

ASME Technical Committee on Multibody Systems and Nonlinear Dynamics (TC-MSND)

Friday, August 27, 2010, 11:00 AM -12:30 PM (EDT)
Teleconference

Minutes

Present: (Members) Bala Balachandran (chair), Harry Dankowicz (recording secretary), Ahmed Shabana, Kurt Anderson, Rudranarayan Mukherjee, Aki Mikkola, Eric Butcher, John McPhee, Walter Lacarbonara, Bogdan Epureanu, Carlo Bottasso, Tamás Kalmár-Nagy (**Friends**) Subhash Sinha, Pierangelo Masarati, Andreas Mueller, Corina Sandu

Absent members: Olivier Bauchau (vice-chair), Alain Berlioz, Jin-Hwan Choi, Javier Cuadrado, Peter Eberhard, Dan Negrut, Christophe Pierre, Lawrence Virgin, Wan-Suk Yoo

1. **Call to order**

Meeting called to order by Bala Balachandran.

2. **Approval of minutes from last meeting**

A motion was made to approve the minutes of the TC-MSND teleconference on February 5, 2010. The motion was seconded and approved unanimously.

3. **Treasurer's report**

Bala Balachandran reported on the financial standing of the committee accounts. As of July 1, 2010, the MSND committee accounts had a balance of \$28,050, the d'Alembert award account had a balance of \$35,862, and the Lyapunov award account had a balance of \$35,832. In March 2010, \$14,082 was deposited by the DED into the committee account in reflection of the revenue sharing agreement for the 2009 IDETC, where MSND contributed 23 % of all papers. Following a TC-MSND response to a query by the DED executive committee, it was decided that \$4,000 would be transferred from the committee account to each of the award accounts, which would then be matched by the same amounts by the DED. It was mentioned that no further matching would be forthcoming from DED for award accounts exceeding \$45,000, the amount required to elevate an award to a society level award.

4. **Conference reports**

a. **2010 IDETC**

Harry Dankowicz reported on the Special Conference on Mechanical Vibration and Noise (VIB), which was held as part of the 2010 ASME International Design Engineering Technical Conferences and Computers and Information in Engineering Conferences (2010 IDETC/CIE) at the Fairmont Queen Elizabeth Hotel, in Montréal, Canada, August 15–18, 2010. This Conference was sponsored by the Technical Committee on Vibration and Sound and supported by the Technical Committee on Multibody Systems and Nonlinear Dynamics through the inclusion of Bala Balachandran and Harry Dankowicz on the organizing committee. The Conference consisted of 10 technical sessions with a total of 49 oral presentations and included a keynote lecture by Dan Segalman of Sandia National Laboratories. The 2010 IDETC/CIE attracted 730 technical presentations across 9 technical conferences including, in addition to VIB, Mechanisms & Robotics and Micro- and Nanosystems.

b. **2010 IMSD**

Aki Mikkola reported on The First Joint International Conference on Multibody System Dynamics (IMSD 2010) which was held in Lappeenranta, Finland, May 25-27, 2010. The Conference was co-sponsored by ASME (American Society of Mechanical Engineers), IFToMM (International Federation for the Promotion of Mechanism and Machine Science), IUTAM (International Union of Theoretical and Applied Mechanics), KSME (Korean Society of Mechanical Engineers), and JSME (Japan Society of Mechanical Engineers). Keynote speakers include Kurt Anderson, Carlo Bottasso, Peter Eberhard, John McPhee, Ahmed Shabana, and Nobuyuki Shimizu. A total of 242 participants from 29 countries enjoyed 186 technical presentations across 46 technical sessions and gave the conference organization and experience a 4.7 out of 5 participant rating.

- c. **2011 MSNDC**
The 8th International Conference on Multibody Systems, Nonlinear Dynamics, and Control (MSNDC) will be held as part of the 2011 IDETC/CIE meeting in Washington, D.C., August 28-31, 2011. The General Conference Chair is Nader Jalili of Northeastern University supported by Bogdan Epureanu as Technical Program Chair. Bala Balachandran and Harry Dankowicz will serve as MSNDC conference and program chair. Information about the conference will successively become available through the conference website at www.asmeconference.org/IDETC2011.
- d. **2012 IMSD**
The Second Joint International Conference on Multibody System Dynamics, the 2012 IMSD, will be held May 29-June 1, 2012 in Stuttgart, Germany. Following an invitation by the 2012 IMSD organizers, a motion was made to co-sponsor the 2012 IMSD meeting by helping with marketing and arranging to allow the organizers the use of the ASME logo. The motion was seconded and approved unanimously.
- e. **2012 DFD**
Harry Dankowicz reported on the inaugural Biennial International Conference on Dynamics for Design to be organized as part of the 2012 IDETC/CIE conference in Chicago, IL. The conference will be co-sponsored by TC-MSND and TCVS and is anticipated to attract around 80 oral presentations in the areas of innovative techniques for exploiting dynamics in the design of devices and systems and methodologies for making dynamics an essential and formally accepted ingredient in the design process. The conference will be chaired by Dane Quinn and Harry Dankowicz with the help of an organizing committee, possibly constituted from the DFD joint working group. Revenue from the DFD conference will be allocated to the DFD account, jointly controlled by TCVS and TC-MSND.

The 2012 IDETC/CIE meeting will likely run across five days, as opposed to the current four-day schedule, in order to accommodate the growth of the even-year meetings. Two possible alternatives are (i) a first day of workshops and tutorials followed by four days of technical sessions or (ii) two days of technical sessions, followed by a day of workshops tutorials and committee meetings, followed by another two days of technical sessions. In the latter case, the technical conferences would be divided into two groups, where the first group would have technical sessions during the first two days and the second group would have technical sessions during the last two days. Technical committees were asked by the IDETC executive, Vijay Kumar, to rank three other technical conferences with whom they would like to be associated in the event of the second alternative. TC-MSND responded with VIB, MNS, and M&R/AVTT. Similar selections were made by TCVS and TC-MNS.

5. **Journal reports**

- a. **JCND**
Subhash Sinha reported on the status of Journal of Computational and Nonlinear Dynamics. Ahmed Shabana has been nominated by the Design Engineering Division to the ASME Publications Committee for the position of Technical Editor for a term commencing in January 2011. After only three years in existence, the journal was for the first time included in the ISI Journal Citation Report and received a 0.557 impact factor, a highly satisfactory outcome at such an early stage. A request has been made to increase the number of pages for the next several issues to eliminate the current backlog. Finally, there is currently an effort underway to identify and recruit additional associate editors to replace retiring members of editorial board. The committee expressed its appreciation and gratitude for Subhash's service to our community in helping to found the journal and spearheading its success.

6. **Sub-committee reports**

- a. **Conference Coordination**
Harry Dankowicz reported on the efforts of the conference coordination subcommittee and on the report and proposal prepared by the committee for the organization of the 2011 MSNDC meeting. The proposal was approved unanimously after some discussion of the list of topical symposia and ways of addressing topics that do not appear explicitly in this list.
- b. **Awards**
Eric Butcher reported on the activities of the award committee. Nominations for the awards were solicited through advertisements in JCND, JVA, JAM, JVC, and Nonlinear Dynamics, on the committee website, through hard copies at the 13th Conference on Nonlinear Vibrations, Dynamics,

and Multibody systems in Blacksburg, VA, in May 2010, and through limited mass-mailings targeted at members of the community. To accommodate delays in distributing this information, extensions were made to the submission deadline. A discussion ensued on ways to further increase the visibility of the award so as to generate large numbers of nominations. It was suggested that the committee should consider instituting additional awards in recognition of significant contributions, albeit not necessarily lifelong, so as to give opportunities to reward mid-career members of the community.

On a related note, it was mentioned that Subhash Sinha received the Design Engineering Division Robert E. Abbott Award. This award, which was established in 1978 for valued services on behalf of the Design Engineering Division, the Society, and the Engineering Profession, is a lifetime service award given to recognize a Society Member or Staff Member who has served the Division beyond the call of duty. In addition, Friedrich Pfeiffer received the Design Engineering Division Leonardo da Vinci Award. This award, which was first presented in 1978, is given in recognition of eminent achievements in the design or invention of a product which is universally recognized as an important advance in machine design. Both awards were presented at the 2010 IDETC/CIE meeting in Montreal, Canada.

7. **Other business**

a. **DFD Initiative**

Harry Dankowicz reported on the efforts of the DFD joint working group. These include a three-point proposal that was approved unanimously by the TC-MSND and TCVS in April 2010 to create a joint financial account for DFD-related revenue and expenses, to create a promotional website and to establish a biennial, even-year DFD conference. The latter two initiatives have also been approved at the division executive level. Ongoing work involves the further implementation of a branding strategy and the organization of the 2012 DFD meeting. At this time, membership in the DFD joint working group has been opened up to all interested and committed individuals, who are encouraged to contact Harry Dankowicz or Dane Quinn to join.

b. **Conversion of d'Alembert and Lyapunov awards to society level awards**

A motion was made to elevate the d'Alembert and Lyapunov awards to society level awards. Elevating the awards raises the prestige of the awards as well as the visibility. The committee would pursue this course of action under the assumption that control over the nomination and selection process would continue to rest with the committee, albeit with the inclusion of an external party from the division on the awards committee. Also, funds to cover honoraria or travel expenses for awardees to attend IDETC meetings as keynote lecturers would need to come from remaining committee accounts. Elevation of the awards to society level requires that each account contain at least \$45,000 at the time of elevation. The motion was seconded and approved unanimously.

Members only

8. **Selection of interim TC-MSND vice-chair**

Aki Mikkola graciously agreed to take over as interim vice-chair of TC-MSND from Olivier Bauchau, who has to step down due to other commitments. The term of this interim appointment is through June 30, 2011.

9. **Award nomination**

The nominations for the d'Alembert and Lyapunov awards were discussed at length. A motion was made to have the selection of the winner of the d'Alembert award conducted through electronic vote by September 15. The motion was seconded and approved unanimously. Bala Balachandran will arrange for an independent recipient of the individual votes to ensure appropriate confidentiality. A motion was also made to extend the deadline for nominations for the Lyapunov award to October 15. The motion was seconded and approved by a five-to-three vote with the chair not casting a vote. Bala Balachandran and Eric Butcher will discuss how to proceed to advertise this extension.