



name this newsletter

<http://sem.org>

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Message from the President

Dear Colleagues:

The "Friendly Society" is adjusting to times in order to serve you better, and it is with a great pleasure that I welcome you all to the inaugural issue of the SEM Newsletter. Actually, this Newsletter will start appearing regularly next March and will address the most current news relating to the Society. In fact, this emerging

publication, being introduced this month, is going to continue informing you about the current events relating to SEM just as was done in *Experimental Techniques* (ET) during the past several years. Now however, because ET is morphing to become a better vehicle to facilitate dissemination of the Society's Intellectual Property (IP), a new Society-wide-publication is needed. The Newsletter whose birth you are currently witnessing will also have to be christened and, soon, Tom Proulx will be informing you of a contest for the name of our newborn Newsletter (see page 8). In the mean time, your comments, criticisms, advice, etc., relating to the Newsletter will be very welcome and appreciated.

Please join me in welcoming this new publication!



Ryszard J. (Rich) Pryputniewicz,
SEM President, 2010-2011

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For complete details on the contest to name this newsletter, please see page 8

SEM Member Achievements

Prestigious Honors for two SEM Past Presidents

Doctor Honoris Causa and 2010 Presidential Award

Professor Michael Sutton has been awarded the Doctor Honoris Causa degree from École Normale Supérieure de Cachan, France. His name was proposed by the Scientific Council of ENS Cachan and approved by the Board in recognition of his outstanding contributions to the field of mechanical engineering.

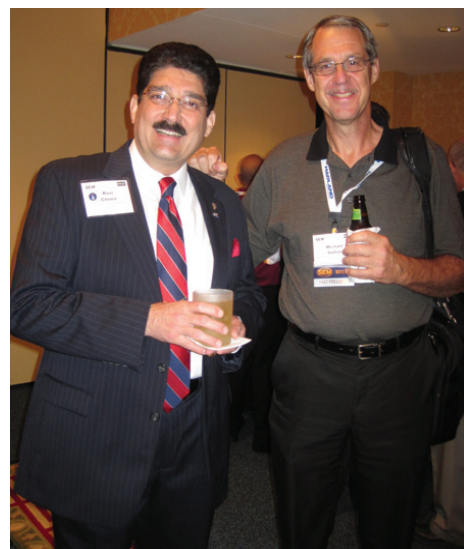
Prof. Sutton is a Carolina Distinguished Professor and Director of the Center for Mechanics, Materials and NDE at the University of South Carolina's Department of Mechanical Engineering. He joined SEM in 1978, is a Fellow and Past President (2001-2002) of the Society, and has received numerous national and international honors for his contributions in the fields of experimental mechanics, computer vision and fracture mechanics.

Dr. Ravinder Chona has been awarded one of the prestigious Presidential Rank Awards for 2010. Each year, the President recognizes a VERY small group of career Senior Executives (no more

than 5% of the government-wide senior executive/senior professional cadre of approximately 6,800 individuals) with the President's Rank Award for exceptional long-term accomplishments. Winners of this prestigious award are strong leaders, professionals, and scientists who achieve results and consistently demonstrate strength, integrity, industry, and a relentless commitment to excellence in public service.

Award winners are chosen through a year-long rigorous selection process. They are nominated by their agency heads, evaluated by boards of private citizens, and approved by the President. The evaluation criteria focus on leadership and excellence--indeed, a highly selective group.

Dr. Chona is a member of the scientific and professional cadre of senior executives, is Senior Scientist for Structural Integrity, Air Vehicles Directorate, Air Force Research



Ravi Chona (left) and Mike Sutton at IMPLAST 2010

Laboratory, Wright-Patterson Air Force Base, Ohio. He joined SEM in 1979, is a Fellow and Past President (1997-1998), and has served the Society in many ways, including as an Associate Editor for *Experimental Mechanics*.

Experimental Techniques No Longer Being Mailed to SEM Members

In 2011, *Experimental Techniques* (ET) will no longer be mailed to all SEM Members. ET is available electronically to all members via the Members Only section of our web site. In order to receive the printed version of ET there will be an annual fee to cover printing and distribution costs. For 2011, this fee will be \$65.00 (USD).

Therefore, if you wish to receive the printed version of ET, you will need to sign up and pay the fee. You can add ET for 2011 online by going to the Members Only section of

<http://sem.org>, select the option to "Renew Your Membership," and check the box for ET in print. Complete the payment section and you are all set.

If you prefer, you can call us (+203-790-6373) and we will handle the transaction over the telephone. Payments via mail should be sent to: SEM, 7 School Street, Bethel, CT 06801, USA. Finally, you may E-mail (joni@sem1.com) or fax (+203-790-4472) the following information to us, and we will process your request.

Name: _____

I wish to receive printed copies of ET for 2011 (6 issues). Please charge my credit card as indicated below.

Credit Card Type: Visa/Mastercard/Amex
Account #: _____

Print Name on Card: _____

Signature: _____

Expiration Date: _____

IMPLAST 2010



Over
**100 Papers
Presented**

(left to right)
SEM President Rich
Pryputniewicz,
Ryan Marinis, Leslie Taylor,
Victor Shim, and
Dulal Golder



IMPLAST 2010: A Symposium on Plasticity and Impact (including Blast) Mechanics October 2010 • Providence, Rhode Island

This fall, SEM was particularly pleased to sponsor and organize the tenth meeting of IMPLAST. This quadrennial conference focuses on issues of plasticity, large scale deformation, impact, blast, and material survivability within dynamic, high temperature, or otherwise extreme environments. Experimental techniques are not just prominent, but essential in reaching meaningful results in those areas of research. Consequently, the activities of that community fall impeccably under the topics promoted by SEM, and we are delighted to have partnered with IMPLAST for this event.

The conference was well attended, boasting of over 100 papers and 150 attendees from academia, industry, and government laboratories. Noteworthy also is the overwhelming international character of the participants, which included citizens of every continent and hemisphere of the globe.

The conference concluded with a half-day open forum where issues concerning the future of blast mitigation research were discussed.

Please enjoy the few photographs taken during this memorable conference. Additional photos will be posted on the SEM Web site: <http://sem.org>.

Arun Shukla (*below, right*)
Carl Rosseau (*below, left*)



Highlights

Special highlights included, sessions in honor of Prof. Gerald Nurick, of the University of Cape Town, and a banquet featuring



Gerald Nurick (*right*) and
Arun Shukla

some of the best cultural, musical, and gastronomical highlights of the Northeastern region of the United States. During the banquet, Prof. Narinder Gupta was very gracious in lecturing on the history of IMPLAST, lacing his presentation with several tantalizing anecdotes.



Narinder Gupta (*left*) and
Ravi Chona

Finally, we cannot help but feeling much pride to have been complimented by several participants on "the best organized conference they have attended."

2011 SEM Executive Board Nominees

The SEM National Nominating Committee has announced nominations for 2011–2012 SEM Executive Board officers. Biographies for each nominee appear in this article. The Executive Board Nominees are: President–Peter G. Ifju; President-Elect–Carlos E. Ventura; and Vice-President–Emmanuel E. Gdoutos. Executive Board Member nominees are: Paul Reynolds, Todd Simmermacher, K. Jane Grande-Allen, and Cosme Furlong. If elected, they will join current Board members whose terms extend to 2012; Wei-Chung Wang, Ryszard J. (Rich) Pryputniewicz, Jonathan D. Rogers, Thomas W. Proulx, Ralph D. Brillhart, Wendy C. Crone, Douglas E. Adams, and Ramón Rodríguez-Vera.

President Peter G. Ifju



Peter Geza Ifju is a Professor in the Mechanical and Aerospace Engineering Department at the University of Florida. He received a Ph.D. in Materials Engineering Science (1992), a M.S. in Engineering Science and Mechanics (1989), and a B.S. in Civil Engineering (1986) all from Virginia Tech. He also performed a Post-Doc at NASA Langley Research Center (1992–1993) in the Mechanics of Materials Branch. His research activities include experimental stress analysis, optical methods for stress analysis (moiré interferometry, luminescent photoelastic coatings), and composite materials stress analysis and fabrication. He has also gained

notoriety in micro air vehicle (MAV) design, fabrication, system integration, applications, and experimental characterization. Dr. Ifju has gained considerable international recognition in experimental mechanics including being selected as the first recipient of the A. J. Durelli Award from the Society for Experimental Mechanics in 2004. AIAA granted Dr. Ifju the Abe M. Zarem Award in 2005. He also received the NSF Career award in 1995. His publications have been recognized by paper of the year awards in three separate journals, including the Journal of Experimental Techniques (Harding Award), the Journal of Experimental Mechanics (Peterson Award) and the Journal of the Society for the Advancement of Materials and Process Engineering (SAMPE). He has received teacher of the year awards on the department and college level at the University of Florida. The University of Florida MAV Team, lead by Dr. Ifju, won first place overall in the International MAV Competition in 1999, 2000, 2001, 2002, 2003, 2004, 2005, and 2006. In 2000 Discovery magazine granted Dr. Ifju a Top Ten Technology Innovation Award for Micro Air Vehicle Development. Dr. Ifju has coauthored or authored 2 books

Additional Nominations

These individuals are the official choice of the SEM Nominating Committee. The Society's bylaws also provide for alternate nominations. Article IX, Section 4, of the SEM constitution states that, "A member may also be nominated by written petition of at least 75 members of the Society, and submitted to the Secretary, together with the member's consent to serve, if elected, at least 90 days prior to the Annual Business Meeting," (June 12, 2011 in Uncasville, Connecticut).

The Bylaws also provide that, if no additional nominations are submitted by the membership at large, the Secretary of the Society (in this case, the Executive Director) shall cast an affirmative vote on behalf of the membership at the Society's Annual Business Meeting.

(one on experimental stress analysis and one on micro air vehicles), more than 10 book chapters, more than 55 journal papers, and more than 100 conference papers. He currently serves as President Elect of the Society for Experimental Mechanics.

President-Elect Carlos E. Ventura



Dr. Carlos Ventura is a Civil Engineer with specializations in structural dynamics and earthquake engineering. He has been a faculty member of the Department of Civil Engineering at the University of British Columbia (UBC) in Canada since 1992. He is a registered professional engineer in British Columbia, California and Guatemala. He is currently the Director of the Earthquake Engineering Research Facility (EERF) at UBC, and is the author of more than 200 papers and reports on earthquake engineering, structural dynamics and modal testing. He is a member of several national and international professional societies and advisory committees. Dr. Ventura has conducted research for more than twenty five years in the dynamic behavior and analysis of structural systems subjected to extreme dynamic loads, including severe ground shaking. His research work includes experimental studies in the field and in the laboratory of structural systems and components. Research developments have included novel techniques for regional estimation of damage to structures during earthquakes, detailed studies on nonlinear dynamic analysis of structures and methods to evaluate the dynamic characteristics of large Civil Engineering structures. Ventura has a substantial research record in shake table testing and vibration studies of existing structures subjected to different levels of dynamic loading and seismic retrofit of existing structures. His current research is focused on the development

of performance-based guidelines for seismic retrofit of schools, on methods to evaluate the interaction between critical infrastructure vulnerable to natural and man-made hazards, and on structural health monitoring of bridges.

Vice President Emmanuel E. Gdoutos



Dr. Emmanuel E. Gdoutos is Professor and Director of the Laboratory of Applied Mechanics of the Democritus University of Thrace, Greece, and Adjunct Professor at Northwestern University. He is member of the European Academy of Sciences and Arts, the European Academy of Sciences, Academia Europaea, Russian Academy of Engineering, International Academy of Engineering, Bulgarian Academy of Sciences, and Corresponding Member of the Academy of Athens. He is Fellow of the American Academy of Mechanics (AAM), the American Society of Mechanical Engineers (ASME), the European Structural Integrity Society (ESIS), the International Congress on Fracture (ICF) and honorary member of the Italian Group of Fracture (IGF). He received an honorary Ph.D. from the Russian Academy of Sciences.

Dr. Gdoutos is author of over 250 technical papers and 17 books and editor of 15 books. He served as Editor-in-chief of Strain (2007-2010), President of the European Structural Integrity Society (ESIS) (2006-2010), the Greek Group of Fracture (2002-2010) and chairman of the European Association for Experimental Mechanics (EURASEM) (2003-2007). He received the award of merit and the Griffith medal from ESIS,

the award of merit from EURASEM, Medal and Diploma of the International Academic Rating of Popularity "Golden Fortune," the Paton Medal of the Ukrainian Academy of Sciences and the Jubilee Medal "XV Year to IAE" of the International Academy of Engineering.

He is Fellow of SEM, served on the Executive Committee (2006-2008) and received the Lazan, Theocaris, Tatnall and Zandman awards.

Member-At-Large Paul Reynolds



Dr. Reynolds is currently a Senior Lecturer in the Department of Civil and Structural Engineering at The University of Sheffield in the UK. He received his PhD degree from the same department in 2000 and was appointed to the academic staff in 1998. He has worked for many years in the area of vibration serviceability of civil structures under human dynamic excitation, with particular emphasis on floor and stadium structures. He is currently developing techniques for mitigation of human-induced vibration, with particular emphasis on advanced technologies including active and semi-active vibration control. Dr. Reynolds has published more than 100 articles in technical journals and at international conferences.

Dr. Reynolds has served on numerous committees and working groups, including BSI technical committee GME 21/6/4 that produced a UK code of practice for vibration in buildings, the IStructE/DCLG/DCMS working group on the "Dynamic Performance and Design of Stadia

Structures and Seating Decks" and the NAFEMS Dynamics and Testing Working Group. He has served on the Peer Review College of the UK Engineering and Physical Sciences Research Council since 2006. He is currently vice-chair of the SEM Civil Structures Testing Technical Division and is an Associate Editor of the Experimental Techniques journal.

Dr. Reynolds is a regular consultant to industry, and has worked on high profile projects such as the London Millennium Bridge, the Marina Bay Bridge in Singapore, the Orion laser facility at AWE and a number of Premiership football stadia in the UK. He is a founding director of the University spin-off company Full Scale Dynamics Limited, a highly successful enterprise which provides commercial services in vibration testing, monitoring, analysis and design.

Member-At-Large Todd Simmermacher



Todd Simmermacher received his B.S. and M.S. degrees from the University of Buffalo and his Ph.D. from the University of Houston. He has worked at Sandia National Laboratories since 1996 where he has performed research in a wide variety of areas including experimental applications ranging from low force-level component modal tests to the response of full systems to explosive loadings. Todd's main focus is on experimental and analytical structural dynamics, specifically model validation and uncertainty quantification. Recent work includes the simulation and validation of linear and non-linear coupled systems. He is the chair for the Model Validation and Uncertainty Quantification Technical Division of SEM.

Member-At-Large K. Jane Grande-Allen



Dr. Grande-Allen's research group investigates the structure-function-environment relationship of heart valves through bioengineering analyses of the extracellular matrix and cell mechanobiology. Their goal in characterizing the mechanisms of heart valve remodeling is to derive novel therapies that can be used to treat patients earlier in the disease process. To perform this work, Dr. Grande-Allen and students employ numerous bioengineering, molecular biology, materials science, and mechanical engineering strategies and have also developed numerous electromechanical tools, such as various systems for the sterile, long-term organ culture of heart valves as well as customized bending systems to test the behavior of heart valve tissue engineering scaffolds. This work has been supported by over \$2.5M in funding from several federal, non-federal, and international agencies, and results are described in more than 60 peer-reviewed publications. Dr. Grande-Allen received a B.A. in Mathematics and Biology from Transylvania University in 1991 and a Ph.D. in Bioengineering from the University of Washington in 1998. After performing postdoctoral research in Biomedical Engineering at the Cleveland Clinic, she joined Rice University in 2003 and was promoted to Associate Professor of Bioengineering in 2008. She received the 2009 Rice University Presidential Award for Mentoring. Dr. Grande-Allen has been actively involved with the SEM Biological Systems and Materials TD for many years and has served as SEM track chair,

session chair, abstract reviewer, and session organizer.

Member-At-Large Cosme Furlong



Cosme Furlong received his B.Eng. from the University of the Americas, Mexico, in 1989, and his M.S. and Ph.D. in Mechanical Engineering from the Worcester Polytechnic Institute (WPI) in 1992 and 1999, respectively. He held the positions of Research Professor and Assistant Professor of Mechanical Engineering at WPI where he currently is a tenured Associate Professor working in the field of Nanoengineering, Science, and Technology (NEST). His professional interests and involvement include: combination of modeling and simulation with quantitative optical metrology, fiber optics sensors, optoelectronic holography, NDT, materials characterization, and optimization of mechanical and microelectromechanical components and systems.

He has received multiple awards, including the Sigma Xi Junior Researcher Faculty, the Morgan Distinguish Instructorship, and he has been named a research affiliate of the Department of Otology and Laryngology at the Mass. Eye & Ear Infirmary (MEEI) and a Lecturer on Otology and Laryngology at Harvard Medical School. He is the author of more than 100 technical publications and he actively participates in multiple SEM related activities, including the organization of technical sessions and international conferences and symposia.

SEM to Implement New Arrangement for Conference Proceedings

In 1943 when SEM (SESA at that time) was founded, a primary goal for the new Society was the dissemination of information. This remains a major mission of the Society. While we have been very successful with our two publications, EM and ET, our conference proceedings do not have the same track record. We have, frankly, struggled to come up with an affordable way to make this information more widely available. We have finally come up with a two-pronged approach which we believe will not only make the information more widely available, but also make it more highly visible for indexing and abstracting purposes.

We have signed an agreement with Springer to publish the proceedings for all SEM conferences (primarily IMAC and SEM Annual Conference) beginning with our 2011 conferences. (Actually, we will include the 2010 conferences as well, based upon the Proceedings CD's we prepared.) This will necessitate some changes in how proceedings papers are submitted. However, based upon our experience with IMAC-XXIX coming up early in 2011, the process does not appear to have any insurmountable problems. Springer will publish the proceedings online and conference attendees will obtain their copy by

downloading from the Springer site at no charge. Springer also intends to make the proceedings available in printed form using print-on-demand technology.

The second aspect of the plan is to make earlier conference proceedings available in PDF form on the SEM web site. These will be fully searchable and anyone will be able to download a copy of a proceedings paper at no charge. Modifications to sem.org are currently underway and we hope to have everything completed and the first few years of conferences available by the end of this year.

This will be a long-term project since SEM staff will need to process much of the information to upload to the site. We can easily get back to 2002 since most of the necessary information is available within our database. However, as we go further back, the necessary information is not as readily available and will have to be entered manually. Any volunteers who would like to get involved?

These two efforts should go a long way to making our conference information more widely available. Not only does this help SEM fulfill its mission, it is also a good advertisement for the Society.

What do you think of our new newsletter?

What do you think of our new newsletter? We are, frankly, excited by the opportunities this gives us to communicate with our membership. We plan to publish this at least four times per year, and it will be the main vehicle for official Society communications, as well as any other information about SEM, our members, and additional news appropriate for our membership.

So, the first thing I want to do is ask you to get involved. Send us any information you have regarding activities, honors, etc. involving SEM members. Don't forget information about our Student members and Chapters. As a start, see the information in this issue regarding our contest to name our newsletter. Not only is this a chance to contribute, you could win a prize.

The second thing I would like to ask is that you let us know what you think about the newsletter and other Society activities. Suggestions, criticisms and, kudos are all received happily. It is your Society. Help us make it better.

- Tom
director@sem1.com

IMAC-XXIX

Conference & Exposition on Structural Dynamics

ADVANCED AEROSPACE APPLICATIONS

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Register NOW! Preregistration savings ENDS January 5, 2011



YOU could decide what goes here

Come Up With a Name for Our Newsletter and Win!

Our new newsletter needs a name. We can't just call it the "SEM Newsletter." So, we are asking our members to suggest an appropriate name. Since everyone enjoys a contest, we have decided that the person who suggests the name that is selected will receive a complimentary registration to either the 2011 SEM Annual Conference or IMAC-XXX which will be held early in

2012. I hope that you will agree that this is a significant prize.

To enter, all you need to do is send an email to director@sem1.com with your suggested name by January 24, 2011. The suggestions will be tabulated and the SEM Executive Board will make the final decision at its meeting scheduled for January 30, 2011 in Jacksonville,

FL. In cases where the same name is suggested, only the first received entry will be eligible to win.

You can't win if you don't enter. Get those entries in soon!

7 School Street • Bethel, CT 06801

