



ANNUAL REPORT TO THE EMI MEMBERSHIP FOR FY 2015

The Engineering Mechanics Institute of ASCE, established on October 1, 2007, is organized under the American Society of Civil Engineers, a 501 (c) (3) non-profit association created in 1852. The purpose of this report is to present to the EMI membership a summary of the Institute's activities and progress during the period of October 1, 2014 to September 30, 2015 (FY 2015), as specified by article 9.3.1 of the EMI bylaws:

"Additional Duties of the President. The President, on behalf of the Board of Governors, shall prepare and distribute to the membership an Annual Report for the preceding fiscal year [...]"

Governance

Over the summer of 2014, EMI conducted an election for two open positions on the EMI Board of Governors for FY 2014. José Andrade, Ph.D., M.ASCE (Caltech) and George Deodatis, Ph.D., F.EMI, M.ASCE (Columbia University) were elected to replace Lori-Graham Brady, Ph.D., F.EMI, M.ASCE (Johns Hopkins University) and Andrew Smyth, Ph.D., F.EMI, M.ASCE (Columbia University). The new EMI Board elected Roberto Ballarini, Ph.D., F.EMI, F.ASCE (University of Houston) to serve a second term as EMI President in FY 2015 and J.S. Chen, Ph.D., F.EMI, M.ASCE (University of California, San Diego) to serve as EMI President in FY 2016. Roger Ghanem, Ph.D., F.EMI, M.ASCE continued to serve as Past President in FY 2015.

Many thanks to the outgoing members of the EMI Board for their years of dedicated service to the Institute, and welcome to the new EMI Governors!

The EMI Board of Governors oversees the Institute's four Divisions:

Administrative Division

- Awards Committee
- Bylaws Committee
- Communications Committee
- Education Committee
- Membership Committee
- New Initiatives Committee
- Nominations Committee

Publications Division

- Editorial Board of the *Journal of Engineering Mechanics*
- Editorial Board of the *Journal of Nanomechanics and Micromechanics*
- Editorial Board of *Lecture Notes in Mechanics*

Conferences Division

Program Committee

Technical Division

Biomechanics Committee
Computational Mechanics Committee
Dynamics Committee
Elasticity Committee
Experimental Analysis & Instrumentation Committee
Fluid Dynamics Committee
Granular Materials Committee
Mechanics of Pavements Committee
Modeling Inelasticity & Multiscale Behavior Committee
Nanomechanics and Micromechanics Committee
Poromechanics Committee
Probabilistic Methods Committee
Properties of Materials Committee
Stability Committee
Structural Health Monitoring & Control Committee

EMI BOARD OF GOVERNORS

FY 2015



Roberto Ballarini, Ph.D.,
P.E., F.EMI, F.ASCE
President



José Andrade, Ph.D.,
M.ASCE



George Deodatis, Ph.D.,
M.ASCE



Roger Ghanem, Ph.D.,
F.EMI, M.ASCE
Past President



J.S. Chen, Ph.D., F.EMI,
M.ASCE



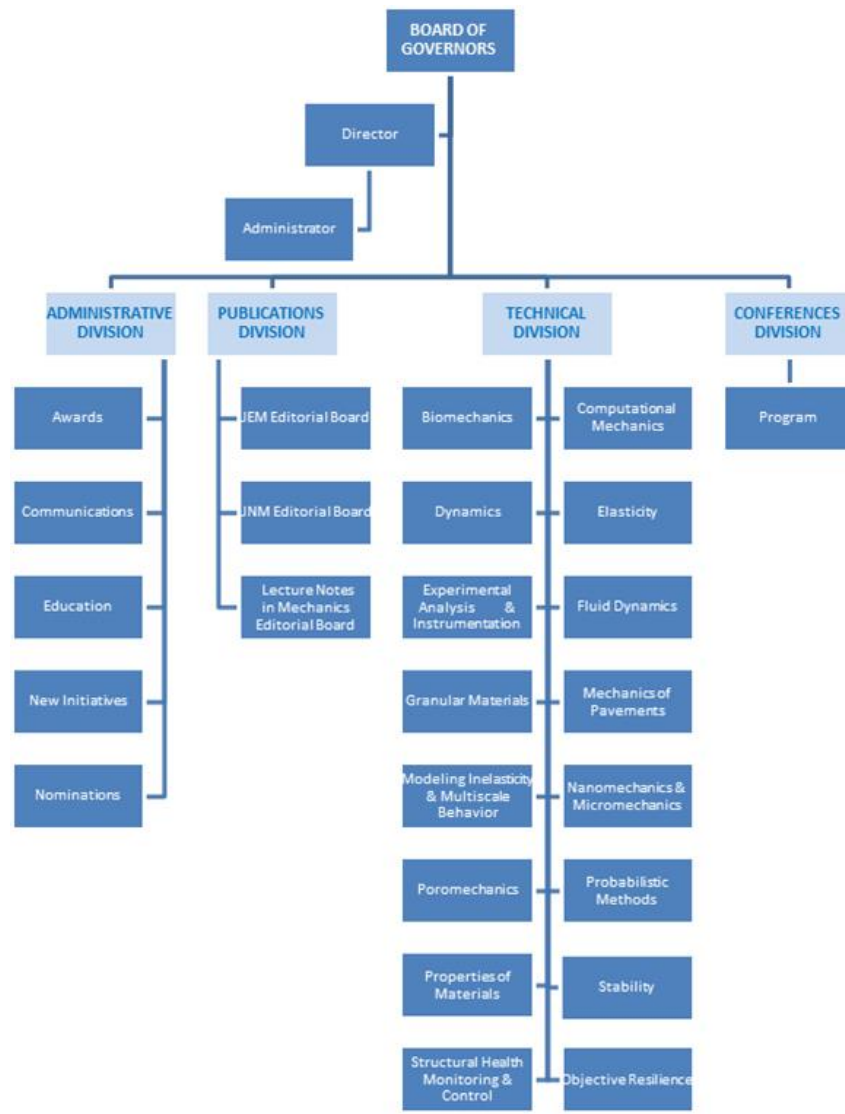
Dan Frangopol, Ph.D., P.E.,
F.SEI, F.EMI, Dist. M.ASCE



Muhammad Hajj, Ph.D.,
F.EMI, M.ASCE



Ning Lu, Ph.D.,
F.ASCE



EMI Organizational Chart

Membership

There are two ways of becoming an EMI member: members can join ASCE and select EMI as one of their Institutes (ASCE/EMI membership), or they may choose to be members of EMI only (EMI-only membership). EMI membership provides: member discount on EMI publications (25%), EMI journals subscriptions (75%), and EMI conference and webinar registrations; the ability to nominate members for elected positions on the EMI Board of Governors, to vote in EMI elections, and to apply to join EMI technical committees; a subscription to the EMI newsletter; and access to valuable resources and information on the EMI website.

It should be emphasized however that the main reason for becoming a member of EMI is the desire to become part of a community that one identifies with, and wants to interact with and contribute to.

Membership dues have been kept at same level since the start of EMI in FY 2008:

- \$80 per calendar year for EMI-only members;
- \$25 for EMI-only (full-time graduate) student members;
- For ASCE members, free as the first Institute and \$30 after the first Institute.

An [annual dues discount](#) based upon the yearly World Bank World Development Indicators is provided to members residing in certain countries. On-line membership applications are available for [ASCE/EMI membership](#) and for [EMI-only membership](#).

EMI pursued its efforts to attract and retain younger members through low membership fees for graduate students, student competitions, and the recently established EMI Leonardo da Vinci award. EMI membership has grown to about 2,500. Over 25% of the EMI members reside outside the U.S. (61 countries). About 25% of the EMI members are students, and over 90% of them are in academia or research. EMI counts 19 Distinguished/Honorary Members of ASCE among its members.

Publications

EMI is proud of its new publications which will help disseminate important new knowledge and engage the membership of the Institute.

Prof. Roberto Ballarini, Ph.D., P.E., F.EMI, F.ASCE (University of Houston) has served as the Editor of the monthly [Journal of Engineering Mechanics](#) (JEM), the flagship journal of EMI, since the fall of 2012. JEM continues to demonstrate extraordinary progress as one of the premier mechanics journals. All the journal statistics show a marked improvement over the past three years. There has been a 44% increase in submissions (from 375 to 540), a 33% increase in papers published annually (from 135 to 180), a 50% reduction in acceptance rate (from 51% to 34%), a 20% increase in impact factor and 5-year impact factor (now at 1.294 and 1.529, respectively), and a dramatic decrease in review time to first decision (from 6.7 months to 2.7 months). JEM's progress can be attributed to the leadership of its editor, its ever-increasing reputation as one of the most prestigious mechanics journals, and the hard work, diligence and rigorous paper reviews performed by the Associate Editors and manuscript reviewers.

Roland Pellenq, Ph.D., A.M.ASCE (M.I.T) and Christian Hellmich, Ph.D., F.EMI, M.ASCE (Vienna University of Technology) served as Co-Editors of the quarterly [Journal of Nanomechanics and Micromechanics](#) (JNM). JNM's updated focus will include molecular dynamics simulation and multiscale materials modeling of infrastructure materials.

Links to the table of contents of the two EMI journals are regularly included in the monthly EMI newsletter, and members may subscribe to e-mail alerts for the journals table of contents. E-mail delivery of table of contents alerts for ASCE or EMI journals may activated by visiting <http://ascelibrary.org/action/showPreferences?menuTab=Alerts>. One may also subscribe to the [RSS feeds of ASCE or EMI journals](#) and have titles, authors, and citation data for newly published articles delivered directly to one's desktop.

EMI published the proceedings (<http://ascelibrary.org/doi/book/10.1061/9780784479346>) of the CONCREEP 10 Conference on Mechanics and Physics of Creep Shrinkage, and Durability of Concrete Structures (187 papers, a substantial increase over the 59 papers of the CONCREEP 9 Conference proceedings, also published by EMI).

A **new report** in the Recent Trends in Mechanics series, titled “REPORT ON RECENT TRENDS IN GRANULAR MECHANICS” and prepared by members of the EMI Granular Materials Committee is now available for free download on the website of the U.S. National Committee on Theoretical and Applied Mechanics of the National Academies (USNCTAM) at

http://sites.nationalacademies.org/cs/groups/pgasite/documents/webpage/pgs_167169.pdf.



“REPORT ON RECENT TRENDS IN GRANULAR MECHANICS”

US National Committee on Theoretical and Applied Mechanics (USNC/TAM)

Granular Materials Committee, Engineering Mechanics Institute

Mustafa Alsaleh¹, Ching S. Chang², Ali Daouadji³, Usama El Shamy⁴, Mahdia Hattab³,
 Pierre-Yves Hicher⁵, Matthew R. Kuhn⁶, Shunying Ji⁷, Bo Li⁸, Shuiqing Li⁹, Anil Misra¹⁰,
 Jean-Noel Roux¹¹, Antoinette Tordesillas¹², Xu Yang¹³, Zhen-Yu Yin¹⁴, Zhanping You¹⁵,
 Mourad Zeghal¹⁶, Jidong Zhao¹⁷

Conferences

EMI organized the EMI 2015 (annual) conference and its first international conference, and took part in the organization of the CONCREEP 10 conference.

EMI 2015 Conference

Prof. Ronaldo I. Borja, Professor Civil and Environmental Engineering, Stanford University, chaired the [EMI 2015 Conference](#) (EMI 2015) held on June 16-19, 2015 at Stanford University in Stanford, California. A record number of participants (over 700) attended the event. The technical program featured twelve parallel tracks to accommodate 657 presentations (a new record) over three full-days. Social events at the conference included an ice breaker reception, a welcome reception, and a banquet and award presentation ceremony.

Two memorial symposia were part of the conference program: the Dr. M. Satake Memorial Symposium on Granular Mechanics and the Dr. Helmut Krawinkler Memorial Symposium on Performance-Based Earthquake Engineering. The conference featured six keynote lectures on the following topics:

- Mechanics of Hierarchical Nanotwinned Materials: Laboratory Studies and Inspirations from Nature, Huajian Gao, Brown University
- Mechanics of Granular Materials, James T. Jenkins, Cornell University
- Aseismic Deformation in Shale Gas Reservoirs and Its Effect on Hydraulic Fracturing, Mark D. Zoback, Stanford University

- New Trends in Topology Optimization: From Building Design to Craniofacial Reconstructive Surgery, Glaucio H. Paulino, Georgia Institute of Technology
- Computational Modeling of Induced Seismicity, Ruben Juanes, Massachusetts Institute of Technology
- Potent Joint Time-Frequency Analysis Techniques for Structural Dynamics Applications, Pol Spanos, Rice University

The six keynote lectures were recorded. EMI will post on its web site those lectures whose speakers agreed to have them posted.

Five student competitions were organized by the Probabilistic Methods, Computational Mechanics, Granular Materials, Modeling Inelasticity and Multi-scale Behavior, and Dynamics committees of EMI, in addition to a general student poster competition. All the EMI technical committees met at the conference, as did the Editorial Boards of the *Journal of Engineering Mechanics* and of the *Journal of Nanomechanics and Micromechanics* and the EMI Board of Governors.

The attendees' experience at the conference was enhanced by the use of [Twitter](#) and of the [Conference4me](#) smartphone app which provided the full conference program, maps, and the abstracts of the presentations, and allowed the participants to create their personal itinerary. A total of 217 attendees took advantage of the special offer on the occasion of the conference to become EMI members. Many thanks to Prof. Ronaldo Borja of Stanford University and his team for organizing and hosting a truly outstanding conference!



Plenary Keynote Session



Breakfast



Prof. Glaucio Paulino



Dr. Helmut Krawinkler Memorial Symposium



Prof. James Lai Symposium



Reception at the Arillaga Alumni Center



Prof. Ronaldo Borja



Prof. Shinozuka (standing, right)



Prof. Daniel Frangopol and Prof. Roberto Ballarini



Prof. Ronaldo Borja and Prof. Roberto Ballarini

The award ceremony also featured the recognition of the 2015 class of EMI Fellows. See below a group photo of the new Fellows of EMI.



L to R: Ertugrul Taciroglu, Pierre-Yves Hicher, Dinesh Katti, Ning Lu

2015 EMI International Conference

EMI held its first international conference on January 7-9, 2015 at the Hong Kong Polytechnic University (PolyU). Chaired by Prof. K.T. Chau of the Department of Civil & Environmental Engineering of PolyU, a long-time member of ASCE's Engineering Mechanics Division and Engineering Mechanics Institute, the conference was truly an international event as it attracted attendees from Asia (mainland China; Hong Kong, China; India; Korea; Singapore; Taiwan; and Thailand), Europe (France, Germany, Spain, Switzerland, and UK), the Middle East (Iran, Israel, and Lebanon), the Americas (Brazil, Canada, USA) and Australia.

The plenary keynote lectures were given at the Jockey Club Innovation Center, a recently completed building designed by Dame Zaha Hadid. The conference program featured each morning two plenary lectures given by leading researchers. Prof. Zdenek P. Bazant (Northwestern University) explained why fracking works and how to optimize it. Prof. Ronaldo Borja (Stanford University) explored multi-scale poromechanics accommodating double porosity and shear band. In his overview of poroelasticity, Prof. Alexander H.D. Cheng (University of Mississippi) discussed porous materials, poroelasticity pioneers, poroelastic mechanisms, and physical phenomena and applications. Prof. Ghanem (University of Southern California) discussed risk assessment for complex systems with interdependent subsystems and complex failure modes using case studies from recent major accidents. Prof. Philip L.-F. Liu (Cornell

University) presented his latest research on water waves through coastal aquatic forest areas. Prof. You-lin Xu (The Hong Kong Polytechnic University) explained how a structural health monitoring system can be the basis for prognosis of fatigue damage of a suspension bridge such as the Tsing Ma Bridge in Hong Kong. Videos of the plenary lectures will be posted on the EMI website.

The 21 technical presentation sessions included 11 special symposia organized by EMI technical committees and 10 regular sessions. Several social events (ice breaker reception, welcome reception and banquet) enabled the attendees to meet and get acquainted with each other.

This first EMI International Conference was a clear success as it met the objective of extending EMI's activities globally, showcasing what it has to offer, and attracting new members who will hopefully become fully engaged in the Institute and its activities. The success of the conference was the result of the combined efforts of the international scientific committee, the local organizing committee, the symposium organizers, the program committees, the reviewers, and of course the conference chair and his team. Many thanks and congratulations to Prof. K.T. Chau for leading the effort to organize EMI's first international conference!



Group Photo at the 2015 EMI International Conference in Hong Kong



Prof. K.T. Chau



Prof. Alexander H.D. Cheng



Prof. Roberto Ballarini and Prof. Roger Ghanem



Prof. Zdeněk Bažant

CONCREEP 10 Conference

The **CONCREEP 10 Conference** (<http://concreep10.conf.tuwien.ac.at/home/>) on Mechanics and Physics of Creep and Shrinkage and Durability of Concrete and Concrete Structures was held at the Vienna University of Technology on September 21-23, 2016 and co-chaired by Christian Hellmich, Bernhard Pichler and Johann Kollegger. This international research conference co-organized by the Vienna University of Technology, EMI and RILEM brought together physicists and civil engineers and focused on meso-scale issues. Plenary keynote lectures were given by Prof. the Zdeněk Bažant, Ph.D., S.E., F.EMI, Dist.M.ASCE, NAS, NAE (Northwestern University) on "Interaction of Concrete Creep, Shrinkage and Swelling With Water, Hydration and Damage: Nano-Macro-Chemo," and by Prof. Franz Ulm, Ph.D., F.EMI, F.ASCE (M.I.T.) on "Shrinkage Due to Colloidal Force Interactions."



Prof. Christian Hellmich



Plenary Keynote Session



Prof. Franz Ulm



Prof. Bernhard Pichler, Ms. Martina Pöll, Prof. Christian Hellmich

EMI is also working on future conferences: the **EMI 2016** and the **PMC 2016** Probabilistic Mechanics and Reliability Conference (<http://www.vanderbilt.edu/emipmc2016/>) to be chaired by Prof. Sankaran Mahadevan and Prof. Caglar Oskay and held on May 22-25, 2016 at Vanderbilt University in Nashville, Tennessee and the **2016 EMI International Conference** to be chaired by Prof. Mahdia Hattab and held on October 25-27, 2016 at the University of Lorraine in Metz, France (<http://www.lem3.fr/2016EMI-IC/>). The **EMI 2017** will take place in San Diego, California on June 4-7, 2017 and will be chaired by Prof. J.S. Chen and Prof. Yuri Bazilevs (both of University of California, San Diego). EMI will also take part in the organization of the **6th Biot Conference on Poromechanics** (<http://biot2017.sciencesconf.org/>) to be chaired by Prof. Matthieu Vandamme and held at Ecole des Ponts Paris Tech in Paris, France on July 9-13, 2017. Future EMI international conferences are also under consideration for 2017 and beyond.

Local Activities

EMI helped establish in 2011 the [Engineering Mechanics Committee within the ASCE Met Section](#). The committee organized in 2014 two major events at Columbia University, the [Biot Lecture](#) and the [Mindlin Lecture](#). The Engineering Mechanics Committee of the ASCE Met Section organized two major events at Columbia University: the 2014 Biot Lecture, presented by Prof. Jean H. Prévost, Princeton University, on November 19, 2014, titled “One-Way Versus Two-Way Coupling In Reservoir – Geomechanical Models” and the 2015 Mindlin Lecture, presented by Prof. Alan Needleman (Texas A&M University on March 31, 2015, titled “Modeling Ductile Fracture Toughness and Fracture Surface Roughness.” The videos of these and other lectures will be posted on the redesigned EMI website.

Continuing Education

Prof. Markus Buehler (M.I.T.) submitted a webinar proposal titled “Modeling, Design, 3-D Printing of Multiscale Materials and Structures” was approved and will be offered on December 2. Additional webinar proposals are expected in the coming months.

Awards

EMI expanded its extensive [awards program](#) with the creation of the [Zdeněk P. Bažant Medal for Failure and Damage Prevention](#) established in January 2015 by the ASCE Board of Direction. The purpose of the award is to recognize an individual for significant contributions to the engineering science of failure and damage prevention. The selection committee will evaluate senior-level civil engineers or engineering scientists based upon outstanding performance or specific and noteworthy actions which may include publications, patents or other forms of scientific invention demonstrating a clear impact on failure and damage prevention. The award may be made in even-numbered years. The medal will be given without regard for society membership or nationality, but ASCE or institute members shall receive preference where candidates are considered equal in all other ways. The award selection committee, which is composed of members of the Engineering Mechanics Institute and the U.S. National Committee on Theoretical and Applied Mechanics of the National Academies (USNCTAM), will recommend a recipient to the Society’s Executive Committee for approval.

The winners of the prestigious Society and Institute awards were recognized on June 18 at the banquet and award presentation ceremony of the EMI 2015 Conference. The awards were presented by ASCE President Robert D. Stevens, Ph.D., P.E., AICP, F.ASCE and EMI President Roberto Ballarini:

2015 MAURICE A. BIOT MEDAL

Emmanuel Detournay, Ph.D., A.M.ASCE, University of Minnesota, was awarded the 2015 Maurice A. Biot Medal *“for contributions to the application of Biot’s theory of poromechanics to rocks, and specifically for the lasting impact of Dr. Detournay’s scholarship on hydraulic fracturing modeling and monitoring in both academia and industry.”*

2015 JACK E. CERMAK MEDAL

Julian C. R. Hunt, Ph.D., University College London, Center for Polar Observation and Modelling Prof. Hunt was awarded the 2015 Jack E. Cermak Medal *“for his many contributions to turbulence modeling leading to better understanding and quantification of wind structure interactions, and his vision in propelling the quantitative world of engineering into the problem domain of climate change which will dominate the 21st century.”*

2015 GEORGE W. HOUSNER MEDAL

Billie F. Spencer, Jr., Ph.D., P.E., F.ASCE, University of Illinois at Urbana-Champaign, was awarded the 2015 George Housner Structural Control and Monitoring Medal *“for pioneering research in the development and implementation of seismic response control systems, as well as for his unwavering commitment to education and professional service.”*

2015 RAYMOND D. MINDLIN MEDAL

Zdeněk P. Bažant, Ph.D., S.E., NAE, NAS, F.EMI, Hon.M.ASCE, Northwestern University Was awarded the 2015 Raymond D. Mindlin Medal *“for outstanding contributions to mechanics and for important extensions of Mindlin’s results to nonlocal softening damage and size effects in quasi-brittle materials.”*

2015 MASANOBU SHINOZUKA MEDAL

Jann N. Yang, Ph.D., P.E., F.ASCE, University of California, Irvine, was awarded the 2015 Masanobu Shinozuka Medal *“for sustained research and teaching on stochastic dynamics, control, fatigue, and identification of structural components and systems.”* Prof. Shinozuka was in attendance. The 2015 Shinozuka Medal will be presented to Dr. Yang at the EMI 2016 /PMC 2016 conference at Vanderbilt University.

2015 THEODORE VON KÁRMÁN MEDAL

Ahsan Kareem, Ph.D., F.EMI, Dist.M.ASCE, NAE, University of Notre Dame, was awarded the 2015 Theodore von Karman Medal *“for fundamental contributions to the quantification, modeling, simulation and analysis of dynamic load effects, and its application in aerodynamics in civil engineering, in the best forward looking tradition of Theodore von Karman.”*

2014 THEODORE VON KÁRMÁN MEDAL

James R. Rice, Ph.D., F.EMI, M.ASCE, Harvard University, was awarded the 2014 Theodore von Karman Medal *“for his fundamental contributions to mechanics and its engineering applications.”*

A 2014 Walter L. Huber Civil Engineering Research Prize was awarded to Jerome P. Lynch, Ph.D., M.ASCE (Associate Professor, University of Michigan) *“for extraordinary leadership in the advancement of structural health monitoring technology in civil engineering through academic research in sensing technology, damage detection algorithms, and decision support systems.”*

2015 EMI LEONARDO DA VINCI AWARD

James K. Guest, Ph.D., A.M.ASCE, Johns Hopkins University, was awarded the 2015 da Vinci Award *“for his pioneering research in the development and implementation of topological optimization methods which will be a tremendous asset to employ rapidly advancing technologies to control structural and material configurations never before addressed.”*



Emmanuel Detournay, Ph.D., A.M.ASCE



Julian C. R. Hunt, Ph.D.



Billie F. Spencer, Jr., Ph.D., P.E., F.ASCE



Zdeněk P. Bažant, Ph.D., S.E., NAE, NAS, F.EMI, Hon.M.ASCE



Ahsan Kareem, Ph.D., F.EMI, Dist.M.ASCE, NAE



James R. Rice, Ph.D., F.EMI, M.ASCE, NAE



Jerome P. Lynch, Ph.D., M.ASCE



James K. Guest, Ph.D., A.M.ASCE

The finalists and winners of the student competitions were also presented with certificates. They are:

EMI 2015 Inelasticity Student Paper Competition

Sponsored by the EMI Modeling Inelasticity and Multiscale Behavior (MIMB) Committee

Winner: Gan Song, Columbia University

Runner Up: Ryan Hurley, California Institute of Technology (Caltech)

Runner Up: Huajie Wen, Colorado State University

EMI 2015 Probabilistic Methods Student Paper Competition

Sponsored by the EMI Probabilistic Methods Committee

Winner: Madeleine Lopeman, Columbia University

Winner: Thaleia Kontoroupi, Columbia University

EMI 2015 Dynamics Student Paper Competition

Sponsored by EMI Dynamics Committee

Winner: Jinwoo Jang, Columbia University

Runner Up: Yufen Zhou, Colorado State University

EMI 2015 Computational Mechanics Student Poster Competition

Sponsored by the EMI Computational Mechanics Committee

Winner: Shuhai Zhang, Vanderbilt University

Runner Up: Mona Eskandari, Stanford University

Runner Up: Babak Poursatip, University of Texas at Austin

EMI 2015 Experimental Analysis & Instrumentation Student Poster Competition

Sponsored by the EMI Experimental Analysis and Instrumentation Committee

Winner: Sung-Hwan Jang, Columbia University

Winner: Yufen Zhou, Colorado State University

Dr. Masao Satake Memorial Symposium on Granular Mechanics Student Poster Competition

Sponsored by the EMI Granular Mechanics Committee

1st: James Fern, University of Cambridge

2nd: Kane Bennett, Stanford University

3rd: Payam Poorsolhjoui, University of Kansas

Communications

The monthly EMI newsletter continues to provide timely information to the membership regarding activities of the Institute, upcoming events and deadlines, and other useful information such as the table of contents of the current issues of the EMI journals. The newsletter also features a Research Group Profile that highlights the work of research team. Each RGP presents the problem the team is addressing, its approach, its findings, their impact, a list of selected publications, current research team members, industry partners, and research collaborations.

The newly redesigned [EMI website](#) includes:

- EMI-specific areas on [books](#) and [journals](#), [conferences and events](#), [continuing education and jobs](#), [membership](#), and [awards](#)
- A [news](#) section
- A searchable section on [EMI committees](#) providing automatically updated committee membership rosters and committee charges
- An [EMI Lectures Series](#) page which currently features the videos of the three most recent Biot and Mindlin Lectures and Mechanics Research Communications Elsevier Distinguished Lectures. Additional lectures in these three series as well as keynote lectures from EMI conferences will be added in the coming months.

The site also includes an [on-line EMI membership application](#) and an [on-line technical committee membership application](#). In addition to these EMI-specific areas, the integration with the ASCE site provides immediate access to other areas of general interest.

It is expected that content valued by the members and temporarily removed during the website redesign will be restored in the coming months, such as the searchable database of a growing number of Research Group Profiles (RGPs) that present a snapshot of the research undertaken by EMI members and an explanation of why what they do matters.

Committees

The EMI committees continue to do a phenomenal amount of quality work: they review papers submitted for possible publication in one of the two EMI journals; they organize sessions at the EMI annual conference; some of them also organize student paper or poster competitions at the annual conference. All the EMI committees met at the EMI 2015 conference. Many thanks to all our committee chairs and committee members for their continued support of EMI activities!

A new EMI Committee on Objective Resilience was established by the EMI Board of Governors and will start on October 1, 2015. Chaired by Mohammed Ettouney, Ph.D., P.E., Dist.M.ASCE, the committee will develop, improve, document, and disseminate knowledge regarding objective methods and processes for asset and community resilience, and resilience management. The committee will promote the essential nature of a multidisciplinary, multi-hazards, risk-based, and life-cycle approach and the need for resilience management while emphasizing its objective side.

As they come to the end of their terms, several Committee Chairs are stepping down. EMI is grateful to the outgoing committee chairs for their dedication and hard work:

Matthew Kuhn (Granular Mechanics), replaced by Ali Daouadji
Kalpana Katti (Biomechanics), replaced by Christian Hellmich
Euclides de Mesquita Neto (Elasticity), replaced by John Brigham
Huiming Yin (Modeling Inelasticity and Multiscale Behavior), replaced by Caglar Oskay
Sanjay Arwade (Probabilistic Methods), replaced by Erik Johnson
Bernhard Pichler (Properties of Materials), replaced by Kalpana Katti
Yang Xiang (Stability), replaced by Jifeng Xu.

Many thanks to the outgoing Committee Chairs, and welcome to the new Committee Chairs!

Finances

EMI is required to operate within the financial model of the ASCE Institutes. As such, its main sources of income are membership dues, publications and journal royalties, and net income from conferences and continuing education activities. Its main areas of expenses are: Board and committee operations; Institute operations; and staff salary, fringes and travel. The net result for FY 2015 is expected to be a net income of about \$10K, with an additional \$10K of membership deferred income to be credited in calendar year 2016. The net result for FY 2016 will be added to EMI's reserves which serve both as a "rainy day" fund and a source of funding for new promising initiatives. Overall, EMI's financial situation is very satisfactory.

Looking back at FY 2015, EMI has significantly expanded its program of activities and made significant progress in several areas. EMI has kept with the tradition of organizing excellent annual conferences and producing content-rich publications. EMI has taken steps to substantially reduce the time to

publication for *JEM* and increase submissions to *JNM*. EMI held an outstanding EMI 2015 conference, its first international conference, and took part in the organization of the CONCREEP 10 conference. A new EMI webinar is scheduled. EMI is active in local activities, albeit on a small scale. EMI added a Society award to its awards program and has continued to provide financial support to the student competitions. EMI has provided new content on its website and kept it up to date. It has also kept its members informed through its newsletter. The EMI membership is now electing members of its Board of Governors on a regular basis and has a say in the governance of the Institute.

EMI is clearly a healthy, productive and vibrant organization which has made considerable progress since its founding eight years ago. This is mostly due to the dedication and hard work of its volunteers and the effective support of EMI staff.

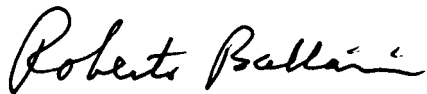
In spite of this progress and these accomplishments, EMI needs to improve in other areas: EMI needs to establish better connections to industry and to enhance its continuing education program.

There are many ways EMI members can help the Institute:

- By renewing their membership
- By giving a (tax deductible) voluntary contribution to EMI when renewing their membership
- By encouraging their graduate students and colleagues to join EMI
- By attending the EMI conference(s)
- By getting involved in EMI technical committee work
- By being responsive to requests for reviews of EMI journal articles
- By suggesting or offering webinars and short courses
- By encouraging organizations they know in industry and government that are users of advanced mechanics to become organizational members of EMI
- By contributing articles to the EMI journals
- By sending short articles, pictures, videos, and announcements for the EMI newsletter and the EMI website
- Etc.

With strong support, engagement and participation from its members, I am confident that EMI will become stronger and maintain excellence in all of its activities and products and that membership in EMI will remain a compelling proposition.

Respectfully submitted,

A handwritten signature in black ink, reading "Roberto Ballarini". The signature is fluid and cursive, with the first name "Roberto" and last name "Ballarini" clearly distinguishable.

Roberto Ballarini, Ph.D., P.E., F.EMI, F.ASCE, EMI President, FY 2015