



## The American Society of Mechanical Engineers

### Chair's Letter

Happy New Year

I want to thank all of you for your continued support of ASME and engineering in general. This past year we have had some wonderful events and speakers. For example, a tour of the Boeing Osprey assembly line, speakers on the SR-71, roller coaster design, and bioengineering. Hopefully this year will be just as eventful. I don't know all the events for the year but I do know that the Villanova student section is planning a job fair and companies in the local area are invited to participate, Drexel will be hosting another Young Engineers Forum, Widener and Rowan will be sending teams to the ASME Human Powered Vehicle (HPV) races, and the Philadelphia section will be hosting student night, event speakers, the annual award banquet and more. We will be sending out more information on these events as they become more defined. However, do not forget the annual engineers week, February 18<sup>th</sup> through 24<sup>th</sup> and the Delaware Valley Engineers Week Council (<http://www.dvewc.org/>) and local universities of the area will be hosting events. This coming year I encourage you all to participate in some way from attending a meeting to volunteering for a student event like "Future Cities". Our society needs reminders from time to time that there is an engineer behind that light switch and today is a great day to be an engineer. Have a great 2007 and hope to see you at a meeting.

LeRoy Alaways  
Chair

### ASME November Section Meeting

On November 28, Dr. Carl Zweben discussed advances in using composite materials for engineering design applications. Dr. Zweben's presentation covered a wide range of composites which provide performance improvements not possible with traditional materials. It is clear that mechanical engineers will need to consider these materials to maintain competitive products.

In his presentation, Dr. Zweben surveyed the four key classes of composites: polymer matrix metal matrix, ceramic matrix and carbon matrix. He also presented videos and slides of important commercial applications, such as the unique Honda metal matrix composite engine blocks. He showed an interesting video of the casting and manufacture of the Honda engine block.

Dr. Zweben has over 40 years of commercial and aerospace composite materials experience, including: design, manufacturing, product and material development and characterization, test method development, material and structural testing and basic research in micromechanics and material behavior.

### Philadelphia Section Newsletter

[www.sections.asme.org/philadelphia](http://www.sections.asme.org/philadelphia) January 2007

Now an independent consultant, he was formerly Advanced Technology Manager and Division Fellow at GE Astro Space, which was acquired by Lockheed Martin. Dr. Zweben is a Life Fellow of ASME International.

#### Philadelphia Section Officers 2006/07

Chair – Leroy Alaways  
Temple University  
215-204-4306  
lalaways@temple.edu

Vice Chair – Kevin Keenan  
Tozour-Trane  
Ph: 610 962-1163  
KKeenan2@trane.com

Secretary – Ken Kroos  
kenneth.kroos@villanova.edu  
(610) 5197309

Treasurer – Dean Cave  
(610) 566 4067  
dean.cave@lmco.com

Senior Director – Mark Nicosia  
Widener University  
610 499 4192  
mark.a.nicosia@widener.edu

Junior Director – Dan Hanna  
Drexel University  
215 407 4411  
djh33@drexel.edu

Past Chair - Kevin Keenan  
Tozour-Trane  
Ph: 610 962-1163  
KKeenan2@trane.com

News Letter Editor - John Wolf  
(610) 519 6129  
john.j.wolf@villanova.edu

Please send letters and comments to the Editor. Letters will be published unless otherwise requested depending on space limitations.

### Letter from the Editor

In the last newsletter, I asked section members to update their email address with ASME. I hope many members have checked and updated the address where necessary.

The section newsletter is usually mailed to every member of the Philadelphia except for those who have indicated that they can read the newsletter on our section web site. The completed newsletter is posted and an email is sent to members who have indicated that they want to read the posted version.

For this edition again because of time constraints, everyone will receive a paper copy in the mail. If you have indicated in the past that the web copy is what you want and have submitted an email address, you will still get a paper copy of this newsletter.

In the future, if you would like to receive an email notice and read the newsletter on line, send an email to the editor and make sure that your email address is up to date on the ASME web site. I use the email address

from the ASME member list as the current correct address.

I also use the email address to contact our members about section events. For example on September 26 we had a tour of the Boeing V22 production facility in Ridley Park. If you did not receive an email about this event, ASME does not have your current email address.

Go to ASME.org. At the top of the page, click on MEMBERS ONLY and in the next page enter your last name and member number. On the left side of the next page, you will see your ASME member information. Check and update your email information.

The primary purpose of using email is to quickly notify members of events that we do not have time to post in the newsletter. We want to maintain contact with all our members. In the past, members have contacted me and said that they do not have to get the newsletter. They say that they are trying to save the section the cost of the newsletter. But the section wants to maintain contact with all our members, even retired members. So as long, as you are an ASME member you will continue to receive the newsletter.

### Villanova University Student Section Job Fair

The Villanova University ASME Student Section is planning on holding a job fair at Villanova in mid to late March, depending on the schedules of other area engineering schools spring breaks. The fair will probably be on Wednesday or Thursday in the afternoon from roughly 3PM to 7PM. The College of Rowan has agreed to offer its assistance in the fair, but Villanova would like to have two or more schools to join in. The student section is currently contacting other engineering schools to participate.

The goal of the fair is to have local and not-so-local mechanical engineering firms come to Villanova to collect resumes from students and talk about job opportunities for the summer and next year. If your company is looking for new employees, this career fair may be an option for you.

An online registration system will be set up by mid-January so companies can register online via Acteva.com, but until then interested companies can email Tim Montalbano at Villanova (timothy.montalbano@villanova.edu).

### Future City Competition

The Philadelphia area Future City competition will be held on January 27<sup>th</sup> at the Villanova University Field House. The competition begins in May with registration of teams and continues with various events until January. During the competition, groups design a city using the computer programs *SimCity 3000*<sup>TM</sup>. They also create a physical scale-model of a section of the city. Contestants also write an essay on an engineering problem and describe some technical aspects of the city. During the final competition each

team makes a presentation which is assessed by the judges.

The competition website is [www.futurecityphilly.org](http://www.futurecityphilly.org), if you would like more information about the competition.

Volunteers are still needed for the final judging on the 27<sup>th</sup>. If you would like to help or need more information about volunteering, contact Jennifer Wetzel via email at: [volunteer@futurecityphilly.org](mailto:volunteer@futurecityphilly.org).

**CAREER OPPORTUNITIES** 

**About MSC:** Materials Sciences Corporation (MSC) is a recognized leader in the field of design and analysis of advanced materials and structures. For over 30 years MSC has developed analytical methods and experimental programs to define material design criteria for specific structural applications and to evaluate the effects of material microstructure and constituent behavior on critical composite properties. MSC is active in many aspects of the structures and materials field including analysis, design, research, applications, cost and marketing studies. MSC offers a competitive compensation package including 401(k), Medical PPO health plan and Employee life insurance.

[www.materials-sciences.com](http://www.materials-sciences.com)

**Openings:** Staff Engineers; Senior Engineers; Project Management Engineers.

**Requirements:** Fundamental competencies should include a solid understanding of the mechanics and failure mechanisms of multifunctional composite material structures. U.S. citizenship is required and DoD SECRET clearance may be required. Senior positions require an advanced degree and 2-5 years relevant experience while management positions require 10 years experience. *MSC is an equal opportunity employer.*

**Send Resumes to:**  
Human Resources  
Materials Sciences Corporation  
181 Gibraltar Road  
Horsham, PA 19044  
[hr@materials-sciences.com](mailto:hr@materials-sciences.com)

### AIAA/ASME Mini Symposium

As described on the next page, the Philadelphia sections of AIAA and ASME will hold the third Aerospace and Mechanical Engineering Mini-Symposium. We are particularly interested in having local companies present at the symposium. If your company is working on unique applications or using interesting and innovating solutions techniques, consider making a presentation at the symposium.

Contact any of the people listed for more information or submit an abstract at [aiaa-philly@hotmail.com](mailto:aiaa-philly@hotmail.com). If you are not able to present at the symposium, consider attending to hear the many interesting presentations.



**GREATER PHILADELPHIA AIAA / ASME  
3<sup>rd</sup> Annual AEROSPACE / MECHANICAL ENGINEERING MINI-SYMPOSIUM**

**THE ENGINEERING INNOVATION SHOWCASE OF PHILADELPHIA**

March 17, 2007 – DoubleTree Guest Suites, Plymouth Meeting, PA

**CALL FOR ABSTRACTS**

See the latest developments in local Aerospace & Mechanical Engineering technology!  
Abstracts solicited for oral presentations and poster session.

**SUGGESTED SESSION TOPICS (but not limited to):**

- Energy & Propulsion Systems – Fuel cells, hydrogen technologies, advanced cycles, thermal-fluids, heat transfer
- Micro & Macro Materials – Nano-technology, MEMS, ceramics, composites, polymers, smart materials, manufacturing techniques
- Modeling & Simulation – CFD, FEA, manned simulators, trajectory analyses
- Sensors & Controls – Smart sensors, control methodologies, non-destructive methods, laser-based techniques
- Vehicle Design and R&D – Manned and UAV, ground, sea, air, space
- Vibrations & Dynamics – Rotor and machinery dynamics, acoustics, passive and active damping, noise control

**Abstract Format & Submission** – All submissions should be single page abstracts not exceeding 500 words, in PDF format. The body of the abstract should be preceded by an author/title block. The title should appear centered in capital letters, followed by the authors' names, organizations, phone numbers, and e-mail. Presenter's name and mailing address MUST follow the body of the abstract. Please note if abstract is to be considered for oral presentation or for the poster session.

**Student Submissions** – Student submissions are limited to a maximum of 2 per faculty advisor. This limit will be strictly enforced. Additional submissions beyond this limit WILL NOT be considered. All student submissions must list a faculty advisor.

**Submit Abstracts To** – [aiaa-philly@hotmail.com](mailto:aiaa-philly@hotmail.com)

**For More Information** – Contact the conference co-chairs:  
Peter Cavallo (AIAA) – [cavallo@craft-tech.com](mailto:cavallo@craft-tech.com) 215-766-1520  
John Wolf (ASME) – [john.j.wolf@villanova.edu](mailto:john.j.wolf@villanova.edu) 610-519 6129

See the AIAA/ASME Web sites:  
[www.homepage.villanova.edu/charles.marston/AIAA](http://www.homepage.villanova.edu/charles.marston/AIAA)  
[www.sections.asme.org/philadelphia](http://www.sections.asme.org/philadelphia)

**How to Register**

**Via the Web:**

We are again pleased to offer web registration this year through Acteva. Attendees preferring to pay by credit card must register on-line by clicking on:  
[www.acteva.com/go/aiaa](http://www.acteva.com/go/aiaa)

**Refund Policy:**

No refund requests will be honored if registering via the Web. Web registration is final.

**Via the Mail:**

You may also register by sending a check along with the completed registration form to:

Mrs. Lana Vernati  
Mechanical Engineering Department,  
Villanova University  
800 Lancaster Avenue,  
Villanova, Pennsylvania 19085

**Registration Form**

**Make Check Payable to: AIAA Greater Philadelphia Section**

Name: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Email: \_\_\_\_\_

	Regular	Student
Registration prior to February 20, 2007	\$75.00	\$25.00
Registration on or after February 20, 2007	\$80.00	\$25.00

The registration fee provides for attendance at the technical sessions, a copy of the Mini-Symposium booklet containing abstracts of all presentations, breakfast, luncheon, and a guest speaker.



Submit abstracts (PDF format) by e-mail to: [aiaa-philly@hotmail.com](mailto:aiaa-philly@hotmail.com)  
**DEADLINE FOR ABSTRACTS – January 31, 2007**  
**NOTIFICATION OF ACCEPTANCE – February 17, 2007**



### **Faculty Position at Temple University**

The Department of Mechanical Engineering at Temple University has an opening for a faculty position at the rank of Lecturer or Senior Lecturer in the general area of mechanical engineering design and materials or related areas. The position will start in Fall 2007. Candidates should have a Ph.D. in mechanical engineering or in a closely related field. Candidates with industrial experience and/or professional engineering registration are especially encouraged to apply. Duties include student advising, teaching undergraduate and graduate courses in mechanical engineering, and supervising capstone (senior design) projects. Candidates should possess the ability to effectively interact with students and faculty, and to deal with a wide range of curricular issues. This is a nontenure-track renewable faculty position. Information about the Department could be obtained at:

<http://www.temple.edu/engineering/mechanical>

Interested candidates should submit a resume and a career statement to:

Mohammad F. Kiani, Ph.D., Chair,  
Department of Mechanical Engineering  
Temple University  
1947 N. 12th St., Philadelphia, PA 19122  
or  
mkiani@temple.edu.

Temple University is an EOE.

### **Opportunities for Graduate Study at Temple University**

MSE/ME Master of Science in Mechanical Engineering

MS/BioEngr Master of Science in Bioengineering

PhD/Engr Ph.D. in Engineering

Both Masters degree programs can be completed with a thesis or a non-thesis program option. Class sizes are small, the customizing of one's program of study is encouraged, and full funding is available to qualified full-time students. Note that: (i) all graduate courses are conducted in the evening; (ii) Temple is convenient to all public transit arrangements including SEPTA regional rail; and (iii) Temple's tuition is extremely competitive.

The Mechanical Engineering Department faculty conducts research in diverse applications including bioengineering, composites and advanced materials, and engineering mathematics. A Ph.D. in Engineering program is available to highly-qualified applicants with research interest in these and related disciplines.

For additional information please visit:

<http://www.temple.edu/engineering/mechanical/index.htm>

Or contact:

Mohammad F. Kiani, Ph.D.  
Chair, Mechanical Engineering  
(215) 204-4644 mkiani@temple.edu  
Vallorie Peridier, Ph.D.  
ME Graduate Program Director  
(215) 204-7143 peridier@temple.edu