e-Newsletter

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS
INDIA SECTION

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asce.is.email@gmail.com | www.asceindia.org

# Message from President

**Dear Esteemed Members,**

**Greetings!**

As the year 2014 comes to end, my term as President of India Section also ends and a new President will assume office and will handle the programs in the coming year. The term from August 2013 to December 2014 was eventful and India Section has been visible along with other professional bodies in India and organized various technical programs and conferences in different regions. The highlight of all programs is the International Conference on Sustainable Civil Infrastructure (ICSCI 2014) that was held in Hyderabad during 17-18 October 2014 and this newsletter contains a report on the conference. The conference was held in association with Indian Institute of Technology, Hyderabad. The conference received overwhelming response from India and Abroad and well attended. Prof. Sireesh Saride and Dr. Munwar Basha took up this mammoth task and handled very well, and I sincerely thank them for taking up this responsibility. Mr. K P Pradeep, Mr. Anchuri Srinivas, Dr. P Anbalaghan, and the other officers of the Eastern, Northern, Southern and Western regions have been of considerable help in organizing the events and I sincerely thank them.

The elections for the coming year have been announced and this newsletter contains the important dates and the candidates contesting for various positions. Please participate in the election process.

ASCE has nominated me as Governor, Region 10 for the period 2014-2017 and it will be a pleasure to be of service to India Section and Region 10 in the new position.

Merry Christmas and Happy New Year 2015.

Best regards

Prof. G L Sivakumar Babu,
President, India Section

## IN THIS ISSUE

# Report on ICSCI-2014

## International Conference on Sustainable Civil Infrastructure (ICSCI-2014)

An International Conference on Sustainable Civil Infrastructure (ICSCI-2014) was held on 17-18, October 2014 at Hitex Exhibition Center, Hyderabad. The conference was organized by the India section of American Society of Civil Engineers (ASCE) and Indian Institute of Technology Hyderabad in association with Build 4 India-2014. The conference was held in three parallel sessions with five theme topics under which a total of 120+ technical papers were presented. There were 21 Keynote Presentations by eminent researchers across the world. The list of keynote speakers can be found in the following Table.

| S.No | Keynote Speaker | Affiliation |
|---|---|---|
| 1 | Prof. A Veeraragavan | Indian Institute of Technology Madras, India |
| 2 | Prof. Animesh Das | Indian Institute of Technology Kanpur |
| 3 | Prof. Arni Srinivasa Rao | Georgia Regents Univ, USA |
| 4 | Prof. Arul Arulrajah | Swin Burne University, Australia |
| 5 | Prof. BVV Reddy | Indian Institute of Science, India |
| 6 | Prof. D Nagesh Kumar | Indian Institute of Science, India |
| 7 | Prof. Filippo Pratico | University Mediterranea of Reggio Calabria, Italy |
| 8 | Prof. GL Sivakumar Babu | Indian Institute of Science, India |
| 9 | Prof. Hementa Hazarika | Kyushu University, Japan |
| 10 | Prof. K Rajagopal | Indian Institute of Technology Madras, India |
| 11 | Prof. KVL Subramaniam | Indian Institute of Technology Hyderabad, India |
| 12 | Prof. Ligy Phillip | Indian Institute of Technology Madras, India |
| 13 | Prof. LR Hoyos | University of Texas at Arlington, USA |
| 14 | Prof. P Chakraborthy | Indian Institute of Technology Kanpur |
| 15 | Prof. Sarvesh Chandra | Indian Institute of Technology Kanpur, India |
| 16 | Prof. Suresh Bhalla | Indian Institute of Technology Delhi, India |
| 17 | Prof. TG Sitharam | Indian Institute of Science, India |
| 18 | Dr. S. Gangopadhyay | Central Road Research Institute, New Delhi |
| 19 | Dr. V. Ramachandra | UltraTech Cement |
| 20 | Er. P. S. Dutt | NEERI, Nagpur |
| 21 | Er. S. P. Anchuri | Anchuri & Anchuri Associates |

The inaugural function was started at 9:30 am of 17th by welcome extended by Dr. Munwar Basha, who invited Dr. Sireesh S, secretary of ASCE IS and organizing secretary of the conference, Prof. GL Sivakumar Babu, President of ASCE IS and Chairman of the conference, Prof. KVL Subramaniam, Co-chairman of the conference, Mr. Sambit, Hitex, and the chief guest of the inaugural Mr. VB Gadgil, CEO and MD of L&T for Hyderabad Metro Rail on to the dais. Prof. Babu presided over the function.

Prof. Babu invited all the dignitaries on the dais to lit the lamp of knowledge followed by invocation prayer. He invited Dr. Sireesh to give his welcome address. Dr. Sireesh has invited and extended warm welcome to all the Keynote speakers, international and national delegates, student participants, sponsors, Hitex team, Kenes exhibitions team, press and media. He has briefed about the conference statistic, themes, and motivation of the conference. He announced that a total of 314 abstracts were received out of which 235 abstracts were only accepted for full length paper submission. A total of 150 technical papers were finally accepted after a peer review process. A conference proceedings in the form of CD ROM and conference booklet were prepared. Prof. Subramaniam has mentioned that the conference is timely and mentioned the importance of such conferences in the present scenario. Prof. Babu extended warm welcome to all the participants and explained the proceedings of the conference and parallel sessions. He requested all the delegates to participate in the sessions and deliberations and discussions. He later introduced the Chief Guest, Mr. VB Gadgil who has agreed to grace the occasion at a short notice. Mr. Gadgil has released conference proceedings and the conference program booklet and distributed to all the dignitaries on the dais. Mr. Gadgil, in his address, pressed the need for sustainability in all aspects of Indian infrastructure development. He noted that India is in phase transformation and need solutions to build its infrastructure at affordable cost, yet with high quality. He pointed few steps towards sustainability development in large projects. Mr. Gadgil wished a successful technical sessions ahead. Prof. Babu presented a memento to Mr. Gadgil as a token of remembrance. The inaugural event was concluded with a formal vote of thanks proposed by Er. Anchuri, Treasurer, ASCE IS SR.

Right after a brief tea break, three parallel technical sessions were started on Sustainable Structural Systems, Sustainable Geotechnical Systems and Sustainable Transportation Systems.


Inaugural session of the conference (from left to right - Mr. Sambit, Prof. GL Sivakumar Babu, Mr. VB Gadgil, Prof. KVL Subramaniam, Dr. S Sireesh)

Each session was packed with three keynote presentations in the forenoon sessions. In the afternoon the technical sessions had one keynote presentation followed by technical papers on Sustainable Environmental Systems in addition. There are couple of interesting papers on architecture and construction in the afternoon sessions.

Lighting of Lamp

**Pics: ICSCI-2014 Keynote Speakers**

Prof. Hoyos

Prof. Harika

Prof. Sarvesh Chandra

Prof. Pratico

Prof. Veeraragavan

Prof. Ramachandra

Prof. Subramaniam

Prof. Arulrajah

Prof. Sivakumar Babu

Dr. Sireesh

Dr. Basha

Prof. Nagesh Kumar

Prof. Animesh Das

Mr. Paul Bana

Prof. Rajagopal

Prof. Chakraborthy

Prof. Suresh Bhalla

Dr. Seetharamanjaneyulu

Prof. Ligy Phillip

Er. Anchuri

Board of Directors Meeting of ASCE India Section was held on 17th October at 5:30pm. Presidents of ASCE India Section Regions, President, Secretary and Treasurer of ASCE India Section have participated in the business meeting.

**Annual General Body Meeting of ASCE India Section:**

The AGM of ASCE India Section was held on 17th October 2014 at 6:00 pm as proposed earlier. The ASCE members participating at the conference, BOD members were present in the meeting. Prof. Babu has conducted the AGM. He welcomed all the members of ASCE and friends. He has briefed about the general function of

ASCE IS for the last one year and indicated that the section is doing excellent work towards improving the membership base, student activities by installing student chapters at several engineering colleges across the country. Prof. Babu appreciated the sincere efforts from each region leadership for achieving these remarkable numbers. Dr. Sireesh has presented the annual report of the section. He has pointed that the technical activities of all the regions have improved by two fold from its previous year. The India section has now installed over 10 student chapters across the country and two of them are in the process of getting recognized as International Student groups. He has appreciated the activities carried by the student groups at VIT- Vellore and NITK-Suratkal for the year 2013-2014. He has mentioned about the India section's close association with Indian Concrete Institute's Hyderabad Chapter and Indian Geotechnical Society. Dr. Anbazhagan has presented the budget of India section for the year 2013-14. He mentioned that the contributions from ASCE HQ were on time and the funds were equally distributed to four regions and the section. He requested all the regions to submit their audited budgets to the section to compile and send it to the ASCE.

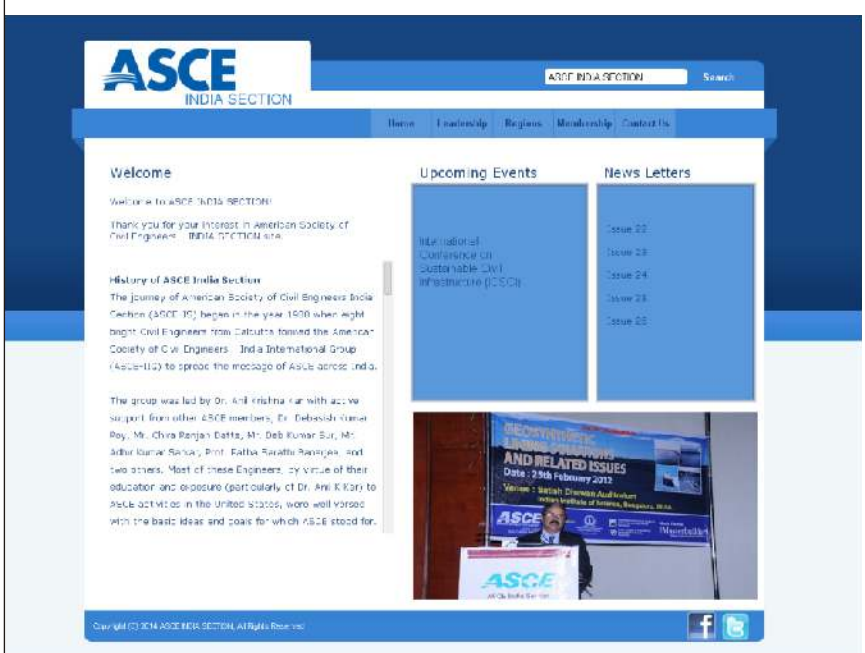
Mr. Sandip Kumar Deb, President ASCE IS ER has suggested to hold such international conferences on an annual basis. Prof. Babu and others seconded the proposal and suggested that it would nice to have one international event every year and would be ideal to hold by the next section leaders. Mr. KP Pradeep, Secretary of ASCE IS SR has pointed out that the VIT student group is organizing the second edition of International Symposium of Civil Engineering in 2015. He mentioned that the subsequent editions may

Conference Delegates

be organized at any other student chapter nationwide to make it an annual event. The AGM was concluded by the formal vote of thanks proposed by Prof. Babu.

The second day of the conference has started with three parallel sessions in the forenoon and four parallel sessions in the afternoon on sustainable structures, geosystems, environmental systems and architecture and infrastructure. The conference was well attended by more than 200 national and International delegates.

The conference was concluded by a valedictory session at 5:00pm on 18th October, 2014. The conference organizing committee, student volunteers, delegates, student delegates and sponsors have participated and expressed their views on the conference. It was mentioned that the conference was very meticulously organized. Delegates expressed their appreciation of the well-designed technical content and hospitality.




**Welcome to the New ASCE India Website**

Your ASCE membership is a career investment. Whether you're just out of college, are newly licensed, have a lifetime of accomplishments, or are anywhere in between, ASCE helps you grow professionally.

**www.asceindia.org**

# Region News

## Eastern Region News

Two lectures organized by Forming Younger Members Group ASCE India Section-Eastern Region in association with ICE on Friday, July 18, 2014 at Narula Institute of Technology, Kolkata.

Presentation 1: "Incorporating Safety in Structural Design" by Srirup Mitra, CEng (Ind.), M.ASCE, AECOM, Kolkata

Presentation 2: "Talks on Safety, Ethics and Professionalism in Civil Engineering" by David Allen Douglass, PE, Louis Berger Group, Inc.

## Southern Region News

### Lecture on Post-Disaster Assessment after Hurricane Haiyan in the Philippines - Lessons Learned and On-Going Research by Prof. Shen En Chen, IISc Bangalore, Univ. of North Carolina, USA on 18th September, 2014

Abstract: Recent Hurricane Haiyan in the Pacific Asian resulted in more than 6,000 deaths in the Philippines. The sustained one minute wind speed reached 195 mph (313 km/h) and caused massive structural failures. This wind speed is close to the maximum design wind speed in ASCE 7. In May 2014, ASCE sends out a team of eight engineers to investigate the disaster area. A Duo-Team approach was adopted so that the data can be collected and shared amongst the ASCE membership. Hurricane Haiyan has been recognized as one of the super storms and more such cyclonic storms are anticipated under the scenario of anthropogenic-induced climatic changes.

This presentation discussed the forensic inspection experience and technique and some of the initial lessons learned about the Hurricane. The critical question that ASCE attempts to address is if we are prepared to face this kind of Super Storms.

### Lecture on 'Contributions of Sir M. Visvesvaraya for the development of Nation' by

**Dr. K S Nanjunda Rao, IISc, Bangalore on 22nd September, 2014.**

The talk covered Sir M. Visvesvaraya's education, various positions held, his multifaceted contributions in the fields of civil infrastructure, Education, Industry, Business and Economics, administration, rural development and social aspects. At the end the talk various titles and awards conferred on M. Visvesvaraya were presented.

## ASCE India Section Elections

The ASCE India Section and Regions are scheduled to hold elections for the period 2015 from 8-19 December, 2014. The election process will be completed by December 20th 2014, so that the elected Board of Directors for the Section and the four Regions are able to hold their first meeting early in the New Year.

In the forthcoming election, nominations are called for the following office bearers' positions:

President for each of the four Regions
Secretary of the India Section and of each of the four Regions
Treasurer of the India Section and of each of the four Regions

The call for nominations were sent to all eligible voting ASCE members of the India Section.

**The list of Nominees are:**

| Area of Vacancy | Position | Candidate Name |
|---|---|---|
| India Section | Secretary | Ringshia Ravindra |
| India Section | Treasurer | Tejas Sure |
| IS- Northern Region | President | Satish Vij |
| IS- Northern Region | Secretary | Arif A. Siddiqui |
| IS- Northern Region | Treasurer | Amit Srivastava |
| IS- Southern Region | President | 1. Rajayogan Palanjchamy<br>2. S.P. Anchuri |
| IS- Southern Region | Secretary | Chembeti Yedukondalu |
| IS- Western Region | President | Ravi Sinha |
| IS- Western Region | Secretary | Khizer Fatehi |
| IS- Western Region | Treasurer | Hiten Mahimtura |
| IS- Eastern Region | President | Sandip kumar Deb |
| IS- Eastern Region | Secretary | Srirup Mitra |
| IS- Eastern Region | Treasurer | Abhipriya Halder |

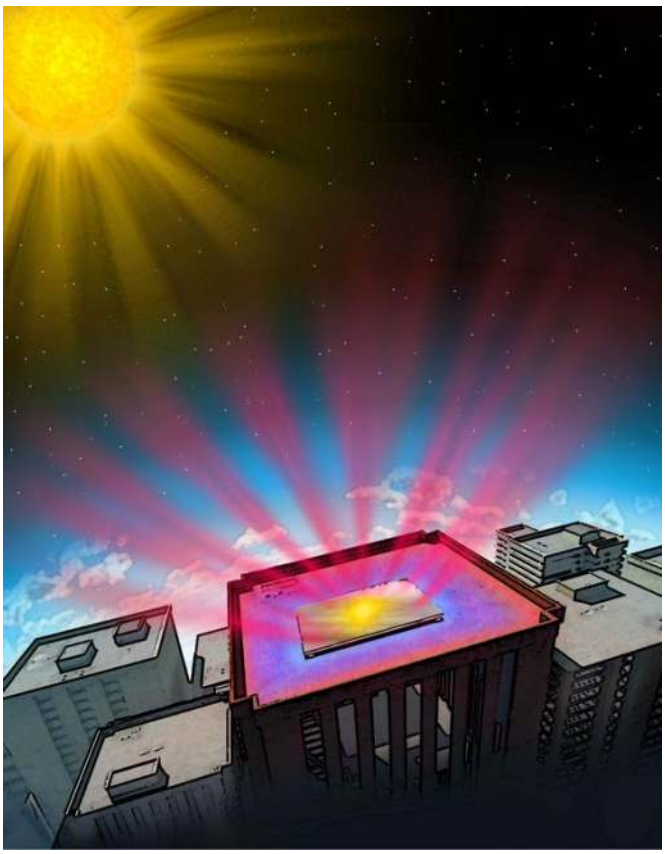
Only eligible members of the India Section are eligible for nomination and voting. An eligible member is defined as a member in good standing at the grade of Associate, Member, Fellow or Distinguished member. Students and Affiliate members are not eligible to nominate for any position or to vote.

The term of office for all positions is one (1) year.

Eligible members will receive an email from ASCE with a link to online voting portal. Please cast your valuable vote between 8th and 19th December, 2014.

# Tech Briefs

## Stanford researchers invent revolutionary coating material that can help cool buildings



*A new ultrathin multilayered material can cool buildings without air conditioning by radiating warmth from inside the buildings into space while also reflecting sunlight to reduce incoming heat.*

Stanford University engineers have invented a new super thin coating material that can cool buildings without requiring electricity, by beaming heat directly into outer space. In addition to cooling areas that don't have access to electrical power, the material could help reduce demand for electricity. The multilayered material measures just 1.8 microns thick, which is thinner than the thinnest sheet of aluminium foil. In comparison, the average human hair is about 100 microns wide.

This material is made of seven layers of silicon dioxide and hafnium dioxide on top of a thin layer of silver. The way each layer varies in thickness makes the material bend visible and invisible forms of light in ways that grant it cooling properties. One way this material helps keep things cool is by serving as a highly effective mirror. By reflecting 97 percent of sunlight away, it helps keep anything it covers from heating up.

In addition, when this material does absorb heat, its composition and structure ensure that it only emits very specific wavelengths of infrared radiation, ones that air does not absorb, the researchers said. Instead, this infrared radiation is free to leave the atmosphere and head out into space.

The scientists tested a prototype of their cooler on a clear winter day in Stanford, California, and found it could cool to nearly 9 degrees Fahrenheit (5 degrees Celsius) cooler than the surrounding air, even in the sunlight.

The researchers suggested that their material's cost and performance compare favourably to those of other rooftop air-conditioning systems, such as those driven by electricity derived from solar cells. The new device could also work alongside these other technologies, the researchers said.

However, the scientists cautioned that their prototype measures only about 8 inches (20 centimeters) across. "We are now scaling production up to make larger samples. To cool buildings, you really need to cover large areas." Said a press release.

The scientists detailed their findings recently in the journal Nature.

## Enter the 'world's first rope-free elevator system 'courtesy of ThyssenKrupp

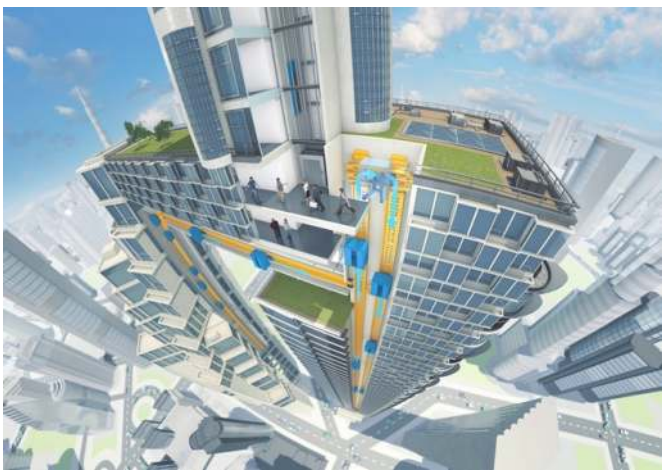


Image: ThyssenKrupp

The era of the rope-dependent elevator is now over, 160 years after its invention. ThyssenKrupp places linear motors in elevator cabins, transforming conventional elevator transportation in vertical metro systems. MULTI elevator technology increases transport capacities and efficiency while reducing the elevator footprint and peak loads from the power supply in buildings. Several cabins in the same shaft moving vertically and horizontally will permit buildings to adopt different heights, shapes, and purposes. The first MULTI unit will be in tests by 2016.

MULTI is ThyssenKrupp's latest offering in its extensive repertoire of elevator technologies, representing a landmark revolution in the elevator industry and a new and efficient transport solution for mid and

high-rise buildings. Now, the long-pursued dream of operating multiple cabins in the same elevator shaft is made possible by applying the linear motor technology of the magnetic levitation train Transrapid to the elevator industry. MULTI will transform how people move inside buildings, just as the recently introduced ThyssenKrupp's ACCEL, which also applies the same linear motor technology, is set to transform mobility between short distances in cities and airports.

In a manner similar to a metro system operation, the MULTI design can incorporate various self-propelled elevator cabins per shaft running in a loop, increasing the shaft transport capacity by up to 50% making it possible to reduce the elevator footprint in buildings by as much as 50%.

Using no cables at all, a multi-level brake system, and inductive power transfers from shaft to cabin, MULTI requires smaller shafts than conventional elevators, and can increase a building's usable area by up to 25%, considering that, depending on the size of the building, current elevator-escalator footprints can occupy up to 40% of the building's floor space. The overall increase in efficiency also translates into a lower requirement for escalators and additional elevator shafts, resulting in significant construction cost savings as well as a multiplication of rent revenues from increased usable space.

The significant extra space available is only one of MULTI's advantages. Although, the ideal building height for MULTI installations starts at 300 metres, this system is not constrained by a building's height. Building design will no longer be limited by the height or vertical alignment of elevator shafts, opening possibilities to architects and building developers they have never imagined possible.

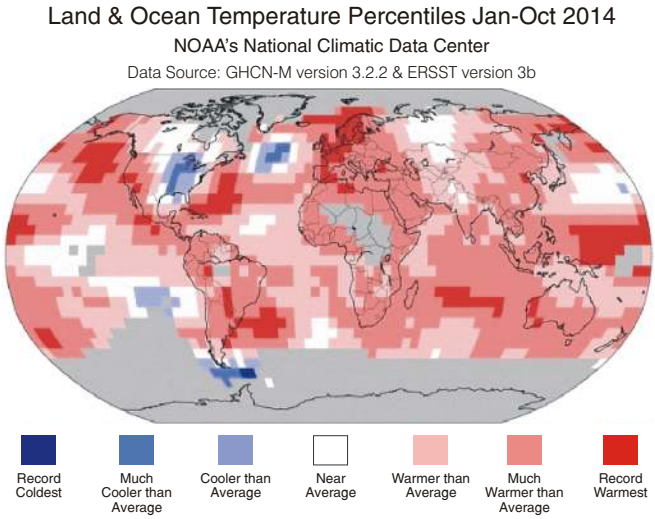
MULTI is based on the concept of ThyssenKrupp TWIN's control system and safety features, but includes new features such as new and lightweight materials for cabins and doors, resulting in a 50% weight reduction as compared to standard elevators, as well as a new linear drive using one motor for horizontal and vertical movements. Operating on the basic premise of a circular system, such as a paternoster, MULTI consists of various cabins running in a loop at a targeted speed of 5 m/s, enabling passengers to have near-constant access to an elevator cabin every 15 to 30 seconds, with a transfer stop every 50 metres.

A 2013 analysis of two-dimensional elevator traffic systems likens the present use of one cabin per elevator shaft to using an entire railway line between two cites to operate a single train clearly a waste of resources. By combining groundbreaking technology with a simple operation concept and convenience of passenger use, ThyssenKrupp's MULTI will transform the idea of a flexible number of cars per shaft from a distant vision for the future into a reality.

## 2014 on track to become warmest year on record: NOAA

The National Oceanic and Atmospheric Administration (NOAA) has announced that 2014 is on track to become the warmest year on record, despite recent cold temperatures seen throughout much of the Central United States in November.

High temperatures in October were seen in both the northern and southern hemisphere. Average temperatures were at record highs south of the equator, and the third-highest recorded in the north -




1.89 degrees Fahrenheit - above averages seen in the 20th Century. Water temperatures in the northern hemisphere were the highest on record. Ocean temperatures rose to 1.12 degrees Fahrenheit over the 20th Century global average.

The departure from the norm was tied with June 2014 for the third-greatest ever recorded.

## And now, a gecko-inspired human climbing system from Stanford University

Researchers at Stanford University led by engineer Mark Cutkosky have come up with a gecko-inspired human climbing system that they hope to use in manufacturing equipment, making grippers for manipulating huge solar panels, displays, and other objects without the need for suction power or chemical glues. The team is also working with NASA's Jet Propulsion Laboratory to adapt the adhesive for use by robots.

# Events

A talk by ASCE Distinguished Member Dr. Vilas Mujumdar on Developing Civil Infrastructure Systems Resiliency to Natural Hazards - A Total Systems Approach on December 26, 2014 at 4:00 PM IIT Bombay.

International conference on 'Modeling Tools for Sustainable Water Resources Management'
28-29 December, 2014
organized by the Department of Civil Engineering, IIT Hyderabad. The conference is preceded by a 2-Day workshop that provides hands on experience on modeling tools like SWAT and MODFLOW. For details, visit: http://civil.iith.ac.in/mtswrm/

Engineering Mechanics Institute International Conference
Jan 7-9, 2015, Hong Kong, China

Regions 1,2,4 & 5 Multi-Region Leadership Conference 2015
Jan 8-10, 2015, Miami, FL USA

EWRI International Low Impact Development Conference 2015
Jan 19-21, 2015, Houston, TX USA

14th Annual New Partners for Smart Growth Conference
Jan 29-31, 2015, Baltimore, MD

Regions 3,6 & 7 Multi-Region Leadership Conference 2015
Jan 30-31, 2015, Houston, TX USA

CI Summit 2015
Feb 11-13, 2015, Henderson, NV USA

Regions 8 & 9 Multi-Region Leadership Conference 2015
Feb 20-21, 2015, Bellevue, WA USA

Arctic Technology Conference
Mar 23-25, 2015, Copenhogen, Denmark

Architectural Engineering Institute Conference 2015
Mar 24-27, 2015, Milwaukee, WI USA

ASCE Legislative Fly-In 2015
Mar 24-26, 2015, Arlington, VA USA

Industry leaders Council Spring 2015 Meeting
Mar 25-26, 2015, Arlington, VA USA

ASCE Outstanding Projects and Leaders Gala 2015
Mar 26, 2015, Arlington, VA USA

ASCE Spring Board of Direction Meeting 2015
Mar 27-28, 2015, Arlington, VA USA

SEI Structures Congress 2015
Apr 23-25, 2015, Portland, OR USA

Offshore Technology Conference
May 4-7, 2015, Houston, TX

World Environmental & Water Resources Congress 2015
May 17-21, 2015, Austin, TX USA

T&DI International Airfield & Highway pavements Specialty Conference 2015
Jun 7-10, 2015, Miami, FL USA

EMI 2015
Jun 16-19, 2015, Stanford, CA

Concrete Canoe-2014 Test
Jun 19-22, 2015

Concrete Canoe 2014 Meals and Banquet Test
Jun 19-22, 2015

15th Cota International Conference of Transportation Professionals

Jul 25-27, 2015, Beijing, China

ASCE Pipelines Conference 2015
Aug 23-26, 2015, Baltimore, MD USA

Concreep 10
Sep 21-23, 2015, Vienna, Austria

Electrical Transmission and Substation Structures Congress
Sep 25-27, 2015, Branson, MO

SEI Electrical Transmission & Substation Structures Conference 2015
Sep 27 Oct, 2015, Branson, MO USA

ASCE Convention 2015
Oct 11-14, 2015, New York, NY USA

OTC Brasil
Oct, 15-27, 2015, Rio de Janeiro, Brasil