

Conference Program GELMON 2013

Wednesday, Dec. 4th

10.00 -10.30	Workshop Opening		
APPLICATIONS IN CO₂ AND HYDROCARBON MONITORING (Chairmen: P. Tsourlos, C. Schmidt-Hattenberger)			
10.30 -10.50	Combination of constrained resistivity inversion and seismic reflection with an application to 4D imaging of the Ketzin CO ₂ storage site, Germany	P. Bergmann, M. Ivandic, B. Norden, C. Rücker, D. Kiessling, S. Lueth, C. Schmidt-Hattenberger, C. Juhlin	01
10.50 -11.10	DC/IP Monitoring of Injected CO ₂ in a Shallow Aquifer	G. Fiandaca, J. Doetsch, E. Auken, A. Vest Christiansen	02
11.10 -11.30	Large-scale repeated DC geoelectric surveying for CO ₂ monitoring at the Ketzin pilot site, Germany	A. Just, A. Schmidt, R. Voigt, C. Flechsig	03
11.30 -11.50	Investigation of time-saving monitoring techniques to detect possible brine migration into shallow aquifers as an impact of geological CO ₂ storage	M. Möller, C. Schmidt-Hattenberger	04
11.50 -12.10	Estimating optimum electrode locations for high-resolution cross-hole resistivity monitoring	F. Wagner, T. Günther, C. Schmidt-Hattenberger, H. Maurer	05
12.10 -12.30	Geo-electrical Monitoring of Oil (and Gas) reservoirs	J.A.C. Meekes	06

APPLICATIONS IN CONTAMINATION MONITORING (Chairmen: J. E. Chambers, F. Nguyen)			
13.30 -13.50	Geoelectrical Monitoring for Mapping of Gas Migration in Landfills	T. Dahlin, S. Johansson, H. Rosqvist, M. Svensson	07
13.50 -14.10	3D ERT monitoring of the reactivation of waste biodegradation with fresh leachate injection	G. Dumont, T. Robert, T. Pilawski, F. Nguyen	08
14.10 -14.30	5D SIP monitoring of stimulated uranium bio-remediation	A. Flores Orozco, K. Williams, A. Kemna	09
14.30 -14.50	Geoelectrical monitoring to support the decommissioning of legacy silos at the Sellafield Site, UK	O. Kuras, P. Wilkinson, P. Meldrum, L. Oxby, S. Uhlemann, J. Chambers, A. Binley, J. Graham, G. Dewey, N. Atherton	10
14.50 -15.10	Time-lapse ERT monitoring of DNAPL Source Zone Remediation	C. Power, J.I. Gerhard, P. Tsourlos, M. Karaoulis, A. Giannopoulos	11

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APPLICATIONS IN PERMAFROST MONITORING (Chairmen: R. Supper, A. Flores-Orozco)			
15.30 -15.50	Automatic ERT monitoring in permafrost areas: logistical challenges and high-resolution process analysis	C. Hilbich, A. Flores-Orozco, A. Kemna, C. Hauck	12
15.50 -16.10	Monitoring of active layer refreezing in Greenlandic permafrost	J. Doetsch, A.V. Christiansen, E. Auken, G. Fiandaca, T. Ingeman-Nielsen	13
16.10 -16.30	Comparison of alternative electrode types for improvement of electrode-ground coupling in highly-resistive environment. Experience from the time lapse geoelectrical station for high-latitude permafrost monitoring, Ilulissat, West Greenland	S. Tomaskovicova, T. Ingeman-Nielsen	14
16.30 -17.30	Discussion Group: Data Quality Assessment		
17.30 -18.30	Poster Session 1: CO₂, Contamination, Permafrost		

POSTER PRESENTATION 1

3D time-lapse ERT monitoring on a small Municipal Solid Waste Landfill cell	M. Audebert, R. Clément, J. Grossin-Debattista, S. Moreau	P01
ERT Monitoring of a Reclaimed Landfill in Thessaloniki (N. Greece)	P. Tsourlos, I. Fikos, G. Vargemezis, N. Kazakis	P02
4D-High resolution ERT for monitoring the nutrient infiltration in biostimulation	J. Scheibz, T. Reichenauer, B. Wimmer, H. Häusler	P03
Application of geoelectrical monitoring techniques at a natural CO ₂ release site to identify degassing areas and related transport processes	U. Sauer, C. Schütze, C. Sandig	P04
Electrical Resistivity Tomography (ERT) as a permanent monitoring tool to image the CO ₂ migration at the Ketzin pilot site – Experiences from more than five years of operation	C. Schmidt-Hattenberger, P. Bergmann, T. Labitzke, F. Wagner	P05
Geotechnical properties of CO ₂ hydrate bearing sediments for CO ₂ storage in shallow-sea sediments	Kang-Ryel Lee, Kyoung-Yul Kim, Dae-Soo Lee, Woo-Sang Oh	P06
Data error quantification for improved time-lapse ERT monitoring of Alpine permafrost	A. Flores Orozco, C. Hilbich, A. Kemna, C. Hauck	P07
Highlights from two years of geoelectrical monitoring of permafrost at the Magnetköpfl/ Kitzsteinhorn	B. Jochum, D. Ottowitz, S. Pfeiler, R. Supper	P08

Thursday, Dec. 5th

APPLICATIONS IN LANDSLIDE MONITORING (Chairmen: J.E. Chambers, D. Ottowitz)			
08.30 -08.50	Long term monitoring of landslide processes by automated time-Lapse Electrical Resistivity Tomography	A. Merritt, J.E. Chambers, P.B. Wilkinson, S.S. Uhlemann, W. Murphy, L.J. West, P.I. Meldrum, D.A. Gunn	15
08.50 -09.10	Geoelectrical Investigations and Monitoring in the Context of Disaster Response at the landslide in Pechraben, Austria	R. Supper, S. Gruber, D. Ottowitz, B. Jochum, S. Pfeiler	16
09.10 -09.30	Estimation of electrode positions from sparsely distributed reference points for long term geoelectric monitoring of an active landslide	S.S. Uhlemann, J.E. Chambers, P.B. Wilkinson, A. Merritt, P.I. Meldrum, O. Kuras, L. Oxby, D. Gunn, M. Kirkham	17
09.30 -09.50	One year time-lapse electrical data to monitor natural hydrological processes acting on a clayey landslide	J. Gance, P. Sailhac, J.-P. Malet, R. Supper, B. Jochum, D. Ottowitz, G. Grandjean	18
09.50 -10.10	Time-lapse resistivity measurements in landslide monitoring on example of a complex slope deformation Čeraniště (České středohoří Mts, Czech Republic)	P. Tábořík, F. Hartvich, J. Blahůt	19

TIME LAPSE DATA INVERSION AND MODELING (Chairmen: T. Dahlin, O. Kuras)			
10.30 -10.50	Simultaneous optimization of resistivity structure and electrode locations in ERT	J.H. Kim, M.J. Yi, R. Supper, D. Ottowitz	20
10.50 -11.10	Time lapse ERT Inversion Incorporating Structural Information	M. Karaoulis, P. Tsourlos, A. Reil, J.H. Kim	21
11.10 -11.30	Minimum gradient support and geostatistics regularization approaches for inverting time-lapse data	F. Nguyen, T. Hermans, T. Robert	22
11.30 -11.50	Time-lapse optimised survey design for geoelectrical resistivity monitoring	L. Oxby, P. Wilkinson, S. Uhlemann, J. Chambers, P. Meldrum, O. Kuras	23
11.50 -12.10	Constraining time-lapse ERT inversions by hydrological point measurements	T. Günther, J. Doetsch, E. Auken, A.V. Christiansen, G. Fiandaca	24

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APPLICATIONS IN HYDROLOGY (Chairmen: R. Supper, T. Günther)			
13.30 -13.50	Measurements in a freshwater/saltwater transition zone with an automated electrical resistivity tomography system	M. Grinat, W. Südekum, D. Epping, R. Meyer	25
13.50 -14.10	Cross-hole ERT monitoring to investigate mixing processes of freshwater injection in a hyper-saline aquifer	K. Haaken, G.P. Deidda, G. Cassiani, A. Kemna, R. Deiana, M. Putti, C. Scudeler, C. Paniconi	26
14.10 -14.30	Monitoring hillslope infiltration on mountainous catchments using ERT and tensiometers	R. Hübner, T. Günther, K. Heller, A. Kleber	27
14.30 -14.50	Electrical Resistivity Tomography Monitoring of a Water Infiltration Test on Johannishus Esker, Sweden	I. Ulusoy, T. Dahlin, B. Bergman	28
14.50 -15.10	SaMoLEG – development of a geoelectrical large scale monitoring system using long electrodes	M. Ronczka, T. Günther, C. Rücker	29

APPLICATIONS IN HYDROLOGY (Chairmen: R. Supper, T. Günther)			
15.30 -15.50	Geoelectrical Monitoring of infiltration processes at two embankment dams during the 100-year flood in Austria	D. Ottowitz, R. Supper, B. Jochum, S. Gruber	30
15.50 -16.10	Long-term geoelectrical monitoring for estimation of changes in water content of the slope of an embankment	S. Takakura, M. Yoshioka, T. Ishizawa, N. Sakai	31
16.10 -16.30	Imaging of hydrological processes in a lowland wetland of the Lambourn river, Berkshire, UK	S.S. Uhlemann, J.P.R. Sorensen, J.E. Chambers, P.B. Wilkinson, L. Oxby, D.C. Gooddy, G.H. Old, O. Kuras, P.I. Meldrum	32
16.30 -18.30	Company Presentations; Poster Session 2: Hydrology, Landslides, Inversion		

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POSTER PRESENTATION 2

Assessing the influence of cover crop management on the spatio-temporal dynamic of soil water content under a maize crop by electrical resistivity tomography	M. Chélin, S. Garré	P09
Long Electrode ERT: modeling and field experiment	M. Ronczka, T. Günther, C. Rücker	P10
Time-lapse ERT monitoring of changes in groundwater content and flows in an epikarst system : implementation and challenges	A. Watlet, M. Van Camp, O. Kaufmann	P11
Imaging and characterization of crop root systems using electrical impedance tomography at the rhizotron scale	M. Weigand, A. Kemna	P12
Time-lapse inversion of daily ERT data from eight weeks Super Sauze landslide monitoring	J.C. Santoyo Campos, S. Rothmund, M. Joswig	P13
Methodology to point out significant changes in resistivity en IP responses for time-lapse experiments assessed on a synthetic model	A. Etienne, O. Kaufmann	P14
More crop per drop? Exploring root uptake under high frequency irrigation using electrical resistivity tomography	S. Garre, S. Assouline, T. Günther, A. Furman	P15
3D ERT interpretation of a segment of Sudetic Marginal Fault: towards recognition of fault kinematics using resistivity survey and trenching	F. Hartvich, P. Tábořík, P. Štěpančíková	P16

Friday, Dec. 6th

APPLICATIONS IN GEOTHERMAL MONITORING (Chairmen: T. Dahlin, J.H. Kim)			
08.30 -08.50	Reliability of resistivity-derived temperature: insights from laboratory measurements	T. Robert, T. Hermans, G. Dumont, F. Nguyen	33
08.50 -09.10	Monitoring temperature changes during heat tracing experiments using electrical resistivity tomography	T. Hermans, S. Wildemeersch, F. Nguyen	34
09.10 -09.30	Geoelectric measurements as an efficient monitoring strategy for shallow geothermic reservoirs	L. Firmbach, S. Schelenz, T. Vienken, O. Kolditz, P. Dietrich	35
09.30 -10.30	Discussion Group: Temperature Correction		

SPECIAL TOPICS OF GEOELECTRIC MONITORING (Chairmen: P. Tsourlos, J.H. Kim)			
10.50 -11.10	Development of a Geophysical and Geotechnical remote observatory platform	P.I. Meldrum, J.E. Chambers, P.B. Wilkinson, O. Kuras, S. Uhlemann, D. Gunn, L. Oxby, E. Haslam	36
11.10 -11.30	Long term ERT monitoring of sinkholes using 3D surface arrays: a laboratory experiment	J. Deceuster, P.B. Wilkinson, J.E. Chambers, O. Kuras, O. Kaufmann	37
11.30 -11.50	Integrated Geophysical Monitoring for a Reclaimed Land with Geotechnical Investigation	S. Oh, H. Lee, S. Lee, E. Im	38
11.50 -12.10	Adopting 4D resistivity survey to Geocentrifuge for efficient monitoring the inside of the physical model	E. Bang, H. Cho, M. Yi, Y. Choo, J.H. Kim, D.S Kim	39

12.30 -13.25	Panel Discussion: Future Perspectives of Geoelectrical Monitoring – Possible Applications in the Area of Hydrocarbon Exploration / Monitoring Sjef Meekes (TNO), Marc Merz (Schlumberger Western Geco), Robert Supper (GBA) and others		
13.25 -13.30	Closing of Workshop		

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Digitale Literatur/Digital Literature

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