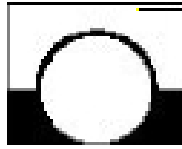




# DGGT



Deutsche Gesellschaft für Geotechnik e.V.

German Geotechnical Society



## 1<sup>ST</sup> MIDDLE EUROPEAN CONFERENCE ON LANDFILL TECHNOLOGY

February 6 – 8, 2008  
Hungarian Academy of Sciences  
Budapest, V. Roosevelt tér 9

**Organised by:**

Technical Committee on Geotechnics of Landfills  
in the DGGT – German Geotechnical Society

Hungarian National Committee of the ISSMGE

**Symposium Chairmen:**

From Germany: Prof. Dr.-Ing. Karl-Josef Witt, Weimar  
Prof. Dr.-Ing. Hans-Günter Ramke, Höxter  
From Hungary: Prof. Dr. Gábor Telekes, Budapest  
Dr. Emőke Imre, Budapest

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## Preliminary Conference Programme

[February 06, 2008.]

### Opening

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8h50 - 9h00      Official Opening  
  
Hajdu, Gy., ISWA president of Hungarian section  
Hajdu, Gy., ISWA president of Hungarian section  
Prof. K-J. Witt, Weimar, Germany  
Prof. G. Teleks, Budapest, Hungary

### Session 1 **General aspects in Middle Europe and in the world**

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[9h00 - 10h45 ] **MTA Great Hall**

9h00 - 9h30      Keynote lecture: **General aspects in Middle Europe**  
Vanicek, I. Czech TU, Prof. of Dep. Geotechnics, Praga

9h30 - 9h45      **Landfill Technology in Hungary**  
Markó, Cs. - Environmenta Ministry KVVMM 1

9h40 - 10h00      **Landfill Technology in Croatia**  
Kovačić, D.  
University of Zagreb, Faculty of Geotechnical Engineering 2

10h00 - 10h15      **Landfill Technology in Slovenia**  
Darinka Ignjatović, B.Sc., Civil Engineering  
Ecological Engineering Institute, Maribo 3.

10h15 - 10h30      **Landfill Technology in Russia**

Bellendir E.N.(Dr.Sc.)-S-Petersburg, Ter-Martirosyan Z.G.(Dr.Sc.)-  
Moscow. Kazarnovsky V.D.(Dr.Sc.)-Moscow; Ponomaryov A.B.(Dr.Sc.)-  
Perm., Russia 4

- 10h30 - 10h45      **Landfill Technology in Turkey**  
Alyanak, I. P A P - Profesör Alyanak & Partner  
Engineering and Consulting Limited Izmir - Turkey 5
- 10h45 - 11h00      Coffee break
- 12h30 -- 14h00      Lunch

**[February 06, 2008.]**

Session 2 **Geological Barriers and Bottom Liner Systems**

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[11h00 - 13h00] **MTA Great Hall**

- 11h00 - 11h30      Keynote lecture: **Geological Barriers and Bottom Liner  
Systems** 6  
Gartung, E. Leipziger Str. 4., 90518 Altdorf, Germany
- 11h30 - 11h45      **Landfill bottom liners incorporating asphalt**  
Burkhardt, G.  
Egloffstein, T. of ICP mbH in Karlsruhe/ Germany 7
- 11h45 - 12h00      **Laboratory testing of GCLs**  
Z. Kovacevic; I. Vrkljanlic, B. ;Faculty of Mining,  
Geology and Petroleum Engineering, University of Zagreb, Croatia
- 12h00 - 12h15      **Hydraulic conductivity, free swell and swelling pressure of a  
dense prehydrated GCL**  
<sup>1</sup>Di Emidio, G. ; <sup>2</sup>Mazzieri, F. ; <sup>3</sup>Van Impe, P. O. ; <sup>1</sup>Van Impe, W. F.  
<sup>1</sup>Laboratory of Geotechnics, Ghent University, Belgium  
<sup>2</sup>FIMET, Marche Technical University, Ancona, Italy

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	<sup>3</sup> AGE, Advance Geotechnical Engineering, Belgium 8
12h15 - 12h30	<b>Construction and Demolition Waste and Dredge Material as Landfill Liner in Ireland</b> Murphy, J.P., Harrington, J., Riordan, J.D., Department of Civil, Structural & Environmental Engineering and School of Building & Civil Engineering Cork Institute of Technology, Bishopstown, Cork, Ireland 9
12h30 - 12h45	<b>Behavior of some Spanish clay materials as landfill barriers in urban landfills</b> 1Rodríguez, R. ; 1Hervás,J. ; 2Cuevas, J. 1Centro de estudios y experimentación de obras públicas, Laboratorio de Geotecnia, Madrid, Spain , 2Universidad Autónoma 10
12h45 -- 13h00	Discussion
13h00 -- 14h00	Lunch

### [February 06, 2008.]

#### Session 3. **Bottom and Surface Drainage Systems**

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[ 14h00 - 15h45 ] **MTA Great Hall**

14h00 - 14h30	<b>Keynote lecture: Leachate Collection Systems</b> Ramke, H. G. University of Applied Sciences Lippe und Hoexter, Campus Hoexter, Faculty of Environmental Engineering, Professor of Waste Management and Landfill Technology, Germany 11
14h30 - 14h45	<b>Clogging and passive treatment.</b> Fleming, I., Prof. of University of Saskatchewan, Saskatoon, Canada 12
14h45 - 15h00	<b>Comparison between traditional (mineral) materials for landfill construction and geosynthetical isolation and drainage systems</b> Heerten, G. ; Ciesielski, R. 13
15h00 - 15h10	<b>Filtering, suffusion, segregation in the LCS</b>

	Lórinicz, J.; Imre, E.; Trang, P. Q., Rajkai, K., Telekes, G. 14
15h10 - 15h20	<b>Geocomposite Drainage Systems - The Key to Efficient Engineered Landfill Design and Operation</b> Sangster, T. ; GSE Lining Technology GmbH, Germany Baldauf, S. ;GSE Lining technology GmbH, Germany 15
15h20- 15h30	<b>Measurement of Leachate influx to drainage pipes of MSW Landfills</b> Münnich, K, Bauer, J and Fricke, K , Germany Leichtweiss-Institute for Hydraulic Engineering, Dept. of Waste and Resource Management, Techn University of Braunschweig, Germany 16
15h30- 15h45	Discussion
15h45 - 16h00	Coffee break

**[February 06, 2008.]**

Session 4: **Stability and Deformation of Landfill Bodies**

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[16h00 - 18h00] **MTA GREAT HALL**

16h - 16h30	Keynote lecture: <b>Geomechanical Monitoring of Sanitary Landfill Sites: Assesment of Settlement and Associated Parameters</b> Gourc J.-P., Prof. of University of Grenoble 17
16h30 - 16h45	<b>Landfill Lining System Stability and Integrity: Assessment of Waste/ Barrier Interaction</b> Dixon <sup>1</sup> , N. ; Sia <sup>1</sup> , A. ; Fowmes <sup>1,2</sup> , G. and Jones <sup>2</sup> , R. <sup>1</sup> Department of Civil and Building Engineering, Loughborough University, Leicestershire, UK, <sup>2</sup> Golder Associates, Browns Lane Business Park, Stanton-on-the-Wolds, Nottinghamshire, UK 18
16h45 - 17h00	<b>Deformation and settlement measurements on landfill</b> Kölsch, F. ; Technical University Braunschweig Leichtweiss Institut for Hydraulic Engineering 19

- 17h00 - 17h15      **Monitoring the Landfill Settlement, Case Study: Tehran Sanitary Landfill**  
Shariatmadari, N.<sup>1</sup> ; Mansouri, A.<sup>2</sup> ; Madani Sh., H.<sup>3</sup>  
<sup>1</sup>Associate Prof. Civil Eng. IUST, Iran University of Science and Technology Narmak, Tehran, Iran ; <sup>2</sup>PhD student in Geot Eng IUST, Iran University of Science and Technology, Narmak, Tehran, Iran;  
<sup>3</sup>Msc in Environmental Engineering, Deputy of Research in OWRC, Tehran, Iran 20
- 17h15 - 17h30      **Probabilistic Stability Analysis of Sanitary Landfill Jakusevec**  
Petrovic, I. ; University of Zagreb, Faculty of Geotechnical Engineering, Varazdin, Croatia 21
- 17h30 - 17h45      **The influence of the mineralogical and physical properties of chemical gypsum to the compaction behavior and stability of the gypsum mono - landfill body**  
<sup>1</sup>Petkovšek, A. ; <sup>2</sup>Mladenovič, A. ; <sup>1</sup>Maček, M. ; <sup>1</sup>Majes, B.  
<sup>1</sup>Faculty of Civil and Geodetic Engineering, University of Ljubljana, Slovenia<sup>2</sup> ZAG - National Building and Civil Engineering Institute, Ljubljana, Slovenia 22
- 17h45 - 18h00      Discussion

[ 9h00 - 10h45 ] **MTA Great Hall**

**[February 07, 2008.]**

Session 5: **Hydrology and Hydraulics of Landfill Bodies**

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- 9h30 - 9h30      Keynote lecture: **Modelling of landfill processes**  
Dr. McDougall, J. Napier University, United Kingdom 23
- 9h30 - 9h45      **Modelling the liquid phase in the University of Southampton landfill model LDAT**

9h45 - 10h00	White, J. ; Beaven, R. University of Southampton, United Kingdom. 24 <b>Modelling the Influence of Hydraulics and Biodegradation on Settlements of Landfills</b>
	Bente, S. ; Krase, V. ; Kindlein, J., Ursula Kowalsky, Dieter Dinkler, Institute for Structural Analysis, Technical University Braunschweig, Germany 25
10h00 - 10h15	<b>Influence of the Soft Plastic in the Mechanical Properties of MSW</b>
	Borgatto <sup>(1)</sup> , A.V.A. ; Bauer <sup>(2)</sup> , J. ; Fricke <sup>(2)</sup> , K. ; Mahler <sup>(3)</sup> , C.F. <sup>(1)</sup> Federal University of Rio de Janeiro - COPPE, Department of Geotechnical Engineering, Brazil and Leichtweiss-Institute for Hydraulic Engineering, Dept. of Waste and Resource Management, Technical University of Braunschweig, Germany. 26 <sup>(2)</sup> Leichtweiss Institute for Hydraulic Engineering, Dept. of Waste and Resource Management, Technical University of Braunschweig, Germany. <sup>(3)</sup> Federal University of Rio de Janeiro - COPPE, Civil Eng, Brazil. 27
10h15- 10h30	<b>The use of geosynthetic material in landfills established in the course of the clean-up of environment pollution</b>
	Sándor, G. ; scientific head of department, VITUKI Kht. Hungary 28
10h30 - 10h45	Discussion
10h45 - 11h00	Coffee Break

**[February 07, 2008.]**

Session 6: **Capping Systems and Aftercare**

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**MTA Great Hall [11h00 - 12h45]**

11h - 11.30	Keynote lecture: <b>Landfill Capping System</b> Witt, K.-J. Prof. of Bauhaus-Universität Weimar 29
11h30 - 11h45	<b>The role of geosynthetics in German landfill capping technology</b>



	<sup>1</sup> Heerten, G. ; <sup>2</sup> Reuter, E. <sup>1</sup> NAUE GmbH & Co. KG, <sup>2</sup> WA Engineering Association for Water and Waste Management 30
11h45 - 12h00	<b>The use of MBT Waste as a Capillary Barrier Landfills</b> <sup>1</sup> Izzo, R. L. ; <sup>2</sup> Mahler, C. F. ; <sup>3</sup> Munnich, K. ; <sup>3</sup> Bauer, J. <sup>1</sup> COPPE Federal University of Rio de Janeiro, Rio de Janeiro, Brazil. <sup>2</sup> COPPE Federal University of Rio de Janeiro, Rio de Janeiro, Brazil. <sup>3</sup> Leichtweiß-Institute/Department of Waste Management, Technical University of Braunschweig, Braunschweig, Germany 31
12h00 - 12h15	<b>Case Study of the Landfill Capping System at Pietra Neamt, Romania</b> Arndt, M. ATARFIL Office Berlin-Germany Federal University of Rio de Janeiro, Rio de Janeiro, Brazil 32
12h15 - 12h30	<b>Field performance of landfill covers - results of lysimeter test fields in Bavaria (Germany)</b> Henken-Mellies; Henken-Mellies, W.U. LGA - Geotechnical Institute, Germany 33
12h30 - 12h45	<b>Change of hydraulic conductivity by adding lime in compacting clay liners</b> Metelkova, Z; Bohac, J. ; Charles University, Czech Rep. 34
12h45 - 13h00	Discussion
13h00 -- 14h00	Lunch

**[February 07, 2008.]**

Session 7: **Landfill Gas Collection and Utilisation**

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[14h00 - 16h00]	<b>MTA Great Hall</b>
14h00 - 14h30	Keynote lecture: <b>Landfill Gas Collection, Treatment and Utilisation</b>

	Prof. Dr.-Ing. G. Rettenberger Ingenieurgruppe RUK 35
14h30 - 14h45	<b>Demonstration Project: Retrofitting Rapid Stabilization and Enhanced Landfill Gas Generation and Collection in a Dry Landfill in a Semi-Arid Climate</b> Fleming, I., Prof. of University of Saskatchewan, Saskatoon, Canada 36
14h45 - 15h00	<b>20 years experience in the field of landfill gas disposal</b> Stachowitz, W. H. <sup>1</sup> DAS - IB GmbH consultant for FKF Zrt, Hungary 37
15h00 - 15h15	<b>Development of a Catalytic Gas Purification Process for the Utilization of Landfill Gas in Fuel Cells</b> Urban, W. ; Grothues, J. ; Lohmann, H. Fraunhofer-Institute for Environmental, Safety, and Energy Technology (UMSICHT), Germany 38
15h15 - 15h30	<b>Landfill gas extraction systems and utilisation in Hungary Puztazamor landfill site of FKF Zrt</b> <sup>1</sup> Stachowitz, W. H. ; <sup>2</sup> Eörsi-Tóta, G. <sup>1</sup> DAS - IB GmbH consultant for FKF Zrt, Hungary <sup>2</sup> ERBE Energetika Kft general constructor for FKF Zrt, Hungary 39
15h30 - 15h45	<b>Discussion</b>
15h45 - 16h00	Coffee break

**[February 07, 2008.]**

**Session 8: Landfill Closure and Selected Topics**

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[16h15 - 18h00 ] **MTA Great Hall**

- 16h00 - 16h30**    **Keynote lecture: Landfills in Hungary - the current state, closure and rehabilitation of old landfills**  
Szabó, I., Prof. of University of Miskolc, Hungary 40
- 16h30-16h45    **Recovery of landfills in Varazdin County**  
Krklec, N. 41
- 16h45 - 17h00    **Remediation of waste landfills in Croatia (2006)**  
Fundurulja<sup>1</sup>, D. ; Pašalić<sup>2</sup>, G. ; Novak Mujanović<sup>2</sup>, S. ; Mikulić<sup>3</sup>, N.  
<sup>1</sup>IPZ Uniprojekt TERRA, Zagreb, <sup>2</sup>IPZ Uniprojekt MCF, Zagreb  
<sup>3</sup>MZOPUG 42
- 17h00 - 17h15    **Renovation and Extension of Telsiai regional Landfill, and Closing and Remediation of Existing Dumpsites in Region, Lithuania**  
Brazas, A. ; UAB "Atlieku tvarkymo konsultantai", Vilnius, Lithuania  
Doncovas, J. UAB "Ekoprojektas", Vilnius, Lithuania 43
- 17h15 -17h30    **Lateral and Capping Landfills Drainage with Geocomposites**  
Arab, R. ; Gendrin, P.  
AFITEX Direction Technique 44
- 17h30- 17h45    Discussion
- 17h45 - 18h00    Closing ceremony

**[February 07, 2008.] Landfill Gas Collection and Utilisation Workshop**

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[ 16h00 -        ] **MTA Reading room**

**[February 08, 2008.] Site visit**

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[9h00 - 12h00 ] **Pusztazámor Regional Sanitary Landfill**