

3rd International Workshop on Geoelectrical Monitoring GELMON 2015, VIENNA, 24.11.-26.11.2015



GENERAL WORKSHOP PROGRAM OVERVIEW

Tuesday, Nov. 24th

10.00-10.30	Workshop Opening
10.30-12.00	Monitoring of Contaminated Sites I
13.30-15.20	Data Quality Assessment and Inversion
15.50-17.00	Monitoring of Landslides I
17.30-18.00	POSTER SESSION: Short Presentations
18.00-21.00	Question Time and Icebreaker Party

Location:

Presentation Hall of the Ministry of Science, Research and Economy (BMWFW), Freyung 3, 1010 Vienna.

Wednesday, Nov. 25th

09.00-10.30	Hydrology I
11.00-12.10	CO2 Monitoring
13.30-15.20	Infrastructure Monitoring
15.50-17.00	Monitoring of Landslides II
19:00-24:00	Conference Dinner at “Wiener Rathauskeller”

Thursday, Nov. 26th

10:00-11.50	Monitoring of Contaminated Sites II
13.30-15.00	Hydrology II
15.00-15:30	Closing of Workshop

TUESDAY, Nov. 24th

10.00-10.30	Workshop Opening		
	R. Supper: Strengthening the role of geoelectric monitoring in addressing societal challenges: Past achievements and recent developments at the Geological Survey of Austria		

Monitoring of Contaminated Sites I

10.30-10.50	Resistivity-IP Monitoring at Landfills in Southern Sweden	T. Dahlin and M.H. Loke	1
10.50-11.10	ERT monitoring of water infiltration process through a landfill cover layer	G. Dumont, T. Pilawski, T. Robert, T. Hermans, S. Garré, F. Nguyen	2
11.10-11.30	Electrical Resistivity Tomography for monitoring the contamination from Olive Oil Mills' Wastes: Application in disposal sites of Crete, Greece	N. Papadopoulos, K. Simyrdanis, S. Kirkou, P. Soupios, P. Tsourlos, J.-H. Kim	3
11.30-11.50	Resistivity monitoring contribution to hydrogeological risk assessment in a reclaimed landfill in Thessaloniki (Greece)	G. Vargemezis, P. Tsourlos, I. Fikos and N. Kazakis	4
11.50-12.00	Discussion		

12.00-13.30 Lunch Break

Data Quality Assessment and Inversion

13.30-13.50	Analysis and evaluation of ERT data reliability in long-term geoelectric monitoring	J.-H. Kim, R. Supper, D. Ottowitz, and M.-J. Yi	5
13.50-14.10	A new measurement protocol of ERT data	J.-H. Kim, R. Supper, D. Ottowitz, B. Jochum, and M.-J. Yi	6
14.10-14.30	Optimizing time lapse ERT measurements using the Jacobian matrix approach	P. Tsourlos, C. Tsakirbaloglou, G. Vargemezis and P. Louvaris	7
14.30-14.50	Time-lapse inversion of ERT monitoring data using variogram-based regularization	T. Hermans, G. Dumont, A. Kemna, F. Nguyen	8
14.50-15.10	Optimization of measurement-configurations and inversion methods for rapid processes	T. Günther	9
15.10-15.20	Discussion		

15.20-15.50 Coffee Break

Monitoring of Landslides I

15.50-16.10	Active landslide monitoring using structurally constraint 4D ERT monitoring	S. Uhlemann, J.Chambers, P. Wilkinson, S. Hagedorn, H. Maurer, T. Dijkstra, B. Dashwood, D. Gunn	10
16.10-16.30	Inversion of long time series landslide movements from geoelectrical monitoring data	P. Wilkinson, J. Chambers, S. Uhlemann, P. Meldrum, N. Dixon, M.H. Loke	11
16.30-16.50	Analysis of gravitational slope cycles by means of geophysical monitoring	E. Palis, T. Lebourg, M. Vidal	12
16.50-17.00	Discussion		

17.00-17.30 Coffee Break

17.30-18.00 Poster Session: 2-minute presentations of poster

18.00-21.00 Poster Session: Question time and Icebreaker Party

POSTER PRESENTATIONS

Integrating electrical resistivity with multi-compartment sampler techniques to study heterogeneous solute transport in the unsaturated zone	E. Bloem, P. Fernandez, and H. K. French	P1
Combining multi-scale surface ERT for fast and robust shallow hydrostratigraphic units delineation at catchment scale	L. Gourdol, R. Clément, C. Hissler, J. Juilleret, L. Pfister	P2
Spatializing of soil water content measurement at the scale of the agricultural field, using geoelectrical monitoring and geostatistical method	H. Henine, R. Clément, H. Jaegler, N. Forquet, C. Lauvernet	P3
How to achieve a good evaluation of soil moisture content at different depths with available measuring techniques?	U. Sauer, H. Borsdorf, C. Schuetze	P4
Comparative Study of a Sulfate Tracer Monitoring Experiment Using Geoelectrical and Hydrogeological Survey Techniques	C. Schütze, M. Pohle, M. Kreck, U. Werban, P. Dietrich, T. Vienken	P5
Geoelectrical monitoring of a fresh water injection into a limestone aquifer	R. von Bülow, N. Klitzsch, D. Burs, F. Wellmann	P6
Evaluation of Dam Seepage Problems using Geological and Geophysical Methods, Republic of Korea	S.-K. Lim, Y.-K. Cho, D.-H. Kim, K.-H. Lee and S.-J. Kang	P7
Results and further investigations based on the LAMOND Landslide Monitoring Network. Case study Bagnaschino Monitoring site: Soil water flow model based on Geoelectric Monitoring inversion results.	S. Hoyer and D. Ottowitz	P8
Geoelectrical monitoring during waste biodegradation process	T. Jouen, R. Clément, S. Moreau, L. Mazéas	P9
Case study: Long-term permafrost evolution at the Schilthorn monitoring site, Swiss Alps, using electrical resistivity tomography (ERT) monitoring	C. Mollaret, C. Hiblich, C. Hauck	P10
The ATMOperm – project: Atmosphere - permafrost relationship in the Austrian Alps - extreme atmospheric events and their relevance for the mean state of the active layer	S. Pfeiler, W. Schöner, A. Flores-Orozco, S. Reisenhofer	P11
Crystalline rocks time-lapse behavior via geophysical methods	J. Jirku, J. Barta, J. Vilhelm, M. Broz, K. Sosna	P12
Exploration of underground utilities for electric field analysis in jointed rock mass with anomaly	H.-H. Ryu, K.-I. Song, D.-S. Lee, G.-C. Cho, K.-Y. Kim	P13
Monitoring water infiltration in an experimental mine rock waste pile with time-lapse ERT and multi-parameter data collection	M. Chouteau, A. Dimech, B. Plante, F. Medina, V. Martin, S. Broda, B. Bussiére and M. Aubertin	P14
Processing of geoelectrical monitoring data. Unconventional approach to detection of local subsurface heterogeneity	D. Makarov, M. Marchenko and I. Modin	P15
Electrical monitoring on construction sites in Russia	M.I. Bogdanov and I.N. Modin	P16

WEDNESDAY, Nov. 25th

Hydrology I			
09.00-09.20	Resistivity assessment of an earth-filled dike with a permanent hydraulic head (Canal de Roanne à Digoin, France): 4D effects on 2D ERT monitoring	G. Bièvre, L. Oxarango, R. Clément, T. Günther, D. Goutaland and M. Massardi	13
09.20-09.40	Monitoring water saturation in earth levees with a customized resistivity system	D. Arosio, S. Munda, G. Tresoldi, L. Zanzi, L. Longoni, and M. Papini	14
09.40-10.00	Time-lapse ERT of water infiltration in the context of soil aquifer treatment	K. Haaken, A. Furman, N. Weisbrod, and A. Kemna	15
10.00-10.20	Tracer moment tracking and forecasting in time-lapse electrical resistivity tomography	W. Ward, P. Wilkinson, J. Chambers, and L. Bai	16
10.20-10.30	Discussion		

10.30-11.00	Coffee Break
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CO2 Monitoring			
11.00-11.20	Technical and methodological requirements for a permanent downhole geoelectrical measurement system as CO2 monitoring tool – A review from the Ketzin pilot site	C. Schmidt-Hattenberger, P. Bergmann, T. Labitzke, D. Rippe, and F. Wagner	17
11.20-11.40	Insights on CO2 migration by means of a fully-coupled hydrogeophysical inversion	F. Wagner, B. Wiese, C. Schmidt-Hattenberger, and H. Maurer	18
11.40-12.00	Surface-downhole geoelectrics for post-injection monitoring at the Ketzin pilot site	D. Rippe, P. Bergmann, T. Labitzke, F. Wagner and C. Schmidt-Hattenberger	19
12.00-12.10	Discussion		

12.10-13.30	Lunch Break
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WEDNESDAY, Nov. 25th

Infrastructure Monitoring			
13.30-13.50	Proactive infrastructure monitoring and evaluation (PRIME): a new electrical resistivity tomography system for remotely monitoring the internal condition of geotechnical infrastructure assets	J. Chambers, P. Meldrum, D. Gunn, P. Wilkinson, S. Uhlemann, O. Kuras, and R. Swift	20
13.50-14.10	Geoelectrical Imaging of Moisture Dynamics in Engineered Slopes	S. Uhlemann, J. Chambers, P. Wilkinson, D. Gunn, R. Stirling, and R. Hen-Jones	21
14.10-14.30	Long-term Geophysical Monitoring for Leakage Problems at Reservoir Dams, Republic of Korea	S.-K. Lim, Y.-K. Cho, D.-H. Kim, Y.-S. Song, M.-J. Nam, S.-J. Kang and S.-Y. Song	22
14.30-14.50	Successes and challenges of geoelectrical monitoring at Sellafield, UK – a retrospective	O. Kuras, P. Wilkinson, P. Meldrum, L. Oxby, S. Uhlemann, J. Chambers, A. Binley, J. Graham, N. Smith, and N. Atherton	23
14.50-15.10	Time-lapse resistivity measurements in an undermined area (case study of Dětmarovice, Czech Rep.)	P. Bláha, R. Duras, and P. Tábořík	24
15.10-15.20	Discussion		

15.20-15.50	Coffee Break
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Monitoring of Landslides II			
15.50-16.10	Permanent electrical resistivity measurements for monitoring water circulation in clayey landslide	J. Gance, J.P. Malet, R. Supper, P. Sailhac, D. Ottowitz and B. Jochum	25
16.10-16.30	Clustering the apparent electrical resistivity data of permanent ERT monitoring	E. Palis, T. Lebourg, and M. Vidal	26
16.30-16.50	Evaluation of 2-year TL-ERT monitoring of a landslide (case study of Čeřeniště, Czech Rep.): towards understanding precipitation, saturation and resistivity changes	P. Tábořík, F. Hartvich, T. Belov, L. Vlček, and J. Blahůt	27
16.50-17.00	Discussion		

19.00-24.00	Conference Dinner at „Wiener Rathauskeller“
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THURSDAY, Nov. 26th

Monitoring of Contaminated Sites II

10.00-10.20	First leachate injection monitoring in farm scale solid state anaerobic digestion plant by electrical resistivity tomography	R. Clément, A. Degueurce, S. Moreau, and P. Peu	28
10.20-10.40	Laboratory tests using electrical resistivity monitoring to study biogas and leachate migrations in waste mass	S. Moreau and B. Duval	29
10.40-11.00	Development of a methodology to constrain hydrodynamic models by time-lapse ERT monitoring: Application to leachate flow into waste landfills	M. Audebert, R. Clément and S. Moreau	30
11.00-11.20	Geoelectrical monitoring of dense non-aqueous phase liquids with surface-to-horizontal borehole ERT	C. Power, J.I. Gerhard, P. Tsourlos, P. Soupios, K. Simyrdanis and M. Karaoulis	31
11.20-11.40	3D time-lapse ERT monitoring of an experimental simulation of olive-oil mills' waste movement	Stella Kirkou, Panagiotis Tsourlos, Pantelis Soupios, Nikos Papadopoulos, Kleantith Simyrdanis	32
11.40-11.50	Discussion		

11.50-13.30	Lunch Break
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Hydrology II

13.30-13.50	4D ERT monitoring for the hydrological characterization of the rocky unsaturated zone	L. De Carlo, M. Berardi, M. Vurro, and M.C. Caputo	33
13.50-14.10	ERT monitoring of the vadose zone of a karst system sounds like a challenge!	A. Watlet, O. Kaufmann, O. Francis, M. Van Camp, P. Wilkinson, P. Meldrum, and J. Chambers	34
14.10-14.30	Cost-efficient saltwater monitoring of a shallow aquifer using long-electrode ERT	M. Ronczka, T. Voss, C. Rücker, and T. Günther	35
14.30-14.50	Coupled hydrogeophysical modelling and ERT monitoring using pyGIMLI	C. Rücker, T. Günther and F. Wagner	36
14.50-15.00	Discussion		

15.00-15.30	Closing of Workshop
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The Venue and Time Schedule

The Workshop will be held in the Presentation Hall of the Federal Ministry of Science, Research and Economy (BWF), Freyung 3, 1010 Vienna.

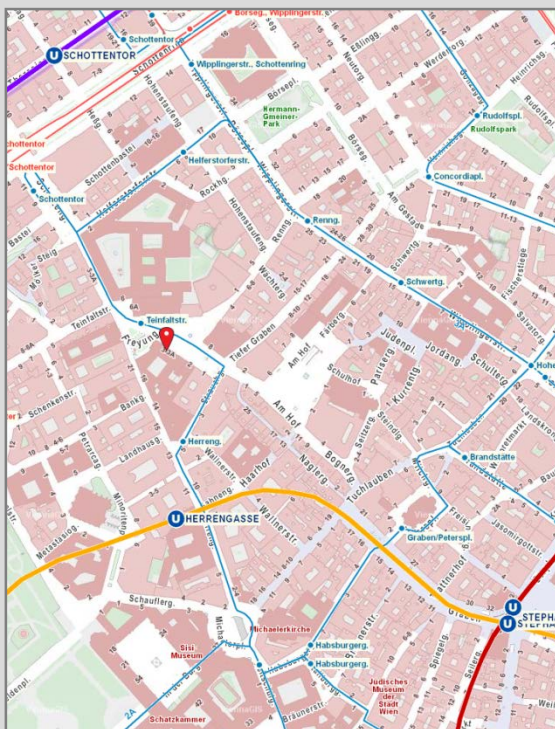
The workshop will start on Nov. 24th, 10:00 a.m. and close on Nov. 26th, 04:00 p.m.

The Conference Dinner will be held at "Wiener Rathaukeller", Rathausplatz 1, 1010 Wien

Scientific Program Committee:

SUPPER Robert (Geological Survey of Austria)
KIM Jung-Ho (Korea Inst. of Geoscience and Mineral Resources)
CHAMBERS Jonathan E. (British Geological Survey)
TSOURLOS Panagiotis (Aristotle University of Thessaloniki)
DAHLIN Torleif (Lund University)

Venue of GELMON 2015 – Workshop



Venue of GELMON 2015 and Conference Dinner Location

