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EMEA eUpdate

The monthly update for
Mechanical Engineers in
Europe, Middle East and Africa

In this issue

Issue 79 – June 2015

■ From the ASME President: A Bright Future for ASME

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■ ASME Presents Seven Awards for Achievement in Petroleum Engineering

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■ My Engineer's Notebook: Eduardo Barrientos

ASME member Eduardo Barrientos, PhD, a senior researcher at the Vehicle Center of Sustainable Mobility at the Czech Technical University in Prague, was recently selected as ASME's representative for the 2015 class of the New Faces of Engineering-Professional programme, which recognises practising engineers up to the age of 30 for their contributions to the engineering profession and society... [Read more](#)

■ New Future Engineers Challenge Asks Students to Design Space Containers

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■ TRAINING and DEVELOPMENT

- Upcoming Courses
- MasterClass
- In-company

■ CONFERENCES AND EVENTS

- Don't Forget to Visit ASME Booth at Power-Gen Europe 2015 this Week!

■ ASME PUBLICATIONS

- Book of the month Digital Library
Two New Volumes in ASME's Robotics Book Series Now Available

FROM THE ASME PRESIDENT: A BRIGHT FUTURE FOR ASME

When ASME's first president, Professor Robert H. Thurston, gave closing remarks following his first year as president in 1881, he made a statement very similar to ASME's present-day mission, which is to utilise engineering knowledge to improve the quality of life. In comparison, he used these words, "to ensure to everyone absolute freedom to learn and to labour in any department of industry," with "fitting recompense for all the zeal, intelligence and good work" that we offer the world. It's really astonishing how these words resonate throughout ASME's 135 years of existence and, still, form the root of our present-day mission.

As I gave my final remarks as ASME president, on June 9 at the Annual Meeting in Jacksonville, Fla.,



J. Robert Sims

I stated how our founders defined mechanical engineering as a profession while shaping the world – similar to how we are shaping the world today by unleashing technology's potential. Although methods change, ASME is not reinventing the wheel – we are using available knowledge and innovation to reach toward a brighter future.

Technological innovation has provided numerous opportunities for ASME to explore new market-focused strategies, particularly in the areas of energy and advanced manufacturing. Converging technologies of advanced sensors and the Internet of Things into smarter, well-integrated systems are giving us safer, better diagnostics and inspections. Also, 3D printing is broadening opportunities for creative solutions and learning processes.

One of the things that really excites me about our future is the effort we've made to engage students in the engineering process. Students are learning that while engineering is both inspiring and challenging, it can also be a lot fun. The collaboration between the ASME Foundation and NASA was particularly exciting as K-12 students participated in the inaugural 3D space challenge through Future Engineers. This programme gave students the opportunity to actually design tools and other gadgets that astronauts can use onboard the International Space Station.

ASME Standards & Certification continues to proactively address the issues that will enable ASME to face future needs and demands that ensure safety and reliability in technology. A new online pipeline standards compendium (PTB-9) is now available for users and for public understanding of federal pipeline safety regulations. Another project, in the works, has been developing ways to bring standards education into curricula, so that students are prepared to work as engineers from the start.

It has been a great honour to serve as president of ASME this past year and an even greater privilege to do so with the leadership of our Board of Governors, our volunteers, ASME Executive Director Tom Loughlin and the ASME staff. Because of our collective efforts, our membership has grown worldwide and our outreach has multiplied into millions through our partnerships and extended networks. Our commitment in more mission focused implementation of Pathway 2025 and activities under ONE ASME have put us on a course for growth and future success well into the 21st century.

Please join me as an active participant in the Society's programmes and activities. Let's all be a part of ASME's bright future.

J. Robert Sims
ASME President

[Back to Top](#)

ASME PRESENTS SEVEN AWARDS FOR ACHIEVEMENT IN PETROLEUM ENGINEERING

Recognition Programme Held at Offshore Technology Conference in Houston

ASME has presented seven awards recognising technical achievement and distinguished service in the field of petroleum engineering.

Jean-Francois Saint-Marcoux of the firm Subsea 7, received the 2014 Geoca Mechanical Engineering Achievement Award during a recognition ceremony held recently at the Offshore Technology Conference (OTC) in Houston. This award was established in 1965 to honour distinguished and meritorious achievement and service in the field of petroleum mechanical engineering. It was named after Karl Geoca, the former chair of the ASME Petroleum Division and former member of the Society's Board of Governors, who was in attendance.

The Society also bestowed the 2014 Arthur Lubinski Award recognising the best technical paper delivered during ASME-sponsored technical sessions at OTC. Eleven engineers – Scot McNeill, Puneet Agarwal, Dan Kluk, Kenneth Bhalla, and Ron Young (all of Stress Engineering); Steve Burman, Stergios Liapis, Saurabh Jain, Vikas Jhingran, and Stephen Hodges (Shell), and Early Denison (consultant) – shared the honours for the paper, *Subsea Wellhead and Riser Fatigue Monitoring in a Strong Surface and Submerged Current Environment*.

Baker Hughes, Inc., won the 31st Annual Woelfel Best Mechanical Engineering Award (BMEA) for its product, Harpoon™ Cut and Pull Spear. Three BMEA Awards of Merit were presented to Oceaneering International, Inc.; SBM Offshore, and Van Beest B.V.

ASME presented the OTC Innovation Award to FMC Technologies for the offshore loading arm footless (OLAF).

The 2014 awards programme was sponsored by the ASME Petroleum Division, which works in conjunction with the ASME International Petroleum Technology Institute to provide technical programming, networking events, continuing education and other services to engineers and other technical professionals in the oil and gas and related industries. For information, visit www.asme-ipti.org.

[Back to Top](#)

MY ENGINEER'S NOTEBOOK: EDUARDO BARRIENTOS

ASME member Eduardo Barrientos, PhD, a senior researcher at the Vehicle Center of Sustainable Mobility at the Czech Technical University in Prague, was recently selected as ASME's representative for the 2015 class of the New Faces of Engineering-Professional programme, which recognises practising engineers up to the age of 30 for their contributions to the engineering profession and society. A member of ASME since 2004, Eduardo is an active volunteer with the Society, currently serving as member of the Student and Early Career Development Council, the Diversity and Inclusion Strategy Committee, the McDonald Mentoring Award Committee, and the Energy Conversion and Storage Segment. He had previously held a number of ASME positions including vice president of the Affinity Communities Operating Board, member of the Knowledge and Communities Board, member and founder of the International Outreach Group, and chair of the Universidad Simon Bolivar Student Section. He is the recipient of the ASME Charles T. Main Student Section Leadership Award and the Old Guard Early Career Award. After receiving a bachelor's degree in mechanical engineering from Universidad Bolivar in Venezuela in 2007, Eduardo earned two degrees from Pennsylvania State University: a master's degree in mechanical engineering in 2009 and a doctorate in mechanical engineering in 2013.

What's inside your engineer's notebook?

The day-to-day life of an engineer can be very hectic. The tasks that we perform involve many different steps and interaction with many different people. So I keep everything related to what is going on during the week in my notebook – ideas, meetings, doodles, due dates, sketches, formulas, etc. No idea is too crazy to go in my notebook. I often go back to it for inspiration and to help me prioritise what is relevant at the moment or could be a good idea to pursue in the future.

Whose notebook would you most like to peek into? Why?

Interesting question. I have so many inspirational role models. But if I have the freedom to choose anyone from any time in history, I would like to peek into the notebooks of the most iconic scientists in the world, such as Isaac Newton, Albert Einstein, Thomas Edison, and Leonardo Da Vinci. I could keep going. These people revolutionised the world and I can't even imagine how many other interesting ideas that never saw the light or found their way later on are in those books.

How and when did you know you wanted to become an engineer?

Back in high school, I was not the best in math or physics. In fact, those were my worst subjects. However, having a special affinity for science since I was kid, I wondered why engineering was something out of reach for me, and I started doing my own research. Reviewing all of the engineering options, I noticed that mechanical engineering was involved in almost everything – cars, planes, water treatment, air conditioners and even space shuttles. I told my dad that I would really like to pursue mechanical engineering as a path, and his answer was, "Are you crazy? You are terrible in math and physics!" I think this was the tipping point for me and I took it as a personal challenge. Luckily for me, after being accepted by Universidad Simon Bolivar of Venezuela, the best engineering school in the country, I found that this was my real passion and I was really good at it.

What's the most exciting project you've ever worked on?

If I have to pick one, it would be the EcoCAR 2 "Plugging in to the Future" Challenge, which was a three-year automotive engineering competition for college students. I served as a team leader for the Penn State University Team during years 1 and 2 of the competition. We developed a series plug-in hybrid vehicle that operating with E85 (85 percent ethanol) fuel. The project gave me the chance to lead and manage a team of more than 40 undergraduate and graduate students from a variety of different disciplines. We won a number of awards, including being ranked number one team overall in the second year of the competition.

What do you think you'd be doing if you hadn't become an engineer?

I like inventing things and exploring my creativity. Selling ideas and interacting with people are definitely passions of mine. So, I think entrepreneurship or marketing would have been interesting alternative career paths.

What's your favorite activity when you're not working?

Learning languages. Spanish is my native language and I have full proficiency in English. However, I have been privileged to work in many different countries and have friends in many continents, and am now conversational in Italian, Czech and French. I think I would like to get to seven languages and then stop. It might get confusing after that

Was there a book or a movie that piqued your interest in science or inspired you to become an engineer?

Bill Nye the Science Guy was one of my favorite shows when I was a kid. His ability to mix serious science with fast-paced action and humor was incredibly appealing for me as a kid. I wonder why there aren't many other shows like this nowadays that show kids and the general public that engineering is an exciting profession that shapes the world of the future. I mean, cars, planes, space shuttles ... who doesn't like those things?

Who are your heroes, either within the engineering profession or in the rest of your life?

This answer changes as I experience different things and learn more throughout my career. For instance I now consider Malala Yousafzai as a big hero. In general, I admire people who stand up for their human rights and the rights of others and have changed and transformed the world. I think many engineers fall under this category and can be considered heroes. If we talk about super heroes, I think Tony Stark is one of the coolest. His power is his intelligence and curiosity for knowledge, not some sort of mutation. We need more super heroes like him to inspire the next generation of engineers and scientists.

What's the most meaningful or rewarding aspect of being connected to engineering?

Engineer is defined as the "action" of working artfully to bring something about. As a profession, its goal is to apply technology to improve the quality of life. Giving back and taking action are embedded in the core of the profession.

What does ASME mean to you?

ASME has been the best career companion and mentor of my career. ASME has given me the opportunity to work in areas that I have been strongly passionate about, and has provided me with the perfect venue to connect with engineers around the world. I was then able to help develop and implement ASME programmes in different countries that were adapted to the economic, cultural and social aspects of each region. ASME became a place where I could learn about management by leading committees and groups with fun and amazing people. ASME is the perfect complement to what I have learned in school and on the job. I highly recommend every engineer to get involved and volunteer for ASME.



Eduardo Barrientos (second from left) with former U.S. Secretary of Energy Steven Chu (third from left) and members of the Penn State EcoCAR 2 team



Dr Barrientos works on a single-cylinder engine at the Vehicle Center of Sustainable Mobility at the Czech Technical University in Prague

[Back to Top](#)

NEW FUTURE ENGINEERS CHALLENGE ASKS STUDENTS TO DESIGN SPACE CONTAINERS



In January, two K-12 students were selected as the winners of the inaugural Future Engineers 3D Printing in Space Challenge for designing 3D digital models of tools that astronauts could print and use on the International Space Station. This year, students aged five to 19 are being challenged to design 3D models of containers that could be used for various purposes in a zero gravity environment.

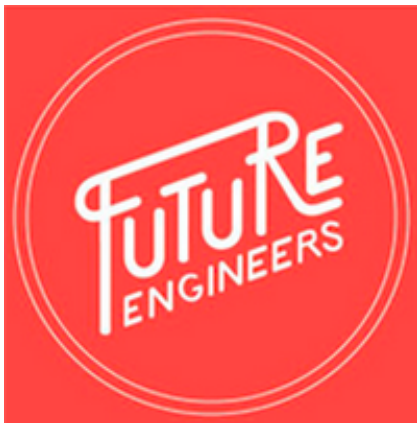
The competition, which was developed jointly by NASA and the ASME Foundation and launched last fall, is intended to inspire elementary, middle and high school students to become young innovators and engineers by enabling them to create 3D models that, if selected, will actually be manufactured in space.

This year's competition, which opened for student registration earlier this month, is focused on the design of containers that can be used use in space. Astronauts use a variety of containers to perform a number of activities, from collecting asteroid samples and sustaining plant life to storing food and disposing of trash. Students are free to design containers to be used on the Space Station – or that could be used by astronauts of the future as they explore Mars or other planets.

Contestants will be divided into two groups: the Junior category, for students aged five to 12, and the Teen category, for students aged 13 to 19. Judging criteria for entries in both categories include the innovation and creativity of the solution; the container's ability to advance human space exploration; the student's ability to communicate the design through the text description and during the finalist interviews; and the quality of the 3D model and its compliance with the design guidelines.

Prizes include 3D printing gift certificates for the semi-finalists in each category and one-week trips to Space Camp for the finalists in each category. The grand prize winner in the Teen division will receive a tour of the Space Shuttle Endeavor in Los Angeles with an astronaut, while the Junior grand prize winner will receive a 3D printer for his or her school.

Entries will be accepted through Aug. 2. Ten semi-finalists in each of the Junior and Teen divisions will be announced Sept. 2. Four finalists in each category will



be named on Sept. 16 and interviewed on Sept. 30. The two Future Engineers Challenge winners will be announced on Oct. 7.

For more information on the Future Engineers program, visit www.futureengineers.org. ASME members and student members who would like to work with the program as volunteers or as 3D technical or design mentors – or would be able to host a 3D Printing Showcase or Workshop location – can sign up via the website's "Get Involved" section, at www.futureengineers.org/Home/GetInvolved#getInvolved.

[Back to Top](#)

TRAINING AND DEVELOPMENT



New! ASME Training & Development courses for 2015

Invest in the knowledge that will bring you results and success for your job and organisation.
Register for one of the following training courses:

Milan, Italy - 22 – 26 June 2015

- Boilers and Pressure Vessels
 - [PD443 - BPV Code, Section VIII, Division 1:](#)
 - [PD441 - Inspection, Repairs, and Alterations of Pressure Equipment](#)
 - [PD442 - BPV Code, Section VIII, Division 1: Design and Fabrication of Pressure Vessels](#)
 - [PD616 - API 579-1/ASME FFS-1 Fitness-For-Service Evaluation](#)
 - [PD716 - BPV Code, Section I: Power Boilers](#)
- Bolting
 - [PD577 - Bolted Joint Assembly Principles Per PCC-1-2013](#)
- Fluids and Heat Transfer
 - [PD679 - Selection of Pumps and Valves for Optimum System Performance](#)
- Nuclear
 - [PD635 - ASME NQA-1 Quality Assurance Requirements for Nuclear Facility Applications](#)
 - [PD615 - BPV Code, Section III, Division 1: Class 1, 2, & 3 Piping Design](#)
 - [PD644 - Advanced Design and Construction of Nuclear Facility Components per BPV Code, Section III](#)
 - [PD672 - BPV Code, Section XI, Division 1: Inservice Inspection 10-year Program and 10-year Program Updates for Nuclear Power Plant Components](#)
 - [PD192 - BPV Code, Section XI : Inservice Inspection of Nuclear Power Plant Components](#)
- Piping and Pipelines:
 - [PD410 - Detail Engineering of Piping Systems](#)
- Welding:
 - [PD645 - BPV Code, Section IX: Welding, Brazing, & Fusing Qualifications](#)

Save the Date for Autumn Public Courses!

[Barcelona, Spain](#) - 15–23 October 2015
Registration opening soon!

Also Not to Miss! ASME MasterClass, 22–26 June, Milan, Italy

In addition to our public training offer, ASME is now pleased to present ASME MasterClass Series in Europe. ASME MasterClasses are premium learning programmes covering advanced topics aimed at experienced engineering professionals. Led by renowned industry experts, MasterClasses emphasise learning through discussion of real world case studies and

practical applications.

Courses in Milan include:

- [Design by Analysis Requirements in ASME Boiler and Pressure Vessel Code Section VIII, Division 2 \(MC121\)](#), 22–23 June
- [Techniques and Methods used in API 579-1/ASME FFS-1 for Advanced Fitness-For-Service \(FFS\) Assessments \(MC113\)](#), 24 June
- [Bases and Application of Heat Exchanger Mechanical Design Rules in Section VIII of the ASME Boiler and Pressure Vessel Code \(MC104\)](#), 25–26 June
- [Structural Materials and Design for Elevated to High Temperatures \(MC112\)](#), 25–26 June
- [Inspection Planning Using Risk-Based Methods \(MC124\)](#), 25–26 June

ASME In-company Training & Development

Train your staff at your choice of location, on your preferred dates, with a corporate programme tailored to your specific company requirements.

All ASME Continuing Education training courses can be arranged exclusively for your staff and customised to your company's needs. Courses will be delivered by uniquely qualified instructors selected to match your needs and organisational style and approach – most of them are involved in the ASME Code committees who create and update ASME standards.

Save time and money by hosting a course at your company building or at another venue of your choice. Encourage ongoing learning with Continuing Education Units and a complimentary one-year ASME membership.

The ASME In-Company Training service offers you:

- Training courses tailored specifically for your organisation, addressing your specific issues and challenges
- Courses that accommodate your schedule and are held at your facility
- Convenient and cost-effective educational programmes- Opportunities to train your staff in full confidence – customisation, results, privacy, quality, value

For more information on in-company training programmes and to discuss your needs in detail, please contact: Murat Dogru, Community and Corporate Relations Manager Email: DogruM@asme.org • Tel: +32 2 743 4427

[Back to Top](#)

CONFERENCES AND EVENTS



ASME Europe will be exhibiting at [Power-Gen Europe 2015](#), Europe's largest annual conference and exhibition connecting power industry professionals. This year's event will take place on **9–11 June in Amsterdam, The Netherlands**.

Visit us at booth 319! By entering the following codes upon registration, you will be able to benefit from these discounts:

PGE-ASME -10

For 10% discount on conference

PGE-ASME -FREE

For free entry to exhibition

We look forward to seeing you there!

[Back to Top](#)

ASME PUBLICATIONS

[Book of the month](#)

Two New Volumes in ASME's Robotics Book Series Now Available

Two new additions to the ASME Press Robotics Book Series – *Designs and Prototypes of Mobile Robots and Mobile Robots for Dynamic Environments* – were released by the Society's technical imprint.

The two volumes, which were edited by Marco Ceccarelli and Emin Faruk Kececi, can be used as graduate-level course books or as guide



books for the practising engineer who is working on a specific problem described in one of the chapters. Vladimir Vantsevich is the series editor for the ASME Press Robotics Engineering Book Series.

The 202-page *Designs and Prototypes of Mobile Robots* is comprised of six chapters addressing such subjects as linkages for leg mechanisms; exoskeletons and bipeds; mechanical design challenges in rescue robot prototyping; networked control for mobile robots; human-machine interface of mobile robot for posture; and robot education with mobile robots.

The 180-page companion volume, *Mobile Robots for Dynamic Environments*, features five chapters: "Underwater Robots – A Fascinating Challenge," "A Novel Lighter-Than-Air Vehicle – The Flying Octopus," "Robot Swarms: Dynamics and Control," "Visual Attitude Estimation and Stabilization of Flying Robots" and "Mobile Robots for Earth Exploration – Applications, Technologies and Image-Processing Techniques for Navigation."

Each volume is available to ASME members for \$95 – a savings of \$24 apiece on the retail price. Visit www.asme.org/products/books/designs-prototypes-of-mobile-robots to reserve your copy of *Designs and Prototypes of Mobile Robots* (Order No. 860472), or www.asme.org/products/books/mobile-robots-for-dynamic-environments to order a copy of *Mobile Robots for Dynamic Environments* (Order No. 860526).

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[Back to Top](#)

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