

Meeting Minutes

ASME Tribology Division Executive Committee Meeting Sunday, April 27, 2003 Hilton New York - New York, New York Midtown Room

In Attendance:

Harvey Nixon (Chair), Andreas Polycarpou, Steven Schmid, Farrukh Qureshi, Mike Kotzalas, David Brewe, Bo Jacobson, Itzhak Green, Elaine Yamaguchi, Izhak Etsion, Edison Aulestia (Staff), Carol Griffin (Staff), Rick Cowan

Call-to-Order:

Observing the presence of a quorum, the meeting was called-to-order at 7:05PM (EDT) by Executive Committee (EC) Chair, *Harvey Nixon*.

1. ASME Staff Report

- 2003-04 TD Election Results - [Attachment I](#)

Edison Aulestia and *Carol Griffin* reported that the web-based template developed by ASME for the election of Tribology Division officers was successfully used to obtain 84 responses to the 2003-04 slate of candidates offered by the Nominations and Oversight Committee (NOC). ASME will charge the Division for the costs of managing the process and e-mailing the ballot to the primary and secondary membership.

- World Tribology Congress 2005

Edison Aulestia distributed a Preliminary Announcement & Call for Papers ([Attachment II](#)) for the 2005 World Tribology Congress and Exhibition (WTC). *Mike Kotzalas* agreed to post it on the Division's website. *Edison* also passed out a Marketing Plan ([Attachment III](#)), stated that a hotel contract has been signed with STLE, and announced that STLE will likely act as lead for paper solicitation through the 2005 Joint Conference Planning Committee.

Andreas Polycarpou expressed concern that WTC 2005 has no business plan or cash flow timeline. *Harvey Nixon* requested that *Rick Cowan* address these shortcomings at the 28 April, 2003 WTC Planning Committee meeting, where STLE plans to announce its commitment to a successful congress by authorizing additional seed monies and identifying a general manager.

Izhak Etsion emphasized that WTC 2005 should serve as a model to consolidate the number of conferences available to the tribology community. *Harvey* noted that conflicts arise with other societies when discussing the financial arrangements of consolidation. *Edison* commented that a commitment must be made to reach the greatest number of potential WTC attendees. He agreed to extend an invitation to other ASME units to participate.

- 2002 Tribology Conference Report (Cancun)

Edison Aulestia distributed a CD-ROM summarizing the outcome of ASME's management of the 2002 ASME/STLE Joint Tribology Conference. He reported that the conference resulted in a significant financial loss as attendance, while exceeding the negotiated hotel commitment, fell short of anticipated numbers. To increase future attendance and revenue, Edison suggested: i) decreasing the manuscript submission rejection rate; ii) adding programming to attract non-authors; iii) using electronic marketing; and iv) obtaining sponsorships. The Executive Committee (EC) accepted the report (5 yes, 0 no) upon a motion offered by *Steven Schmid* that was seconded by *Farrukh Qureshi*.

2. Approval of Previous Meeting Minutes

The minutes issued from the Executive Committee meetings of 20 May, 2002 (Houston) and 28 October, 2002 (Cancun) were approved (5 yes, 0 no), following motions by *Steven Schmid* that were seconded by *Farrukh Qureshi*.

3. Committee Reports and Plans

- 2003 Tribology Conference Planning Committee - [Attachment IV](#)

Elaine Yamaguchi reported that over 150 abstracts have been received for presentation at the 2003 STLE/ASME Joint Tribology Conference to be held October 26-29, 2003 at Ponte Vedra Beach, FL. Proposed programming includes symposiums in magnetic storage and contact mechanics, a panel on cardiovascular tribology, and a forum by the American Bearing Manufacturers Association (ABMA). Citing that these plans may violate a Conference Planning Committee rule that no more than one-third of conference content may be in the form of special sessions (as opposed to technical sessions), *Andreas Polycarpou* proposed that the EC accept *Elaine's* report with suspension of the one-third rule. The motion was seconded by *Steven Schmid* and approved (5 yes, 0 no) by the EC.

Andreas noted that an ASME member will need to be selected by the EC to serve on the Joint Conference Planning Committee at its Fall 2003 meeting. *Harvey Nixon* consented to address this issue in the future via e-mail.

- COE Reorganization Oversight Ad-Hoc Committee

Harvey Nixon reported that ASME's plans for reorganizing the Council on Engineering (COE) are moving forward. Upon further discussion, the EC reached a consensus that a Division ad-hoc committee should monitor developments. Recognizing that such a committee was formed at the EC meeting of 20 May, 2002, *Rick Cowan* proposed that the existing ad-hoc committee be sunset, and that a new oversight committee be formed to include *Andreas Polycarpou* (board member of the Basic Engineering Group), NOC incoming chair *Said Jahanimir*, and EC chair-elect *Rick Cowan*. The motion was seconded by *Andreas* and approved (5 yes, 0 no) by the EC.

- Contact Mechanics Technical Committee (CMC)

Izhak Etsion presented a proposal ([Attachment V](#)) to establish a Contact Mechanics Technical Committee within the Tribology Division. It is envisioned that the committee will serve as a focal point for promoting research at conferences and other venues in the discipline of contact mechanics, especially at the micro and nano scales. *George Adams* has consented to serve as its initial Chair. The EC approved the committee addition (5 yes, 0 no) following *Andreas Polycarpou's* motion to endorse the proposal that was seconded by *Steven Schmid*.

- Research Committee on Tribology (RCT)

Harvey Nixon noted that a short-list of requests made by RCT Chair *Tim Ovaert* for Executive Committee decision would be discussed in a future teleconference. *Izhak Etsion* commented that given the method used to select the RCT Chair and membership is inconsistent with other committees, the NOC is contemplating Division bylaw changes influencing RCT administration.

- Membership Development Committee

Andreas Polycarpou submitted to the EC the names of three possible candidates to serve as Chair of the Membership Development Committee. Upon discussion, *Andreas* consented to ask *Lior Kogut* (UC Berkeley) if he would be willing to reactivate this standing committee.

- International Coordination Committee (ICC)

David Brewe reported that his committee had met and elected *Bo Jacobson* as ICC Chair, effective 1 July, 2003 for a two-year term. The EC endorsed this decision.

- Technical Expositions Committee

Andreas Polycarpou indicated that the Tribology Division had yet to reserve technical sessions for the 2003 ASME International Mechanical Engineering Congress and Exposition (IMEC&E). Sentiments expressed from EC members against participating in the Congress include poor attendance, difficulty in obtaining suitable panelists without remuneration, and the possibility of diluting the prestige and impact of the ASME/STLE conference.

Andreas stated that recommendations listed in his May 20, 2002 report to the EC for revising the "Conference Rules and Operating Guide" of the International Joint Tribology Conference (IJTC) had yet to be endorsed by the EC. He encouraged that his proposal ([Attachment VI](#)) to appoint a Joint ASME/STLE Oversight Conference Committee (JOCC) to look into such things as the overall structure and performance of the IJTC and its Conference Planning Committee be considered. Upon EC discussion favoring the formation of such a committee, *Andreas* moved that *Edison Aulestia* represent the EC in requesting the participation of STLE. With a second by *Steven Schmid*, the motion was approved (5 yes, 0 no).

- Publications Committee

Steven Schmid encouraged the members of the EC to submit their news items to him for inclusion in the Division's newsletter.

4. Treasurer's Report - [Attachment VII](#)

Rick Cowan submitted a summary of Division revenues and expenses for the period 28 October, 2002 to 31 March, 2003. He noted that the reported balance does not include the loss of revenue reported in managing the 2002 ASME/STLE Tribology Conference, nor the \$25,000 committed to organizing WTC 2005. He requested assistance from *Edison Aulestia* in obtaining timely financial updates from ASME.

Adjournment:

Noting that reports from the Honors and Awards Committee ([Attachment VIII](#)) and Rolling Bearing Life Ratings Technical Committee ([Attachments IX](#)) had been distributed by *Harvey Nixon* for review, that written reports had been submitted to the EC by the Predictive Maintenance Technical Committee ([Attachment X](#)), the Magnetic Storage Technical Committee ([Attachment XI](#)), and the Education Committee ([Attachment XII](#)), and that additional business could be addressed through a future meeting, the EC adjourned at 9:47PM (EDT) following a motion by *Andreas Polycarpou*.

Respectfully submitted,

Richard S. Cowan
Secretary/Treasurer
ASME Tribology Division

Attachment I

2003-2004 Tribology Division Executive Committee Ballot Report

The 2003-2004 Tribology Division Executive Committee Ballot was sent out to the primary and secondary membership of the division on 3/31/03. The deadline for membership responses was set for 4/15/03 at 5 pm Eastern time. The ballot was disabled at that time. A copy of the ballot page as it appeared, the message that was sent as well as the excel file of data collected through the ballot page is included for your review.

We have a total of 84 responses to the ballot, which went out to 524 primary members and 599 secondary members (a total of 1,123 tribology members as of 3/31/03).

Responses numbered only at 84 – showing a 7.5% return on the effort made. Below please find the results of the ballot:

	# Response	%
Full Slate	74	88%
Non Full Slate	10	12%
• Chairman	3	
• Secretary/ Treasurer	3	
• Education	5	
• Technical Expositions	3	
• Research Committee on Tribology	0	
• Publications	4	
• Member at Large	5	

List of Future Nominees:

Position	Name
1. Publications Committee	Sawicki, Jerzy T.
2. Member at Large	Michael N. Kotzalas
3. Member at Large	Anthony Alonzo
4. Research Committee on Tribology	Dr. Varuna P. Reddy
5. Unknown	Jane Wang
6. Education	Jeffrey Streater
7. Chairman	Richard Salant

Significant Comments:

I would think Dr. Jeffrey Streater is a perfect candidate for the Education member of the Executive Committee. He is a great teacher and always ready to help students and serve our society. His academic background is also excellent.

WTC III

The 2005 World Tribology Congress & Exhibition

12-16 September 2005 Washington, DC, USA
Preliminary Announcement and Call for Papers

The Society of Tribologists and Lubrication Engineers
and

The Tribology Division of ASME International
in association with the
International Tribology Council

invite participation and submission of papers and presentations to the third
World Tribology Congress & Exhibition to be held at the
Washington Hilton and Towers
12-16 September 2005.

Papers and presentations are solicited on all topics related to friction, lubrication and wear, dealing with fundamental and basic research, applied research and design, industry trends and needs, and new and emerging research topics.

Themes of interest will include:

Fundamental and Basic Research

Macro and Atomic-Scale Tribology, Friction and Wear Mechanisms and Models, Base Oils, Additives, Synthetic Lubricants, Solid Lubricants, Thick Film Lubrication, Boundary Lubrication, Elastohydrodynamics, Experimental Testing and Numerical Simulation

Applied Research and Design

Mechanical Components including Bearings, Seals and Gears, Magnetic Storage Systems
Surface Engineering, Coatings,
Metalworking, Transport Systems, Tribology in Education and Design

Industry Trends and Needs

Equipment Reliability, Product Durability, Equipment Asset Management.
Condition Monitoring, Dry Machining and Processing, Health and Safety Issues, Environmental
Aspects of Tribology, Eco-Friendly Lubricants, Energy Conservation
Tribology in Design

New and Emerging Topics

Microscale and Nanoscale Tribology, Magnetic Storage Systems, Biomechanics

Abstract Submission Deadline

August 2004

(Over)

WTC III

The 2005 World Tribology Congress & Exhibition

Acceptance of Presentations

A Technical Program Committee will direct review of presentation abstracts. Presentations will be accepted for the technical program on the basis of the submitted abstract. Submission and acceptance of a full paper is not a pre-requisite for presentation on the technical program. Poster sessions will be part of the technical program.

Publication

All presentations accepted for technical sessions will be published in extended abstract form in the Congress Proceedings. Authors who desire a venue for full publication may submit a manuscript to the journal of their choice.

Complementing the technical program, the congress will include special features:

Exhibits

Exhibition space is available for industry, research groups and institutions to display the latest in products, test equipment and services.

Education

Short courses will be given in basic lubrication and other topics. Some courses will offer Continuing Education Units (CEU's) to encourage industrial participation.

Certification

Examinations will be administered by STLE for those wishing to qualify as a Certified Lubrication Specialist or Oil Monitoring Analyst

Commercial Marketing Forum

Separate sessions devoted entirely to commercial presentations will allow companies to show their latest capabilities.

Young Engineers Forum and Student Career Fair

Special activities for people new to the field and attending college or university.

Congress Executive Committee

Dr. Richard Cowan
Georgia Institute of Technology

Dr. Josiah Knight
Duke University

Dr. Selda Gonsel
Shell Global Solutions

Dr. John Tichy
Rensselaer Polytechnic Institute

Contact Information

Further information on the congress is available on a continually updated basis from

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Attachment III

As of 3/18/02

Marketing Plan for WTC 2005

Overview

We need to reach the greatest number of potential international attendees beginning in May, 2002. The purpose will be to inform them of the educational, business networking and social benefits of attending the World Tribology Congress in Washington, D.C. in September 2005.

Major Marketing Tactics and Timeline

1. Logo

By May 1, 2002 we will need a logo created for WTC 2005. It will be used on all materials, the website and on-site at the meeting.

2. Website

By May 15, 2002 we need a basic website launched with an easy-to-remember domain name and the initial information such as dates, location, etc.

The website will become “the place” for international attendees to get the latest information on the technical program, exhibition, social events, and all relevant meeting information.

Ongoing updates and special notices will be posted as they become available. Email notices will be sent to those in a special database to alert them to significant announcements as they occur. The email announcements will have links connecting to this website.

The website will also contain registration and other forms, as needed. Online registration will be encouraged.

3. General Internet

During the summer, we will contact all participating organizations including ASME and others to ask that they place a WTC2005 link on their website to the conference website.

4. Mark Your Calendar postcards

We need to have date announcement postcards in time for distribution at the STLE Annual Meeting in Houston. The cards will be placed around the public areas and in each attendee’s bag given at registration.

The card will be designed to have a punch out Rolodex card so that interested parties can keep a permanent record of who to contact for information on WTC 2005.

We may mail a selected number of these cards to important contacts (to be determined).

5. Exposure on STLE Annual Meeting in Houston

- *Signs in registration area and in exhibition hall.
- *Cards (noted in #4) around the site and in attendee bags.
- *Screen saver on any ILMA or STLE related e-Solutions computers.
- *Announcement during President's Opening Remarks and/or at Tuesday luncheon.
- *Tabletop exhibit in public area. A new exhibit needs to be done with better signage and photos. Note: this display can easily travel to other meetings with or without attending personnel. A new one should be purchased rather than using the STLE unit. This will avoid future conflicts in scheduling (see #6).

6. Traveling Exhibit

A tabletop display needs to be created and sent to a variety of international meetings. The destinations may include MFPT, MARCON, the ASME/STLE Fall Conference, 6th International Tribology Conference, and Euchem '02 among others.

7. Blast emails

We will begin collecting email addresses through the new WTC website. In addition, STLE and ASME will "contribute" email addresses of all members and nonmembers available for initial announcements. Email recipients will be able to opt out from receiving future email announcements concerning WTC 2005.

We will start regular email announcements in June, 2002 and continue up until September, 2005. These announcements will provide immediate notification of important news concerning WTC 2005 and direct recipients to the website for full information.

Topics for the emails will include a general announcement, program details including keynote speakers, course descriptions, and registration deadlines i.e. Early Bird discounts.

8. Section Assistance

The Mexico Section will post WTC information on its website in Spanish. Other Sections will be encouraged to post a WTC logo with a web link to the WTC site.

We will also work with reliabilityweb.com to distribute messages based on the schedule and appropriate topics.

9. Publicity

We will create and distribute press releases for a general announcement followed by regular news updates on speakers and course highlights, etc.

We will take advantage of existing and new opportunities to highlight WTC 2005 in:

- Lubes N' Greases "Notables Notes from STLE"
- Lubricants World "STLE Update"

10. Brochure

By Feb. 1, 2004 we will create and mail a preliminary program brochure with a cover letter to international and North American lists.

In the first quarter of 2005, we will create and mail a more complete program brochure.

We will make every effort to keep the list(s) targeted and meaningful.

11. Commercial Promotion for Exhibits/Sponsorships

During 2002 and 2003, we will gather names of contacts and companies to develop a comprehensive list of possible exhibitors and sponsors. We will make initial contact with them to generate interest in WTC 2005 and have them put the exhibition and sponsorships into their 2005 budgets.

During 2004, we will actively solicit exhibit booth sales and sponsorships from the targeted companies and organizations.

This will be done using a brochure describing the exhibit and sponsorship opportunities, broadcast faxes, blast emails, and telephone solicitation.

All relevant information will be available on the WTC website as well.

12. Government agencies

Some promotional and other assistance can be obtained for international meetings from sources such as the U.S. Chamber of Commerce, the U.S. Department of Commerce, and other governmental agencies. These will be initiated explored during the summer of 2002.

Relationships with the most promising organizations will be developed and pursued.

Suggested Initial Budget 2002

Logo design	\$500
Website set-up	\$3000
Tabletop exhibit and graphics	\$2000
Exhibit shipments	\$3000
Postcards	\$5000
Mailing/postage	\$2000
Marketing services*	\$1000/month

*can be included with meeting planning services TBD

Budget 2003

Website maintenance	\$3000
Blast emails	\$2000
Mailing/postage	\$2000
Exhibit shipments	\$3000

Budget 2003-2004

Website maintenance	\$3000
Blast emails	\$2000
Exhibit shipments	\$3000
Mailing/postage	\$3000
Registration brochure development and production	\$8000-\$10,000
Exhibitor Prospectus development and production	\$5000-\$6000
Mailing envelopes	\$2000

Attachment IV

2003 JOINT CONFERENCE PLANS

- Technical Program
Terry Blanchet - 150+ Manuscripts
- Magnetic Storage Tribology Symposium
Mike Suk, Yiao-Hsia, Andreas Polycarpou
- Contact Mechanics Symposium
George Adams
Friction Modeling, Friction-Induced Vibration, Nanocontact, Adhesion in MEMS
- ? Panel on Cardiovascular Tribology
Said Jahanmir
Heart Pump Bearings
- Student Poster Session
Pamela Dickrell (U of FL) and Gregorio Murtagian (Georgia Tech)
- Keynote Speaker
Dr. Ken Ludema
The Many Faces of Tribology

Attachment V

ASME CONTACT MECHANICS TECHNICAL COMMITTEE

An organizational meeting was held on October 29 at the 2002 ASME/STLE Tribology Conference in Cancun, of a group of five ASME members with a strong interest in contact mechanics. It was decided to propose the establishment of a Contact Mechanics Committee (CMC) as an active technical committee of the ASME Tribology Division (ASME TD). Since that time, five additional members of the proposed committee have been recruited.

The following proposal for the formal establishment of the Contact Mechanics Committee is submitted to the ASME TD Executive Committee by the officers-elect of the Contact Mechanics Committee for approval.

Need for the Committee

Although contact mechanics has a base in traditional areas of tribology, additional interest in contact mechanics is growing in emerging areas. With MEMS devices entering the commercial market and nano mechanics applications on the horizon, there has been a renewed interest in contact mechanics, especially at the micro and nano scales. At the same time, the development of sophisticated scanning probe equipment has made measurements of atomic level surface topography, as well as single asperity contacts, possible. This combination of new applications and instrumentation has helped to fuel a renaissance in the theoretical and applied aspects of contact mechanics.

Yet, there does not exist a central focus point for presentation of work in contact mechanics. Contact mechanics presentations are scattered among applied mechanics meetings, MEMS meetings, information storage and processing systems meetings, dynamics systems and controls meetings, adhesion meetings, materials meetings, and applied physics meetings. The annual fall Tribology Conference has the potential to bring together researchers from a wide variety of new and established areas.

Potential Members

We anticipate attracting members conducting research in contact mechanics from a wide spectrum of areas, including those in traditional and emerging areas of basic and applied research. These areas include seals, bearings, brakes, friction-induced vibration, friction modeling, nano contact mechanics, MEMS, and information storage and processing systems. Thus, members are likely to come from various disciplines within ASME as well as coming from outside of ASME (thus increasing the number of ASME members).

Mission

To promote interest in, and the visibility of, a variety of established and emerging areas in contact mechanics.

Vision

To become the premier focus for theoretical and applied research in contact mechanics in a variety of areas.

Functions/Activities

Sponsor regular and special sessions at ASME meetings, especially at the annual fall Tribology Conference.

Goals for this Year - 2003

- Sponsor up to four special sessions in specialized areas of contact mechanics at the 2003 Tribology Conference in Florida.
- Attract new members into the ASME TD from a variety of fields in contact mechanics.

Officers

The committee selected the following slate of officers:

Chair: George G. Adams, Northeastern University, Boston, MA
Email: adams@neu.edu

Vice Chair: Itzhak Green, Georgia Institute of Technology
Email: itzhak.green@me.gatech.edu

Secretary: Lior Kogut, University of California at Berkeley
Email: kogut@newton.berkeley.edu

Advisory Committee

This committee will include members from universities, industry and government research laboratories. It will be established soon after the approval of the CMC by the ASME TD.

Activities

Plans are underway to solicit papers for the special sessions at the 2003 Tribology conference on Florida. Tentatively, these special sessions will be in:

- Friction Modeling - Izhak Etsion
- Nano Contact Mechanics - Lior Kogut
- Adhesion in MEMS - George Adams
- Friction-Induced Vibration - Itzhak Green

It is anticipated that small sub-committees will be established in each of these four areas.

Current Membership:

George Adams, Northeastern University
Izhak Etsion, Technion
Itzhak Green, Georgia Institute of Technology
Lior Kogut, University of California at Berkeley
Kyriakos Komvopoulos, University of California at Berkeley
Sinan Müftü, Northeastern University
Mikhail Nosonovsky, Ohio State University
Andreas Polycarpou, University of Illinois at Urbana-Champaign
Jeffrey Streater, Georgia Institute of Technology
Jane Wang, Northwestern University

Attachment VI

From: Andreas Polycarpou, University of Illinois at Urbana-Champaign
Chair of the Technical Expositions Committee,
ASME Tribology Division
To: ASME Tribology Division Executive Committee
Date: April 24, 2003

Since the first writing of the recommendations in regards to the Conference Planning Committee (CPC) Rules in May 2002 and updated October 2002 (also attached as a separate file), further discussions and results from the most recent 2002 IJTC have taken place. Based on these discussions and in studying the recent financial failure of the Cancun conference, despite all measures to avoid it, I strongly suggest to the EC the following recommendations to take effect immediately.

I have personally been involved with the IJTC conference since 1999 and I strongly believe that unless we take some immediate "drastic" measures, the IJTC will decline further and our custodial account will diminish, with negative consequences for the Tribology Division.

Executive Summary of Recommendations:

1. Suspend the current CPC rules to allow utmost flexibility to "fix" problems.
2. The CPC will still remain in effect and be in charge of organizing the technical part of the conferences. The rules of succession etc. will still remain in effect.
3. **Create a Joint Oversight Conference Committee (JOCC)** that will include the Chair of the Technical Expositions and the Secretary/Treasurer of the TD EC and 2 officers from STLE to oversee the overall conference organization, including full financial responsibility. Below are some specific items that the JOCC may consider immediately so that the decisions will also include the organization of the 2003 IJTC.
 - a. It is envisioned that the JOCC/CPC will allow the presentation of all papers at the conference that are deemed appropriate, without necessarily being accepted for publication by any of the Journals (abandon coupling between conference and journals).
 - b. JOCC/CPC will probably allow the organization of additional symposia and other functions that will increase attendance (abandon the 1/3 rule).
 - c. Financial responsibility is paramount. The JOCC will need the plan lean and conservative, e.g., select appropriate conference location, plan for smaller attendance, cut cost in A/V aids and in conference planning costs (please also refer to Dr. Carl Herakovich, ASME VP of Basic Engineering, e-mail comments of April 24, 2003 as well as the recommendations from the Technical Expositions reports dated May 2002 and October 2002.)
4. The JOCC will be in effect for a minimum of 3 years and based on the changes that will take place, rewrite the CPC rules.

Based on my discussion with many people that have been working very hard to make this conference a success, the "frustrations" and disappointments are evident and all agree that we need to do something fast. Therefore, I strongly believe that the time is now, without further delays to take action. Once the EC approves the action, we need to go to STLE to get them on board and act quickly so that the 2003 conference becomes a success.

Respectfully submitted,

Andreas A. Polycarpou
Chair, Technical Expositions Committee

Attachment VII

ASME Tribology Division Treasurer's Report

Opening Balance (October 28, 2002)		\$63,602.23
Revenue		
Investment Income	952.22	
Capital Gains	309.24	
Unrealized Capital Gains	(3,891.55)	
IMEC&E 2002	437.00	
Total Revenue	<u>(2,193.09)</u>	-2,193.09
Expenditures		
DHL Shipping	90.94	
Award Certificates	174.35	
Graphics Service	211.00	
Total Expenditures	<u>476.29</u>	(476.29)
Ending Balance (March 31, 2003)		<hr/> \$60,932.85

Respectfully submitted,

Richard S. Cowan
Secretary/Treasurer

Attachment VIII

Honors and Awards Committee

We have received nominations for 4 candidates for the Burt L. Newkirk Award. But one candidate was disqualified for not being a member of ASME. Therefore, we considered only 3 candidates all of which are highly deserving. The winner has been selected and will be advised this week.

For the Mayo D. Hersey Award, we received nominations for four candidates and again they are all highly qualified. The winner has been selected and will be advised this week

The competition was very tough and we had to go through two rounds of voting and even then in each category the difference between the first and second candidate was only one point.

What worked best (1) starting the nomination process early, around middle of December, (2) Setting rules very early on the process with the consensus of participating members, (3) Setting times early on so that everybody is aware of deadlines, (4) Periodic reminders of deadlines and finally, the most important is the cooperation and assistance of committee members.

Dr. Dong Zhu of Eaton Corporation agreed to serve as an incoming member per EC approval.

Respectfully submitted,

Arup Gangopadhyay, Chair

Attachment IX

Rolling Bearing Life Ratings Technical Committee

The Modern Rolling Bearings Life Rating Technical Committee just this month published a book entitled "Life Ratings for Modern Rolling Bearings - A Design Guide for the Application of International Standard ISO 281/2." The Design Guide includes a computer program (CD) for application of methodology, which has been successfully correlated over a wide range of data sets.

It was co-published with STLE and is available for purchase at the STLE Annual Meeting. A symposium on the same subject is planned later this year with ABMA, either in Chicago or immediately before the STLE/ASME Joint Tribology Conference in Florida.

Respectfully submitted,

Roger Barnsby, Chair

Attachment X

**ASME Predictive Maintenance Technical Committee
of the Tribology Division**

STLE Annual Meeting, Hilton Hotel, NY, NY, April 27, 2003

PdMT Committee Agenda 2002/2003

- A. "Machinery Reliability & Predictive Maintenance" Tutorial by Marscher at 2002 Trib-Reliability Conference in Mexico City, June 2002.
- B. Discussions with Fluid Sealing Association on Possible Joint Efforts, at FSA Annual Meeting, Scottsdale, AZ, October 2002.
- C. "Role of Tribology in Vibration Monitoring & Predictive Maintenance," 2-Day Tutorial by Marscher, 1st West Indies Tribology Symposium, Feb. 2003, Trinidad.
- D. "Improving Machinery Reliability," Short course lecture by Marscher for STLE Seals Technical Committee at STLE Annual Meeting in April 2003 in NYC.
- E. Condition-Based Maintenance paper presentation by C. Byington at 2003 STLE Annual Meeting.
- F. Machinery Reliability 2-Day Tutorial by Marscher at Tribo-Efficiency & Machinery Reliability Symposium, Mexico City, June 2003.
- G. Machinery Predictive Maintenance Tutorials planned for Damman Saudi Arabia in Fall 2003.
- H. Cooperation with STLE Seals Technical Committee: Reliability Standards and Certification (on-going effort).
- I. Continued membership drive.
- J. Committee newsletter intended for Summer 2003.
- K. Elections for new officers planned for October 2003.

2002/3 Chair:

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2002/3 Vice-Chair:

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2002/3 Secretary

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Attachment XI

Magnetic Storage Committee, ASME Tribology Division

Update Report February 25, 2003

Magnetic Storage Committee Officers (1998-2002):

C. Singh Bhatia, IBM, Chair.

Kyriakos Komvopoulos, UC-Berkeley, Vice-Chair.

Andreas A. Polycarpou, University of Illinois at Urbana-Champaign, Secretary.

Present at the meeting: J. Chao, T.J. Chuang, Y.T. Hsia, S. Hsu, K. Komvopoulos, K. Ono, A. Polycarpou, M. Suk, J., Xu.

The MSC held a meeting during the ASME/STLE International Tribology Conference in Cancun-Mexico, October 29, 2002. Andreas Polycarpou convened the meeting with a brief summary of the MSC activities since its creation in 1998. The main accomplishments of the MSC were the establishments of the 1-day Magnetic Storage Symposium that takes place every year at the IJTC, and the creation of the Annual Seagate Information Storage Award. Four symposia were held from 1999 to 2002, and in all cases a proceedings-volume has been published by ASME. In the magnetic storage community, this is the premium event that deals with tribology and technology issues related to magnetic storage.

Recent events such as magnetic data storage company consolidations and tighter travel budgets have resulted in a small decline in the attendance. Despite this unfortunate trend, the MSC needs not to only continue its current activities but also proactively engage into other activities that will enable it to be the premier committee for magnetic storage tribology activities.

Following the brief introductions, Kyriakos Komvopoulos and Andreas Polycarpou voluntarily stepped down from their posts as vice-chair and secretary, respectively to set the stage for additional members to take an active role at the committee.

Several of the participants inquired about the terms and duration of the committee officers. According to the current division "By-Laws" and the MSC approved "charter" there are no such provisions in place.

The participants suggested the following officers, with their terms expiring December 31, 2003. New officers will be elected during the 2003 STLE/ASME ITJC in Florida.

C. Singh Bhatia, Chair (Hitachi/USA)

Yiao-Tee Hsia, Vice-Chair, (Seagate Research)

Mike Suk, Secretary (Hitachi/USA)

Jim Chao, Member-at-large (Komag)

Junguo Xu, Member-at-large (Hitachi/Japan)

K. Ono, International Liaison (academic Japan)

Tze-Jer Chuang, representative from government lab (NIST)

A.A. Polycarpou, Liaison with ASME EC and Publications chair

The above slate of officers is submitted to the EC for approval.

Respectfully submitted,

Andreas A. Polycarpou, Outgoing Secretary, Magnetic Storage Committee

Attachment XII

Education Committee Report (April 27, 2003)

A survey of US academic institutions was performed to determine how tribology is taught and what kind of pertinent research is pursued in the USA. A list of 16 questions was e-mailed to the ASME membership with Tribology as a first or second field of interest. About 250 e-mail addresses were contacted. Responses were received from 29 institutions. The main findings of the survey are summarized below, and the questions along with responses are given in the attached. I would like to express special thanks to Ms. Carol Griffin from ASME for her effort and support that made the completion of this survey possible.

Teaching

About 60% of the responses indicated that Tribology is taught regularly in their institutions, The number of tribology courses varied typically between 1 and 3 with ~40% of such courses taught on a semester basis. The class sizes are relatively small, typically in the range of 10-20 students. The majority of the tribology classes (~45%) are mainly focused on hydro-/elasto-hydrodynamic lubrication, with friction, wear, and contact mechanics each accounting for ~10% and special topics representing ~15% of the courses offered. The survey revealed that very little is done on tribochemistry and contemporary fields of tribology, such as micro-/nano-tribology.

The main textbooks used are those by K.L. Johnson (Contact Mechanics), J. Williams (Engineering Tribology), Hamrock (Fundamentals of Fluid Film Lubrication). In a few institutions tribology is part of design courses. About 50% of the responses indicated that class notes and laboratory demonstrations are used in teaching tribology courses. The majority of the responders felt that laboratories could significantly improve the courses. Regarding professional development short courses, 30% of the responses indicated that their institutions offer such courses either annually (20%) or semi-annually (~10%) with an average class size of 10-20 participants.

Research

Tribology research was reported to be either very active (~20%) or somewhat active (~32%) at a few institutions (~15). Research appears to cover a large range of topics from the applied to basic science spectrum. The various areas of research pursued in US academic institutions include: boundary-lubricated sliding, micro-lubrication, HD/EHD, rheology, grease lubrication, lubricant degradation, hydrodynamics, combustion engines, seals, dampers, bearings, brakes and clutches, piston-ring assembly, valve train, journal bearings, polymers, rubber-like materials, ceramics, surface modification methods, microstructure effects on friction and wear, contact fatigue, impact wear, tribology in manufacturing processes, bio-tribology, micro-/nano-fretting, MEMS, magnetic recording, tribo-acoustics, tribo-sensors, contact mechanics, FEM modeling of contact problems, modeling of contact adhesion and friction, thermal/thermoelastic problems, electrical and thermal contact resistance, and computational methods.

The main source of funding appears to be primarily from government/national labs (~70%) and secondarily from the private sector (~30%).

The general impression is that the majority of the research is predominantly focused on traditional areas of tribology. Only a small number of institutions have bridged over to contemporary tribology fields such as nano-tribology and bio-tribology.

Regarding the average size of the research groups, the survey indicates that typically the number of students working in tribology-related research projects per institution is rather small (1-5 students for ~70% of the responses). The sectors that mostly employ graduating students with tribology expertise are automotive (~35%), academic institutions (~25%), manufacturing (~14%), aerospace (~4%), computer industries (~4%), national laboratories (~4%) and other (~9%). Again, the main sectors of employment are the traditional industries, although a few positions were reported for biotechnology, communications, manufacturing diagnostics, and small companies with focused objectives.

The general conclusion is that while tribology education and research at US institutions is at a stable level there is a concern that its growth rate and expansion to new areas is rather limited. This is also reflected by the declining participation in tribology-related conferences and the large number of papers published in premiere tribology journals focused on well-studied topics that provide only incremental advances to the tribology field. It seems that an educational workshop (perhaps under the auspices of NSF and ASME) should be organized in the future to establish a theme and guidelines for a more coordinated effort toward tribological studies and research in USA academic institutions. After all, the vitality and evolution of tribology greatly depends on the educational background and expertise of the graduating students and their employment in demanding fields of leading-edge technologies.

Respectfully submitted,

K. Komvopoulos, Chair
TD Education Committee

SURVEY OF TRIBOLOGY EDUCATION

1. Does your institution offer tribology courses?
 Yes No (If no, go to question #10)
18 **10** **1 did not answer**
2. If yes, how active in tribology is your institution? Please rate using the following scale:
 Very active Somewhat active Inactive
7 **10** **1** **11 did not answer**
3. How many tribology courses are offered at your institution?
 1 - 3 3 - 5 5 - 7
16 **2** **0** **11 did not answer**
4. How frequent are tribology courses offered at your institution?
 One class per semester Two classes per semester More than two classes per semester
12 **1** **2** **14 did answer**
5. What is the average class size for tribology courses at your institution?
 5 - 10 10 - 20 20 - 30 30 - 40
7 **6** **3** **1** **12 did not answer**
6. Which of the following best describes the course content of your institution's tribology courses?
 Friction Wear Hydro-/elasto-hydrodynamic lubrication Contact mechanics
2 **2** **8** **2**
 Tribochemistry Special topics (specify)
7. What textbooks are used for tribology courses?
8. Are course notes or laboratory demonstrations included in the course curriculum?
 Yes No
15 **2** **12 did not answer**
9. What do you think would improve your institution's tribology courses?
 Text Labs Contact hours Introductory material on tribology in lower-level courses
2 **8** **1** **4**
 Other (specify) **12 did not answer**
10. Are there professional development courses offered at your institution?
 Yes No
11 **15** **3 did not answer**

11. If yes, how often are short courses offered at your institution?

8 **3** **18 did not answer**

Annually Semi-annually

12. What is the average class size of the short courses?

8 **2** **0** **0** **19 did not answer**

10 - 20 20 - 30 30 - 40 40 - 50

13. What tribology research areas are you involved with?

Please give a general description (e.g., hydrodynamics, seals, magnetic storage, MEMS, bio-tribology, etc.)

see below question #13

14. How many students are working in your laboratory?

21 **6** **0** **2 did not answer**

1 - 5 5 - 10 10 - 20

15. What is then main source of funding for your institution's tribology research?

3 **9** **12** **5 did not answer**

industry government/ national labs both

16. In what sectors do tribology students from your institution find employment?

7 **1** **1** **0**

automotive aerospace computer lubricants/additives

3 **1** **5** **3**

manufacturing national labs academic institutions other (specify)

see last page

17. Please provide any other comments and / or suggestions

see below question #17

Question # 6 comments

1. Friction/Wear/Lubrication,
2. and frict., wear, contact mechanics
3. overview of friction, wear, lubrication, and contact mechanics with focus on engineering design
4. magnetic bearings
5. Friction, wear. lubrication, contact
6. all of above
7. Friction+Wear+Contact mechanics in general and these in plastics

Question # 7 comments

1. Halling's and Ludema's book are used as primary references and several others as secondary references. No one text fits the needs of the course
2. Hamrock
3. Ludema, Halling, and a couple of Australians whose names escape me.
4. K.L.Johnson, Contact Mechanics
5. Our own compendia "Tribology basic course" and "Tribology Advanced Course"

6. Course notes. The course is offered once a year in the spring/summer semester
7. None. Professor notes.
8. Introduction to Hydrodynamic Lubrication By Hamlock
9. Notes
10. Williams, Engineering Tribology
11. Hamrock, Fund. of Fluid Film Lubric; Williams, Eng'g. Tribology; Johnson,
12. a. Contact Mechanics, Israelachvili, Intermolec. & Surface Forces
 - b. Course notes.
 - c. Joseph Edward Shigley, Mechanical Engineering Design, McGraw-Hill International Editions, First Metric Edition, 1986.
 - d. Tochtermann/Bodenstein, Konstruktionselemente des Maschinenbaues 1,2, Springer-Verlag
 - e. Juvinall, R.J. and Marshek, K.M., Fundamentals of Machine Component Design, 3rd Edition, John Wiley & Sons, 2000.
 - f. Deutschman, A.D., Wilson, C.E and Michels, W.J., Machine Design, Prentice Hall, 1996.
 - g. Cameron, A. The Principles of Lubrication, Longmans, 1966
 - h. Moore, D.F., Principles and Applications of Tribology, Pergamon Press, 1975.
13. Own lecture notes Note: this course is a course in Fundamentals of Mechanical Component Design and tribology is about 45% of it. It is obliged in the 2nd year and about 140 students have to attend and do a written exam.

Question # 9 comments

1. Support from the upper level administration
2. As a part of material, design, Mechatronic and manufacturing course

Question # 13 comments

1. Wear of engine cams and coatings for dry machining applications
2. Surface Modification for Tribological Applications
3. The role of microstructure in friction and wear.
4. Elastohydrodynamic Lubrication, Stress-Induced Degradation of Lubricants, Modeling of Grease Lubrication, Modeling of Contact Fatigue
5. Elastohydrodynamic Lubrication, Stress-Induced Degradation of Lubricants, Modeling of Grease Lubrication, Modeling of Contact Fatigue
6. impact wear, three -body wear
7. Friction and wear, materials, bio-tribology
8. modeling of contact adhesion and friction, Hydrodynamics, Seals, Micro and Nano fretting
9. mechanical face seals
10. MEMS, tribo-acoustic understanding, tribosensors and mechatronic applications in materials for
11. micro-lubrication, elastohydrodynamic lubrication on flexible surfaces, high-speed hysteresis friction, contact problems for rubberlike materials
12. Contact mechanics, thermal and thermoelastic problems, brakes and clutches, contact of rough surfaces, electrical and thermal contact resistance.
13. Hydrodynamics, EHD, Rheology
14. hydrodynamic lubrication, tribology in manufacturing processes, surface characterization

15. Combustion engines tribology: Piston-ring assembly-, valve train- and variable loaded bearing friction.
16. hydrodynamics
17. hydrodynamics, dampers, seals, computational methods
18. Friction and wear of ceramics
19. Magnetic Recording MEMS
20. hydrodynamics
21. Bio-tribology, wear, magnetic storage
22. Fracture, Adhesion, Finite Element, grinding ceramics, polishing ceramics
23. answering for our whole group: mechanical seals, lip seals, bearings, magnetic storage, rheology
24. Hydrodynamics, Tribological behaviours of pure and filled polytetrafluoroethylene (PTFE) boundary-lubricated and dry journal bearings.
25. seals EHD lubrication

Question # 16 comments

1. Areas in biotechnology, communications, manufacturing automation and diagnostics etc.
2. automotive and academic institutions
3. Small Companies with focused objectives

Question # 17 comments

1. The course is offered once in two years.
2. I and my students are not doing much surface modification research at the present time but we do have occasional tribological testing jobs. Mostly we do other types of plasma research.
3. Since the division is part of ASME International it would be appropriate to carry out an International survey
4. Tribology is not taught nor is funded research in progress.
5. New areas to open up like tribosensors on study of material surface microproperties and treatments as a multidisciplinary applications in microelectronics, nano technology, automation, non intrusive diagnostics and satellite communications.
6. There is a need to coordinate tribological studies especially in USA. As an emeritus professor, I would like to find an adjunct position in an American/European university.
7. Question 16 would not let me specify more than one employment category.
8. Department of Mechanical and Industrial Engineering University of Thessaly, Volos, Greece
9. This questionnaire was not too well designed. For example, in #4 our course is offered every other year, an option not available, and in items #6 and #16 multiple choices should have been possible
10. Item 6 and 16 do not allow multiple choices. For 6, we also do friction, wear, contact mechanics. For 16, our students also go into lubricants, manufacturing, academic institutions

**ASME Tribology Division
2002-2003 Action Register**

Responsibility	Item #	Description	Start Date	Targeted Completion Date	Status
Open Membership Committee	00-01	Develop newsletter/mailling for prospective Division members.	10/00	05/01	open
K. Komvopoulos Education Committee	00-02	Survey how tribology is being taught at US universities.	10/00	05/01	Completed 4/03
R. Barnsby/H.Nixon Executive Committee E. Aulestia ASME Staff	00-04	Release materials from Thurston Lecture (D. Dowson) for membership access.	11/00	05/01	open
M. Bryant/T. Ovaert Research (RCT)	01-02	Clarify operating procedures of RCT. (RCT bylaws)	10/01	05/02	open
D. Brewe Intl. Coordination	01-11	Develop criteria for endorsing/listing International Tribology Conferences on Division website.	05/02	10/02	open
M. Bryant/T. Ovaert Research (RCT)	01-12	Submit proposed amendment of Division bylaws to EC addressing management of ad-hoc technical committees.	05/02	10/02	open
H. Heshmat A. Gangopadhyay Honors/Awards	01-13	Author guideline listing responsibilities of the Honors/Awards Committee with ASME nomination package requirements.	05/02	06/02	open
H. Nixon Executive Committee	01-14	Call EC meeting to address revisions of Joint Conference Operating Guide and paper acceptance process.	05/02	10/02	open
K. Komvopoulos Education Committee E. Aulestia ASME Staff	01-16	Propose plan to develop those products from created list of 5 that ASME suggests are economically viable.	05/02	10/02	open
H. Nixon Executive Committee E. Aulestia ASME Staff	02-01	Define Division's financial responsibility to WTC2005 vs. ASME International's.	10/02	04/03	open
A. Polycarpou Technical Expositions	02-02	Develop plan to create subcommittee for reviewing/improving International Joint Tribology Conference.	10/02	02/03	Completed 4/03
H. Nixon Executive Committee	02-03	Poll EC of desire to join ASME BEG Divisions in creating a separate conference from IMEC&E.	10/02	04/03	open

D. Brewe Intl. Coordination	02-04	Explore global instruction opportunities with ASME Continuing Education Institute (CEI).	10/02	04/03	open
A. Polycarpou Magnetic Storage A. Gangopadhyay Honors/Awards	02-05	Submit proposal to create Society-level Magnetic Storage Committee Award to ASME (E. Aulestia) for discussion with Seagate.	10/02	04/03	open
R. Cowan WTC Oversight	02-06	Provide EC with WTC 2005 business plan and cash flow timeline.	04/03	07/03	open
H. Nixon Executive Committee	02-07	Coordinate EC selection of ASME member to serve on Joint Conference Planning Committee.	04/03	10/03	open
H. Nixon Executive Committee	02-08	Call EC meeting to address RCT requests.	04/03	07/03	open
A. Polycarpou Executive Committee	02-09	Determine Lior Kogut's interest in serving as Chair of the Membership Development Committee.	04/03	10/03	open
E. Aulestia ASME Staff	02-10	Propose formation of Joint Oversight Conference Committee to STLE.	04/03	04/03	open
S. Schmid Publications Committee	02-11	Publish Division newsletter.	04/03	07/03	open