International Society

for Concrete Pavements

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Cement Association Association Canadienne















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VOLUME 10, NUN

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SCP NEWS

8. 3rd ISCP Bed & Breakfast Auctions Were A Success!!

The second (2nd) and third (3rd) ISCP Members-only Bed & Breakfast Auctions were held online in the month of June. The remaining two certificates were for two nights of bed and breakfast, for two persons, at the Fairmont Le Château Frontenac in Québec

City, Québec, Canada, the site of the 10th International Conference on Concrete Pavements (10th ICCP).

The second auction ran June 6-13, had a value that approached \$1,000 CDN, and a winning bid of \$575. The third auction ran June 20-27, had a value that approached \$900 CDN, and had a winning bid of \$401.

The auctions' proceeds will help to defray ISCP costs for hosting the 10th ICCP. Thank you to all of our members who participated!

"Like" ISCP on Facebook! ISCP has updated its "Facebook Page. To view the page, click

"like" on the "International Society for Concrete Pavements" Facebook page. Please go to: https://www.facebook.com/pages/International-Society-for-Concrete-Pavements/127114450634305?ref=ts&fref=ts.



ISCP on Linked In[®] LinkedIn is the free professional business-oriented social networking site. The ISCP group is an international forum and blog space to facilitate knowledge sharing and networking for the ISCP members. All current ISCP members are eligible to join the blog. Please contact the moderator Jeff Roesler jroesler@illinois.edu if you have any questions about the policies or terms and conditions. To join, please go to: Linked in http://www.linkedin.com/home).

MEMBER HONORS

CEMEX Honored for Cement Industry Environment & Energy Awards

CEMEX USA was presented with three (3) awards from the Portland Cement Association (PCA) and Cement Americas Magazine as part of the 2013 Cement Industry Energy and Environment Awards. The awards were presented at PCA's Spring Meeting in Chicago, April 29, 2013.



The Innovation Award: The CEMEX USA Balcones plant in New Braunfels, Texas: This category recognizes the development and application of innovation technologies and techniques relevant to environmental protection or energy efficiency. In June 2012, CEMEX received a patent for its tire injection mechanism. The mechanism is an automated pitching device located outside of the kiln and constructed to shoot tires, one at a time, into the kiln. A single-gate valve is designed to open for a few seconds every time a tire is shot into the hot side of the kiln.

The implementation allowed the Balcones Cement Plant to consume tire-derived fuel, significantly offsetting the plant's use of traditional fuels like coal and pet coke. Through increases in tire-derived fuel usage, the facility reduces greenhouse gas emissions, thus minimizing its environmental footprint. To read more about the Balcones



cement plant, please go to: http://www.cement.org/newsroom/13_Inn_CEMEX_Balcones.htm.

Land Stewardship Award: The CEMEX USA Brooksville South Cement Plant in Brooksville, Florida: This category recognizes a plant's efforts to protect and enhance the surrounding land through landscaping, species protection, and remediation and rehabilitation of quarries, wetlands, and other features. In 2012 the Brooksville South guarry received *Wildlife at Work* recertification by the Wildlife Habitat Council for creating, conserving and restoring habitat. This restoration effort included CEMEX employee volunteers as well as members of the community. The plant also received Wildlife Habitat certification from the National Wildlife Federation. To read about the Brooksville South cement plant, please go to: http://www.cement.org/newsroom/13_Land_CEMEXBrooksville.htm.



Energy Efficiency Award: The CEMEX USA Cement plant in Victorville, California: This category recognizes a plant's energy planning, applications of efficiency technologies and practices, and climate change mitigation efforts. In 2012, CEMEX USA commissioned its first wind turbines in collaboration with Foundation Wind power, leading to the construction of four wind turbines at CEMEX Victorville. The turbines will generate a total of 6.2 megawatts of wind energy for the facility while advancing CEMEX's sustainability goals through a reduction of carbon fuels. To read about the Victorville cement plant, please go to: http://www.cement.org/newsroom/EE EP Out CEMEXVictorville.htm.

CEMEX was also named Runner Up and Finalist in several categories. For the list of all of the other 2013 Cement Industry Energy and Environment Awards, please go to: http://www.cement.org/newsroom/2013Awards Index.asp.

INDUSTRY RESOURCES

2 Innovative Web-Based Training Modules: "Work Zone Safety" & "Stringless Paving"



U.S.Department of Transportation Federal Highway Administration

The American Concrete Pavement Association (ACPA) is pleased to announce the official launch of two (2) web-based instructional modules that provide professional training for paving contractors, agency personnel, consulting engineers, and others involved in construction management and/or project delivery. The two 90-minute training modules are offered FREE of charge to participants involved in highway and heavy construction, rehabilitation, and preservation. Both courses provide a rich learning environment - well-

illustrated presentations and course instructions by professional civil engineers; interviews with contractor personnel; and videos, photographs, and animations to illustrate process steps or actions related to the subject matter. Registered participants may go online at any time to engage in the courses.

1. Safety on concrete payement construction sites: This course was developed specifically for training anyone who works directly on site, or has reason to visit concrete pavement construction sites. The course addresses safety issues unique to concrete paving, as well as fundamental information everyone working on site should know to stay safe. Although overall job-related deaths have declined nearly 10% from 1995 to 2007, deaths from occupational injuries on road construction sites have increased, both in number and as a percentage.

2. Proper use of stringless paving technology: This course provides participants with an overview of the technology and explains how stringless paving works, with specific discussions about equipment and instruments used in the process. The course also includes recommended best practices for working with stringless paving technology to yield a quality concrete pavement. Stringless paving is an alternative to conventional stringline paving, and uses electronic guidance systems to replace pins, sensors and stringline to steer and control the surface pavement thickness and smoothness. First used in the 1990's for earthwork, stringless (or 3-D) control has advanced and become proven technology for paving concrete highways, airports, streets and roads, and other facilities.

The courses were developed by ACPA and sponsored by the U.S. Federal Highway Administration (U.S. FHWA), and dozens of association members and Chapter/State personnel. Presentations are by Gerald Voigt, P.E., ACPA President & CEO; Leif Wathne, P.E., ACPA Vice President of Highways and Federal Affairs, and Robert Rodden, P.E., ACPA Director – Technical Service & Product Development. To register and participate in the courses, please go to: http://acpa.scholarlab.com/. After registering, enter the coupon code: pavement1 (pavement and the number one).

For more information, please go to the ACPA landing page: http://www.acpa.org/Events_and_Programs/Education_and_Training/ACPA-WBT.asp.



Earth Techling



So far in 2013, *CarbonCure*'s best customer is ATLAS BLOCK, a family-owned concrete product manufacturer in Ontario, Canada.

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Carbon Crammed Concrete: How It Works, What it Changes

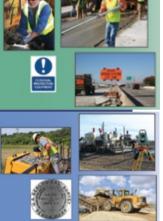


Around the world, engineers are busy working out ways to reduce the carbon footprint of concrete, which accounts for somewhere between 3% and 7% of global carbon emissions.

A Nova Scotia, Canada startup named Carbon Cure, "an emerging science-based leader in concrete technology for the green building sector", is already ahead with a very direct approach: injecting waste carbon dioxide into the concrete-mixing process, which by nature takes CO₂ and sequesters it as calcium carbonate. (CaCO₃ has been the main terrestrial carbon sink for several billion years.)

When cement is manufactured from limestone in a kiln, the limestone (CaCO₃) is heated until its splits into CO2 (driven into the air) and quicklime (CaO) - the key component of cement. As the cement is made into concrete by mixing cement with water and bulk ingredients, the water contains dissolved CO₂, which recombines with the CaO to form limestone (CaC0₃) all over again. Over the following decades, the concrete continues to draw more CO_2 out of the air and sequester it as more limestone.

Carbon Cure's technology simply "crams" a little more CO2 into the concrete, sooner. The result is stronger concrete, and reaches full strength before it leaves the factory. All concrete "sequesters" some carbon as limestone; no concrete sequesters anywhere near as much as it already emitted during its production process, both from the chemical reaction and from burning fossil fuels to heat the kiln. Concrete will remain a huge carbon source. But, Carbon Cure and many other "green" companies are successfully diminishing concrete's carbon numbers. So far, in 2013, Carbon Cure's best customer is Atlas Block - a family-owned concrete product manufacturer in Ontario, Canada. The ready-mix market is much larger than the concrete block market, and Carbon Cure is ambitiously moving forward with applying their technology to ready-mix; they expect to demo that in late 2013.



To visit the ACPA websites, please go to: <u>www.acpa.org</u> (technical) or

http://apps.acpa.org (web/smart technology applications)

Atlas Block had previously made sustainability waves by developing a way to recycle colored glass waste in concrete. Atlas is now converting their entire production of blocks to use CarbonCure.

ISCP thanks *EarthTechling. Copyright* © *2013*







Crews working on a hot-pour sealant installation into 1/2-inch-wide longitudinal concrete pavement joints in a now intermedel focility new intermodal facility in Joliet, Ill.



21.4 Low-modulus hot-pour sealant, located on a runway at Fairchild Airforce Base, in Washington state, is approximately 21 years old.



Joint sealants prevent water and incompressibles from entering into a pavement structure. Photos: *Crafco* ISCP June e-Newsletter VOLUME 10 • NUMBER 6

CarbonCure ireen companies are successfully ninishina **concrete**'s carbon

umbers

Jennifer Wagner, VP of Marketing at Carbon Cure clarified the technology and the grounds for long-term optimism: "Carbon negative concrete could potentially be achieved by integrating low-carbon materials such as fly ash, slag, low-carbon cements (Lafarge has developed "Aether®"- a new clinker formulation to reduce the carbon footprint of cement); low-carbon aggregates (such as "Carbon8"); as well as direct carbon sequestration technologies (such as Carbon Cure's technology)."

To read entire Earth Techling article, please go to: http://www.earthtechling.com/2013/05/carboncrammed-concrete-how-it-works-what-it-does/.

To read about Carbon Cure, please go to: http://carboncure.com/about/.

Construction Industry Builds on Biotechnologies

From a higher-strength concrete to quickly degrading items used during construction, researchers continue to develop biobased construction materials. One of the newer developments has been discovered by Kyle Riding, Civil Engineering Assistant Professor, Kansas State University. He found a way to use the leftover waste from the cellulosic ethanol process, called high-lignin residue, to produce a concrete that is stronger and has less carbon dioxide emissions. Riding used the high-lignin residue to create a high silicate that can be added to cement to strengthen the concrete. Riding reports they tested the finished concrete material and found replacing 20% of the cement with cellulosic material after burning increased the strength of the concrete by 32%. He said the world uses 7 billion cubic meters of concrete per year. Some of the current materials used to make stronger concrete are becoming harder attain, Riding notes. "Some departments of transportations are starting to worry," he adds. Riding says the construction industry could use millions of tons per year for projects, such as roads and bridges. The high-strength concrete made with cellousic leftovers could be commercialized at any time, he notes. 'The technology is known.'

Center for Bioplastics and Biocomposites





For more information on the Industry/University Cooperative Research Center for Bioplastics and Biocomposites (CB2), please go to: www.cb2.iastate.edu.

To read the entire article from *Iowa Farmer Today*, please go to: http://www.iowafarmertoday.com/news/crop/construction-industry-builds-onbiotechnologies/article_3220e34e-c315-11e2-8063-001a4bcf887a.html.

Joint Sealant Life Confirmed

Seal No Seal Selecting how long a given joint sealant will last before replacement - and what to include for the performance period in life-cycle costing - is a challenging task. The Seal/No Seal Group continues to investigate joint sealants and the factors affecting their life cycle through supporting new and ongoing research. Historically, the best reference has been the federal Strategic Highway Research Program's (SHRP) H-106 work conducted in 1999. The report documents the results of the research effort, which installed sealants at five locations and evaluated them for seven years. Another limitation: This report only studied the reseal condition.



The Seal/No Seal Group recently reported on two unique studies at sites that allowed evaluations of sealants up to 21 years. One study, coordinated by Crafco a pavement preservation product manufacturer, took place at Fairchild Air Force Base in Spokane, Washington, USA. The other study was at the Federal Highway Administration's Long-Term Pavement Performance (LTPP) SPS-2 Experiment in Phoenix, Arizona, USA.

In 2012 (21 years later), Crafco discovered that many of the sealant test sections were still in service and performing well. A "final" evaluation was conducted by the same personnel who conducted the earlier evaluations, using the same previous techniques, which were consistent with SHRP H-106 and National Transportation Product Evaluation Program (NTPEP) procedures still used today. These findings provide more conclusive evidence due to the longer evaluation period.

Dan Zollinger, PhD, Professor of Civil Engineering of the Texas Transportation Institute (TTI), is evaluating field methods to assess water infiltration into joints. As part of the study for the Seal/No Seal Group, Zollinger is modeling the effects of the water intrusion on base erosion. The institute developed expendable slabs that allow a joint to be pulled apart under controlled conditions to simulate actual joint movement. This technique helps establish the quantity of water that could enter the joint for a given rainfall intensity. The slabs will also be used to further gauge the impact of moisture and cleanliness on sealant bond.

The TTI is also evaluating the use of ground-penetrating radar for determining the presence of moisture in the joint and pavement structure, and whether this technique can be used to determine when to reseal a pavement. The last phase of the study will consist of field validation of the techniques and base erosion model validation. If successful, the base erosion model will allow users to determine when and where sealant is cost effective.

For the conclusions and the entire article, "Joint Sealant Life Confirmed", please download the PDF at: http://www.sealnoseal.org/PDF/JntSealLifeStudy/CSSealant.pdf.

For questions, please contact: Larry Scofield, *Director of Engineering and Research of the International Grooving and Grinding Association (IGGA)* and *Consultant to the Seal/No Seal Group*: E-mail: lscofield@pavement.com.

INDUSTRY PUBLICATIONS





(10) years. While there are several precast concrete pavement systems, until recently, there has been little guidance available for transportation agencies on the design, fabrication, and installation of PCP. This report provides guidance on the design, fabrication, construction, and maintenance of precast concrete pavement systems. This report, as well as documentation of the performance of precast concrete pavements that are currently in service, will be of value for the transportation community as a whole.

Precast concrete pavement systems have shown great potential for rapid rehabilitation and reconstruction of deteriorated pavement sections. Applications nrovides include, but are not limited to, isolated intermittent repairs, intersection and ramp rehabilitation, pavement replacement under overpasses, and construction of longer quidance mainline pavement segments. The use of precast concrete pavement systems can speed up construction without sacrificing quality, while minimizing lane closures **fabrication**. and traffic disruption. Off-site fabrication has the potential to permit lighter, thinner, or more-durable pavement sections through more stringent quality control and use of design details not feasible for in-place construction.

Over the last 10 years, several United States transportation agencies have implemented PCP systems, but information is not well documented. This report provides an assessment of the state of the practice for PCP technology, as well as guidance on the design, fabrication, installation, and maintenance of PCPs and specifically includes:

- 1. Guidelines for selection of precast
 - concrete pavements
 - a. The PCP use decision-making process b. PCP System approval process
 - c. Model specifications for PCP systems.
- 2. Guidelines for design of precast concrete pavements
 - a. Technical considerations:

Transportation Research Board (TRB) Releases New SHRP2 Publication

The use of precast concrete pavement (PCP) technology has been steadily increasing over the last ten

- desian
- b. Design of PCP.

3. Guidelines for fabrication and installation of precast concrete pavements

This report

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construction

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systems.

aintenance

- a. Technical considerations: fabrication
- b. Technical considerations: installation
- c. Fabrication of PCP systems d. Installation of PCP systems e. Repair of PCP systems.

PCP technology is ready for use in the United States. With this report's guidance, the transportation community will be able to move forward with implementation. To download the PDF of the study, please go to: http://onlinepubs.trb.org/onlinepubs/shrp2/SHRP2_S2-R05-RR-1.pdf. (25MB)



The Long-Term Pavement Performance (LTPP) program is a large research project for the study of in-service pavements across North America. Its goal is to extend the life of highway pavements.

Curl & Warp Analysis of the Long-Term Pavement Performance Specific Pavement Studies-2 Site in Arizona

2 U.S.Department of Transportation Federal Highway Administration

The U.S. Federal Highway Administration has released a report that explores analyses for quantifying the effect of curl and warp on the roughness of jointed Portland Cement Concrete pavements by using profile data. Variability in the roughness levels of jointed portland cement concrete (PCC) pavements can often be observed over short periods of time.

This study demonstrated specialized analyses for quantifying the effect of curl and warp on the roughness of jointed PCC pavements using profile data from the Long-Term Pavement Performance (LTPP) Specific Pavement Studies (SPS)-2 site in Arizona.

The study sought to quantify and explain changes in the International Roughness Index (IRI) observed over time on the LTPP SPS-2 site in Arizona using methods that were applied to other sites. The study also attempted to relate changes in IRI over time to design variables, maintenance history, and observations of distress. The study contains:

 Objective Slab Curvature Index Relationship to IRI IRI Trends

To download a PDF of the study, please go to: http://www.fhwa.dot.gov/publications/research/infrastructure/pavements/ltpp/13040/13040.pdf.

CONFERENCE NEWS

Webinar: "An Owner and Designer's Guide to Using Jointed Precast Concrete Pavement Systems"



Results

The National Precast Concrete Association (NPCA) and the American Concrete Pavement Association (ACPA) have teamed up to present a webinar - the second part of our five-part (5-part) series on the straight facts about jointed precast concrete pavement systems (Webinar - SP0813):

> Thursday, July 11, 2013 Noon to 2:00 p.m. CDT | 1 p.m. to 3:00 p.m. EDT 10 a.m. to Noon PDT Т

2.0 Hours (please allow 15 to 20 minutes extra for questions and answers)

Presenter: Shiraz Tayabji, Ph.D., P.E., Senior Principal Engineer, Applied Research Associates, Inc. (ARA), Elkridge, Md.

This Meganar™ will cover information directly relevant to owners and designers. This is a "must attend" event and will be beneficial for owners, designers, construction managers, project managers, and other key personnel involved in pavement repair, management, rehabilitation and preservation. This course will cover a brief summary of the evolution of jointed precast systems and how they evolved as an alternative to traditional cast-in-place concrete; and focus on key considerations of interest to owners and designers: ⁴

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- Factors that challenge owners, designers, contractors, and others, including the impact of paving under heavy traffic; detour/staging restrictions; and short work-window requirements.
- An overview of intermittent repair applications, including the key considerations when, where and why precast pavement systems are used in these situations: Highways (intermittent repairs); Ramp repairs and replacements;
- Bridge approach slabs; and
 Intersections
- The webinar will also examine some essential business considerations, including:
- · Feasibility considerations, including the availability of qualified precasters.
 - Permitting requirements, local freight regulations, equipment considerations, and installation requirements.

Special rates are available for Government Personnel, ACPA Members and NPCA Members. If you are Government employee or an ACPA member, you must contact ACPA to register and receive a discount:

- Debbie Becker: E-mail: <u>dbecker@acpa.org</u> Kelli Hodina: E-mail: khodina@acpa.org
- T: 847.423.8710 or
- T: 847.423.8700).

If you are an NPCA Member, please call: T: 800-366-7731 for a registration code.

For all other registrants, to register online, please go to: https://netforum.avectra.com/eweb/DynamicPage.aspx?Site=ACPA_ORG&WebCode=EventList&FromSearchControl=Yes

35th SWIFT Conference & Trade Show to be held in Ottowa, Ontario, Canada, September 9-12, 2013





Please visit the SWIFT Conference Facebook Page at: https://www.facebook.co

m/SWIFTConference

The Canadian Airfield Pavement Technical Group (CAPTG) is hosting

the 2013 Summer Winter Integrated Field Technologies (SWIFT) Conference, to be held September 9-12, 2013 at the Westin Ottawa, in Ottawa, Ontario, Canada. This is CAPTG's thirty fifth (35th) SWIFT World's Premier Airfield Conference.

This conference is the airport industry's most professional and educational airfield pavement and maintenance conference. It is a unique opportunity for the exchange of technical information between hundreds of representatives from airports, industry and government organizations from numerous international representatives, including Canada, United States, Germany, Denmark, England, France, Russia, China, Argentina, Finland, Sweden and Japan. Over 30 technical and operational sessions will be beneficial to civil engineers, airport pavement managers, engineers and contractors, equipment manufacturers and many others in the industry.

SWIFT provides a mechanism for the airport community to meet and learn about new pavement design; design, construction and maintenance of airport pavements construction; evaluation and maintenance techniques; materials; chemicals; and systems and equipment available for use in meeting the challenges of keeping airports safe & operational, at minimal cost, during all seasons.

CAPTG Workshop September 9, 2013 (Ottawa, Ontario) In addition to the technical track, CAPTG is also hosting a workshop on Monday, September 9, 2013. More information regarding the workshop, including topics and location, will soon be made available on the CAPTG website at: www.captg.ca.



Early bird registration deadline is end of day Wednesday, July 31, 2013. Final registration date is Thursday, August 29, 2013. Register early, space is limited and will be assigned on a first come first paid basis. To register for the conference, please go to: http://www.swiftconference.org/Registration.html.

For hotel reservations, please go to: http://www.swiftconference.org/Hotel-Reservations.html Telephone: (613) 560-7000 | Toll Free: 1-800-937-8461

"Betonstraßentagung 2013": Concrete Pavement Conference 2013 to be Held in Karlsruhe, Germany, September 19-20, 2013

The German Road and Transportation Research Association (FGSV) and W. Gerbens, *Dir. Dipl.-Ing., President of the FGSV*, announce the Concrete Pavement Conference 2013 to be held September 19–20, 2013 at the 100-year-old "Kongresszentrum/Konzerthaus Festplatz" (Concert House) in the heart of the lively city of Karlsruhe, Germany.



- Along with the Opening Ceremony and the Welcome Addresses, the program includes: Presentation of the "Otto Graf Foundation" Young Engineer Award
 - Progress on Research and Development Presentation on Papers in Science and Technology.

 - Acoustic improvements to concrete surfaces and the links between loads and dimensions.
 Second (2nd) series of papers on 'Technical Standards and Specifications'
 New generation of technical standards on the structural maintenance of concrete pavements
 - Transposition of the new DIN EN 12620 into national regulations Third (3rd) series of papers rounds off the program with a number of reports on
 - New systems for the construction and maintenance of concrete pavements.
 - Social program that includes tours hosted by the Karlsruhe Tourist Office
 - A Walking Tour on the History of Baden - Castle Garden and Botanical Gardens
 - Ramble Through the Old Quarter of Durlach
 - Evening Event, Thursday, September 19 at the Brasserie Brauhaus'Kühler Krug'.

Please register by September 6, 2013. For registration, the programs, and accommodations, please go to: www.fgsv.de. For the English Conference website, please go (through "Google Translate") to: http://translate.google.com/translate?hl=&sl=auto&tl=en&u= http%3A%2F%2Fwww.fgsv.de%2F

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• FRANKFURT

ARLSRUHE

BERLIN





CALL FOR ABSTRACTS

Call for Papers & Abstracts Digest

July 19, 2013 Due date for Final Papers for the ASCP 2013: Concrete Pavements Conference to be held August 12, 2013 in Sydney Australia. To submit a paper, please send paper to: Executive Director, ASCP, E-mail: <u>exec@concretepavements.com.au</u>. For more information, please go to: <u>http://www.concretepavements.org/ASCP%20Conference%20Announcement.pdf</u>.



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February 1, 2014 Due date for abstracts for the 8th International DUT-Workshop on Research and Innovations for Design of Sustainable and Durable Concrete Pavements to be held September 20–21, 2014 in Prague, Czech Republic. To submit an abstract by February 1, 2014, please send abstract to: Lambert Houben, *Chairman, Delf University of Technology (The Netherlands),* E-mail: l.j.m.houben@tudelft.nl.



UPCOMING EVENTS	
JULY 2013	ISCP Mid-Year Board of Director's Meeting July 8-9, 2013 ACPA National Headquarter's Offices in Rosemont, Illinois, USA
	8th International Conference on Road and Airfield Pavement Technology (ICPT 2013) July 14–18, 2013 in Taipei, Taiwan, <u>http://www.icpt2013.org</u> .
AUGUST 2013	International Symposium of Climatic Effects on Pavement and Geotechnical Infrastructure (ISCEPGI) August 4-7, 2013 in Fairbanks, Alaska, USA, <u>https://sites.google.com/site/iscepgiuaf/</u> .
	ASCP Concrete Pavements Conference 2013 August 12, 2013 in Sydney, NSW, Australia Conference Brochure and Call for Papers: http://www.concretepavements.org/ASCP%20Conference%20Announcement.pdf.
PTEMBER 2013	35th Summer Winter Integrated Field Technologies (SWIFT) Conference (CAPTG) September 9-12, 2013 in Ottawa, Ontario, Canada http://www.swiftconference.org/Benefits.html.
	"Betonstraßentagung 2013": Concrete Pavement Conference 2013 September 19-20, 2013 in Karlsruhe, Germany <u>www.fgsv.de</u> and English version of the Conference website (through Google Translate): http://translate.google.com/translate?hl=&sl=auto&tl=en&u=http%3A%2F%2Fwww.fgsv.de%2F.
	7 th International Conference on Concrete under Severe Conditions Environment and Loading (CONSEC'13) September 23-25, 2013 in Nanjing, China http://www.consec13.com.
OCTOBER 2013	Innovative World of Concrete ICI-IWC 2013 and World of Concrete India 2013 October 23-26, 2013 in Hyderabad, Andhra Pradesh, India http://www.ici-iwc2013.com/.
ECEMBER 2013	ACPA's 50 th Annual Meeting December 2-6, 2013 in Rio Grande, Puerto Rico For additional information, call 847.966.2272.
	International Journal of Pavements Conference December 9-10, 2013 in São Paulo, Brazil http://www.ijpavement.com/
	For events taking place in 2014 and beyond, please go to: http://www.concretepavements.org/calendar.htm.
onal Society	
<u>SCP</u>	The ISCP Newsletter is produced monthly by: Editor-in-Chief & Art Director: Amy M. Dean_newsletter@concretepavements.org Technical Editors: Robert Rodden, Nancy Whiting, Corey Zollinger and Cristian Gaedick Chief Correspondent: Neeraj Buch, Ph.D secretary@concretepavements.org
for Concrete Pavements	ISCP would like to thank Bill Davenport , ACPA and Greg Dean , ACPA-SE, as well as IGGA for contributions to this newsletter.
NEWSLA	as well as IGGA for contributions to this newsletter. ISCP invites ISCP members and friends to submit articles and calendar items to the Editor-in-Chief for future issues.
E 10 • NUMBER 6	ISCP President: Mark B. Snyder, Ph.D., P.E. president@concretepavements.org Vice-President: José T. Balbo, Ph.D <u>vice-president@concretepavements.org</u> Secretary/Treasurer:Neeraj Buch, Ph.D. <u>secretary-treasurer@concretepavements.org</u>

Please visit the ISCP Website at www.concretepavements.org for more information about ISCP.

Maps, globes: <u>National Geographic Family Reference Atlas of the World</u> ©2002 National Geographic Society, Washington, D.C. All additional sources noted on perspective pages. 6