



INTERNATIONAL SOCIETY FOR CONCRETE PAVEMENTS

ISCP e-NEWSLETTER
VOLUME 9, NUMBER 5
MAY 2012

IN THIS ISSUE

TITLE	PAGE
ISCP Updates 1	
Industry Resources 1-2	
Conference News 2-3	
Call for Abstracts 3-4	
Upcoming Events 4	

ISCP UPDATES

10th ICCP Advance Registration Deadline: June 30th!

Advance registration for the 10th ICCP in Québec City, Québec Canada will close on June 30th. Register online now to receive \$100 off (\$50 for Students) of the on-site registration rates. You may [Register](#) online at: <http://www.concretepavements.org/10thiccp/registration.htm>.

Conference attendees should reserve your hotel room at the Fairmont Le Château Frontenac as soon as possible to ensure you receive the lower conference room rates within the limited block of rooms. For [Hotel Reservations](#), please go to: <http://www.concretepavements.org/10thiccp/accomodations.htm>.

Please view the [Conference Brochure](#) online and download a printable flyer and registration form at: http://www.concretepavements.org/10thiccp/10th_iccp_flier_jan_12_low_res.pdf (1.3 MB).

Please view the [Preliminary Program](#) online at: <http://www.concretepavements.org/10thiccp/program.htm>.

For the 10th ICCP details, you may visit the home page at: <http://www.concretepavements.org/10thiccp/index.htm>.

For more information on [Québec City](#) and the surrounding area, please visit the Québec City Tourism site at: <http://www.quebecregion.com/en?a=con>.



ISCP Welcomes Sponsors for the 10th ICCP

10th ICCP Advance Registration Deadline: June 30th! The International Society for Concrete Pavements (ISCP) welcomes sponsors for the 10th ICCP. Sponsorships are offered at four (4) levels: Platinum, Gold, Silver and Bronze. For Sponsorship details, please go to: <http://www.concretepavements.org/10thiccp/sponsors.htm>

To become a [Sponsor](#), please contact: Sherry Sullivan, *Sponsorship Coordinator*
Phone: (416) 449-3708 ext. 234 | E-mail: conference.sponsorships@concretepavements.org

- SPONSORS:**
- PLATINUM** Holcim (Canada), Inc.
 - GOLD** American Concrete Pavement Association (ACPA)
Cement Association of Canada
GENIVAR
Ministry of Transportation of Ontario
National Precast Concrete Association (NPCA)
U.S. Federal Aviation Administration (FAA)
 - SILVER** CEMEX
Concrete Reinforcing Steel Institute (CRSI)
Wirtgen
 - BRONZE** Canadian Airfield Pavement Technical Group
Manitoba Infrastructure and Transportation
Stantec Consulting Ltd.

- COLLABORATORS:**
- CP Tech Center
 - EUPAVE
 - Federal Highway Administration
 - Office du tourisme de Québec
 - Transportation Association of Canada
 - Transportation Research Board (TRB)
- CONFERENCE HOST:**
Transports Québec

ORGANIZATIONAL MEMBERS & MAJOR EVENT SPONSORS:



INDUSTRY RESOURCES/RESEARCH REPORTS

Optimizing Cementitious Content in Concrete Mixtures for Required Performance



The National Concrete Pavement Technology Center at Iowa State University has released a report that examines the effects of changing the cementitious content required at a given water-to-cement ratio (w/c) on workability, strength, and durability of a concrete mixture. This study investigates the effects of changing cement content and paste volume on strength and durability.

Concrete is the most commonly used material for all types of construction, and cement is a primary component. The cement content of a mixture is commonly perceived to control concrete strength. Based on this perception, a minimum cement content is often specified that may exceed the amount needed to achieve the desired strength and durability. This excess cement content has a negative impact on cost and the environment for the following reasons:

- Cement is the most expensive component in concrete
- Cement contributes about 80 percent of the carbon dioxide (CO₂) burden of a concrete mixture

Although workability is improved by increasing cement content, previous studies suggest that increasing cement content does not necessarily contribute to increase in concrete strength. Increased cement content also causes higher internal temperatures in the concrete during the finishing and curing processes. In addition, the high cement content causes the mixture to become sticky and may lead to increased risk of shrinkage and cracking problems. Therefore, cement content should be balanced to achieve the required performance while minimizing risk of these problems.

... increasing cement content does not necessarily contribute to increase in concrete strength.

The goal of this project was to help the concrete industry use the right amount of cement with an appropriate water-to-cement (w/c) or water-to-cementitious materials (w/cm) ratio to meet given workability, strength, and durability requirements. The intended goal was to also optimize carbon dioxide emissions, energy consumption, and costs. The hypothesis behind this study is that when other parameters are kept constant, concrete properties such as strength and durability will not be improved significantly by adding additional cement after a certain minimum cement content is used.

The scope of this study was to investigate strength, chloride penetration and air permeability as indicators for performance of concrete mixtures with various w/cm and cementitious contents using a variety of binders. Fresh concrete properties such as slump, setting time and air content were also tested. The final report for this project presents and discusses workability, setting time, strength, chloride penetration and air permeability, and how they are affected by paste content of a mixture. Reducing excess cement content in concrete mixtures will help to reduce costs as well as the environmental and energy impacts associated with making cement.

To view the findings, figures and full report, please download a pdf (1.82 MB) at:
http://www.intrans.iastate.edu/reports/taylor_ocm_w_cvr2.pdf

For more information, please contact:
Peter Taylor, Associate Director, National Concrete Pavement Technology Center, Iowa State University
phone: 515-294-9333 | e-mail: ptaylor@iastate.edu
Please visit the CP Tech Center website at: www.cptechcenter.org

CONFERENCE NEWS

International Seminars: "New Concrete Pavement Technology" in Santiago & Punta Arenas, Chile

Two international seminars entitled "Test Technologies in Design and Construction of Concrete Pavements" were held in the cities of Santiago and Punta Arenas, Chile, March 27th to March 31st, 2012. The seminars were organized by the Ministry of Public Works of Chile, the Institute of Cement and Concrete of Chile, and TCPavements. ISCP and ACPA were the seminar sponsors.



Among the speakers were:

- Jeff Roesler, ISCP Director and Associate Professor at the University of Illinois, who spoke about trends and innovations in concrete pavements;
- Lev Khazanovich, ISCP Director and Professor at the University of Minnesota, who focused on the fundamentals of mechanistic design methods and nondestructive testing for pavement;
- Juan Pablo Covarrubias V, ISCP Director and General Manager of TCPavements, who discussed Optimized slab concrete pavement design procedure and projects;
- Juan Pablo Covarrubias Sr, former ISCP Board Member, who spoke about best construction practices in construction.

More than 180 people attended the Santiago seminar and 120 people attended the Punta Arenas seminar to learn about the trends and innovations that have been applied worldwide, to achieve better quality, greater durability, as well as more competitive and sustainable concrete pavements. Among the attendees were many representatives of professional, public and private sectors of Chile and various countries of Latin America.

For more information about these seminars, please contact via email:
Juan Pablo Covarrubias (Jr) jpcovarrubias@tcpavements.com



CONFERENCE REMINDERS

International Conference on Long-Life Concrete Pavement (LLCP) 2012, in September

Registration continues for the International Conference on Long-Life Concrete Pavements, to be held in Seattle, Washington, September 18-21, 2012.

Registration dates are: **Late July 31, 2012**
Very Late after July 31, 2012

To register, please go to:

http://registeruo.niu.edu/iebms/wbe/wbe_p1_main.aspx?oc=40&cc=WBE4012096.

For the conference website, please go to:

<http://www.fhwa.dot.gov/pavement/concrete/2012conf.cfm>.

For more information, please contact: Shiraz Tayabji, Fugro Consultants, Inc.:

Phone: 410-302-0831 | E-mail: stayabji@aol.com



- CO-SPONSORED BY:
- American Asso. of State Highway & Transportation Officials
 - American Concrete Pavement Association (ACPA)
 - Concrete Reinforcing Steel Institute (CRSI)
 - International Society for Concrete Pavements (ISCP)
 - National Ready Mixed Concrete Association
 - Portland Cement Association
 - Transportation Research Board
 - University of Washington
 - Wa. State DOT

CALL FOR ABSTRACTS

Call for Abstracts for the Concrete for Sustainable Construction Conference to be Held in Kingdom of Bahrain, February 2013

The 9th International Conference and Exhibition on Concrete for Sustainable Construction will be held February 11-13, 2013 at the Gulf International Convention Center, Gulf Hotel Kingdom of Bahrain. The conference will be a continuation of the successful forums that have been held bi-annually since 1985. Abstracts are invited on the topics outlined and other subjects related to the theme of the Conference. All abstracts are due **August 15, 2012** and should be forwarded through the Conference website at: www.concrete9.org or e-mail info@concrete9.org, vivek@mohandis.org.

Abstracts should clearly state the subject matter, the objectives and the important conclusions to be presented in the full paper. The length of the abstract should be between 300-500 words. The abstract must include the title of the paper, author's name(s), affiliation(s), and mailing and email addresses. Selection of papers will take into account the originality, relevance and likely interest to Conference delegates. Guidelines for submitting the full manuscript for review and the preparation of the final draft will be communicated upon the acceptance of the abstract.

Chairman Dr. Jameel Al Alawi invites you all to participate in the 9th International Concrete Conference and Exhibition. The invitation is extended to all stakeholders in the real estate and the construction industry – investors, developers, clients and the public – to participate in this convention and make a significant contribution in charting the course of the industry for the future, both regionally and globally. This edition will also bring together engineers, designers, researchers and scientists from around the world to promote better understanding of matters of common interests to all stakeholders, ranging from the most recent research to the latest applications of high-strength and high performance concrete for construction. The symposium is supported by leading world organizations, such as American Concrete Institute – Saudi Arabian & Bahrain Chapters and the Concrete Society (UK).

The conference will host workshops and seminars and also present the opportunity to share technical and research papers as well as case studies on topics of interest, which will include: Concrete in a Sustainable World; Durability, Deterioration and Repair of Concrete Structures; Advances in Materials and Processes for Green Buildings; Design and Construction; Research and Development; etc.

The conference will cover a wide range of topics as envisioned in the following list. Each main topic will be covered by one session. Other emerging topics are welcomed and encouraged.

A Concrete in a Sustainable Environment

1. What is Sustainability
2. Carbon Footprint in Concrete Construction
3. Life Cycle Assessment and Life Cycle costs
4. Use of Recycled & Waste Materials

B Durability, Deterioration & Repair of Concrete Structures

1. Strategies for durable Concrete Structures and Life Cycle Costs
2. Pre & Post Concreting Factors Affecting Durability
3. Effects of Chemicals in Soil and Sea water on Concrete
4. Corrosion Protection Strategies
5. Repair Methods and Techniques
6. Rehabilitation of Waste materials
7. Strengthening and change of use

C Projects and Case Studies

1. Design and Construction of High Rise Buildings in GCC
2. Concrete Transportation Structures (Eg. Metro Structures, Bridges and Pavements)
3. Burj Khalifa Design and Construction challenges
4. Marine Structures

D Advances in Materials

1. Alternative Reinforcement materials
2. Alternative Concrete Constituents and Admixtures
3. Specialized Concrete Mixes
4. Light Weight Concrete

E Design and Construction

1. Status of Codes, Implementation in the Region
2. Foundations and Soil Improvement
3. Design Software for Concrete Structure
4. Pre-Tensioning, Post-Tensioning & Precast Applications
5. Innovative Construction Techniques

For details, please visit: www.concrete9.org
For information on attractions in Bahrain, please visit: www.bahraintourism.com.



IMPORTANT DATES:
Abstract Due: August 15, 2012

Abstract Acceptance: September 15, 2012

Paper Due for Review: November 15, 2012

Final Paper Acceptance: December 15, 2012

Final Paper Due: January 15, 2013



Dr. Jameel Al Alawi, 9th Conference Chairman



A prize of US \$10,000 will be given to the author(s) of the Best Technical Paper presented at the Conference.

9th International Conference & Exhibition

Concrete

for Sustainable Construction

Organized by:



ISCP e-NEWSLETTER
VOLUME 9, NUMBER 5
MAY 2012

CALL FOR ABSTRACTS & PAPERS DIGEST

June 30, 2012 Abstracts are requested for papers for the Fifth North American Conference on the Design and Use of Self-Consolidating Concrete 2013 (SCC2013), which will be held May 12-15, 2013 at the Westin Michigan Avenue in Chicago, Illinois, USA. Papers should address recent innovation, application and production of Self-Consolidating Concrete (SCC). All accepted papers will be published in the conference proceedings, and selected papers will be published in the *Journal of Cement and Concrete Composite*. For topics and abstract information, please go to: <http://www.intrans.iastate.edu/events/scc2013/abstract/call-for-abstracts/>. For conference information, please go to: <http://www.intrans.iastate.edu/events/scc2013/about/>.

August 1, 2012 The submission site for committee Calls for Papers for the 2013 TRB Annual Meeting is now open for your use at: <http://pressamp.trb.org/CallForPapers/callsforpapers.asp>. Please use the submission form and follow the instructions that are linked to it. Subject area categories' descriptors may be found at: <http://onlinepubs.trb.org/onlinepubs/am/calls/Subjects.pdf>

UPCOMING EVENTS

JUNE
2012

9th International Transportation Specialty Conference

Part of the Canadian Society of Civil Engineering (CSCE) 2012 Conference
June 6-9, 2012 in Edmonton, Alberta, Canada
<http://csce2012.ca/>

EUPAVE - Dedicated Bus and Tram Lanes Seminar and Site Visit

June 7-8, 2012 in Paris, France
<http://www.eupave.eu/documents/news-items/20123101.xml?lang=en>

fib Symposium: Concrete Structures for Sustainable Community

June 11-14, 2012 in Stockholm, Sweden
<http://www.fibstockholm2012.se/>

Symposium on Advances in Pavement Mechanics

Part of the 2012 Joint Conference of the Engineering Mechanics Institute & 11th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability (EMI-PMC 2012)
June 17-20, 2012 in Notre Dame, Indiana, USA
<http://nd.edu/~emipmc12/>

International Congress on Durability of Concrete

June 18-21, 2012 in Trondheim, Norway
<http://www.icdc2012.com>

7th RILEM Conference on Cracking in Pavements

June 20-22, 2012 in Delft, the Netherlands
<http://www.rilem2012.org>

JULY
2012

3rd Advanced Workshop on Concrete Pavements

July 5-7, 2012 Lac Delage, Quebec, Canada
<http://www.concretepavements.org/3rdworkshop/>

10th International Conference on Concrete Pavements

Organized by ISCP
July 8-12, 2012 in Quebec City, Canada
<http://www.concretepavements.org/10thiccp>

23rd Annual Concrete Materials Computer Modeling and Durability Workshop, NIST & RILEM

July 16-18, 2012 in Gaithersburg, Maryland, USA
http://www.nist.gov/el/building_materials/modeling-workshop.cfm

MAIREPAV7 Conference

August 28-30, 2012 in Auckland, New Zealand
<http://www.mairepav7.co.nz/>

SWIFT 2012 Conference and Trade Show

September 17 - 21, 2012 in Banff, Alberta, Canada
<http://www.swiftconference.org/>

FHWA ACPT International Conference on Long-Life Concrete Pavements

September 18-21, 2012 in Seattle, Washington, USA
<http://www.fhwa.dot.gov/pavement/concrete/2012conf.cfm>

7th Symposium on Pavement Surface Characteristics (SURF 2012)

September 19-22, 2012 in Norfolk, Virginia, USA
<http://www.cpe.vt.edu/surf2012/index.html>

4th International Conference on Accelerated Pavement Testing (APT 2012)

September 19-21, 2012 in Davis, California, USA
<http://ucprc.ucdavis.edu/APT2012>

For events taking place October through December, 2012 and in 2013, please go to:
<http://www.concretepavements.org/calendar.htm>



The ISCP Newsletter is produced monthly by:
Editor-in-Chief & Art Director:

Amy M. Dean
aimdean@nc.rr.com

Technical Editors:
Corey Zollinger,
Nancy Whiting,
Cristian Gaedicke and
Robert Rodden

Chief Correspondent:
Neeraj Buch, Ph.D
secretary@concretepavements.org

ISCP would like to acknowledge
Juan Pablo Covarrubias V -
TCPavements Ltda;
Scott Orthey -
Manager ASTM International;
Mauricio Salgado Torres -
I.C. M.Sc.;
Muhammad Rizwan -
Conference Manager -
Bahrain Society of Engineers;
and **Tim Smith**
for contributions to this issue.

ISCP invites ISCP members and friends to submit articles and calendar items to the Editor-in-Chief for future issues.

ISCP President:
Mark B. Snyder, Ph.D., P.E.
president@concretepavements.org

Vice-President:
José T. Balbo, Ph.D
vice-president@concretepavements.org

Secretary/Treasurer:
Neeraj Buch, Ph.D.
secretary-treasurer@concretepavements.org

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

Maps, globes: **National Geographic Family Reference Atlas of the World** ©2002 National Geographic Society, Washington, D.C. & **Concise Earth Book World Atlas** ©1987 Graphic Learning International Publishing Corporation, Boulder, Colorado, **Esselte Map Service**, AB Stockholm.
All additional sources noted on perspective pages.

AUGUST
2012
SEPTEMBER
2012

ISCP e-NEWSLETTER
VOLUME 9, NUMBER 5
MAY 2012