

GEOPOLYMER 2005 CONFERENCES TIME TABLE

Tuesday June 28: Registration from 15:00
to 18:00, INSSET, Université de Picardie

Wednesday June 29 - Morning

Registration 8.30

Room A (main auditorium)

10.00 - Official opening of the Conference

10.10 – Plenary lecture : *Geopolymer technology : the formation of cost-competitive construction materials from coal ash and blast furnace slag*, G.C. Lukey, The University of Melbourne, Australia,

Geopolymer Cement 1

10.50 - Geopolymer Cement From Regional Waste Streams, R. Hart, K. Wright, V. Golovanevskiy, T. Gourley, B. O'Connor, A. van Riessen, and E.R. Vance, Materials Research Group and Nanochemistry Research Institute, Curtin University of Technology, Perth, AMTC, Central TAFE, Wembley, Rocla Pty Limited, Chatswood, Australian Nuclear Science and Technology Organisation, Centre for Sustainable Resource Processing (CSRP), Australia,.

11.10 – Effects of high silica-content materials on fly ash-based geopolymeric cement properties, Ludger Lohaus and Fongjan Jirasit University of Hannover, Germany

11.30 - Fly ash –based geopolymeric-type binders, Ion Dumitru & Valentina Paraschiv BORAL Australian Construction Materials, Australia

11.50 - The relationship between cure conditions and flexural properties in flyash-based geopolymers, Neville A Miller, Industrial Research Limited, Auckland, New Zealand,

12.10 - Effect of Mechanically Activated Fly ash on the Properties of Geopolymer Cement, Sanjay Kumar, Rakesh Kumar, T.C. Alex, A. Bandopadhyay, S.P.Mehrotra National Metallurgical Laboratory Council of Scientific & Industrial Research, Jamshedpur – 831 007, India

12.30 Lunch

Wednesday June 29 - Afternoon

Room A (main auditorium)

Industrial-Waste as Raw-Material

14.30 – *Geopolymer Cement based on Coal-tailing Waste*, Robert Temple, Red Lion Cement, London, UK.

14.50 - *Preparing Kaolin from Coal Waste by Suspension Calcining Process*, Delong Xu, Hui Li* , Yanxin Chen, Honghong Cao, Xi'an University of Architecture & Technology, Xi'an, China

15.10 - *Structure and stability of geopolymers synthesized from kaolinitic and burnt shale clay residues*, Oleg Bortnovsky, Zdenek Sobalík, Zdenka Tvaršková, Pavel Roubíček, Miroslav Svoboda, Res. Inst. of Inorganic Chemistry, Inc., J. Heyrovsky Inst. of Phys. Chemistry, Academy of Science of the Czech Republic, Ceske lúpkové závody, a.s., Research Institute of Building Materials, JSC., Czech Republic

15.30 - *Preparation of geopolymeric monoliths from red mud-PFBC ash fillers at ambient temperature*, W. Cundi, Y. Hirano, T. Terai, R. Vallepu, A. Mikuni and K. Ikeda, Yamaguchi University, and Yamaguchi Prefectural Industrial Technology Institute Ube, Japan.,

15.50 - *Geopolymer binder using tungsten mine waste*, Pacheco-Torgal, Fernando , Castro-Gomes, João , Jalali, Said, Castelo Branco Polytechnic Institute, University of Beira Interior, University of Minho., Portugal

16.10 COFFEE BREAK

Geopolymer Applications to Archaeology

16.30 – Plenary Lecture: *Latest analysis on pyramid stones supporting Joseph Davidovits' theory*. G. Demortier, Namur University, Belgium and G. Hug, ONERA-CNRS, Paris, France

17.10 - *The making of 15 tonnes of Egyptian pyramid stones: the Diaporama: Summer 2002*, Geopolymer Institute, Saint-Quentin, France

17.30 - *The manufacture of artificial basalt in Mesopotamia, 3700 years ago: geopolymeric analogue*, Joseph Davidovits

17.50 - *Synchrotron radiation and other measurements on limestone-based material from the Nile basin* E. Pantos, Archaeometry Unit, CCLRC Daresbury Laboratory, Warrington, United Kingdom.

18.10 – *Why are Djoser's blue Egyptian faience tiles not blue? Manufacturing Djoser's faience tiles at temperatures as low as 250°C*, Joseph Davidovits and Ralph Davidovits

18.30 – End of session

Room B

Geopolymer Cement 2

14.50 – *Rheological and mechanical evaluation of Geopolymer-Portland cementing systems*, Maria D.M. Paiva, Érika P. Marinho, Valeska G. Oliveira, Antonio E. Martinelli, Dulce M.A. Melo, Marcus A.F. Melo, Universidade Federal do Rio Grande do Norte, Natal-RN, Brazil

15.10 - *Geopolymer cement based on fly ash/slag : a high performance environment friendly cementitious material*, Zhao Fengqing , Liu Pengjiao, Ni Wenb, Xiao Jingyi, Hebei University of Sci. & Tech., Shijiazhuang and Beijing University of Sci. & Tech., Beijing, China

15.30- *Geopolymer Cement based on fly ash/metakaolin: Correlation between axial compressive strength and fly ash/metakaolin ratio*, Dylmar Penteado Dias and Frederico Lopes Murta, UENF, Rio de Janeiro, Brasil

15.50 - *Early Mechanical Property and Durability of Geopolymer*, Keliang LI, Guohong HUANG, Jian CHEN, Dong WANG, Xiusheng TANG, Nanjing Hydraulic Research Institute□Nanjing., Nanjing Hydraulic Research Institute□Nanjing, China

16.10 COFFEE BREAK

Thursday June 30 - Morning

Room A (main auditorium)

09.00 Plenary Lecture: - *Geopolymer-chemistry and sustainable Development. The Poly(sialate) terminology : a very useful and simple model for the promotion and understanding of green-chemistry*, Joseph Davidovits, Geopolymer Institute, Saint-Quentin, France

Geopolymer Chemistry 1

09.40 - *Advances in understanding the synthesis mechanism and properties of geopolymeric materials*, Kenneth J D Mackenzie, Dan R M Brew, Ross A Fletcher, Catherine L Nicholson, Martin Schmücker, Industrial Research Limited, MacDiarmid Institute for Advanced Materials, Victoria University of Wellington, New Zealand, and German Aerospace Centre, Cologne, Germany

10.00 - *The microstructural characterization of geopolymers derived from Fly-Ash and various solid silicate sources*, C. Rees, G.C. Lukey and J.S.J. van Deventer, The University of Melbourne, Australia

10.20 – COFFEE BREAK

10.40 - *Fresh insights into geopolymer formulations: the roles of sodium silicate and sodium aluminate*, Dan R M Brew, Stephen A Bagshaw, Kenneth J D Mackenzie, Catherine L Nicholson, Industrial Research Limited, MacDiarmid Institute for Advanced Materials and Nanotechnology, Victoria University of Wellington, New Zealand

11.00- *Corrosion of metals embedded in geopolymers*, Jon Morris, Steve Hodges, MPT Solutions, Lower Hutt, New Zealand

11.20 - *Fixation of heavy metals in geopolymeric materials*, Martina Minariková, Frantisek Skvára, Department of Glass and Ceramics, ICT Prague, Czech Republic

11.40 - *Speciation studies of Fe, Mn, Ca and Ti in a metakaolinite-based geopolymer with Si/Al ~ 2*, D S Perera,* E R Vance, J Davis, Y Zhang, J V Hanna and Z Zhang, Australian Nuclear Science and Technology Organisation, Menai, Australia

12.00 - *The influence of calcium content on the performance of geopolymeric binder especially the resistance against acids*, A. Buchwald, K. Dombrowski, M. Weil, Bauhaus-University Weimar, Freiberg University of Mining and Technology, Forschungszentrum Karlsruhe, Germany

12.20 - Lunch

Room B

Applications in Construction Materials

10.40 - *Geopolymer as an inorganic additive to stabilise clay containing building materials*, Ch. Kaps, A. Buchwald, M. Hohmann, Bauhaus-University Weimar, Germany

11.00 - *Solidification of Waste Tire-Shreds by Geopolymerization*, O.Skoba, R. Slavik, V. Bednarik, M. Vondruska, T. Hanzlicek, Tomas Bata Univ. in Zlín and Academy of Sciences of the Czech Republic, Prague, Czech Republic

11.20 - *Repairing of damaged stone monuments in monuments and stone buildings*, Amândio Teixeira-Pinto and Eduardo Vieira, Universidade de Trás-os-Montes e Alto Douro, Vila Real, Portugal

11.40 - *Application of geopolymeric materials as designed-rheology floorings with improved properties*, L. Granizo, A. Fernández-Ibarburu, T. González, R. Rico, Sika, Spain

Thursday June 30 - Afternoon

Room A (main auditorium)

Applications in High-Tech Materials

14.30 Plenary Lecture – *Geopolymers: More than just a Cement*
W. Kriven, University of Illinois, Urbana-Champaign, USA

15.10 - *The influence of the calcium content in geopolymeric binders on their behaviour at elevated temperatures*, K. Dombrowski, A. Buchwald, M. Weil, Freiberg University of Mining and Technology; Bauhaus-University Weimar, Forschungszentrum Karlsruhe, Germany

15.30 - *The use of Geopolymers as concrete coatings for fire protection*, Benjamin Varela and Natalya Priorotskay, Rochester Institute of Technology, Rochester, New York. USA

15.50 - *The effect of alkali metal type and silicate concentration on the thermal stability of geopolymers*, Peter Duxson, G.C. Lukey, J.S.J. van Deventer, The University of Melbourne, Australia.

16.10 - COFFEE BREAK

16.30 - *Nano-composite geopolymer matrices: K-nano-poly(siloxo) for bio-materials and K-nano-poly(sialate) for fire-heat resistance*, Ralph Davidovits and Joseph Davidovits, Cordi-Géopolymère, Saint-Quentin, France

16.50 - *Solid rod reinforced geopolymer composite materials*, Neville A Miller, Clive D Stirling, Catherine L Nicholson, Industrial Research Limited, Auckland, New Zealand

17.10 – end of session

Room B

Other cementitious systems

15.30 - *Proposal for a descriptive model on the alkali activation process of fly ashes on the basis of FTIR and SEM data*, A. Fernández-Jiménez, A. Palomo and M Alonso, CSIC, Madrid, Spain

15.50 - *Alkali activated Fly ashes. Mechanical strength evolution as a function of the SiO₂/Al₂O₃ ratio*, G. Kovalchuk, A. Palomo, and A. Fernández-Jiménez, V.D. Glukhovskiy Institute, Kyiv, Ukraine and CSIC, Madrid, Spain

16.10 COFFEE BREAK

16.30 - *Immobilization of toxic/hazardous wastes in alkaline activated fly ash matrices*, A. Fernández-Jiménez, M. Palacios and A. Palomo "Eduardo Torroja" Institute (CSIC), Madrid, Spain

16.50- Tec-Cement Technologies and Geopolymers, John Harrison, TecEco Pty. Ltd., Australia

17.10 – end of session

Municipal Theater

19.00 – Official reception and Awards presentation

19.45 – Public lecture

(in French with simultaneous English translation):

**Applications to Archaeology
by Professor Joseph Davidovits**

Palais Fervaques

21.30 – Dinner Banquet

23.30 end of Dinner Banquet

Friday July 1 - Morning

Room A (main auditorium)

Geopolymer Concrete

09.00 – Plenary Lecture : *Studies on Fly-Ash Based Geopolymer Concrete*, B.V. Rangan, Curtin University, Perth, Australia

09.40 - *Performance of Fly Ash-Based Geopolymer Concrete Under Sulfate and Acid Exposure*, Steenie E. Wallah, Djwantoro Hardjito, Dody M.J. Sumajouw, B.V. Rangan, Curtin University of Technology, Perth, Australia

10.00 - *Response of Geopolymer concrete to sulphuric acid attack*, Xiu-jiang Song, Michael Brungs, Marton Marosszeky, Tian Z Chang,, University of New South Wales, Sydney, Australia

10.20 - COFFEE BREAK

10.40 - *Durability of geopolymer materials based on fly ash*, Frantisek Skvára, Tomáš Jilek, Lubomír Kopecký, ICT Prague, Faculty of Civil Engineering, CTU Prague, Czech Republic

11.00– *Geopolymer Concrete from Sarawak Fly Ash*, Prabir Kumar Sarker, Curtin University of Technology, Perth, Australia

11.20 - *Effect of Mixing Time and Rest Period on the Engineering Properties of Fly Ash Based Geopolymer Concrete*, D. Hardjito, S.E. Wallah, D.M.J. Sumajouw, B.V. Rangan, Curtin University of Technology, Perth, Australia

11.40 - *Fly-Ash Based Geopolymer Concrete: An application for Structural Members*, Dody M.J. Sumajouw, Djwantoro Hardjito, Steenie E. Wallah, and B.V. Rangan, Curtin University of Technology, Perth, Australia

12.20 – Lunch

Room B

Geopolymer Chemistry 2

09.40 - *The effect of partially reacted surfaces on the short-range ordering of geopolymeric gels*, Syet Li Yong, D. Feng, G.C. Lukey and J.S.J. van Deventer, The University of Melbourne, Australia

10.00 - *The characterization of nanostructure and structural ordering in aluminosilicate geopolymer gels*, P. Duxson, J.L. Provis, G.C. Lukey, J.S.J. van Deventer, The University of Melbourne, Australia.

10.20 – COFFEE BREAK

10.40 - *Semi-empirical AM1 Calculation on the single 6-membered Alumino and Silicate Sheet Ring Model: Quantitative Implication for Dissolution Process of Geopolymerisation Reaction*, ZHANG Yunsheng, Sun Wei, ZHANG Yamei, Liu Sifeng, Southeast University, Nanjing, China

11.00 - *Rheological behavior and compressive strength of the geopolymeric systems with poly(ethylene glycol)*, E. P. Marinho, A. E. Martinelli, T. W. J. Batista, D. M. A. Melo, M. D. M. Paiva and R. B. Garcia, Universidade Federal do Rio Grande do Norte, Natal, RN, Brazil.

11.20 - *Dynamic Mechanical Properties of Geopolymer-organic Polymer Composites*, Kunal Shrotri, Benjamin Varela, Andreas Langner, Rochester Institute of Technology, Rochester USA

11.40 - *Hydrothermal stability of geopolymers prepared from metakaolinite activated with NaOH and KOH*, KOLOUSEK, D., VOREL, J., DOUŠOVÁ B., ANDERTOVÁ, J., KOVANDA, F., PAJOUT, R., Institute of Chemical Technology in Prague, BRUS, J., URBANOVÁ, M. Academy of Sciences of the Czech Republic, DROTTNEROVÁ, J., HOLEŠINSKÝ, Research Institute of Building Materials, Brno, Czech Republic.

12.00 - *Sodium silicate geopolymerisation of blast furnace slag*, Sotya Astutiningsih and Yinong Liu, Universitas Indonesia, Indonesia, and University of Western Australia, Australia

12.20 Lunch

Friday July 1 - Afternoon

Room A (main auditorium)

Geopolymer Chemistry 3

14.30 - *Novel geopolymer materials containing borate and phosphate structural units*, Catherine L Nicholson, Benjamin J Murray, Ross A Fletcher, Dan R M Brew, Kenneth J D Mackenzie, Martin Schmücker, Industrial Research Limited, MacDiarmid Institute for Advanced Materials, Victoria University of Wellington, New Zealand, and German Aerospace Centre, Cologne, Germany

14.50 - *Effect of Hydroxide on Geopolymer Structure, Cure Time and Composition*, Karla Anderson, Clive Bolt, Allan Easteal, Neil Edmonds, The University of Auckland and Coatings and Resins International Ltd, Auckland, New Zealand.

15.10 - *Dendritic Geopolymer*, Kawkab Al-Naimi, Qatar University, Doha, Qatar

15.30 - *Chemical indicator of Geopolymer*, R. Slavik, O.Skoba, V. Bednarik, M. Vondruska, T. Hanzlicek, Tomas Bata Univ. in Zlin and Academy of Sciences of the Czech Republic, Czech Republic,

Special session: **Geopolymer terminology**

15.50 - round table on terminology

16.25 - vote

16.30 – end of session
end of the conference