
MINUTES OF THE FALL 2003 MEETING

Date: Friday, September 5, 2003

Time & Place: 7:30 PM
Great American I/II
Chicago Downtown Marriott

Present: Members and Ex-Officio
Berger, Clark, Crocker, Feeny, Feng, Flowers, Han, Luo, Nataraj, Raman, Rahn,
Raman, Royston, Shen, Tan

Non-Members
A. Agrawal, S. Sinha, T. Kalmar-Nagy, B. Epureanu, M. Seif, T. Rook

1. Han (TCVS Chair) called the meeting to order at 7:30 p.m. Each of those in attendance introduced himself/herself. Han welcomed the new and re-elected members Berger, Crocker, Feng, Shen, Hamidzadeh, and Royston.

2. Approval of Minutes

A motion was made and seconded to approve the minutes (as corrected) of the Spring 2003 meeting. The minutes were approved.

3. New Business

a) Report on TCVS budget (Clark)

A detailed Treasurer's Report was presented. Committee discretionary funds have been separated from award accounts. TCVS now has two award accounts and one discretionary account. The Myklestad Award account currently has \$8,805.06, the Den Hartog Award account has \$8,604.89, and the discretionary account has \$3,114.63. The main source of income to TCVS is from the TCVS sponsored symposia at DETC, with some additional revenue from IMECE symposia, as well as from tutorials. So, committee members are encouraged to organize symposia. If the award accounts can be raised to the level of \$25,000, then the associated award becomes an ASME level award rather than just a committee award, which adds to the prestige and visibility of the award.

There was some discussion on this matter. It was proposed that the bulk of the revenue from the 2003 DETC be committed to the Den Hartog Award account, so as to accelerate the growth of the account. Actual allocations will be decided on at the Spring 2004 meeting.

b) Issue of Name Change for TCVS (Han and Bergman)

Han suggested that TCVS consider changing its name to be more relevant to changing perceptions and focus areas in our field. He noted that Bergman (editor of the Journal of Vibration and Acoustics) has said that he receives few papers related to acoustics.

There was an extended discussion on this topic, with strongly held opinions on all sides. Sinha noted that the TCVS has served as a springboard for a number of very successful symposia, including nonlinear dynamics and multibody dynamics. Crocker felt that “sound” should be retained as an area of the committee. Raman suggested that we should perhaps consider adding “control” to the name. There appeared to be a general agreement that acoustics needs to have a home in ASME and that a renewed emphasis should be placed on the acoustics area to strengthen our efforts in that area. Han indicated that he would be forming a subcommittee to further discuss this issue.

c) Report on IMECE 2002 and 2003 (Rahn)

TCVS is sponsoring or co-sponsoring three symposia at IMECE 2003. They are as follows:

1. **Vibration and Control of Mechanical Systems I-VIII** (8 sessions)
Organizers: Hamidzadeh, Rahnejat, and Luo
2. **Nanoscale Dynamics, Sensing and Control I, II, and III** (1 regular session supported by TCVS, 1 poster session supported by TCVS, and 1 session sponsored by DSC)
Organizers: Raman, Sitti, and Horowitz
3. **Nonlinear Dynamics in Mechanical Systems I, II, and III** (3 regular sessions sponsored by TCVS)
Organizers: Zu, Flowers, and Wang

There were some relatively minor initial problems associated with the (new) ASME web-based conference tool for IMECE 2003. However, the overall system seemed to work quite well. It also enabled the conference organizers to closely monitor the status of each session.

d) Report on IDETC 2003 (Shabana and Royston)

Royston reported that IDETC had 840 papers, with 325 of those from the Vibrations Conference. There were 72 sessions within the Vibrations Conference (4 session periods per day with 6 parallel sessions for each period) and 19 symposia. Shabana’s symposium was the largest with 69 papers, with Om Agrawal’s symposium with 32 papers, and several symposia had 20+ papers. Preliminary data shows that there were 900 attendees, with 625 paid registrants and the rest being students. Robert Parker was recognized for his efforts in bringing the PT&G Conference to the 2003 IDETC.

Shabana and Royston were thanked for their outstanding efforts in organizing the 2003 IDETC.

e) Report on IDETC 2005 (Hamidzadeh and Luo)

Hamid Hamidzadeh and David Lee (of CIE) will jointly chair the meeting. Albert Luo will serve as the program chair. The site that has been selected is Long Beach, CA. David Lee has visited the Longbeach Hyatt and reports that it will probably not be large enough to accommodate the IDETC. Consideration is being given to moving one of the conferences to the nearby convention center. The Mechanism committee has expressed its intention of holding the Mechanism Conference at the 2005 IDETC. Along with PT&G Conference and the (probable) Multibody Dynamics Conference, the 2005 IDETC should be a very large meeting.

Hamidzadeh encouraged all TCVS members to work together to develop and organize symposia for the 2005 Vibrations Conference.

f) Report on Proposal for IDETC 2007 (Tzou)

H.S. Tsou will serve as chair for the IDETC 2007. Several possible locations were discussed, including Orlando, Florida.

g) Report on Design Show (Dohner)

No report was provided.

h) Report on Journal of Vibration and Acoustics (Bergman)

No report was provided.

i) Liaison Reports

The TCVS Liaison for each group is given in parentheses.

Noise Control and Acoustics Division (Grosh)

No report was provided.

Applied Mechanics Division – Dynamic Systems and Structures Committee (Luo)

Albert Luo indicated that there has not been a meeting. However, their web site shows that two symposia were organized for a total of 35 papers. A meeting is scheduled for December.

Applied Mechanics Reviews – (Pierre)

Christophe Pierre was unable to attend the meeting. He submitted a written report.

- 1) The last AMR Board meeting took place at IMECE 2002, which was reported on at the Spring 2003 TCVS. There has been no activity since that time.
- 2) The next AMR board meeting will be held at the IMECE 3004. A report on that meeting will be given at the Spring 2004 TCVS meeting.

Aerospace Division--Adaptive Structures Committee (Wang)

Kon-Well Wang was unable to attend the meeting. He submitted a written report.

The Adaptive Structures Committee is sponsoring sessions in four conferences this year. SPIE (in San Diego, CA), AIAA-ASME/SDM (in Norfolk, VA), ICAST (in Seoul, Korea), ASME/IMECE (Washington, D.C.) Although there is no need/plan for formal joint sessions between AS and TCVS this year, members of the two committees have been participating in each other's conferences as individual participants.

Design Engineering Division – Power Transmission and Gearing Committee (Parker)

The only activity of the PTGC has been planning for the September conference. Another item is the perceived success of joining the Vibrations Conference, which appears to have been quite favorable.

DED International Activities Committee (Dyke)

Shirley Dyke was unable to attend the meeting. She submitted a written report.

1. The 2nd Symposium on International Issues in Engineering Design will be held as part of the 2004 IDETC in Salt Lake City. Abstracts should be submitted to Phillip E. Doepker.
2. ICED03, sponsored by the Design Society was held in Stockholm in August 2003.

3. The next ICED (International Conference on Engineering Design) will be held in Melbourne, Australia in 2005.
4. The 7th Motion and Vibration Control Conference will be held in St. Louis, August 8-11, 2004. Abstracts are due by January 1, 2004. The web site is <http://www.seas.wustl.edu/movic04>.
5. The DESIG (Design Engineering Special Interest Group) has taken the place of SEED (Sharing Experiences in Engineering Design) DESIG is now a committee within the Design Society.

j) Report on TCVS Web Page Development (Raman)

Chris Rahn has been upgrading and uploading TCVS minutes to the website. The website has been updated and revised. ASME has established accounts for setting up committee webpages through ASME's website. These webpages will be generated from a template provided by ASME. Raman will follow-up on this matter soon. Fred Golfarb commented that the updated software will have a content management package that will automatically link information pertinent to TCVS (papers, events, etc.) to the webpage.

k) Industrial Subcommittee (Dohner)

No report was provided.

l) Report from Awards Nominating Subcommittee (Clark)

Clark reported the Den Hartog and Myklestad Awards were announced at the 2003 Vibrations Conference. Otherwise, there nothing to report at present.

m) Report from ASME Fellow Nominating Subcommittee (Wang)

Wang was unable to attend. He submitted a written report.

Based on nomination from committee members, two potential candidates have been identified and the necessary information is being collected. One or both nominations will probably be submitted in late fall.

n) Report from Subcommittee on Micro- and Nano-scale Systems (Raman)

A symposium on Nano-scale Dynamics, Sensing, and Control will be held at IMECE. There will be three sessions.

The Mechanisms Committee is also trying to spin-off a similar subcommittee. Raman presented a formal proposal to establish a joint subcommittee with TCVS and the Mechanisms Committee. The proposal is attached.

There was some discussion on this matter. Sinha noted that there were several technical committees that are considering forming subcommittees on topics related to micro- and nano-scale systems.

The TCVS voted unanimously to support this new subcommittee.

o) Appointment of Membership Nominating Committee

Albert Luo and Brian Feeney was appointed to the subcommittee. Sinha encouraged the subcommittee to recruit nominees with interests in the various new areas that had been discussed during the meeting.

p) Other new business.

- 1) Malcolm Crocker announced that the an Agreement of Cooperation has been almost finalized between ASME and the International Institute of Acoustics and Vibration. He emphasized that this was very positive development for cooperation between the two societies, particularly with regard to joint conferences.
- 2) Subhash Sinha announced that if a woman or a minority in the vibrations community could be identified, then that person will be accepted to fill a vacant position on the DED Honors and Awards Committee. Several names were suggested and Ray Han agreed to follow-up on this matter. The Awards Nominating Subcommittee will also consider nominees for the DED level awards.

4. Old Business.

None.

The meeting was adjourned at 9:30 p.m. The next meeting will held on February 22, 2004 in Chicago, IL.

REPORT ON
2003 DESIGN ENGINEERING TECHNICAL CONFERENCES

September 2-6, 2003 in Chicago, Illinois

1. The deadline for paper submission was extended to February 14, 2003.
2. The ASME Engineering Technology & Management group (ET&M) will participate in the 2003 DETC's. ET&M will sponsor one session and two tutorials.
3. Some conferences and committees already provided topics for tutorials with names of tutorial lecturers. The plan is to have four tutorials on Tuesday, September 2 (afternoon); and four tutorials on Saturday, September 6 (morning).
4. The use of the ASME web tool for paper submission has been discussed, and it was agreed not to use the web tool for the 2003 DETC's.

Ahmed Shabana
January 16, 2003

REPORT ON
THE 2005 ASME INTERNATIONAL DESIGN ENGINEERING
TECHNICAL CONFERENCES
Long Beach, California

Organizing Committee

General Chairs: Hamid R. Hamidzadeh (TCVS) and **Co-Chairs:** David Lee (CIE)
Program Chair: Albert C. J. Luo

Advisory Committee

Professor Subhash Sinha, 1999 General Conference Chair
Professor Dean Mook, 2001 General Conference Chair
Professor Ahmed Shabana, 2003 General Conference Chair
Professor Chin An Tan, Chair of the TCVS

Local Arrangement Committee

Professor James E. Bobrow, University of California, Irvine
Professor Daniel C. H. Yang, UCLA, MANE Department

Location

After developing two proposals for different sites and continuous efforts by Bob Niehaus on behalf of the ASME, the Long Beach Hyatt Hotel has been selected as the site for the 2005 IDETC. The rates are very reasonable and the Convention Center is next door to the Hyatt. The confirmed room rate for 2005 is \$175 single/double. Both the Hyatt and the Convention Center can provide adequate number of rooms for committee meetings and conference sessions.

Conferences Included in IDETC

1. **Biennial Conference on Mechanical Vibration and Noise - 22 Symposia** are expected
2. **Design Automation Conference**
3. **International Conference on Design Theory and Methodology**
4. **Design for Manufacturing Conference**
5. **Computer in Engineering Conference**
6. **Engineering Information Management Conference**

Deadlines

5. The deadline for paper submission will be January 24, 2005.

6. The Call for Papers announcement will be forwarded to ASME in June 2004.
7. The web sites for all conferences will be developed by June 2004.
8. Over twenty proposals for symposia on different topics for the Vibration Conference are expected before June 2004.

Respectfully submitted,

Hamid R. Hamidzadeh and Albert C. J. Luo

February 18, 2003

ASME International 20th Biennial Conference on Mechanical Vibration and Noise

LIST OF SYMPOSIA

Confirmed Symposia

- System Identification and Reduced Order Modeling With Applications to Linear and Nonlinear Systems (L. Bergman, A. Vakakis and D. Quinn)
- Systems with Friction and Impacts: Modeling, Stability and Control (J. Awrejcewicz)
- Fractional Derivatives and Their Applications (O. Agrawal, J. A. T. Machado and J. Sabatier)
- Friction Induced Vibration and Noise (M. A. Ozbek)
- Dynamics and Identification of Piecewise Linear and Nonlinear Systems (S. Natsiavas and Papadimitriou)
- Experiments with Nonlinear Dynamic Systems (A. Berlioz and R. Dufour)
- Vibration of Complex Structures (M.P. Castanier and C. Pierre)
- Nonlinear Dynamics and Control for Rotor Systems (Y. Ishida, G. Flowers, H. Yabuno)
- Dynamics and Control of Time-Varying and Time-Delay Systems and Structures (S.C. Sinha and E.A. Butcher)
- Vibration and Control in Manufacturing Systems (H. Nayeb-Hashemi)
- Active Control of Vibration and Noise (Nader Jalili)
- Vibration and Acoustics in Manufacturing and Bio-mechanical Systems (A. Al-Jumaily)
- Nonlinear Dynamics and Oscillations (B. Balachandran)
- Rotor Dynamics and Control (Guang Meng)
- Vibration and Noise Control -- Active, Passive or Hybrid (K. W. Wang and W. Clark)
- Nonlinear Vibration and Control of Structures (G. Rega)
- Multibody Dynamics in Power Train Systems (H. Rahnejat)
- Vibration and Control of Continuous Systems (C. Rahn and R. Parker)
- Smart dynamical Systems (C. Steve Suh)
- Nano- and Micro-Electromechanical Systems (J. Lu)

Other expected Symposia

- Multi-body Dynamics and Vibration
- Hysteresis and Vibration
- Piezoelectric and Magnetostrictive Actuators, Including MEMs Devices
- Vibration and Sound in Biomedical Applications
- Non-smooth Dynamics
- Identification and Resolution of Stability Problems in Rotating Machinery
- Fault Detection/ Diagnostics in Rotating Machinery
- Dynamics and Vibration of Robotic Systems
- Vibration of Nonlinear Systems
- Damage Assessment & Monitoring of Structural and Mechanical Systems Based on Modal Data
- **Induced Vibration of Stay Cables in Cable Stayed Bridges**
- Nonlinear Dynamics, Bifurcations and Chaos in Nano and Micro-Electromechanical Systems

Proposal for the establishment of a new subcommittee on “Dynamics and Design of Micro and Nanosystems”

Background

Design and dynamics are at the heart of the rapidly growing fields of high performance integrated, functional micro- and nano biological and electromechanical systems. There is a critical mass of researchers associated with the Design Engineering Division that is actively engaged in research related to applications in micro and nano systems in areas as diverse as MEMS design and analysis, Atomic Force Microscopy, multiscale modeling of materials, Nanosensors, and dynamics of proteins and molecular machines. TCVS together with the adaptive control panel of the DSC division organized the first symposium on Nanoscale Dynamics, Sensing and Control at the upcoming IMECE. This symposium has 15 papers, and the numbers are expected to increase significantly in subsequent years. The Mechanisms subcommittee in DE has also been pursuing the formation of such a technical subcommittee, as has the DSC division.

Proposal

To develop under the joint stewardship of the TCVS and the Mechanisms Committee and under the aegis of the Design Engineering division, a new subcommittee, dedicated to organize symposia and foster active research interaction within Design engineering in the area of “Dynamics and Design of Micro and Nanosystems”. It is also expected that such a sub-committee maintain contact with the upcoming nanosystems subcommittee in the DSC subcommittee and also with the MEMS division. If approved, the overall goal will be to establish the by-laws and operating procedures for the subcommittee in the coming months with an aim to establishing the sub-committee in time for the February/March 2004 meeting of the TCVS in Chicago.

Initial steps

Several researchers have been contacted and expressed an active interest in forming a part of this subcommittee. These include Arvind Raman (Purdue), Buddy Clark Univ. of Pittsburgh), Karl Grosh (UMichigan), Frank Feng (UM Columbia), and Kurt Anderson (RPI). Several other researchers from the mechanisms committee are likely to be interested. Additionally Arvind Raman has been in contact with the DSC members who are establishing the nanosystems sub-committee in DSC and also informed Arun Majumdar (UC Berkeley) of the ASME Nanotechnology Institute of the upcoming plans for forming this subcommittee. The overall response from these contacts has been very encouraging.