SEVENTH CANMET/ACI
INTERNATIONAL CONFERENCE ON
RECENT ADVANCES IN
CONCRETE TECHNOLOGY

FINAL
PROGRAM

MAY 26-29, 2004
TREASURE ISLAND HOTEL
LAS VEGAS, NV, U.S.A.

Issued May 2004
SEVENTH CANMET/ACI
INTERNATIONAL CONFERENCE ON
RECENT ADVANCES IN
CONCRETE TECHNOLOGY

SPONSORED BY

COMMITTEE
FOR THE ORGANIZATION OF CANMET/ACI
INTERNATIONAL CONFERENCES
(ACI Council)
Ottawa, ON, Canada

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MAY 26-29, 2004
TREASURE ISLAND HOTEL
LAS VEGAS, NV, U.S.A.
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FOR THE ORGANIZATION OF
CANMET/ACI
INTERNATIONAL CONFERENCES
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SOCIAL FUNCTIONS

WEDNESDAY, MAY 26, 04
COCKTAIL RECEPTION
18:00 - 19:30

WEDNESDAY, MAY 26, 04
BANQUET
19:30 - 22:00

THURSDAY, MAY 27, 04
19:30 - 22:00
DINNER
honouring
Distinguished Prof. V. Ramakrishnan
S.D. School of Mines and Technology
Rapid City, South Dakota

for his outstanding and sustained contributions to concrete technology over the past 40 years, and his active support of CANMET/ACI International Conferences.

Tickets: $40.00 U.S.

SPECIAL EVENT

TECHNICAL VISIT TO THE
HOOVER DAM
SATURDAY, MAY 29, 2003
- Tickets: $50.00 U.S. -

CHAIRPERSONS’ AND SPEAKERS’ BREAKFAST

On the day of your session, you are asked to attend a breakfast meeting at the conference hotel at 7:00 a.m. Exact location of the meeting will be available at the registration desk. Please ensure you are there.
WEDNESDAY, MAY 26, 04

OPENING CEREMONY
13:45 - 14:00

INTRODUCTORY REMARKS:

V.M. MALHOTRA, Chairperson
Committee for the Organization of CANMET/ACI
International Conferences
(ACI Council)

OPENING PLENARY SESSION
14:00 - 17:30

CHAIRPERSON: T.W. Bremner
University of New Brunswick
Fredericton, NB, CANADA

- Management of Concrete Structures Affected by ASR: A Review
  B. Fournier
  ICON/CANMET/NRCan, Ottawa, ON, CANADA
  M.A. Bérubé
  Laval University, Quebec, QC, CANADA
  M.D.A. Thomas
  University of New Brunswick
  Fredericton, NB, CANADA

- Properties of Geopolymer Concrete with Fly Ash as Source Material: Effect of Mixture Composition
  P
  D. Hardjito, S.E. Wallah, D.M.J. Sumajouw and B.V. Rangan
  Curtin University of Technology
  Perth, WA, AUSTRALIA

- Delayed Ettringite Formation: Suggestion of a Global Mechanism in Order to Link Previous Hypothesis
  P
  X. Brunetaud and L. Divet
  LCPC, Paris, FRANCE
  D. Damidot
  Ecole des Mines de Douai, Douai, FRANCE

- Autogenous Shrinkage of Cementitious Pastes: State-of-the-Art
  P
  H. Justnes
  SINTEF Civil and Environmental Engineering Cement and Concrete, Trondheim, NORWAY

COFFEE BREAK 15:30 - 16:00

P: Papers in Proceedings
S: Papers in Supplementary Volume

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OPENING PLENARY SESSION (CONT’D)
16:00 - 17:30

CHAIRPERSON: K.H. Khayat
Université de Sherbrooke
Sherbrooke, QC, CANADA

- Resistance to Cracking by the Incorporation of Polypropylene Fibers
  S T. Ayano and K. Sakata
  Okayama University
  Okayama, JAPAN
  M. Yakubi
  Hagihara Industries Inc.
  Okayama, JAPAN

- Reduction of CO₂ Emission from Concrete Production - Options Other than the Use of Substitute Materials
  S P. Jahren
  P.J. Consult A/S
  Hvalstad, NORWAY

- Assessing Aggregate Reactivity Using the Accelerated Concrete Prism Test
  S K. Folliard and J. Ideker
  University of Texas
  Austin, TX, U.S.A.
  B. Fournier
  ICON/CANMET/NRCan
  Ottawa, ON, CANADA
  M.D.A. Thomas
  University of New Brunswick
  Fredericton, NB, CANADA

- Use of Under-Utilized Coal Combustion Products in Permeable Roadway Base Construction
  S T. R. Naik, R. N. Kraus and Y.-M. Chun
  University of Wisconsin-Milwaukee
  Milwaukee, WI, U.S.A.
  L.C. Pennock
  Wisconsin Public Service Corporation
  Green Bay, WI, U.S.A.
  P.F. Ziemkiewicz
  West Virginia University
  Morgantown, WV, U.S.A.
THURSDAY, MAY 27, 04, 08:45 - 10:30

SESSION 1: SELF-CONSOLIDATING CONCRETE

CHAIRPERSON: C.K. Nmai
Master Builders, Inc.
Cleveland, OH, U.S.A.

● Recent Developments of Special Self-Compacting Concretes
P M. Collepardi
Politecnico di Milano
Milano, ITALY
A. Borsot, S. Collepardi and R. Troli
Enco, Spresiano, ITALY

● Influence of Internal Friction and Cohesion on the Variations of Formwork Pressure of Self-Consolidating Concrete
P J. Assaad and K.H. Khayat
Université de Sherbrooke
Sherbrooke, QC, CANADA

● Self-Consolidating Concrete at Padgett-Thomas Barracks -- The Citadel
P G. Amekuedi, D. Morrow, M. Nigels and B. Guedel
Ready Mixed Concrete Co.
Raleigh, NC, U.S.A.

● The Resistance of Self-Consolidating Concrete (SCC) to Freezing and Thawing Cycles
S B.J. Christensen and F.S. Ong
Master Builders, Inc.
Cleveland, OH, U.S.A.

● Static Stability of Self-Consolidating Concrete
P J.A. Daczko
Master Builders, Inc.
Cleveland, OH, U.S.A.

COFFEE BREAK: 10:30 - 11:00
THURSDAY, MAY 27, 04, 11:00 - 12:30

SESSION 2: ASR/DEF

CHAIRPERSON: B. Fournier
ICON/CANMET/NRCan
Ottawa, ON, CANADA

- Recent Developments in the Prevention of Concrete Expansion due to Alkali-Silica Reaction
  M.D.A. Thomas
  University of New Brunswick, Fredericton, NB, CANADA
  B. Fournier
  ICON/CANMET/NRCan, Ottawa, ON, CANADA
  K. Folliard
  University of Texas, Austin, TX, U.S.A.
  M. Shehata
  Ryerson University, Toronto, ON, CANADA

- DEF-Related Expansion of Concrete as a Function of Sulfate Content in the Clinker Phase or Cement and Curing Temperature
  P M. Collepardi
  Politecnico di Milano, Milano, ITALY
  J.I.O. Olagot
  Enco, Spresiano, ITALY
  D. Salvioni
  Mapei, Milano, ITALY
  D. Sorrentino
  Lafarge, Saint Quentin Fallavier, FRANCE

- Field Cases Involving Treatment or Repair of ASR-Affected Concrete Using Lithium
  S D. Stokes
  FMC Corporation, Gastonia, NC, U.S.A.
  J. Pappas
  M.D.A. Thomas
  University of New Brunswick
  Fredericton, NB, CANADA
  K. Folliard
  University of Texas, Austin, TX, U.S.A.

- Performance of Lithium-Based Products Against ASR: Effect of Aggregate Type and Reactivity, and Reaction Mechanisms
  S C. Tremblay and M. A. Bérubé
  Laval University, Quebec City, QC, CANADA
  B. Fournier
  ICON/MTL-CANMET
  Ottawa, ON, CANADA
  M. D. Thomas
  University of New Brunswick
  Fredericton, NB, CANADA

LUNCH BREAK: 12:30 - 14:00
SESSION 3: GENERAL
CHAIRPERSON: T. R. Naik
University of Wisconsin-Milwaukee
Milwaukee, WI, U.S.A.

- Creep Behavior of Fly Ash-Based Geopolymer Concrete
  S.E. Wallah, D. Hardjito, D.M.J. Sumajouw and B.V. Rangan
  Curtin University of Technology,
  Perth, WA, AUSTRALIA

- Concrete and Mortar - From High Strength to Ultra-Lightweight:
  New Findings
  H.B. Fehlmann
  International Engineering, IABSE
  Walchwil, SWITZERLAND

SESSION 4: FIBER-REINFORCEMENT/GENERAL
CHAIRPERSON: V. Ramakrishnan
S.D. School of Mines and Technology
Rapid City, SD, U.S.A.

- Evaluation of Bond Strength Between Ultra-High Performance
  Reactive Powder Composite Materials and Fiber- Reinforced
  Concrete by Slant Shear Test
  P.A. Hassan and M. Kawakami
  Akita University, Akita, JAPAN
  S. Matsuoka and H. Tanaka
  Landes Company Ltd., Okayama, JAPAN

- A Steel Fiber-Reinforced Concrete Thin Shell Structure
  S.A. Domingo, C. Lazaro and P. Serna
  Universidad Politécnica de Valencia, Valencia, SPAIN
• Working Mechanisms of Shrinkage-Reducing Superplasticizer of New Generation
  P K. Yamada and H. Nakanishi
  Taiheiyo Cement Corp., Sakura City, JAPAN
  S. Tamaki and M. Kinoshita
  Takekoto Oil & Fat Co., Ltd. Gamagori City, JAPAN
  M. Yaguchi and S. Okazawa
  NMB Co., Ltd., Chigasaki City, JAPAN

• Improved Properties of Concrete Containing Effective Micro-organism as an Admixture
  S N. Satou, S. Sugita, M. Shouya and T. Higa
  Hachinohe Institute of Technology
  Aomoriken, JAPAN

• Steel Fiber Product Introduction Through Pre-Cast Reinforced Concrete Pipe
  P C.N. MacDonald
  Vigilant Enterprise LLC, MN, U.S.A.
  J. Trangsrud
  Royal Enterprises America, Inc., Stacy, MN, U.S.A.

• Lignosulphonate as a Plasticizing Admixture on Cements of Different Chemical Composition
  P B.G. Petersen, K. Reknes and K. Olavesen
  Borregaard LignoTech R&D, Sarpsborg, NORWAY

COFFEE BREAK: 15:30 - 16:00
SESSION 5: GENERAL
CHAIRPERSON: B.W. Ramme
Wisconsin Electric Power Co.,
Milwaukee, WI, U.S.A.

- Influence of Workability on the Strength of Concrete at Subzero Temperatures
  S Y. Yang, H. Ba, Z. Liu and H. Deng
  Harbin Institute of Technology, Harbin, CHINA

- Effectiveness of Anti-Corrosion Products for Reinforced Concrete Exposed to United Arab Emirates Environmental Conditions
  P A. Qasimi and S.M.K. Chetty
  Dubai Municipality, Dubai, U.A.E.

SESSION 6: GENERAL
CHAIRPERSON: R. N. Kraus
University of Wisconsin-Milwaukee
Milwaukee, WI, U.S.A.

- Impact-Echo Scanning for Internal Grout Evaluation in Post-Tensioned Ducts
  S Y. Tinkey and L.D. Olson
  Olson Engineering, Wheat Ridge, CO
  L.C. Muszynski
  University of Florida, Gainsville, FL, U.S.A.
- A Magnetic Resonance Imaging Technique to Determine Lithium Distribution in Mortars
  P J.J. Young, B.J. Balcom, T.W. Bremner, M.D.A. Thomas and K. Deka
  University of New Brunswick
  Fredericton, NB, CANADA

- Influence of Rheological Parameters on the Stability of Fresh High-Strength Lightweight Aggregate Concrete
  S K.S. Chia and M.H. Zhang
  National University of Singapore, SINGAPORE

- New Coatings for Concrete with Waste Materials
  S R. Drochytka and V. Petránek
  Brno University of Technology
  Brno, CZECH REPUBLIC

- Corrosion Study of Stainless Steel Bars in Cracked Concrete
  P T. Yamaji, T. Hirasaki and R. Takahashi
  Port and Airport Research Institute
  Yokosuka, Kanagawa, JAPAN
  S. Mizuma and M. Yamakawa
  Daido Steel Co., Ltd.
  Kanagawa, JAPAN
FRIDAY, MAY 28, 04., 08:45 - 10:30

SESSION 7: GENERAL

CHAIRPERSON: K. Sakata
Okayama University
Okayama, JAPAN

- Simulation of Adiabatic Temperature Rise of Concrete Using Mathematical Model for Hydration of Cement and Formation of Microstructure
  S H. Sugiyama
  Building Research Institute, Japan
  Tsukuba City, JAPAN
  Y. Masuda
  Utsunomiya University
  Utsunomiya, JAPAN

- Properties of Concrete Made with Demolition Waste as Recycled Coarse Aggregates
  S P. Kanappan, B. Rajkumar, R. Rajkumar and A.R. Santhakumar
  Anna University
  Chennai, INDIA
  B. VijayKalinimuthu
  Hindustan College of Engineering
  Chennai, INDIA

- Development of High-Volume Fly Ash Concrete Mixtures for Pavements in India
  S A.K. Tiwari, P. Srinivasan, P. Bandyopadhyay and R.M. Cursetji
  The Associated Cement Companies Limited, India
  Thane, INDIA

- Effect of Orientation on Wick Action Through Concrete
  S J. Aldred and B. V. Rangan
  Curtin University of Technology
  Perth, WA, AUSTRALIA

COFFEE BREAK 10:30 - 11:00
FRIDAY, MAY 28, 04, 11:00 - 12:30

SESSION 8: GENERAL

CHAIRPERSON: S. Nagataki
Aichi Institute of Technology
Toyota, Aichi, JAPAN

- A Study on the Objective-Based Durability Design for Building Components--Guideline of the Design Support and Considerations on Evaluation Test of Finishing Materials
  S T. Hasegawa and T. Ohkubo
  Building Research Institute, Tsukuba-shi
  Ibaraki, JAPAN
  J. Koga
  Ministry of Land, Infrastructure and Transport
  Government of Japan, JAPAN
  O. Senbu, Hokkaido University
  Sapporo City, JAPAN

- Autogeneous Healing: Ingress of Chloride and Sulfate Through Cracks in Concrete Under Marine Environment
  P T.U. Mohammed, H. Hamada and H. Yokota
  Port and Airport Research Institute
  Yokosuka Shi, JAPAN

- An Effective Utilization of Sludge Water with a Setting Retarder
  S J. Nakamoto, K. Togawa and Y. Mitsuiwa
  Wakayama National College of Technology,
  Wakayama, JAPAN

- Characteristics of Spray-on Concrete Mixed with Coal Ash
  S T. Saitoh and T. Anno
  Energia Eco Materia Co. Inc., Hiroshima, JAPAN

- The Performance of a New Lignosulphonate Plasticizing Admixture and Its Sensitivity to Cement Composition
  S K. Reknes, B.G. Petersen and K. Olavesen
  Borregaard LignoTech R&D, Sarpsborg, NORWAY

12:00 - 12:35

CLOSING REMARKS:

V.M. MALHOTRA, Chairperson
Committee for the Organization of CANMET/ACI International Conferences (ACI Council)