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## MINUTES OF THE SPRING 2005 MEETING

Date: Sunday, March 5, 2005

Time & Place: 10:00 A.M.  
Room 1047 ERF Building, 842 W. Taylor Street  
University of Illinois at Chicago

Present: Members and Ex-Officio  
Clark, Epureanu, Feeny, Flowers, Grosh, Hamidzadeh, Luo, Nataraj, Quinn, Raman,  
Rahn, Royston, Shen  
Non-Members  
Bergman, He, Tzou,

Clark (TCVS Chair) called the meeting to order at 10:00 a.m.. Each of those in attendance introduced himself/herself.

### 1. Approval of Minutes

A motion was made and seconded to approve the minutes of the Fall 2004 meeting. The minutes were approved.

### 2. New Business

#### a) TCVS Treasurer's Report (Flowers)

Flowers summarized the status of TCVS funds. The report (See Appendix A) shows a total balance of \$11,815. This includes funds from the 2003 IDETC Vibrations Conference. Clark discussed raising funds for elevating the Den Hartog award to a Division level award (\$50,000). Clark indicated that Nataraj has volunteered to chair the Industrial Liason subcommittee to encourage industrial support of the TCVS awards.

Clark reintroduced the idea of transferring funds to the MDNS committee due to IDETC 2003 proceeds. He initially suggested transferring \$2000 to MDNS. Flowers worked with Royston to determine that, based on number of papers, an amount of 142/328 or 43% (\$3405) is attributed to MDNS. Bergman questioned lumping the fractional derivative symposia into MDNS. Discussions continued about the new committee especially the inclusion of the word "nonlinear" in the title. Royston indicated that there has always been a lot of overlap between ASME committees. Hamidzadeh suggested we table the issue until the Design Division made a decision about startup funds for the new committee. Flowers and Clark said we should address the issue of shared funds for IDETC 2003 now. Grosh was concerned about the long term health of the TCVS.

Flowers moved that we contribute \$2400 to the MDNS committee. The motion was seconded by Grosh. The motion passed unanimously.

#### (b) Report on IMECE 2005 (Feeny)

TCVS was allocated 11 sessions. There were also 4 symposia crosslisted with NCAD. See Appendix B.

**b) Report on IDETC 2005 (Hamidzadeh and Luo)**

Hamidzadeh summarized the report (See Appendix C). The number of papers has almost doubled from the 2003 numbers for the overall conference. He asked the committee for input regarding CD/DVD proceedings. The committee recommended having at least the Multibody and Vibration papers on the same disk. Royston recommended that PTG also be included on the disk.

**c) Report on IDETC 2007 (Tzou)**

Tzou summarized the planning of IDETC 2007 (See Appendix D). Clark has volunteered to be the conference vice-chair.

**d) Looking ahead to IDETC 2009 (Clark)**

Clark indicated that Kurt Anderson from MDNS has volunteered to chair the conference and Flowers has volunteered to be co-chair. A letter of support from the committee has been submitted to DED. A proposal for San Diego is being circulated.

Clark discussed laying groundwork for long term plans for IDETC organization and collaboration. Clark proposed a rotating chair with MDNS. One possibility is to rotate chair/co-chair. Another option is to have each committee rotate chair/co-chair responsibilities. Hamidzadeh discussed his experience with IDETC 2005 and said that it is important to get good people for these positions. Bergman suggested that the DED be consulted because prior agreements may still be in place. Flowers encouraged support of the proposal that the outgoing TCVS chair should take responsibility for chair/co-chair or finding the appropriate person.

**e) Report on Design Show 2004**

No report.

**f) Report on Journal of Vibration and Acoustics (Wang)**

A recent report of the Journal of Vibration and Acoustics to the Design Engineering Division is attached in Appendix E. Since the main reporting period is for 2004, its major content was authored by Dr. Larry Bergman and his assistant Linda Conway. The journal has been recently moved from U. Illinois to Penn State in January 2005 and is currently in transition, as discussed in the report. In 2005, efforts have been made to transfer files from University of Illinois to Penn State. During the transition period (January through March), with the current setup of the ASME journal web tool, Dr. Wang is handling the papers submitted after January 1, 2005, while the previously submitted papers are still being handled by Dr. Bergman. Dr. Wang has contacted the 2005 IDETC Vibration Conference symposium organizers, requesting them to encourage the authors of the best papers in their symposium to submit an extended version of their papers to JVA. These papers will still go through a regular and rigorous journal paper review process, independent of the conference reviews. Bergman indicated that he will work to clear the backlog of around 50 papers. Paper submissions are very high as is the backlog. Bergman was thanked by the committee for his service.

**g) Liaison Reports**

- *Noise Control Acoustics Div. – Grosh*

Grosh indicated there were joint offerings with NCAD at IMECE. He will work to have NCAD emails forwarded to TCVS. As he is rotating off, a new liaison member should be selected.

- *Applied Mechanics Div. (Dynamic Systems & Structures Committee) – Luo*

The committee organized several sessions at IMECE 05.

- *Applied Mechanics Review – Pierre*

No report

- *Aerospace Division (Adaptive Structures Committee) – Wang*

The Adaptive Structure (AS) Committee is sponsoring 4 smart structure conferences this year: SPIE, AIAA-ASME/SDM, ICAST, and ASME/IMECE. Some of the Chairs and Co-Chairs of these conferences are also friends and past/present members of TCVS (e.g., Dr. Dan Inman has chaired the 2004 ICAST, Drs. Kon-Well Wang and William Clark are chairing the 2004-2005 SPIE Smart Structure and Materials Symposium/Damping and Isolation Conference). We (TCVS) have had a good collaboration with the AS Committee in the past, especially during ASME/IMECE. Although there is no need/plan for formal joint sessions, members of the two committees have been participating in each others conferences as individual participants.

- *Design Engineering Div. (Power Transmission & Gearing Committee) – Parker*

No report

- *International Activities Committee – Vakakis and Dyke*

No report

**h) Report on TCVS WebPage (Rahn)**

No report.

**i) Report from Industrial Subcommittee**

Nataraj has volunteered to lead the industrial subcommittee. He will work to encourage industrial participation and support of TCVS.

**j) Report from Micro and Nano Subcommittee (Raman)**

Raman reviewed the history of the Micro/Nano Subcommittee. This committee would provide an outlet for analysis-based design of these systems. The highlights of the proposal to form a committee independent of TCVS (See Appendix F) include recruiting of new members to the Design division and high visibility in an emerging area. He put forward a motion for the endorsement of this new committee by TCVS in the form of a

letter to the DED. Grosh supported the proposal and thanked Raman for taking the lead on this effort. Clark also encouraged support of the proposal. The motion passed unanimously.

**k) Report from ASME Fellow Nominating Subcommittee (Wang)**

The subcommittee is in the process of identifying a couple of candidates. We will start the nomination process soon. Nominations from TCVS members are welcomed.

**l) Other New Business**

Feeny made a motion to request in good faith that MSND to drop the words “nonlinear dynamics” from the committee name. The rationale is “nonlinear dynamics” is too broad and was not part of the name approved by TCVS. Nataraj seconded the motion. The motion passed unanimously.

Clark nominated Feeny to chair a subcommittee on TCVS name change. Quinn and Bergman also volunteered for the subcommittee.

**3. New Business**

**VOTING MEMBERS ONLY**

**a) Election of New Members (Shen)**

Nataraj, Raman, Rook, Mei, and Liao were elected to serve as new members.

**b) Selection of J.P. Den Hartog and N. O. Myklestad Awardees (Flowers)**

Mote was selected as the Den Hartog award winner. Pierre was selected as the Myklestad award winner.

The meeting adjourned at 12:30 p.m.

<p style="text-align: center;"><b>Next Meeting</b> At the International Design Engineering Technical Conferences September 24-28, Long Beach, California</p>
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**Appendix A: Treasurer's Report**

**Treasurer's Report for the Technical Committee of Vibration and Sound**

January 31, 2005

**Sub-Account 5041 – TCVS Discretionary**

Description	Beginning Balance	Debit	Credit	Ending Balance
FUND BALANCE	\$11,033.13	\$0.00	\$0.00	\$11,033.13
PERIODIC INTEREST	\$0.00	\$0.00	\$149.48	\$149.48
CAPITAL GAINS & LOSS	\$0.00	\$0.00	\$296.93	\$296.93
UNREALIZED CAPITAL GAINS & LOSS	\$0.00	\$0.00	\$335.53	\$335.53
Grand Totals:	\$11,033.13	\$0.00	\$781.94	<b><u>\$11,815.07</u></b>

**Sub-Account 5007 – Myklestad Award**

Description	Beginning Balance	Debit	Credit	Ending Balance
FUND BALANCE	\$10,095.13	\$0.00	\$0.00	\$10,095.13
PERIODIC INTEREST	\$0.00	\$0.00	\$143.93	\$143.93
CAPITAL GAINS & LOSS	\$0.00	\$0.00	\$274.96	\$274.96
UNREALIZED CAPITAL GAINS & LOSS	\$0.00	\$0.00	\$337.73	\$337.73
Grand Totals:	\$10,095.13	\$0.00	\$756.62	<b><u>\$10,851.75</u></b>

**Sub-Account 5004 – Den Hartog Award**

Description	Beginning Balance	Debit	Credit	Ending Balance
FUND BALANCE	\$9,865.63	\$0.00	\$0.00	\$9,865.63
PERIODIC INTEREST	\$0.00	\$0.00	\$133.64	\$133.64
CAPITAL GAINS & LOSS	\$0.00	\$0.00	\$265.51	\$265.51
UNREALIZED CAPITAL GAINS & LOSS	\$0.00	\$0.00	\$300.02	\$300.02
Grand Totals:	\$9,865.63	\$0.00	\$699.17	<b><u>\$10,564.80</u></b>

G. T. Flowers, TCVS Vice Chair/Treasurer

## **Appendix B: Report on IMECE 2005**

### **Report on the TCVS activities at IMECE'05, Orlando, Nov. 5-11. (Sat-Fri)**

TCVS sponsors two symposia

- a. Symposium on the Vibration and Control of Mechanical Systems (Hamidzadeh and Luo, 7 sessions, plus 1 session offered by Noise Control and Acoustics Division based on an email from Buddy Clark, 3/14).  
The final number of abstracts is 51. Two sessions were requested to hold panel discussions. At six papers per session, this would require 11 sessions. Additional sessions have been requested, but may not be granted.
- b. Symposium on the Dynamics and Control of Micro and Nanosystems (Raman et al., 4 sessions, plus 2 sessions with DSC, 2 abstracts so far). There are 21 abstracts for the 4 DED sessions, and 11 abstracts for the 2 DSC sessions.

Cross listing with Noise Control and Acoustics (sessions on Wed, Thurs) symposia on

- a. Computational and Analytical Structural Acoustics. (Session Organizer, Lonny Thompson)
- b. Vibration and Acoustic Measurement Techniques. (Steve Sharp)
- c. Vibration and Acoustic Measurement Facilities. (Session Organizer, Lat Fook)
- d. Phononic Materials. (Liang-wu Cai)

**TCVS Schedule (Nov 9-10):** Weds 9:30 DE 12A, Weds 11:15 DE 13, Weds 2:00 DE 14B, Weds 3:45 DE 15B, Weds 5:00 DE 16, Thurs 7:45 DE 17, Thurs 9:30 DE 18A, Thurs 9:30 DE 18B, Thurs 11:15 DE 19, Thurs 2:00 DE 20, Thurs 3:45 DE 21

### **Submission of Abstract**

March 31, 2005

### **Author Notification of Abstract Acceptance**

March 31, 2005

### **Submission of Full-Length Draft Paper for Review**

May 31, 2005

### **Author Paper Review Complete and/or Acceptance Notification**

July 29, 2005

## Appendix C: Report on IDETC 2005

### REPORT ON

## THE 2005 ASME INTERNATIONAL DESIGN ENGINEERING TECHNICAL CONFERENCES/COMPUTERS AND INFORMATION IN ENGINEERING CONFERENCE

(IDETC/CIE 2005)

**September 24-28, 2005**

**Long Beach, California**

**Hyatt Regency Long Beach**

### Paper Planning Schedule

March 1, 2005	Submission of Abstract and Manuscripts Using ASME Web-tool (The deadline was extended from February 14, 2005 to March 1, 2005)
April 30, 2005	End of Reviews Process and Notification of Acceptance
May 30, 2005	Final Submission of Accepted Manuscripts

### Number of abstract submitted for each conference

20th Biennial Conference on Mechanical Vibration and Noise (165 )  
5th International Conference on Multibody Systems, Nonlinear Dynamics, and Controls (148)  
29th Mechanisms and Robotics Conference (76)  
10th Power Transmission & Gearing Conference (33)  
10th Design for Manufacturing Conference (16)  
31st Design Automation Conference (38)  
17th International Conference on Design Theory and Methodology (31)  
25th Computers and Information in Engineering Conference (47)  
18th Reliability, Stress Analysis & Failure Prevention Conference (9)  
2005 ASME/IEEE Conference on Mechatronics and Embedded Systems and Applications (13)

**Number of Submitted Abstracts for all Conferences (576)**

### Resolved issues

1. IDETC/CIE Conferences web-tool has been up since mid January for paper submission
2. Tentative Budget for the conference has been developed
3. Tentative plans for session layouts have been developed
4. Estimates for the Conference reception, luncheons, breakfasts, and coffee breaks are obtained
5. Two monthly News Letters have been forwarded to potential participants

### Current Issues to be resolved

1. Arrangement for keynote speakers
2. Arrangement of Meetings
3. Organizing tutorials and Exhibitions
4. Tasks and activities for Local Committee
5. E-mail access for participants during Conference
6. Audio/visual equipments
7. Students' reception

Preparation for the conference is progressing accordance to the established planning milestones

Respectfully Submitted, Hamid R. Hamidzadeh, David E. Lee, and Albert C. J. Luo 2/16/2005

## Appendix D: Report on IDETC 2007



### 2-007 IDETC PROGRESS REPORT

by H. S. Tzou, University of Kentucky  
(859)257-6336x80643; email: hstzou@engr.uky.edu

#### SUMMARY OF 2007 IDETC PLANNING ACTIVITIES

(March 03, 2005)

- 1) Set up organizing committees,
- 2) Solicit for supports,
- 3) Recruit symposium organizers, and
- 4) "Dream" of a spectacular conference site.

Although many people have expressed interests in the IDETC07 and the city, the conference site has not been finalized. This restricts the "salesmanship" from my part. Also, there is IDETC05 on the way. I don't want to interfere with their activities, if I move forward too early. I think this is the time to launch the IDETC07.

Local representatives: Profs. Trabia and Yim at UNLV have visited the Flamingo Hilton. Kim Punter (ASME Meeting Manager) provides an initial prospect regarding the conference site – LV Caesars Palace. (See attached email). David Lee also provided a location next to the LV convention center. The conference site should be finalized very soon.

Again, thank you for your support.

p.s. I don't recall if I've ever been formally authorized to proceed with the IDETC07 preparation.

**ASME Journal of Vibration and Acoustics  
Report to Design Engineering Division Executive Committee  
February 2005**

**Purpose and Scope:**

The purpose of the Journal of Vibration and Acoustics is to serve as a vehicle for the communication of original research results of permanent interest in the areas mechanical vibration of linear and nonlinear dynamical systems, structural dynamics, physical and structural acoustics, and noise control. Papers published by the journal are full-length articles of considerable depth. The journal also presents Technical Briefs, which are intended to serve as a means for the rapid communication of recent developments in an abridged form, and reviews of books and published reports considered by the editor to be of interest to the community. Specific topic areas covered include but are not limited to: vibration suppression; vibration of nonlinear and multibody systems; system identification, modal analysis and state estimation; structural dynamics and control; signal processing and signature analysis; rotor dynamics; passive and active vibration control; passive and active damping; random vibration; acoustic emissions; active noise control; machinery noise; flow induced noise and vibration; and machinery dynamics.

**Associate Editors**

**Returning Associate Editors** Two associate editors, Dr. Richard Keltie and Dr. Chin An Tan, completed their first terms at the end 2004; both were nominated and approved to serve second terms beginning Jan. 1, 2005.

**New Associate Editors** Dr. Jean-Claude Golinval, University of Liege, Belgium, was nominated and approved to replace outgoing Dr. Friswell. His term began on Jan. 1, 2005.

**Retiring Associate Editor** Professor Michael I. Friswell, University of Bristol, completed his second term at the end of 2004.

**Special Projects**

Professor Karl Grosh at the University of Michigan secured several papers on "Acoustics and Dynamics of MEMS Devices," which appeared as a special section of the July 2004 issue. Dr. Ahmed Shabana had agreed to guest edit a special issue devoted to multi-body dynamical systems, which was targeted for 2005. However, this will change with the approval of the Multibody Systems and Nonlinear Dynamics Committee's proposal for a new journal focused on computational, multibody and nonlinear dynamics. Dr. Steen Krenk at the Technical University of Denmark instituted what we hope will be a regular book review feature for the Journal. The first set of reviews appeared in the April 2004 issue.

**Outlook**

We remain among the more profitable ASME journals. For the past several years, we have used all of our 600 page allotment (refer to the July to July numbers), and we presently have a healthy two to three issue backlog. The number of submissions remains relatively constant, as does the percentage of papers accepted for publication. We continue to suffer from the occasional overly long review cycle, though in most cases the authors share the blame by their reluctance to submit revised manuscripts in a timely way. A request that the Journal move to bimonthly publication as a means of managing the backlog was approved in 2004 and will take effect in 2005. Presently, we suffer from production delays as a consequence of ASME reorganization. The October 2004 issue of the Journal has just been mailed to subscribers.

**Editorship**

Kon-Well Wang, Pennsylvania State University, succeeded Lawrence A. Bergman, University of Illinois at Urbana-Champaign, as Editor at the end of Dr. Bergman's five-year term on Dec. 31, 2004.

In January 2005, efforts have been made to transfer files from University of Illinois to Penn State. During the transition period (January through March), with the current setup of the ASME journal web tool, Dr. Wang is handling the papers submitted after January 1, 2005, while the previously submitted papers are still being handled by Dr. Bergman.

Since January 1 there has been 18 papers submitted to JVA, of these 14 are in review, 1 has been rejected, 2 have been withdrawn by author, and 1 has been removed.

**ASME Journal of Vibration and Acoustics**  
**Report to Design Engineering Division Executive Committee**  
**February 2005**

**Papers Published in 2000**

Issue	Duration of Review (Ave. #mo.)		# Full Papers	Tech Briefs	Discussions	# Pages	Total Pages Allocated FY 2000
	Rcvd. To Final Decision	Rcvd. To Publication					
Jan 2000	NA	NA	12	3	0	92	
Apr 2000	NA	NA	12	2	0	96	
July 2000	NA	NA	20	0	2	152	
Oct 2000	NA	NA	16	2	0	136	
<b>Total</b>	NA	NA	<b>60</b>	<b>7</b>	<b>2</b>	<b>476</b>	<b>600</b>

**Papers Published in 2001**

Issue	Duration of Review (Ave. #mo.)		# Full Papers	Tech Briefs	Discussions	# Pages	Total Pages Allocated FY 2001
	Rcvd. To Final Decision	Rcvd. To Publication					
Jan 2001	12.2	18.2	16	2	0	128	
Apr 2001	12.2	17.8	19	2	0	160	
July 2001	11.7	16.7	14	6	0	128	
Oct 2001	11.5	17.9	14	5	1	140	
<b>Total</b>			<b>63</b>	<b>15</b>	<b>1</b>	<b>556</b>	<b>600</b>

**Papers Published in 2002**

Issue	Duration of Review (Ave. #mo.)		# Full Papers	Tech Briefs	Discussion	# Pages	Total Pages Allocated FY 2002
	Rcvd. To Final Decision	Rcvd. To Publication					
Jan 2002	13.5	19.9	20	4	0	164	
April 2002	13.4	18.6	17	1	0	164	
July 2002	15.3	20.4	15	3	0	140	
Oct 2002	10.7	15.9	21	5	0	200	
<b>Total</b>			<b>66</b>	<b>11</b>	<b>0</b>	<b>668</b>	<b>600</b>

**Papers Published in 2003**

Issue	Duration of Review (Ave. #mo.)		# Full Papers	Tech Briefs	Discussion	# Pages	Total Pages Allocated FY 2003
	Rcvd. To Final Decision	Rcvd. To Publication					
Jan 2003	12.5	17.9	18	1	0	132	
April 2003	20.3	26.3	13	1	0	116	
July 2003	14.2	21	20	3	0	164	
Oct 2003	8.8	13.2	15	0	0	100	
<b>Total</b>			<b>66</b>	<b>5</b>	<b>0</b>	<b>512</b>	<b>600</b>

**Papers Published in 2004**

Issue	Duration of Review (Ave. #mo.)		# Full Papers	Tech Briefs	Discussion	# Pages	Total Pages Allocated FY 2003
	Rcvd. To Final Decision	Rcvd. To Publication					
Jan 2004	15.5	24.2	19	1	0	172	
April 2004	14.4	21.6	17	0	1	152	
July 2004	13.2	21	15	4	0	140	
Oct 2004			NA	NA	NA	NA	
<b>Total</b>							<b>600</b>

**Petition to the ASME Design Engineering Division  
for establishing a technical committee  
Micro/Nano-Scale Systems (MNS)**

Interim Officers: Dinos Mavroidis, Arvind Raman, and Laxman Saggere

## BACKGROUND

Mechanical engineering in general, and mechanical design engineering area in particular, has transformed significantly in the last two decades to encompass the multi-disciplinary “design” of systems at unprecedented scale lengths extending down to micrometers and nanometers, which are emerging as new revolutionary technologies for the future. Many among the mechanical design engineering community have long been actively engaged in research in and contributing to the micro- and nano-scale systems areas almost since the beginnings of these fields. These researchers have been presenting their micro/nano work at IDETC/IMECE conferences organized by the existing committees in the ASME Design Engineering Division (DED) since the early ‘90s.

In 2003, recognizing the interest of the design community in these emerging areas, the Mechanisms and Robotics Committee (M&R) and the Technical Committee for Vibration and Sound (TCVS), independently established three subcommittees for coordinating and promoting activities related to micro/nano-scale systems. These included a subcommittee for Microsystems and a subcommittee for Nano-scale systems under M&R, and a subcommittee for micro/nano systems committee under TCVS. In just less than two years since their formation, each of these subcommittees, operating independently, has accomplished their initial goals and made considerable contributions to promoting micro and nano-scale work within their parent committees at the IDETC and IMECE.

## Current Status

Brief descriptions and activities of the three subcommittees operating under the DED are summarized below:

### 1. Microsystems subcommittee established in June 2003 (under M&R):

- Committee of about 4-6 active members chaired by Prof. G. K. Ananthasuresh
- Organized tutorials (1998-2002) and multi-session symposia on Microsystems (2000-2004) at the biennial M&R conference at IDETC (long before this subcommittee was officially established). These symposia, which were reasonably well attended by both academic and industry researchers, featured keynote talks by leading speakers from outside the ASME DED highlighting the mechanical design issues in MEMS.
- A review article (by Prof. Kazem Kazerounian and Prof. G. K. Ananthasuresh) on micro/nano systems is currently being prepared for publication in the Journal of Mechanical Design (JMD).
- A special issue of JMD on Micro/Nano Systems (assembled by Prof. G. K. Ananthasuresh and Prof. Constantinos Mavroidis) will be published in July 2005.
- A symposium on Micro/Nano Scale Systems (organized by Prof. Constantinos Mavroidis and Prof. Laxman Saggere) will be held at the IDETC 2005.
- A topic on Micro/Nano Devices and Systems (under the MEMS track) will be co-organized at the IMECE 2005 by a member of the subcommittee (Prof. Laxman Saggere).
- One subcommittee member (Prof. G. K. Ananthasuresh) has edited a book entitled “Optimal Synthesis Methods for MEMS”, which was published by Kluwer Academic Publishers in 2003. This book summarizes and highlights the design (synthesis in particular) aspects of Microsystems. Another member of the subcommittee (Dr. Jim Allen) is preparing a book that focuses on MEMS Design.

2. Nanosystems subcommittee established in February 2003 (under M&R):
  - Committee of about 7-8 active members chaired by Prof. Constantinos Mavroidis.
  - Co-organized (with Microsystems subcommittee) a symposium on Micro-nano systems at the M&R conference at IDETC in 2004.
  - A special issue of JMD on Micro/Nano Systems (assembled by Prof. G. K. Ananthasuresh and Prof. Constantinos Mavroidis) will be published in July 2005.
  - A symposium on Micro/Nano Scale Systems (organized by Prof. Constantinos Mavroidis and Prof. Laxman Saggere) will be held at the IDETC 2005.
  
3. Micro/Nano Systems subcommittee established in March 2003 (under TCVS):
  - Committee of 6 active members chaired by Prof. Arvind Raman
  - Organized a symposium (in collaboration with the Controls Division) on Nano-scale Systems at the IMECE 2003. The symposium comprised 3 sessions.
  - A symposium comprising 6 sessions will be organized at the IMECE 2005.
  - Before the formation of this subcommittee, TCVS already had activities along these lines. Notable among them was Prof. Karl Grosh's effort to organize a special issue on MEMS dynamics and Acoustics of the ASME Journal of Vibrations and Acoustics (JVA) in 2004.

Since the three subcommittees are operating under DED and there is much synergy in their activities, several members of these subcommittees have reasoned that the interests of the design engineering community engaged in micro/nano research would be served more effectively and more efficiently if the three subcommittees united their efforts and operated as a single committee under DED. Establishing such a committee on Micro/Nano Systems under DED would not only enhance and strengthen the ongoing activities in micro/nano systems in DED, but would also provide a better means to coordinate and highlight the design engineering contributions, in general, and DED's role in particular, to these very important emerging micro and nano technologies. Currently, there is no such single recognizable entity within DED to coordinate such activities. Some other divisions in ASME have already successfully created such entities (e.g. the Microfluidics Group operating under the ASME Fluids Engineering Division, which has a strong presence at IMECE and other conferences, is well recognized for its fluids related micro/nano research that rivals similar activities in the ASME MEMS division). Furthermore, uniting the subcommittees to form a single committee under DED would facilitate organizing larger-scale combined symposia, or possibly even new conferences at IDETC/IMECE. The potential benefits of such combined symposia or a conference include:

- Enhanced participation than at the various smaller scale scattered symposia that are now being organized independently by subcommittees at the IDETC and IMECE; It is expected that by having a joint symposium, the number of papers at each symposium will easily exceed 50.
- More flexibility and scope for researchers to present work on a broader range of micro/nano topics beyond the scope currently provided by the conferences organized by the parent committees under which the subcommittees are operating, but within the "design engineering" subject (currently ASME/DED is losing such papers to conferences organized by other societies/groups outside ASME);
- A large-scale symposium organized by the combined technical committee will have a better visibility than individual symposia currently organized by separate sub-committees. Consequently, the ASME forum would attract researchers outside the DED community and would help enrich our division and its activities in micro- and nano- systems areas.
- A regular strong presence of micro/nano systems related symposia/conference/events at the IDETC could also help in promoting industry participation in the IDETC since micro/nano systems are of great current interest to the industry.

## PROPOSAL

### Objective of this petition:

- To establish, under the ASME Design Engineering Division, a new technical committee called the *Micro- and Nano-scale Systems (MNS) Technical Committee* that would serve as an intellectual infrastructure under DED for design engineering community engaged in research and development of micro/nano-scale systems in their broad forms.
- Table 1 on the following page shows a proposed list of members who have agreed to serve in the new committee and the by-laws approved by the members of the three subcommittees.

### Scope and objectives of the proposed technical committee on MNS

- The committee will foster activities related to both theoretical and applied research in micro- and nano-scale systems including, but not limited to, micromechanisms, micro- and nano-robotics, dynamics and vibrations of micro/nano-scale systems (MEMS/NEMS), microfluidics, bioMEMS/NEMS, and bio-systems design, sensors and actuators.
- The committee will establish subcommittees in the major focused activities/topics of interest to the micro/nano systems community. Initially such subcommittees are likely to focus on dynamics, bioMEMS/bio-systems design, micro/nano manipulation, microfluidics, sensors/actuators etc.
- The committee will maintain a primary presence at IDETC by initially organizing symposia as a part of the IDETC, and in the near future, as the participation and the number of papers grows, replacing the symposia with a separate conference on Micro/Nano Systems Design as a part of the IDETC.
- The committee will also maintain a secondary presence at IMECE by either holding committee meetings at the IMECE and/or organizing topics exclusively dealing with design and systems in coordination with the organizers of the very successful but highly mixed topics under MEMS Division/Track held annually at IMECE.
- The committee will sponsor special issues in the ASME/DED journals (Journal of Mechanical Design and Journal of Vibrations and Acoustics) focused on the micro/nano-scale systems related topics.
- The committee members will take the initiative to bring out ASME soft-cover books with collections of relevant papers or edited books to highlight the design related research in micro- and nano- systems design areas.

**Table 1: Proposed Members of the Micro/Nano Systems Committee**

<p><b>1. Dr. James Allen</b> Sandia National Laboratories Albuquerque, NM 87185 Tel: (505)-844-6764 ♦ Fax: (505)-844-2991 Email: jjallen@sandia.gov URL:</p>	<p><b>11. Professor Xiaochun Li</b> Department of Mechanical Engineering University of Wisconsin, Wisconsin, MD Tel: (608) 262-6142 ♦ Fax: Email: xcli@engr.wisc.edu <a href="http://www.engr.wisc.edu/me/faculty/li_xiaochun.html">http://www.engr.wisc.edu/me/faculty/li_xiaochun.html</a></p>
<p><b>2. Professor G. K. Ananthasuresh</b> Department of Mechanical Engineering Indian Institute of Science, Bangalore, India Tel: +91 (80) 2293 2334 ♦ Fax: +91 (80) 2236 0648 E-Mail: suresh@mecheng.iisc.ernet.in URL: <a href="http://www.mecheng.iisc.ernet.in/~suresh/">http://www.mecheng.iisc.ernet.in/~suresh/</a></p>	<p><b>12. Professor Constantinos Mavroidis</b> Department of Mechanical Engineering Northeastern University, Boston, MA Tel: (617)-373-4121 ♦ Fax: (617) 373-2921 Email: mavro@coe.neu.edu URL: <a href="http://www.bionano.neu.edu/">http://www.bionano.neu.edu/</a></p>
<p><b>3. Professor George Barbastathis</b> Department of Mechanical Engineering Massachusetts Institute of technology, Cambridge, MA Tel: (617) 253-1960 ♦ Fax: (617) 258-9346 Email: gbarb@mit.edu URL: <a href="http://www.me.mit.edu/people/personal/gbarb.htm">http://www.me.mit.edu/people/personal/gbarb.htm</a></p>	<p><b>13. Professor Dane Quinn</b> Mechanical Engineering Department University of Akron, Akron, Ohio 44325-3903 Tel: (330)-972-6302 ♦ Fax: Email: quinn@uakron.edu URL:</p>
<p><b>4. Professor Ed Berger</b> Department of Civil Engineering University of Virginia, Charlottesville, VA 22904-4742 Tel: (434) 924-7464 ♦ Fax: Email: ejb9z@tetra.mail.virginia.edu URL:</p>	<p><b>14. Professor Chris Rahn</b> Department of Mechanical Engineering Pennsylvania State University, University Park, PA Tel: (814) 865-6237 ♦ Fax: (814) 863-7222 Email: cdrahn@psu.edu URL: <a href="http://www.mne.psu.edu/rahn/">http://www.mne.psu.edu/rahn/</a></p>
<p><b>5. Professor Shaochen Chen</b> Department of Mechanical Engineering University of Texas at Austin, Austin, TX Tel: (512) 232-6094 ♦ Fax: (512)471-1045 Email: scchen@mail.utexas.edu URL: <a href="http://www.me.utexas.edu/~scchen/">http://www.me.utexas.edu/~scchen/</a></p>	<p><b>15. Professor Arvind Raman</b> School of Mechanical Engineering Purdue University, West Lafayette, IN 47907 Tel: (765) 494-5733 ♦ Fax: (765) 494-0539 Email: raman@ecn.purdue.edu URL: <a href="http://widget.ecn.purdue.edu/~raman/">http://widget.ecn.purdue.edu/~raman/</a></p>
<p><b>6. Professor Gregory S. Chirikjian</b> Department of Mechanical Engineering Johns Hopkins University, Baltimore, MD 21218 Tel: (410) 516-6451 ♦ Fax: (410) 516-7254 Email: gregc@jhu.edu URL: <a href="http://custer.me.jhu.edu/">http://custer.me.jhu.edu/</a></p>	<p><b>16. Professor Laxman Saggere</b> Dept. of Mech. Eng., 2039 ERF, MC 251 University of Illinois at Chicago, Chicago, IL 60607 Tel: (312) 413 1031 Fax (312) 413 0447 E-Mail: saggere@uic.edu URL: <a href="http://www.uic.edu/labs/microsystems/">http://www.uic.edu/labs/microsystems/</a></p>
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<p><b>9. Professor Frank Feng</b> Department of Mechanical and Aerospace Engineering, University of Missouri, Columbia, MO 65211 Tel: (573) 884-4624 ♦ Fax: (573) 884-5090 Email: FengF@missouri.edu URL: <a href="http://www.missouri.edu/~fengf/personal.html">http://www.missouri.edu/~fengf/personal.html</a></p>	<p><b>19. Professor Dr. Gloria J. Wiens</b> Department of Mechanical &amp; Aerospace Engineering University of Florida, Gainesville, FL Tel: (352) 392-0806 ♦ Fax: (352) 392-7303 Email: gwiens@ufl.edu URL: <a href="http://www.mae.ufl.edu/samm">http://www.mae.ufl.edu/samm</a></p>
<p><b>10. Professor Larry Howell</b> Department of Mechanical Engineering Brigham Young University, Provo, UT 84602 Tel: (801) 422-8037 ♦ Fax: (801) 422-0516 Email: l_howell@byu.edu URL: <a href="http://research.et.byu.edu/llhwww/">http://research.et.byu.edu/llhwww/</a></p>	<p><b>20. Professor Min-Feng Yu</b> Department of Mechanical and Industrial Engineering University of Illinois at Urbana Champaign Tel: (217) 333-9246 ♦ Fax: (217) 244-6534 Email: mfyu@uiuc.edu URL: <a href="http://www.staff.uiuc.edu/~mfyu/group">http://www.staff.uiuc.edu/~mfyu/group</a></p>

## **Proposed By-Laws**

### **Membership and Terms of Service**

1. A full committee shall nominally consist of twenty regular members (including ex-officio members), with each member to serve for three years. Under special circumstances, the number of members can be expanded to more than fifteen through voting of the MNS committee.
2. A member can serve no more than two consecutive three-year terms and may not be re-elected within two years after expiration of the term.
3. A member will be eligible to serve a second term, only if the member has attended at least two of the three annual meetings during the member's first term of membership.
4. The Committee Chairperson shall be an ex-officio member of the committee, with vote, for two years after completing that term office.
5. Officers shall serve a complete two-year term of office as voting members of the committee even if such service extends beyond the end of their normal term of committee membership. If a portion of the three-year term, to which an officer was elected as a committee member, remains at the completion of the term of office, it shall be finished as a regular committee member.

### **Election of New Members**

1. Each year, either before or at the MNS committee meeting at the IDETC, the recording secretary will take nominations of potential new members from the existing members or the potential new members themselves directly and present a list of nominees to the Chairperson.
2. The nominees will introduce themselves and express their interest and motivation for serving on the committee either by being physically present at the MNS committee meeting, if possible, or through a written email communication. Nominations without the oral or written consent of the potential new member will not be considered for elections.
3. Moderated by the committee chairperson, the members of MNS will discuss the nominations in a closed-door meeting and then vote at the MNS meeting. Each member of the MNS, except the chairperson, shall have one vote. The nominees with the largest number of votes shall be considered elected. The chairperson shall cast a tie-breaking vote, in case of any tie. The new members shall take office on January 1 following their election.
4. Elections of new MNS members and/or officers shall normally be held at the IDETC (or IMECE), where the MNS will conduct its annual meeting. However, at the discretion of the committee Chairperson, elections may be held through email/postal mail ballot.
5. If, for any reason, an MNS member is unable to complete the full term of membership and resigns from the membership at the MNS committee meeting, then the vacancy will be filled at the meeting through the procedures described in clauses 1–3 above.
6. If a member resigns in the middle of a year before completing a full term of membership and before the committee meeting, then the committee Chairperson shall appoint the person who received the most number of votes among those not elected at the preceding elections as the replacement member. If no such person is available, then the committee Chairperson may request new nominations from the current members and conduct an election of the nominees via an email or a postal mail ballot to fill the committee membership vacancy.

### **Officers**

1. The committee shall be governed by a Chairperson, a Vice-Chair/Treasurer, and a Recording Secretary.

2. The term of office for all officers shall be two years, extending from January 1 of an odd numbered year until the end of December two years later.\*
3. Officers shall be elected from among the committee members, by the committee members. Elections for the officers shall be held right after the election of committee members, and shall be accomplished by plurality of the votes cast.
4. A member must have served at least three years as a regular member of the MNS committee to be eligible for the position of the committee Chairperson, and a member must have served at least one year as a regular member of the MNS committee to be eligible for the positions of the committee Vice-Chair/Treasurer, and a Recording Secretary.\*
5. A member may stand for election of the committee Chairperson even if that person has less than two years of membership remaining, provided the member satisfies the eligibility requirements to serve as the committee Chairperson as defined in clause 4 of this section.
6. If the MNS Chairperson cannot complete the term of office, then the Vice-Chair/Treasurer shall become the Acting-Chairperson until the next elections when a new Chairperson shall be elected.
7. A sitting Committee Vice-Chair/Treasurer or Recording Secretary may stand for election of a higher office even if their current membership term has expired, provided they satisfy the eligibility requirements to serve as the committee Chairperson as defined in clause 4 of this section.

#### Subcommittees

1. The Chairperson of the MNS has the authority to establish subcommittees, and shall appoint the Chairperson of each such subcommittee.
2. The members of the subcommittees need not be members of the MNS. The Chairperson of each subcommittee must be a member of the MNS, except in such special cases where a majority of the members of the MNS agrees to elect a non-committee member as subcommittee Chairperson by voting.

#### Ratification and Amendments

1. These rules become effective upon ratification.
2. Amendments to these rules require two-third vote of all regular members of the MNS.

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\* Excepting the first year in which the committee is established.