

Executive Committee 2001-2002

March 1, 2002

Vol. 43, No. 7

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CHAIR'S MESSAGE

Dear Central Ohio ASME members,

If you were not able to attend the Old Guard Student Presentation Competition on February 21st you missed some excellent presentations.

The Old Guard is made up of ASME dues exempt members, those who have reached the age of 65 and have retired. They continue to contribute to the Society and their contributions are used to support the "Old Guard" Prizes and similar Society activities related to the younger members.

The Prizes were first established in 1956 and are awarded annually for the best four presentations of technical papers at the Old Guard Contest during the ASME International Mechanical Engineering Congress. The contestants are Student Members who won first prize at each Regional Student Conference. All contestants receive an expense-paid trip to the Congress, this November in New Orleans. Last year, OSU student Justin Reed received first prize at the Regional Student Conference and presented at the International Congress in New York.

This year's results of the Central Ohio Section's Old Guard Competition are:

- 1st Prize (\$200) **Tony Roy**
Magnetorheological Fluids in Mass-Spring Damper Systems
- 2nd Prize (\$100) **Chris Cundy**
Complex Eigensolutions of Automotive Drivelines
- 3rd Prize (\$50) **Anjan Contractor** - Efficient HVAC Design
- 4th Prize (\$50) **Phil Brodzinski** - The Gamma Knife

Tony and Chris will have the opportunity to present at the Regional Old Guard competition for a chance to compete at the International Congress this year in New Orleans.

Phil presented on The Gamma Knife, a minimally intrusive surgery for operating on the brain using radiation. Mechanical engineers are being called to work on more medical projects every year. This is one reason the Central Ohio Chapter of ASME put together the **Biomechanical Engineering Symposium** to take place on March 23rd. Please see details inside this newsletter. We are very excited about the five speakers we have assembled and feel it will be enjoyable for all who attend.

Respectfully, Kyle D. Koestner
Chair, ASME Central Ohio Section

See Pages 3 and 4 for
Symposium
Information and Brochure



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~ A LOOK AHEAD

<u>Date</u>	<u>Activity</u>	<u>Location</u>
March 23	One-day Symposium on Biomechanical Engineering	Fawcett Center, Columbus
April 18	Nat. Board of Boiler & Pressure Vessel Inspectors	National Board, Worthington
May 16	Honors and Awards Banquet	Tentative
June 20	Annual Golf Outing	Tentative

EXECUTIVE COMMITTEE: If you would like to join the Executive Committee, please contact Kyle Koestner at (937) 644-7926 or koestnerk@asme.org. The committee will meet at 6:15 p.m. on March 7, April 4, and June 6, 2002, at the office of Robson Lapina on 434 East Rich Street in Downtown Columbus.

Place
Stamp
Here

Send To: ASME – Biomechanical Symposium
c/o Robson Lapina
434 East Rich Street
Columbus, OH 43215



ASME International

Central Ohio Section

presents a

**ONE-DAY SYMPOSIUM
on
BIOMECHANICAL
ENGINEERING**

Saturday, March 23rd, 2002

9:30 AM to 3:30 PM

(8:30 AM for registration)

At

**The Fawcett Hotel and
Conference Center**

**The Ohio State University
2400 Olentangy River Rd.**

Columbus, OH 43210

This symposium will tie together basic elements of physics, dynamics, biology and material science in the field of biomechanical engineering.

An ASME distinguished lecturer, joined by a variety of experts in this field will present their work.

Fee:	Pre-paid*	Later
ASME member	\$45	\$70
ASME student member	\$15	\$20
non-ASME members **	\$156	\$181

* Should be received by Monday, March 18th, 2002.

** Includes 1-year membership, if desired (\$111.00 value)

The fee for this symposium includes all sessions of presentations and discussions, session handouts, continental breakfast, lunch, and breaks.

Registration Policy:

In order to qualify for the pre-pay fee schedule, please send the registration form from this brochure together with your check or money order made out to "ASME Central Ohio Section – Symposium" post marked by March 15th, 2002, to the following address:

ASME – Biomechanical Symposium
c/o Robson Lapina
434 East Rich Street
Columbus, OH 43215

Information:

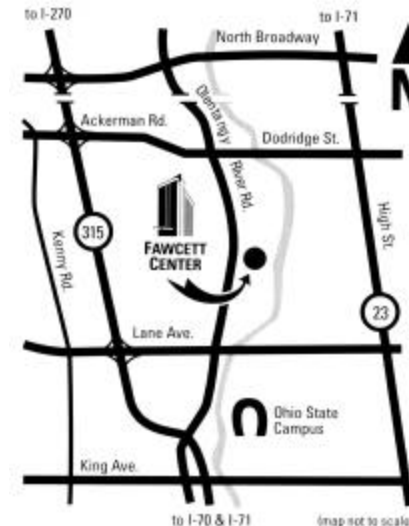
Symposium:

Bart at 614-221-5443 (beckhardt@robsonlapina.com), or Michiel at 614-761-1214 (mbrongers@cctlabs.com), or visit www.centralohioasme.org.

Hotel Reservations:

The Fawcett Hotel and Conference Center - The Ohio State University at 614-292-3238 or 1-800-637-2316 or visit www.fawcettcenter.com.

(Free Transportation from the Columbus Airport)



Directions:

- From Rt-315**
- Exit on to Lane Avenue, going East.
 - Turn onto Olentangy River Rd., going North.
 - The Fawcett Hotel and Conference Center will be on the right hand side.

AGENDA

Registration/Continental Breakfast

8:30 – 9:30 AM

Orthopedic Engineering

9:30 – 10:20 AM

Karen E. Warden is an ASME distinguished lecturer and a doctoral candidate at Case Western Reserve University specializing in spinal biomechanics. She has been active in the field for the past ten years in academic, industrial, and consulting capacities, has co-authored numerous peer-reviewed publications, and received research and achievement awards.

Karen will speak about Orthopedic Engineering. She will describe the history of the discipline, the application of mechanical engineering fundamentals to biomechanics, the types of implants and their materials, the role of the engineer and some of the emerging technology. Samples of orthopedic implants will be presented.

Vehicle Crash Dynamics

10:20 – 11:10 AM

Gary E. Derian, P.E. received his degree from Case Western Reserve University in Mechanical Engineering. He designed the first U.S. built ultra high performance tire at the BF Goodrich Company. He was a chief engineer at Avanti Automotive Company where he was involved in the safety standards including air bag development before he joined Robson Lapina, Inc., in 1990 to work on performing crash reconstruction and tire failure analyses.

Mr. Derian will speak about how the crush zones, seat belts, seat backs, air bags and vehicle's interior design work together to restrain and protect the occupants. He will also discuss the elements of vehicle performance and their effect on crashworthiness including vehicle type, size, power, brakes, suspension, and tires.

Coffee Break

11:10 – 11:30 AM

Biomechanics in Crash Trauma

11:30 – 12:20 AM

Richard Collins, Ph.D. holds a doctorate degree in Mechanical Engineering/Aeronautical Sciences from the University of California at Berkeley and joined Robson Lapina, Inc., in January 2001 to work on the mechanical and biomedical aspects of forensic engineering.

Dr. Collins will talk about the contributions of biomechanical engineering to the highway safety. A modest review will be presented on the human injury thresholds associated with the biomechanics of impact. It is hoped that this partial compilation will be helpful both in ameliorating the design of vehicles and their occupant restraint systems on the one hand, and in estimating and analyzing the forces and corresponding energy levels responsible for documented injuries on the other.

Lunch

12:20 AM– 1:30 PM

Mechanics of Spine Injury

1:30 – 2:20 PM

Vijay K. Goel, Ph.D. holds a doctorate degree from the University of New South Wales, Australia, in stress analysis associated with total hip prosthesis. He is a professor and chair in the department of Bioengineering and a professor and director of Spine Research Center of Orthopedics Medical College of Ohio at the University of Toledo.

Dr. Goel will speak about the role of mechanics in the design and development of spinal implants. Similar principles are being used in other areas of surgery. He will review the functional biomechanics of the lumbar spine with special reference to changes in motion and load sharing among the components for the intact and degenerated spinal segments, and the biomechanical role of spinal implants in restoring spinal function. The presentation will review the in vitro and in vivo biomechanical data.

Coffee Break

2:20 – 2:40 PM

Biomaterials Research

2:40 – 3:30 PM

Rakhi Jain, M.S. holds a master degree in Biomedical Engineering from Drexel University and is a doctoral candidate in Biomedical Engineering at The Ohio State University. Her research focus has been in Biomaterials, Tissue Engineering, and medical implant development with emphasis on biocompatibility, implant-tissue interfaces, and substrate surface morphology.

Ms. Rakhi will speak about biomaterials and improving biocompatibility through mechanical considerations. The presentation will focus on improving the biological performance of engineered implants apposing interfacing tissues and will include micro-machined test systems with in vitro and in vivo biocompatibility data.

REGISTRATION FORM

Please register me for the

ONE-DAY SYMPOSIUM

on

Saturday, March 23rd, 2002

9:30 AM to 3:30 PM

(8:30 AM for registration)

at

The Fawcett Hotel and Conference

Center

The Ohio State University

Name: _____

Address: _____

City, State, Zip: _____

Affiliation: _____

Job Title: _____

Phone: (____) _____

E-mail: _____

	Pre-paid*	Later	Total
ASME member	\$45	\$70	\$ _____
ASME student member	\$15	\$20	\$ _____
non-ASME members **	\$156	\$181	\$ _____
TOTAL			\$ _____

YES, I am a member of ASME (# _____)

YES, I would like to apply for the ASME 1-year free membership.

NO, I do not want to become an ASME member.

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** Includes 1-year membership, if desired (\$111.00 value)