

mechanics

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American Academy of Mechanics
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MECHANICS MEETING DATES

A Worldwide Listing of Mechanics meetings is available through the Applied Mechanics division of ASME. The listing is maintained by **Nick Salomon** at Penn State (NS1@psuvm.psu.edu). Meeting organizers are encouraged to refer to this list when selecting meeting dates and also to inform Nick as soon as dates for future meetings have been selected so that overlapping meetings can be minimized if not eliminated. Persons interested in making the list interactive on the web are encouraged to contact Nick.

NEWS

- USNC/TAM Members: The 1998-99 Newsletter is now available in HTML and PDF versions on the web at <http://www.iastate.edu/~usnctam/>. In order to work with the PDF version, use Adobe Acrobat or possibly other equivalent software on PC.

VISIT the AAM Website at
<http://www.ecn.purdue.edu/AAM>



USNCTAM NEWSLETTER

Academic Year 1988-99, Issue9

Carl T. Herakovich, Editor

Chairman's Comments

1998-99:50 YEARS OF SERVICE TO THE MECHANICS COMMUNITY

The USNCTAM was established in 1949 for the purpose of representing the United States in international activities related to mechanics and to serve as a focal point for the U.S. engineering science and mathematical communities which have common interests in mechanics. Its charge from the National Research Council is "to promote the development of theoretical and applied mechanics as a branch of science, to represent the United States in the International Union of Theoretical and Applied Mechanics, and to act as the central organization through which fourteen engineering, scientific and mathematical societies with a common interest can act on issues of mutual concern." A brief glance at the societies represented on the USNCTAM, ranging from engineering societies to mathematical societies to the American Physical Society gives clear testimony to the fundamental and wide-ranging nature of mechanics. Because of this remarkable span, the work of the USNCTAM impacts a large fraction of engineering and scientific endeavor in the United States.

As we enter into the 50th anniversary year of the USNCTAM some reflection on the past and the future of the committee is desirable. Without a complete knowledge of our history, I cannot unequivocally assert that the Committee is more vigorous than ever, but I suspect that is true. The 13th US National Congress of Applied Mechanics was held at the University of Florida this past June, and thanks to the efforts of many of our colleagues, most notably **Marty Eisenberg**, **Nic Cristescu** and **Renwei Mei**, it was a very successful meeting. All of the people who contributed their time and energy to the organization of the Congress deserve our gratitude.

We have the year 2000 International Congress of Theoretical and Applied Mechanics to look forward to in Chicago. The quadrennial ICTAM is the most important international event in mechanics, and being selected to host it in the millennial year is a special honor and responsibility for the mechanics community of the United States. It has only been held in the U.S. twice in the last sixty years, so we are indebted to **Hassan Aref**, General Chair of ICTAM 2000, and the consortium of universities who are participating in its organization for their initiative and vision in formulating a compelling case for holding the Congress in the U.S. Our Committee offers its full support to this Congress, and we should actively encourage all members of the U.S. mechanics community to participate in it. I am pleased to report that many of our member societies have contributed financial support to the Congress.

In the last decade, the USNCTAM undertook a special initiative in the form of book length reports on research directions in mechanics. The first report on computational mechanics, edited by **J. T. Oden**, was followed two years ago by the book on research trends in fluid mechanics, edited by **G. Leal**, **A. Acrivos**, **J. Lumley** and **S. Leibovich**. This volume has enjoyed a very successful distribution, selling over 1300 copies to date. I am pleased to report that the next volume in this series, dealing with research trends in solid mechanics and edited by **G. Dvorak**, is very near completion, and we can hope to see it published this year.

This series of scholarly reports on research trends in various areas of mechanics constitutes a major means of disseminating the expertise of the committee to the mechanics community and it should continue to be one of our priorities. By identifying specific important areas the reports give definition and visibility to mechanics as a discipline, as well as suggesting promising directions. The Sub-Committee on Research Directions in Mechanics will be identifying new areas on which to report in the future. Possible topics are bioengineering, micro-electro-mechanics and experimental mechanics. The SCORDIM committee welcomes suggestions from the members of the USNCTAM and the mechanics community at large.

While a 50th anniversary is certainly cause for celebration, it is also an appropriate time to give special consideration to future directions. In particular, with rapid interdisciplinary developments in areas like biological engineering and micro-mechanics, we should institute mechanisms to assure that the committee plays a leading role in adapting to the changing face of mechanics. Most important is to identify the changes that are occurring and to make sure we include experts in new disciplines on the USNCTAM and/or connect with appropriate organizations.

Please accept my best wishes for a fruitful and stimulating year.

Ron Adrian, Chair USNCTAM 1998-99 and 1999-2000

Past Chair's Reflections

It has been a great privilege and pleasure to serve as Chair of the United States National Committee of Theoretical and Applied Mechanics. The USNCTAM continues to be a center of activity and leadership in mechanics and has in the last several years taken several key steps to reach out to the greater mechanics community. My predecessors, **Tinsley Oden** and **Gary Leal**, provided important leadership in launching and sustaining our series of publications that provided a critical assessment of achievements and opportunities in Computational Mechanics and Fluid Mechanics, respectively. Currently, USNCTAM member **George Dvorak** is serving as Editor of a forthcoming volume in Solid Mechanics. Additional volumes on Biomechanics, Experimental Mechanics and other topics are being considered and we are encouraging members of the mechanics community to participate in these forthcoming publications. We also expect that topics covered in earlier volumes will be revisited periodically in the future.

The National Congress this past summer was a notable occasion with **Marty Eisenberg** serving as General Chairman and **Ron Adrian** as Program Chair. Ron is also our new Chair of USNCTAM, of course. I simply want to salute Marty and Ron and their team for the outstanding Congress activity which had an excellent set of papers and numerous special activities including the presentation of the first **ASME Drucker Medal** honoring our distinguished colleague, **Dan Drucker**. USNCTAM also presented a special national television broadcast on Engineering and Public Policy with **Harry Armen** and myself from the USNCTAM participating along with **Win Phillips**, Dean of Engineering of the Univ. of Florida and ASME President and **Tom Moss** of the National Research Council who brought their expertise to the program.

We look forward to many future activities including the IUTAM Congress in Chicago in the

year 2000. **Hassan Aref** and an energetic team are organizing this special meeting and we expect it will be a grand occasion. Many other future activities are detailed elsewhere in this annual report.

Two of the most important initiatives in recent years have been the launchings of the USNCTAM website led by **Jim Hill** and the new electronic newsletter led by **Carl Herakovich**. Both Jim and Carl have been imaginative and creative in pursuing these new ventures which I believe will bring USNCTAM activities to a broader mechanics audience on a more timely basis. I know we all very much appreciate their contributions to USNCTAM.

Let me close by thanking all those who have served USNCTAM so well during the past two years and say a very special and personal word of gratitude and appreciation to **Philip Hodge** who as USNCTAM Secretary has been an expert guide and teacher for me as chair. Much of what we have achieved over the years is due to his quiet but highly effective leadership.

So with very best wishes to all and especially to our new chair, **Ron Adrian**, let me say again that it has been a wonderful experience to serve as USNCTAM chair. I know that Ron, a highly respected member of the mechanics community, will provide excellent leadership as chair and enjoy the excellent support and contagious enthusiasm that USNCTAM provides to the chair and indeed the entire mechanics community.

Earl Dowell, Chair USNCTAM 1996-97 and 1997-98

ICTAM 2000- Chicago

The 20th International Congress of Theoretical and Applied Mechanics will be held in Chicago in the year 2000. The dates are **August 27 - September 2, 2000**. This is only the third time that the international congress is being held in the US. The first time was 1938 in Cambridge, MA; the second was 1968 in Palo Alto, CA. The meeting will be convened at the Chicago Marriott Downtown. **Hassan Aref**, Head of the Theoretical & Applied Mechanics Dept. at the Univ. of Illinois at Urbana-Champaign, is President of the Congress. **James W. Phillips**, also of the Dept. of Theoretical and Applied Mechanics at Illinois, is Secretary-General.

The First Announcement of the Congress is now available. It contains logistical information and announces the various invited lectures: the opening and closing lectures and 18 sectional lectures. It also lists the titles of the six mini-symposia and the coordinating chairmen of these. Finally, it lists the titles of all the pre-nominated sessions. These announcements are the result of the decisions of the Congress Committee during the General Assembly of IUTAM held in Stuttgart in August 1998. It may be worth highlighting that the deadline for paper submission is January 17, 2000.

For detailed information on the Congress, and to register to obtain the Final Announcement, please consult the comprehensive website at <http://www.tam.uiuc.edu/ICTAM2000/> which is continually updated. For general information on IUTAM please consult <http://www.iutam.org>.

For additional information, pages 3-7 of the newsletter, please consult the USNCTAM website at <http://www.public.iastate.edu/~usnctam/newsletter9.html>

Call for Papers

20th Southeastern Conference on Theoretical and Applied Mechanics (SECTAM - XX)

April 16-18, 2000. Callway Gardens and Resort, Pine Mountain, GA

Hosted by: College of Engineering, Auburn University, Auburn, AL

Dates to Remember:

July 31, 1999: One page abstracts are due. **August 30, 1999:** Notification of acceptance of abstracts.

October 30, 1999: Full length papers are due. **January 15, 2000:** Notification of acceptance of paper.

February 15, 2000: Final version of the paper due.

Papers are solicited in all areas of Theoretical and Applied Mechanics.

<p>Please submit one page abstracts to: Hareesh V. Tippur SECTAM - XX Technical Program Chair Department of Mechanical Engineering 202 Ross Hall, Auburn University Auburn, Alabama 36849 Tel: (334) 844-3327 • Fax: (334) 844-3307 e-mail: htippur@eng.auburn.edu</p>	<p>For general conference information contact: P.K. Raju SECTAM - XX Conference Chair Department of Mechanical Engineering 202 Ross Hall, Auburn University Auburn, Alabama 36849 Tel: (334) 844-3301 • Fax: (334) 844-3307 e-mail: pkraju@eng.auburn.edu</p>
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Please Visit Conference Web Site for More Details: <http://www.eng.auburn.edu/sectam>

Call for Papers

International Symposium on Recent Advances of Ultrasonic NDE and Composite Material Characterization for Industrial Applications

(A Symposium organized in honor of Professor A.K. Mal's 60th Birthday).

Organizers - T. Kundu and V. Kinra.

ASME International Congress, Nov. 14-19, 1999, Nashville, Tennessee, USA.

Symposium Objective: This symposium is concerned with ultrasonic techniques developed for the nondestructive evaluation of engineering and biological materials. Techniques that have potential applications in civil, mechanical, aerospace and biomedical engineering will be emphasized. The goal of this symposium is to bring together researchers from industry, university and national laboratories to exchange new and innovative ideas that have the potential to make an impact in the national economy in the next century. The proceedings of the Symposium will be published. Full-length paper submission is not mandatory. However, authors who would like to publish their papers in the symposium proceedings are required to submit their full-length papers by the due date. Papers will be accepted for publication after review by the editorial board.

Abstract due: April 15, 1999.

Full-length paper (optional) due: May 15, 1999.

Submit abstracts (electronic or hard copy) to:

Professor T. Kundu
Department of Civil Engineering and Engineering Mechanics
University of Arizona, Tucson, Arizona 85721.
Tel: 520-621-6573, Fax: 520-621-2550
e-mail: tkundu@u.arizona.edu

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