Technical program - CONCRACK 3
Venue: ENPC, Champs sur Marne

15 March 9 h 00 - 10 h 15
Opening ceremony
Welcome words from ENPC Direction (to be confirmed ?), IFSTTAR Direction, G. de Schutter for RILEM, R. Sato for JCI (total: 20 mn)
Introduction: stakes of early age control in mass concrete
chairman György L. Balázs, fib president
Pierre Labbé, EDF, CEOS.fr Director (20 mn)
Shigeyoshi Nagataki, past JCI President (20 mn)
Encouragement address by Mr. Na-oyoshi Sato, Vice-Minister for Engineering Affairs from Ministry of Land, Infrastructure, Transportation and Tourism of Japan (15 mn)

coffee break

15 March 10 h 30 - 12 h 45
JCI guidelines - presentation of general features, chapters 1, 2, 3 and 4
chairpersons S. Nagataki and P. Labbé
Prof. Riyoichi Sato. General presentation, historical context, outlines, main features and chapter 1 “General” of JCI guidelines (30 mn)
Prof. Takafumi Noguchi. Chapter 2 “Basis of thermal crack control” and chapter 3 “Planning for control of thermal cracking” (40 mn)
Prof. Shingo Miyazawa. “Design values of material properties” in chapter 4 “Verification of thermal cracking” and associated background (65 mn)

12 h 45 - 14 h 30 Lunch (at hotel Ibis, Champs sur Marne)

15 March 14 h 30 - 16 h 45
JCI guidelines - presentation of chapters 4, 5, 6 and case studies
chairpersons R. Sato and G. Mancini
Prof. Toshiaki Mizobuchi. “Thermal stress analysis, verification of thermal cracking based on three-dimensional FEM and simple evaluation method” in chapter 4 and associated background (75 mn)
Dr Tsutomu Kanazu. Chapter 5 “Construction works”, chapter 6 “Inspection” and case studies (60 mn)

coffee break

15 March 17 h 00 - 18 h 30
Recent research achievements in France on early-age thermal effects
chairpersons J. Mazars and T. Noguchi
J.-M. Torrenti, L. Buffo-Lacarrière & F. Barré, on behalf of CEOS.fr Program partners. CEOS.fr experiments for crack control of concrete at early age. (30 mn)
15 March 20 h 00 - 23 h 00 Gala dinner - brasserie “Le Train Bleu” at Gare de Lyon

16 March 8 h 30 - 10 h 10
**Early-age thermal effects and DEF prevention**

chairpersons T. Kretz and S. Miyazawa

B. Godart & L. Divet. DEF prevention in France and temperature control at early age. (20 mn)

R.-P. Martin, C. Bazin, J. Billo, M. Estivin, J.-C. Renaud & F. Toutlemonde. Experimental evidence for understanding DEF sensitivity to early-age thermal history. (20 mn)

J.-F. Seignol, O. Omikrine-Metalssi & F. Toutlemonde. Recent advances in modeling DEF effects. (20 mn)

B. Godart & L. Divet. DEF prevention in France and temperature control at early age. (20 mn)

S. Hanehara, T. Oyamada & M. Tanimura. Delayed Ettringite Formation: the case and research progress in Japan. (20 mn)

F. Cussigh. Experience in limiting early age concrete temperature for DEF prevention. (20 mn)

Coffee break

16 March 10 h 25 - 12 h 25

**Control of thermal effects at early age: experimental results and models**

chairpersons J.-M. Torrenti and T. Mizobuchi


S. Staquet, B. Delsaute, A. Darquennes & B. Espion. Design of a revisited TSTM system for testing concrete since setting time under free and restraint conditions. (20 mn)

C. Boulay. Test rig for early age measurements of the autogenous shrinkage of a concrete (20 mn)

M. Azenha & R. Faria. Issues on monitoring and simulating the thermo-mechanical behaviour of concrete since early ages. (20 mn)

G. Sciumè, B. A. Schrefler & F. Pesavento. Thermo-hygro-chemo-mechanical modelling of the behavior of a massive beam with restrained shrinkage. (20 mn)

G. de Schutter. Degree of hydration concept for early age concrete - A summary. (20 mn)

12 h 25 - 14 h 00 Lunch (at hotel Ibis, Champs sur Marne)

16 March 14 h 00 - 16 h 00

**Control of thermal effects at early age: applications**

chairpersons F. Toutlemonde and T. Kanazu

C. Mircea & A. Faur. Thoughts upon shrinkage induced cracking of concrete. A structural designer perspective. (20 mn)

G. Bertagnoli & G. Mancini. Autogenous deformations in massive concrete structures. (20 mn)

L. Bouillon, L. Linger, B. Kolani & E. Meyer. Effects of sun irradiation on the temperature and early age stress distribution in external concrete structure. (20 mn)

T. Yamamoto & T. Ohtomo. Practices for crack control of concrete in Japan. (20 mn)

A. Mari, M. Crespo, C. Molins, J. Bairán & D. Ferreira. A filament beam-column model for the non-linear analysis of RC frames including the early age effects. (20 mn)

L. Sorelli, F. Toutlemonde, F.-J. Ulm, V. Perry, D. Corvez & A. Sheikh. Analysis of early-age cracking for UHPFRC elements (cast-in-place or prefabricated) based on experience of Glenmore / “Passerelle des Anges” footbridges. (20 mn)

16 March 16 h 00 - 16 h 20

**Closing ceremony**

Thanks and synthesis (R. Sato - F. Toutlemonde for the board)