

REPORT

on the 14th IFToMM 2015 WORLD CONGRESS - (International Federation for the Promotion of Mechanism and Machine Science **IFToMM**) which was HELD ON OCTOBER 25 - 30, 2015, TAIPEI, TAIWAN

The Congress is held every 4 years, the 13th IFToMM2011 WORLD CONGRESS was held in Guanajuato, Mexico, 2011. It is the largest conference for the promotion of mechanism and machine science. It is a special occasion and a discussion forum for Researchers, Scholars and PhD Students with interests in the theory and practice of mechanism and machine science - to address new ideas, share solutions, experience, and discuss future research developments.

October 24th – afternoon, 25th – the whole day, 30th - morning
Chair Prof. Y. Nakamura – IFToMM President
Agenda

October 23rd Arrivals: Taipei, Taiwan

October 24th from noon (12.00)

1. Opening of the meeting and approval of the Agenda (President)
2. Apologies for absence
3. President's report
4. Report by Secretary General (conference sponsorship requests and decisions, other issues).
5. TC reports and activities and new TC/PC/MO membership (speaker Secretary General and attending TC chairs):
 - TC for Computational Kinematics (chair Prof. Doina Pisla),
 - TC for Gearing and Transmission (chair Prof. Daizhong Su),
 - TC for Linkages and Mechanical Controls (chair Prof. Erwin Lovasz),
 - TC for Micromachines (chair Prof. Brian Jensen),
 - TC for Multibody Dynamics (chair Prof. Paulo Flores),
 - TC for Reliability (chair Prof. Zbigniew Keszy),
 - TC for Robotics and Mechatronics (chair Prof. I-Ming Chen),
 - TC for Rotordynamics (chair Prof. Paolo Pennacchi),
 - TC for Sustainable Energy Systems (chair Prof. Ion Visa)
 - TC for Transportation Machinery (chair Prof. Nong Zhang),
 - TC for Tribology (chair Prof. Dae-Eun Kim),
 - TC for Vibrations (chair Prof. Marian Wiercigroch - absent),
 - TC for Biomechanical Engineering (chair Dr. Juana Mayo).
6. **PC reports and activities (speaker Secretary General and attending PC chairs):**
 - PC for Communications, Publications and Archiving (chair Prof.V.Goldfarb),
 - PC for Education (chair Prof. Juan Carlos García-Prada),
 - PC for History of TMM (chair Prof. Olga Egorova),
 - PC for Standardization of Terminology (chair Dr. Torsten Brix).

Program - at a glance

Time	10/24	10/25	10/26	10/27	10/28	10/29	10/30
	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
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October 25th

1. Preparation to GA – report by host and Secretary General, discussion.
2. Reports by EC members (Working Groups) and discussion: i.a. IFToMM Archives, IFToMM Legal status, IFToMM posters.
3. Report by IFToMM Secretary of Honors and Awards Commission, Activity of Honors and Awards Commission and nomination of candidates.
4. Information from Nominating Committee (Past-President Prof. Jorge Angeles).
5. Treasurer's report and budget for 2012-2013 (YD program, conferences support, countries membership, annual budgeted plans).
6. IFToMM affiliated journal reports.
7. MMT Journal detailed report by chief editor (EC members only).
8. Other matters.
9. Summary, closure.

IFToMM Technical Committee on Robotics & Mechatronics Meeting 2015

Date/Time: October 27, 2015 / 5.30pm – 7.00pm

Venue: Taipei International Convention Centre (TICC) Room: 201F, Taipei, Taiwan

2015 IFToMM World Congress Forum is free and available for online registration till October 25, 2015

The election of the Federation Authorities and statutory General Assembly deliberations constituted an important part of the Congress.

IFToMM General Assembly (GA), October 29, 2015**A G E N D A**

1. Opening address by Yoshhiko Nakamura - IFToMM President
2. Nomination of the GA minutes recorder for the Minutes of the General Assembly
3. Nomination of the Credential Committee
4. Apologies for absence
5. Approval of the agenda
6. Approval of the previous GA's Minutes (2012)
7. Report by **Yoshhiko Nakamura** - President (2012-2015)
8. Report by **Teresa Zielinska** - Secretary General (2012-2015)
9. Report by Organizers of 14-in IFToMM World Congress on MMS
10. Report by **Kenneth Waldron** - Chair of the Constitution Committee
11. Report by **Just Herder**- Treasurer (2012-2015), budget approval.
12. New applications for IFToMM membership – analysis and approval
13. Election of new members and changes in membership
 - a) report by **Jorge Angeles** - Chair of the Nominating Committee, and results of postal ballot for election to the Executive Council
 - b) nominations from the floor
 - c) election and announcement of the results.
14. Report by **Hong-Sen Yan** - Secretary of the Committee for Honours and Awards:
 - Presentation of Honorary Membership,
 - Presentation of Dedicated Service Awards,
 - Presentation of Award of Merit.
15. Election of the Constitution Committee.
16. Election of the Nominating Committee.
17. Election of the Committee for Honours and Awards.
18. Date and place of the next IFToMM World Congress on MMS.
19. Other matters.

2015 IFToMM Forum Program at a Glance

October 26, 2015 (Monday)	
The Development Strategy for The Bicycle Industry Forum – From The Technology Viewpoint	
15:30	Opening Address by Prof. Pei-Zen Chang
15:40-17:00-7:30	Development Strategy of Taiwan Bicycle Industry Panel Discussion
October 27, 2015 (Tuesday)	
Industry 4.0 Forum	
10:30-10:40	Opening Address by Prof. Shuo-Hung Chang
10:40-11:00	Status and Prospects toward New Industrial Revolution in Japan
11:00-11:20	Digital Enterprise the Way to the Industrie 4.0
11:20-11:40	Industry 4.0 and the Scope of Solutions
11:40-12:00	Rendering Industry 4.0 into Smart Tangibles – Facta, non verba at TECO
12:00-12:30	Panel Discussion
Intelligent Automation Forum	
14:30-14:40	Opening Address by Prof. Han-Pang Huang
1:40-15:00	Empowering Productivity 4.0 with Industrial Robots
15:00-15:20	The Development of Automation – Epson’s Perspective of 30 Years in Automation Industry
15:20-15:40	Robots for Motion Simulators
15:40-16:00	Status and Prospects of Factory Automation in IoT Era
16:00-16:30	Panel Discussion
October 28, 2015 (Wednesday)	
Intelligent Machine Tool Forum	
10:30-10:40	Opening Address by Forum Chair (TBA)
10:40-11:00	FFG Smart Manufacturing Cell
11:00-11:20	Intelligent Machine Tools with Siemens
11:20-11:40	Artificial and Bionic Super-Hybrid Design on Walking and Flying Robots
11:40-12:00	Recent Advances in Parallel Mechanisms with Multiple Operation Modes
12:00-12:30	Panel Discussion
October 29, 2015 (Thursday)	
Micro Fabrication Technologies Forum	
10:30-10:40	Opening Address by Prof. Kuang-Chao Fan
10:40-11:00	Micro Fabrication Technologies in Taiwan
11:00-11:20	Micro Aspects of Gear Manufacture
11:20-11:40	Nanomanufacturing in China
11:40-12:00	Design and Fabrication Technology for Micro-Mechanical Motion Systems
12:00-12:30	Panel Discussion

As a result of voting the present persons have been elected to the IFToMM Executive Council for 2016-2019:

PRESIDENT: Prof. Marco Ceccarelli, IT
 PAST PRESIDENT: Prof. Yoshihiko Nakamura, JP
 VICE-PRESIDENT: Prof. Chang Shuo-Hung, TW
 SECRETARY-GENERAL: Prof Teresa Zielinska, PL
 TREASURER Prof. Juan Antonio Carretero, CA.

As Executive Council members have been elected present persons:

Corves Burkhard (Germany);
 Ghosal Ashitava (India);
 Huang Tian (China- Beijing);
 Merlet Jean Pierre (France);
 Viadero Fernando (Spain);
 Can Dede (Turkey).

During the 18th point of GA Agenda the delegates discussed on the election of the country which will have the honor to host the 15th IFToMM World Congress (IFToMM'19). Three Countries candidated to have this honor: Australia, Japan and Poland. The proposal of the Polish Committee for the Theory of Machines and Mechanisms (PC TMM) was as follows: organize the Congress in Cracow with one day trip to Zakopane – to remind the place of the First Congress on Theory of Machines and Mechanisms in 1969 the foundation of the IFToMM in it.

The Polish proposal has been adopted by 34 votes on 42 voting delegates. After election we received a lot of congratulations. Our succes is due to the involvement of the PCTMM members which always have well rated by the Executive Council and highly evaluated by the IFToMM General Assembly.

I would like to express special thanks to Prof. Tadeusz Uhl for your very interesting presentation of the Polish proposal.

Prof. Marco Ceccarelli has been elected president IFToMM on four – year term of office from 2016 until the General Assembly in Cracow - Zakopane in 2019. Congratulating him I invited Prof. Marco Ceccarelli to Poland on our Jubilee 25 Conference TMM in 2016.

On 29.10.2015, at a formal banquet, thanking delegates and participants for supporting our proposal for organizing the 15 World Congress in Poland I handed on to Prof. Shuo Hung Chang - General Chair of IFToMM'2015 World Congress, framed photocopies of the plaque installed on the occasion of the 40th Anniversary of establishing IFToMM in Zakopane. This plaque included the names of eighteen IFToMM Founding Fathers, and it allows me to recall the memory of the Academician Ivan Artobolevski - the first IFToMM President, Prof. Erskine Crossley – first vice – president IFToMM and his hundredth birthday celebrations in Taipei, of Jan Oderfeld and others. I would like to add that I was the unique delegate who participated at the Founding Congress in Zakopane in September 1969, and Prof. Ceccarelli presented me as a Founding Father of IFToMM.

And turning to the audience banquet participants I said:

On behalf of the Polish IFToMM Committee and myself, I cordially invite all Participants as well as all IFToMM COMMUNITIES to Poland_and more specifically to Cracow and Zakopane to celebrate the 50th anniversary of the founding of IFToMM in Zakopane in 1969.

See you all in Cracow, old nice City, City of Copernicus – creator of the heliocentric system of the World!

Thank you for attention

The 14th IFToMM 2015 WORLD CONGRESS was opened and the Participants welcomed by Prof. Shuo Hung Chang - Congress General Chair. Among other things he said: My sincere welcome to you, your

spouses and your friends for visiting Taipei! I hope that you all will find the IFToMM 2015 World Congress and your stay in Taipei both valuable and enjoyable !

The 14th IFToMM 2015 World Congress was successfully held in Taipei on October 25 for five days. Approximately 700 delegates from 45 countries/regions have participated and presented 522 papers. Four presentations have comprised overviews. Five volumes of research studies have been published. For example - one of the interesting lectures was the presentation by Prof. Hong - Sen Yan from National Cheng Kung University, Taiwan, delivered an interesting lecture on “Decoding the Lost and Incomplete Ancient Mechanisms and Machines”. Based on historical archives, ancient mechanisms and machines Professor has presented surviving designs and historical documentation.

The Congress program included 78 technical sessions, one special session on the Life and Work of Erskine Crosley - the First Vice - President of IFToMM and several technical forums on the themes of industry 4.0, intelligent automation, intelligent machine tool, and micro-fabrication technologies. The 14th IFToMM 2015 World Congress was a great and successful event, and it can claim that it was a memorable visit for those who joined this event during their stay in Taipei.

Papers have been presented out in 21 sections. There were only 10 participants from the Poland who submitted 7 papers.

Prof. Józef Wojnarowski
Chair of IFToMM Poland
Member of the International Steering Committee

Nov. 10, 2015

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