for the preparation of the Executive Council meeting and General Assembly (GA) during the World Congress in Tianjin. Those were frenetic months in order to collect and understand all the necessary documents for a clear discussion at the EC meeting and GA. In Tianjin before the GA together with the IFToMM president prof Waldron I was urged with several critical situations of MOs with too many due arrears, proper proxy indications from absent MO chairs, and in preparing reports and their synthetic presentation for clear explanations as received just few days before of the meeting. Indeed even the preparation and coordination of all documents for the EC meeting was a very frenetic activity since the transfer form the previous SG prof Tatu Leinonen and necessary updates due to the postposition. In this activity I had the opportunity to collaborate very efficiently with the IFToMM treasurer dr Joe Rooney, who was just appointed in the position like me and we helped each other to understand and prepare the necessary actions under the supervision of the president. Those months, before and after the WC, were very exiting with an intense activity with lot of contacts and meetings that permitted me to acquire a clear knowledge of the functioning and needs for an efficient IFToMM leadership activity. I was used to have always in one hand a printed copy of the IFToMM Constitution and By-Laws in order to check for correctness of interpretations and consequent actions.

After the 2004 WC the SG activity went to a more regular plan as directed to annual EC meeting and directing the IFToMM business meanwhile through email contacts at the most. During those EC meetings we increased coordination of TCs and PCs with EC with clear plans for activities requiring more attention from IFToMM mainly through sponsorship of conferences and publications under IFToMM auspices. Indeed, after several attempts of a revitalization of proper activity, strong actions were taken against dormant TCs and they were quitted with the aim to shock the corresponding community for a better organization. It took some years but those actions were successful as mainly in the next EC term under my Presidency when we started new TCs with significant activity. I also asked more visibility for IFToMM and its activity and finally we had an EC Working Group with dr. Rooney, prof. Huang, and myself, who worked in preparing a flyer for...
IFToMM publicity. The work was not easy and it took time even with face-to-face meetings but finally we produced a very good flyer, (IFToMM 2006) whose update is still valid. Personally I also summarized IFToMM history in a Table of officers over the time that was posted together with another poster of IFToMM overview at several IFToMM sponsored conferences and then at 2007 WC in Besancon, France. Besides those publicity means, in my capacity of SG I wrote regularly short articles for the IFToMM news sheet at the IFToMM affiliated journals as regarding both reports of EC meeting and plans for future IFToMM activities.

The work of preparing the minutes of EC meetings was also very demanding both in collecting all the documents in time and proper format as they were related mainly to reports of TCs and PCs. Year after year those minutes became a bulk volume that at the end of the term reached almost 300 pages. But they were also representative of the growth of IFToMM.

One more activity as SG has asked me attending IFToMM events to represent IFToMM also on behalf of the President. Thus, I attended several conferences and I had the opportunity to meet personally most of the past and current IFToMM officers with whom I could share discussions and plans for the future of IFToMM.

In summary, my activity of SG has been worked out mainly in the following aspects and results:
1 – to finalize the actions that were decided at EC meetings;
2 – updating information on the organization of IFToMM MOs to give a correct visibility of the Federation nature of IFToMM;
3 – to solicit active representatives of IFToMM Members in the PCs and TCs;
4 – to complete the job of the IFToMM Task-Force for Journals in order to regulate and plan publications frames for IFToMM community;
5 – collecting material for IFToMM Archive;
6 – to complete the job of the IFToMM Working Group for a campaign of information with posters and flyers but also to improve the clarity of the information through the IFToMM webpage;
7 – to ensure regular payment of annual fee from IFToMM members as coordinated with President and Treasurer;

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8 – working out email postal ballots among EC members on problems and situations that together with the President were advised as suitable matters for email postal ballots;
9 – keeping trace of amendments for IFToMM Constitution and By-Laws as coming from GA Commission for Constitution;
10 – promoting actions for candidates of new IFToMM membership;
11 – collecting information and documents for EC meeting and GA;
12 – preparing EC meetings, Fig.3.

A detailed report of the activity as SG was presented at the GA 2007 and annual reports are stored at IFToMM archives in (Ceccarelli, 2007).

Activity as IFToMM President in 2008-2011

At WC in Besancon in June 2007 I was elected IFToMM President for the term 2008-2011 with a large consensus.

I proposed my candidature following the activity as SG but reinforcing plans for IFToMM growth and influence with what I called Visibility-Activity program by also improving the functioning of the IFToMM bodies. The Visibility-Activity plan has been intended to increase the visibility of IFToMM and its activity by promoting new and existing activities with an explicit mention of IFToMM and to facilitate new and existing initiatives under the umbrella of IFToMM.

The Presidency activity during the term required great efforts but it was also rich of results also thanks to a fruitful collaboration and support of most of the EC members (in particular prof. Veniamin Goldfarb, dr. Theodor Ionescu, prof. Miroslav Václavík, prof. James Trevelyan) and particularly of the members of the Presidency Desk dr. Joe Rooney and prof. Carlos Lopez-Cajún. Because of their positive response I could establish several WGs to attach problems and stimulate new initiatives. In addition, we got a more active participation at the EC meeting with more IFToMM officers who shared discussions and decisions with an efficient leadership. The most exiting EC meeting was in 2010 in Sousse, Tunisia, Fig.4, as the first IFToMM event in the Africa Continent and with a particular plan that was scheduled with a touristic tour with families giving the possibility of long relaxed preliminary discussion of the EC agenda points. Main results of the presidency action were presented in the President report at the GA in Guanajuato 2011 WC, (Ceccarelli 2011) that is stored in the IFToMM archives.

During my Presidency term 2008-2011, results are achieved in increasing main aspects of meetings, exchanges, publications, teaching, and international collaborations, as prescribed for the mission of IFToMM in the IFToMM constitution. In particular, efforts have been aimed at making clear and increasing benefits for IFToMM Member Organizations and their affiliated individuals in being involved in IFToMM. Main benefits can be summarized in: access to IFToMM activities with reduced fees, fee for individual subscription to MMT (Mechanism and Machine Theory) journal and reduced subscription fees for the other IFToMM affiliated journals, special attention to MMS topics for paper submission in IFToMM affiliated/link Journals, reduced page charge for paper publication in IFToMM affiliated Journals, international contacts among individuals and institutions, participation and contribution to IFToMM activities, IFToMM support and sponsorship of conferences and other events for promotion of MMS and IFToMM.

Within IFToMM community, meetings have been organized within PCs, TCs, and MOs with more discussion on IFToMM activity even by teleconferences; exchanges have been carried out with visits of scholars, and students, also within conferences and the new successful initiative of IFToMM Olympiad of MMS; publications have been increased as explicitly referring to IFToMM community also with the help of specific agreements with publishers, and a book series on MMS has been started in 2011 by the international publisher Springer, (Ceccarelli, 2011); with two more affiliations 5 journals are now available and linked for paper publications; teaching on MMS has been better referred to IFToMM even at local frames of MOs, and summer schools and tutorials have been started on specific subjects; international collaborations have been increased and are better shown under the umbrella of IFToMM mainly through the PCs, TCs, and MOs; sources for IFToMM finance have been increased through returns from IFToMM supported initiatives, dona-
tions, and royalties from publications mainly within the above mentioned book series. Several conferences were IFToMM sponsored as new or as newly IFToMM affiliated ones with series characters and as specific TC/PC conferences, like EUCOMES, Asian MMS, ISRM, RAAD, MAMM, Metrapp, MEDER, ISEMMS, and many others.

Functioning of the IFToMM bodies has been supervised with an efficient help of the IFToMM Executive Council also through specific activity of EC Working Groups in attaching specific matters. Most of WGs have completed successfully the tasks given to solve problems and situations that have been arisen also between EC meetings. Chairs of MOs in GA have been continuously informed on IFToMM activity that has been coordinated by EC with supervision of the President. In general they have been successfully reactive in providing more representatives in TCs and PCs. Some critical situations related to due arrears and lack/insufficient participation to IFToMM activity have been solved, but others remained unsolved and they will require decisions by GA and new action by the corresponding MOs. New MOs have been accepted from Turkey, Portugal, Egypt, Denmark, after preliminary negotiations for proper candidature submissions. Now, The IFToMM Federation has 46 MOs with presences with active communities in all continents.

Permanent Commissions (PCs) have shown different situations reflecting different interests from IFToMM community. PC for Standard and Terminology have worked out relevant activity with a new multilingual publication of MMS terminology, that is now available also on line. This PC has also started a link with ISO for collaboration on standards. The PC for History of MMS has carried out impressive achievements both in scientific works and organization of the field, with the largest commission in IFToMM. The PC has also improved the storage of documents in a rich and rich IFToMM archive. The PC for Communications has served with difficulties in the task of improving IFToMM webpage and IFToMM newsletter mainly because of a very weak response from the IFToMM community, also with a very limited number of active PC members. Similarly, PC publications has encountered difficulties in fulfilling the By-Laws duties because of a poor participation from IFToMM community, although the frames of IFToMM publications have been increased considerably both in journals and books (textbooks and conference proceedings). Thus at the 2010 EC meeting the EC has considered the possibility to merge the two PCs into a new unique
PC with a reshaped plan of duties and under the direct responsibility of the IFToMM Presidency desk.

Success of Technical Committees (TCs) strongly depends on individuals, who are representatives of MOs in their respective fields with the aim to fulfill the By-Laws prescriptions in order to develop activities in the main aspects of meetings, collaborations, conference events, transfer of expertise, and publications. During the past two terms, also thanks of repeated requests, TCs have been enriched with more representatives from MOs, but not yet all MOs have TC members in all TCs. Most of the TCs have worked very successfully in the above mentioned aspects and in general with trends towards good results in a near future. In particular, several new conferences have been started within TC frames and existing conferences have received a clear sponsorship by IFToMM through the TCs. A new book series on MMS is also available for publication of books and proceedings IFToMM sponsored conferences with royalty to IFToMM. A new TC has been started on Sustainable Energy Systems and a TC on Gearing and Transmissions has been re-established with a reinvigorated group of colleagues. Now IFToMM has 13 TCs in the hottest topics in MMS.

The Executive Council (EC) has been very efficient in dealing with IFToMM activity during the term by attacking problems and situations with a well thought attention towards suitable solutions, and in general by achieving considerable improvements of the functioning of IFToMM both in visibility and activity. Most of EC members have been more active and reactive than expected as in the constitution prescriptions. Particular mention for a continuous dedication to IFToMM is deserved to the Secretary General prof. Carlos Lopez-Cajun, the Treasurer Joseph Rooney, but also to prof. Veniamin Goldfarb and Dr Theodor Ionescu. EC has worked out not only at the time of EC meeting, but EC members have been active both for telemetings that have been started in 2010 and for email postal ballots, and for a continuous monitoring and discussion of the IFToMM activity mainly by email. Those continuous activities have permitted a continuous feedback with the community and its operations. EC regulations have been outlined to clarify and simplify procedures for IFToMM functioning and EC leadership. Another important new means of EC work has been successfully experienced with Working Groups (WGs) that have been established to solve specific problems with short time targets. The President has continuously stimulated EC members in a friendly collaborative ways and great satisfaction seem to be achieved from both sides.

As Chair of IFToMM Committee for Honors and Awards, the President has stimulated successfully the community for annual awards of significant personalities, who can be also ambassadors of the IFToMM mission.

Summarizing the main results during my Presidency term, it can be pointed out that:
- we have increased the number of MOs;
- we have helped MOs and TCs in difficult conditions to achieve proper functioning;
- we have increased the number of IFToMM sponsored conferences;
- we started book series linked to IFToMM;
- we have outlined procedures in EC regulations and proposed Constitution amendments;
- we have increased publications under the umbrella of IFToMM;
- we have enhanced the finance of IFToMM with increased income sources and budget returns;
- we have increased the number of IFToMM affiliated journals and started book series linked to IFToMM for better dissemination of MMS;
- we have reinvigorated the activities of TCs with more participation of individuals;
- we have started or restarted TCs in hot topics in MMS;
- we have determined clear benefits for MOs and individuals in being involved in IFToMM activity;
- we have celebrated the 40-th year anniversary of IFToMM also with a ceremony in foundation city Zakopane, Poland;
- we have started new initiatives such as student Olympiad, summer schools, tutorials, book series, and journal affiliations.

Details the activity are illustrated in the President reports, which summarize remarks and activity results that have been presented in the annual reports of the IFToMM President at EC meetings.
As President I have experienced that IFToMM is a unique worldwide body in the fields of Mechanical Engineering with specific focus on MMS, since it gives the impression of a worldwide significance of the community and its activity. But this is not an abstract entity, because of all of us with our large or small participation. Without individuals with common views and activities a community cannot exist and cannot be a reference and of help for individuals yet. Thus, the future of IFToMM with a great success like in the past, and even with more influence in the Society for the benefit of Society, much depends on us, on how we participate, disseminate, and transfer the feeling and activity of a community, who feels to be fundamental and instrumental to innovation and enhancement. The IFToMM community works when its members help each other and all together contribute to the intellectual and scientific growth of the individuals within specific technical fields. The vitality of a community, IFToMM community can be also appreciated by giving turn of MOs representatives in the leadership of the community. Thus, beside being careful to properly distribute TC Chairmanships among MOs depending of the recognized reputation of candidates at high levels, it is also very important to have turn in EC members as from MOs, even with the aim to recognize the most active MOs or to stimulate more MO activities. This turn plan is also fundamental not only to recognize IFToMM membership without any preference or prominence of one MO with respect to other MOs but mainly to show an open-mind community in agreement with the mission of IFToMM. Today IFToMM has this potentiality more than the shown reality.

The considerable activity and significant achieved results under my IFToMM Presidency have been possible thanks to the support, participation, and help of all of you IFToMM officers (Chairs of MOs, PCs, and EC members) and also many individual IFToMMists. Special thanks are deserved for the diary friendly collaboration to: Carlos (the SG), Joe (the Treasurer), Teun (secretary of the GA Committee for Honours and Awards), Hanfried (Chair of PC History of MMS), I-Ming (Chair of TC Robotics & Mechatronics), Madhu (Chair of TC Transportation Machinery), Ion (Chair of TC Sustainable Energy Systems), Veniamin (EC member), JS (IFToMM funding father), Shuo-Hung (Chair IFToMM Asian Conference), and Ricardo (Chair of 2011 World Congress). But I cannot forget individual IFToMMists, whom I have met at conferences and meetings, or whom I have exchanged emails: I have had always the feeling of doing well for the interest and benefit of IFToMM, because of the smiles and nice words I received when meeting persons of our IFToMM community. The expressed gratitude that I have received also with few simple words has been and is for me of great value and memory.

Back to a general IFToMMist

Although completed the function of IFToMM president, in the first month of 2012 I was busy to transfer properly documents and pending duties to new elected president prof. Yoshihiko Nakamura and Secretary General prof. Teresa Zielinska. My hope was to reduce the frenetic activity with lot of e-mail correspondence and frequent travelling to represent IFToMM and to support IFToMM initiatives. I partially achieved this, since as past president I am very often asked for advices since my past IFToMM leadership experiences. In addition, as once Bernie Roth told me that as IFToMM past president I will have been kindly asked explicitly or not as a representative figure of IFToMM without the possibility to deny presence or opinion. But at least I could recover main attention to my basic activities in teaching and research at LARM in Cassino with a quite more continuous presence. The consulting and advice correspondence with the new IFToMM Presidency Desk were quite intense in the first semester of 2012 but smoothly it was reduced as for a fully autonomy of the new leadership. My presence was asked in several events as consequence of my strong support in initiative plans when president. This was the case for the second IFToMM Asian MMS conference in Tokyo for which I was happy to visit the organizers prof. Takanishi and prof. Noyobuki at the end of February 2012 to confirm my personal support to this new IFToMM conference series. I also showed practically the safe situation in Tokyo after the accidents in nuclear plant in Fukushima by running the full Tokyo marathon on February 28 and the day after I gave lecture at Waseda University with no problem (just some tiredness on the legs!).

A last of the conference initiatives asked during my IFToMM presidency was ISEMMS, the
IFToMM conference on MMS education under the organization of the PC for Education. This was held in June 2013, after a long planning and thanks to the efforts of the PC chair, prof. Juan Carlos Prada was held successfully as a first event of a series. Besides some other presences at IFToMM supported conferences, in 2012 I went back to my ordinary activity in Cassino with primary interest on Mechanism Design, Mechanism of Robots and History of MMS, but still with links to IFToMM activities. Thus in September 2012, I co-chaired with prof. Fernando Viadero EUCOMES 2012 in Santander (Spain) as IFToMM sponsored conference for European frames (like Asian MMS is for Asia and MUSME is for America) but as member of the scientific committee. I also co-chaired with prof. Cesare Rossi RAAD2012 in Napoli (Italy) as a conference activity under the auspices of TC Robotics because of my position of TC member. In October 2012 I co-chaired with prof. Xilung Ding MEDER 2012 in Beijing (China) as the second event of IFToMM sponsored conference series on Mechanism Design for Robots that we started in 2010 in Mexico City. Finally, I could spend a sabbatical period of three months in Lima, Peru, by refreshing my research interests and even by looking at new topics as solicited by Peru colleagues, like conception and design of machines for rural environments with user-oriented capabilities, whose a result is documented in (Ceccarelli and Alenca, 2013) for a pumping systems in Andes frames. I could also enjoy teaching in Spanish also with practice supervision. Finally, back home, Fig. 5, I fully recovered the diary activity of University professor with teaching and research with a continuous interview with students of any level.

Fig. 5. Marco Ceccarelli in his office at Cassino University in July 2013

Actually, I could fully appreciate the very valuable results of my PhD students coming from China at their PhD defenses, namely Liang Conghui and Gu Hao in 2012 and Tao Li in 2013. The research activity at LARM was kept intense thanks also to the supervision of Dr Giuseppe Carbone with several students, as usual, busy with research assistance and thesis works. The activity runs with local activity at LARM but in connections with international collaborations within bilateral agreements in teaching and research projects. The link with IFToMM community is constant through those collaborations but also by exchanging visits of students and co-workers, beside my personal visits and receptions of visitors in Cassino. In addition, the conference organization activity has been reinforced with my focused dedication and good plans are undergoing for the success of the IFToMM events like MUSME 2014, MEDER 2015, HMM 2016, with my direct Chairmanship and many others like Workshop on MMS History in 2013 in Palermo and 2015 in Saint Petersburg with my co-chairmanship. As for specific research activity linked to IFToMM, collaborations, plans and actions are working out in hot topics like developments of service robots, studies in history of MMS, experimental activity with prototypes, and new designs and operations of mechatronic/robotic systems as based on mechanisms.
Thus, nowadays I am combining my local activity with international IFToMM frames more and more with satisfaction both of results and IFToMM interactions, as one of the many IFToMMists in the world.

Conclusions

In this paper the author has surveyed his experience and activity in IFToMM at the different roles he lived in the past twenty-five years. The activity but challenges with success and results are summarized as from personal perspective in contributing at the promotion of MMS and IFToMM worldwide.

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