

# LMDC

## LISTE DES PUBLICATIONS ET AUTRES PRODUCTIONS 2005

### I. PUBLICATIONS

#### I.1 ARTICLES DANS DES REVUES INTERNATIONALES AVEC COMITE DE LECTURE

- ACL 1 **Bejan A., Lorente S.**  
Constructural multi-scale and multi-objective structures  
*Int J. Energy Research*, Vol. 29, 2005, pp. 689-710
- ACL 2 **Bertron A., Duchesne J., Escadeillas G.**  
Accelerated tests of hardened cement pastes alteration by organic acids : Analysis of the Ph effect  
*Cement and Concrete Research*, Vol. 35, N° 1, 2005, pp. 155-166
- ACL 3 **Bertron A., Duchesne J., Escadeillas G.**  
Attack of cement pastes exposed to organic acid in manure  
*Cement and Concrete Composites*, Vol. 27, N° 9-10, 2005, pp. 898-909
- ACL 4 **Boukhelifa L., Moroni N., James S-G., Thiercelin M-J., Lemaire G.**  
Evaluation of cement systems for oil and gas-well zonal isolation in a full-scale annular geometry  
*SPE Drill. Complet.*, Vol. 20, Issue 1, Pages 44-53, Mars 2005
- ACL 5 **Cyr M., Lawrence P., Ringot E.**  
Mineral admixtures in mortars. Quantification of the physical effects of inert materials on short-term hydration  
*Cement and Concrete Research*, Vol. 35, 2005, pp. 719-730
- ACL 6 **Da Silva A-K., Lorente S., Bejan A.,**  
Constructural multi-scale structures with asymmetric heat sources of finite thickness  
*Int J. Heat Mass Transfer*, Vol. 48 (13), 2005, pp. 2662-2672
- ACL 7 **Douche-Portanguen A., Prince W., Lutz T., Arliquie G.**  
Detection or quantitative analysis of a corrosion inhibitor, the sodium monofluorophosphate, in concrete,  
*Cement and Concrete Composites*, Vol. 27, N° 6, July 2005, pp. 679-687
- ACL 8 **Douche-Portanguen A., Prince W., Malric B., Arliquie G.**  
Study of interactions between sodium monofluorophosphate and hardened cement paste and their consequences on concrete transfer properties,  
*Cement and Concrete Research*, Vol. 35, N° 9, 2005, pp. 1714-1723
- ACL 9 **Frizon F., Lorente S., Auzuech C.**  
Nuclear decontamination of cementitious materials by electrokinetics : an experimental study  
*Cement and Concrete Research*, Vol.35, 2005, pp. 2018-2025
- ACL 10 **Granju J.-L., Balouch S.-U.**  
Corrosion of steel fibre reinforced from the crack  
*Cement and Concrete Research*, Vol. 35, 2005, pp. 572-577

- ACL 11 **Khitab A., Lorente S., Ollivier J.-P.**  
 Predictive model for chloride penetration through concrete  
*Magazine of Concrete Research*
- ACL 12 **Laurens S., Balayssac J.-P., Rhazi J., Klysz G., Arliguie G.**  
 Non-destructive evaluation of concrete moisture by GPR: experimental study and direct modelling,  
*Materials and Structure*, Vol. 38, N° 283, 2005, pp. 827-832
- ACL 13 **Lawrence P., Cyr M., Ringot E.**  
 Mineral admixtures in mortars. Effects of type, amount and fineness of fine constituents on  
 compressive strength  
*Cement and Concrete Research*, Vol 35, 2005, pp. 1092-1105
- ACL 14 **Lemaire G., Escadeillas G., Ringot E.**  
 Evaluation concrete surfaces using image analysis process  
*Construction and Building Materials*, Vol. 19, 2005, pp. 604-611
- ACL 15 **Lorente S., Bejan A.**  
 Sveltiness, freedom to morph, and constructal multi-scale flow structures  
*Int. J. Therm. Sci.*, Vol. 44, Issue 12, Pages 1123-1130, Dec. 2005
- ACL 16 **Mouret M., Bascoul A., Escadeillas G.**  
 Strength impairment of concrete mixed in hot weather: analysis in relation to physical and  
 chemical properties of hardened concrete  
*Magazine of Concrete Research*, Vol 57, N° 5, June 2005, pp. 301-308
- ACL 17 **Reguigui N., Sfar-Felfoul H., Ben Ouezdou M., Clastres P.**  
 Radionuclide levels and temporal variation in phosphogypsum  
*Journal of Radioanalytical and Nuclear Chemistry*, Vol. 264, N° 3, 2005, pp. 719-722
- ACL 18 **Soylev A., François R.**  
 Corrosion of reinforcement in relation to presence of defects at the interface between steel and  
 concrete  
*Journal of Materials in Civil Engineering*, ASCE, Vol. 17, N°4, Aug. 1, 2005, pp. 447-455
- ACL 19 **Turatsinze A., Bonnet S., Granju J.-L.**  
 Mechanical characterisation of cement based mortar incorporating rubber aggregates from  
 recycled worn tyres  
*Building and Environment*, Vol. 40, N° 2, 2005, pp. 221-226
- ACL 20 **Turatsinze A., Granju J.-L., Sabathier V., Farhat H.**  
 Durability of bonded cement-based overlays: effects of metal fibre reinforcement  
*Materials and Structures*, Vol. 38, N° 277, 2005, pp. 321-327
- ACL 21 **Wechsato W., Bejan A., Lorente S.**  
 Tree-shaped flow architectures: Strategies for increasing optimization speed and accuracy  
*Numer. Heat Tranf. A-Appl.*, Vol. 48, 8, pp. 731,744
- ACL 22 **Wechsato W., Lorente S., Bejan A.**  
 Tree-shaped networks with loops  
*Int. J. Heat Mass Transfer*, Vol. 48, 2005, pp. 573-583

## I.2 ARTICLES DANS DES REVUES AVEC COMITE DE LECTURE NON REPERTORIEES

- ACLN 1 **Bertron A., Coutand M., Cameleyre X., Escadeillas G., Duchesne J.**  
L'attaque chimique et biologique des effluents agricoles et agroalimentaires sur les matériaux cimentaires  
*Matériaux et Techniques*, Vol. 93, hors série, 2005, pp. 111-121.
- ACLN 2 **Bejan A., Lorente S.**  
Constructural theory of energy-system and environment flow configurations  
*Int J. Exergy*, Vol. 2(4), 2005, pp. 335-347
- ACLN 3 **Bejan A., Lorente S.**  
Constructural design and thermodynamic optimization  
*Annual Reviews of Heat Transfer*, Vol. 14, 2005, chapter 1
- ACLN 4 **Fanutza K., Toumi A., Bascoul A.**  
Fissuration d'un mortier haute performance renforcé de microfibres métalliques- Approche expérimentale et numérique  
*Annales du Bâtiment et Travaux Publics*, Février 2005-N° 1
- ACLN 5 **Naadia T., Mouret M., Kharchi F.**  
Effet de la taille des granulats sur le comportement rhéologique des bétons - application aux BAP  
*Algérie Equipement*, 39, 2005, pp. 21-24
- ACLN 6 **Sfar Felfoul H., Ben Ouezdou M., Clastres P.**  
Etude du phosphogypse de Sfax en vue d'une valorisation en technique routière  
*Annales de l'Equipement (Tunisie)*, Vol. 15, n°1, 1er semestre 2005

## I.3 CONFERENCES INVITEES

- INV 1 **Balayssac J.-P., Klysz G., Laurens S., Sbartai Z.-M., Arliguie G.**  
Cover Concrete Evaluation: The Contribution of GPR Technique - Experimental Studies and Field Measurements  
*6th Int. Congress, GLOBAL CONSTRUCTION : Ultimate Concrete Opportunities, 1-2 July 2005, Dundee, Scotland*
- INV 2 **Clastres P.**  
Matières premières secondaires et développement durable  
*6<sup>ème</sup> Edition des journées scientifiques du (RF)<sup>2</sup>B, 5 juillet 2005, Lyon*
- INV 3 **Granju J.-L., Turatsinze A.**  
Repairs by the thin bonded overlay technique : the RILEM TC 193-RLS and last finding about the debonding mechanism (keynote paper)  
*Int. Conf. on Concrete Repair, Rehabilitation and Retrofitting, ICCRRR 2005, November 21-23, 2005, Cape Town (South Africa)*

## I.4 COMMUNICATIONS AVEC ACTES DANS UN CONGRES INTERNATIONAL

- ACTI 1 **Alcantara M., Mouret M., Pons G., Granju J.-L.**  
Self compacting concrete with hybrid fiber reinforcement : workability and mechanical behaviour  
*SCC 2005 combining the second North American conference on the design and use of self-compacting concrete ( SCC) and the fourth international RILEM symposium on self-compacting concrete, october 30-novembre 2, 2005, Chicago (USA)*

- ACTI 2 **Assié S., Escadeillas G., Waller V.**  
Delayed behaviour of self compacting concrete  
*CONCREEP 7, Ecole Centrale de Nantes, 12-14 septembre 2005, Nantes (France)*
- ACTI 3 **Assié S., Escadeillas G., Waller V.**  
Self Compacting and vibrated concrete compared by physico-chemical durability properties.  
*SCC 2005 combining the second North American Conference on the design and use of self-compacting concrete ( SCC) and the fourth international RILEM symposium on self-compacting concrete, October 30- Novembre 2, 2005, Chicago (USA)*
- ACTI 4 **Aubert J.-E., Husson B., Vaquier A.**  
MSWI Fly ash treated by REVASOL process : effects on cement-based materials  
*1<sup>st</sup> Int. Conf. On Engineering for Waste Treatment - WASTEENG 2005 - 17-19 mai 2005, Albi (France) - ISBN 2-9511591-4-5*
- ACTI 5 **Audiger B., Baudracco J., Escadeillas G., Pages A., Salmon R.**  
Mechanicals Properties of mortars having powdered glass based binders,  
*1<sup>st</sup> Int. Conf. On Engineering for Waste Treatment - WASTEENG 2005 - 17-19 mai 2005, Albi (France) - ISBN 2-9511591-4-5*
- ACTI 6 **Audiger B., Escadeillas G., Baudracco J., Pagès A., Salmon R.**  
Dissolutions Mechanisms of Powdered Glass  
*1<sup>st</sup> Int. Conf. On Engineering for Waste Treatment - WASTEENG 2005 - 17-19 mai 2005, Albi (France) - ISBN 2-9511591-4-5*
- ACTI 7 **Balayssac J.-P., Klysz G., Laurens S., Sbartai Z.M., Arliguie G.**  
Cover Concrete Evaluation : The Contribution of GPR Technique Experimental Studies and field Measurements  
*6<sup>th</sup> International Congress on Global Construction : Ultimate Concrete Opportunities, 5-7 july 2005, Dundee (Scotland)*
- ACTI 8 **Bejan A., Lorente S.**  
Freedom vs. Performance and the evolutionary development of multi-scale hierarchical flow structures  
*Second International Conference on applied Thermodynamics, pp. 1-6, 18-20 mai 2005, Istanbul (Turkey) (Keynote paper)*
- ACTI 9 **Bertron A., Duchesne J., Escadeillas G.**  
Leaching of cement pastes exposed to the action of manure organic acids: comparison of the relative aggressiveness of the different acids.  
*6<sup>th</sup> International Congress on Global Construction, July 5-7, 2005, University of Dundee (Scotland)*
- ACTI 10 **Buffo-Lacarrière L., Sellier A.**  
Compressive basic creep and leaching weak coupling  
*CONCREEP 7, Ecole Centrale de Nantes, 12-14 septembre 2005, Nantes (France)*
- ACTI 11 **Cyr M., Coutand M., Idir R., Clastres P.**  
Characterisation of meat and bone meal (MBM) bottom ash in mortars  
*1<sup>st</sup> Int. Conf. On Engineering for Waste Treatment - WASTEENG 2005 - 17-19 mai 2005, Albi (France) - ISBN 2-9511591-4-5*
- ACTI 12 **Duprat F., Sellier A.**  
Probabilistic assessment of corrosion due to carbonation.  
*Workshop on Probability and Materials: from Nano - to Macro-Scale, Johns Hopkins University, January 5-7, 2005, Baltimore (USA)*

- ACTI 13 **El Barrak M., Mouret M., Bascoul A., Ringot E.**  
 A new approach to study grading curves. Application to concrete equivalent mortars for self compacting concrete,  
*SCC 2005 combining the second North American Conference on the design and use of self-compacting concrete ( SCC) and the fourth international RILEM symposium on self-compacting concrete, October 30- Novembre 2, 2005, Chicago (USA)*
- ACTI 14 **Fajardo G., Escadeillas G., Arliquie G.**  
 Extraccion electroquimica de cloruros (EEC) aplicada en concretos fabricados con ceniza volante  
*CONPAT 2005, Asuncion, Paraguay, Sept 2005*
- ACTI 15 **Fanutza K., Toumi A., Bascoul A.**  
 Residual performance of fatigue cracked fibre reinforced concrete  
*3<sup>rd</sup> International Conference Composite in Construction, CCC 2005, 11-13 july, 2005, Lyon (France)*
- ACTI 16 **François R., Toumi A., Ismail M., Castel A., Gagné R.**  
 Effects of cracks on local diffusion of chloride and on long-term corrosion behaviour of reinforced concrete  
*Durability of reinforced concrete under combined mechanical and climatic loads - CMCL Workshop, 27-28 october 2005, Qingdao (China)*
- ACTI 17 **Grimal E., Sellier A., Petre-Lazar, I., Le Pape Y., Bourdarot E.**  
 Influence of the basic creep on the modelling of concrete structures subjected to alkali aggregate reaction  
*CONCREEP 7, Ecole Centrale de Nantes, 12-14 septembre 2005, Nantes (France)*
- ACTI 18 **Guemmadi Z., Escadeillas G., Houari H., Clastres P., Toumi B.**  
 Influence of Limestone Fillers on the mechanical Performance of cement Pastes  
*6<sup>th</sup> International Congress on Global Construction : Ultimate Concrete Opportunities, Vol pp. 339-350, 5-7 july 2005, Dundee (Scotland)*
- ACTI 19 **Lorente S., Bejan A.**  
 Sveltiness, freedom to morph, and the constructal design of multi-scale flow structures  
*ASME Congress, November 2005, Orlando (Floride-USA)*
- ACTI 20 **Tran Q.-T., Toumi A., Granju J.-L.**  
 Interface between an old concrete and an overlay  
*3<sup>rd</sup> International Conference Composite in Construction, CCC 2005, 11-13 july, 2005, Lyon (France), pp 1235-1242*
- ACTI 21 **Turatsinze A., Granju J.-L., Bonnet S.**  
 Effect of rubber aggregate incorporation on the resistance of cement-based mortar to shrinkage cracking  
*Int. Conf. on Concrete Repair, Rehabilitation and Retrofitting, ICCRRR 2005, November 21-23, 2005, Cape Town (South Africa)*
- ACTI 22 **Vidal T., Assié S., Pons G.**  
 Creep and shrinkage of self compacting concrete and comparative study with model code  
*CONCREEP 7, Ecole Centrale de Nantes, 12-14 septembre 2005, Nantes (France)*

## I.5 COMMUNICATIONS AVEC ACTES DANS UN CONGRES NATIONAL

- ACTN 1 **Carasek E., Bertron A., Cascuso O., Castro A., Ollivier J.-P.**  
Analyse das variações da microestrutura do concreto de cobrimento por meio de microsonda eletrônica.  
*47<sup>ème</sup> Congrès International Brésilien IBRACON, septembre 2005, Brésil*
- ACTN 2 **Duprat F., Sellier A., Nguyen X.-S.**  
Approche probabiliste de la durabilité des ouvrages en béton exposés à la carbonatation  
*Journées Nationales de Fiabilité des Matériaux et des Structures, 25-26 octobre 2005, Clermont Ferrand (France)*
- ACTN 3 **El Barrak M., Mouret M., Bascoul A., Clastres P.**  
Etude de l'interaction pâte-granulats à l'état frais en vue d'une méthodologie de formulation des bétons autoplaçants  
*Colloque Méditerranéen sur les Matériaux, 6-7 décembre 2005, Oran (Algérie)*
- ACTN 4 **Sellier A., Duprat F., Petre-Lazar I., Grimal E., Le Pape Y., Boudarot E.**  
Etude de la sensibilité aux variables aléatoires d'un modèle numérique pour le calcul de structures en béton atteintes par la réaction alcali silice  
*Journées Nationales de Fiabilité des Matériaux et des Structures, 25-26 octobre 2005, Clermont Ferrand (France)*

## I.6 COMMUNICATIONS ORALES SANS ACTES DANS UN CONGRES INTERNATIONAL OU NATIONAL

- COM 1 **Bertron A.**  
Durabilité des matériaux cimentaires soumis à l'action des acides organiques des milieux agricoles et agroalimentaires  
*23<sup>èmes</sup> Rencontres Universitaires de Génie Civil - AUGC 2005, 26 & 27 Mai 2005, Grenoble (France)*
- COM 2 **Bertron A., Coutand M., Cameleyre X., Escadeillas G.**  
L'attaque chimique et biologique des effluents agricoles et agroalimentaires sur les matériaux cimentaires  
*VII<sup>ème</sup> forum Biodétérioration des Matériaux, Mai 2005, Caen (France)*
- COM 3 **Cyr M., Aubert J.-E., Husson B., Julien S., Clastres P.**  
Gestion des résidus minéraux dans les matrices cimentaires  
*23<sup>èmes</sup> Rencontres Universitaires de Génie Civil - AUGC 2005, 26 & 27 mai 2005, Grenoble (France)*
- COM 3b **El Barrak M., Mouret M., Bascoul A., Clastres P.**  
Etude de l'interaction pâte-granulats à l'état frais en vue d'une méthodologie de formulation des BAP  
*Colloque méditerranéen sur les matériaux, 6&7déc 2005 Oran (Algérie)*

## I.7 OUVRAGES SCIENTIFIQUES OU CHAPITRES D'OUVRAGES

- OS 1 **Balayssac J.-P.**  
Méthodologie d'évaluation non destructive de l'état d'altération des ouvrages en béton - Chapitre C4 : L'apport des études de laboratoire et sur sites tests - pp 403-420  
*Edition: O. Abraham et D. Breyse, AFGC-COFREND, Presses de l'ENPC, 2005, N° ISBN 2-85978-405-5*

- OS 2 **Balayssac J.-P., Chau B.**  
 Méthodologie d'évaluation non destructive de l'état d'altération des ouvrages en béton armé -  
 Chapitre A3 : L'évaluation de l'état du matériau - pp 53-76  
*Edition: O. Abraham et D. Breysse, AFGC-COFREND, Presses de l'ENPC, 2005, N° ISBN 2-85978-405-5*
- OS 3 **Bejan A., Lorente S.**  
 La loi Constructale (109 p)  
*L'Harmattan, Paris 2005, ISBN: 978-2747584173*
- OS 4 **Cascudo O., Carasek H. Yssorche-Cubaynes M.-P., Lopez A., Ollivier J.-P.**  
 Evaluation of cover concrete by analysis of chloride diffusion coefficients  
*Special Publication Quality of concrete Structures and recent advances in concrete materials and testing. American Concrete Institute - ACI, pp. 135-149 (SP 229-9), ISBN 0-87031-182-4, 2005*
- OS 5 **Dérobot X., Garnier V., François D., Laurens S., Lataste J.-F.**  
 Méthodologie d'évaluation non destructive de l'état d'altération des ouvrages en béton - Chapitre  
 C3 : Complémentarité des méthodes d'END  
*Edition: O. Abraham et D. Breysse, AFGC-COFREND, Presses de l'ENPC, 2005, N° ISBN 2-85978-405-5*

## I.8 BREVET

- BR 1 **Ayrinhac F., Bursi P., Carles-Gibergues A., Clastres P., Hochard J., Martin P., Ollivier J.**  
 Ciment composé avec de la cendre LFC et béton contenant ladite cendre  
*Brevet Français FR 0502158*