



**Program**  
**January 30, 2012.**

University of Latvia, Faculty of Geography and Earth Sciences, Riga, Alberta street  
10, room 313.

**Chair: Dr. Uldis Bethers**

**9:30 – 11:00 Key note speeches:**

- 9:30 – 10:00 **Rein Vaikmäe**, Institute of Geology at Tallinn University of Technology, Estonia  
The state of art and new trends in application of isotope-geochemistry for groundwater research
- 10:00 – 10:30 **Oļģerts Aleksāns**, GeoExpert Ltd., Latvia  
The specifics of hydrogeological parameters determining for two-phase liquids flow in the porous media
- 10:30 – 11:00 **Jonas Kley, Alexander Malz, Stephan Donndorf**, Friedrich Schiller University Jena, Institute of Geosciences, Germany  
Towards "realistic" fault zones in a 3D structure model of the Thuringian Basin, Germany

**11:00 – 11:20 Coffee break**

**1. Modelling**

- 11:20 – 11:40 **Aivars Spalviņš**, Riga Technical University, Faculty of Computer Science and Information Technology, Environment Modelling Centre, Latvia  
Limits and presuppositions on creating and use of the regional hydrogeological model of Latvia
- 11:40 – 12:00 **Eleonora Pērkone, Jānis Bikše, Jānis Jātnieks, Ilze Klints, Aija Dēliņa, Tomas Saks, Baiba Raga, Inga Retiķe**, University of Latvia  
Studies and projections of hydraulic conductivity of Devonian and Cambrian clastic sediments
- 12:00 – 12:20 **Juris Seņņikovs, Andrejs Timuhins, Jānis Virbulis**, University of Latvia  
Sensitivity of hydrogeological model to the surface roughness and spatial variability of hydraulic conductivity
- 12:20 – 12:40 **Jānis Virbulis, Juris Seņņikovs**, University of Latvia  
Transient modelling of groundwater dynamics in the Baltic Artesian Basin

**12:40 – 13:40 Lunch**

**2. Problems and processes**

**Chair: Dr. Jānis Virbulis**

- 13:40 – 14:00 **Albertas Bitinas**, Coastal Research and Planning Institute, Klaipėda University, Lithuania  
Formation of groundwater in sedimentary basins: traditional and alternative models
- 14:00 – 14:20 **Veiko Karu<sup>1</sup>, Jana Pavlenkova<sup>2</sup>**, <sup>1</sup>Tallinn University of Technology, Department of Mining, <sup>2</sup>Mäetaguse Municipality, Estonia  
Water filled underground oil shale mines as a heat source
- 14:20 – 14:40 **Tomas Saks, Juris Seņņikovs, Andrejs Timuhins, Andis Kalvāns**, University of Latvia  
Reconstructing the Groundwater Flow in the Baltic Basin During the Last Glaciation



14:40 – 15:00 **Didzis Lauva, Inga Grīnfelde, Artūrs Veinbergs, Kaspars Abramenko, Valdis Vircavs, Zane Dimanta, Ilva Vītola, Agnese Gailuma**, Latvia  
University of Agriculture  
The uncertainty of the future annual long-term groundwater table fluctuation regime in Latvia

**15:00 – 15:20 Coffee break**

### **3. Chemical composition of groundwater**

15:20 – 15:40 **Baiba Raga, Andis Kalvāns, Aija Dēliņa, Eleonora Pērkone, Inga Retiķe**, University of Latvia  
Evolution of groundwater composition in the depression cone of the Riga region

15:40 – 16:00 **Alise Babre, Aija Dēliņa**, University of Latvia  
Application of stable isotope content in groundwater to validate the results of the hydrogeological model of the Baltic Artesian Basin

16:00 – 16:20 **Valdis Vircavs, Zane Dimanta, Didzis Lauva, Kaspars Abramenko, Artūrs Veinbergs, Agnese Gailuma, Ilva Vītola**, Latvia University of Agriculture  
The analysis of groundwater quality problems in Baltic Sea region countries

16:20 – 16:40 **Andis Kalvāns**, University of Latvia  
The visualisation of groundwater chemical composition using the RGB scale. An example from the D12 aquifer, Latvia

**16:40 – 17:30 Poster session.**

**Chair: Dr. Aija Dēliņa**

**Jānis Teterovskis, Andis Kalvāns**, University of Latvia,  
Credibility criteria of the results of underground water analysis  
**Inga Retiķe, Andis Kalvāns, Aija Dēliņa, Alise Babre, Baiba Raga, Eleonora Pērkone**, University of Latvia  
Trace elements in groundwater in Latvia: existing data and first new results  
**Agnese Gailuma, Ilva Vītola**, Latvia University of Agriculture  
Recession curve analysis approach for groundwater  
**Ilze Klints, Jānis Virbulis, Aija Dēliņa**, University of Latvia  
Influence of water abstraction on groundwater flow in the BAB  
**Jānis Jātnieks, Konrāds Popovs, Jānis Ukass, Tomas Saks, Aija Dēliņa**, University of Latvia

Useful statistics for describing hydraulic conductivity of the Quaternary strata from the Latvian borehole log data

**Juris Burlakovs<sup>1</sup>, Armands Ruskulis<sup>2</sup>**, <sup>1</sup> University of Latvia, <sup>2</sup> Latvian Environment, Geology and Meteorology Centre

Environmental situation in the area around Inčukalns ponds and threats to groundwater

**Juris Burlakovs, Dzintars Lācis**, University of Latvia

The development trends of Mūru-Žagares and Jonišķi-Akmenes groundwater horizon surface depression and sea water intrusion impact in Liepāja city

**Jānis Bikše, Aija Dēliņa, Alise Babre**, University of Latvia

Additional data on the CFC concentration and corresponding ground water age in the fresh groundwater of Latvia

**Aija Dēliņa, Jānis Virbulis, Ilze Klints**, University of Latvia  
Groundwater abstraction dynamics in the Baltic Artesian Basin



**Jānis Ukass, Konrāds Popovs, Tomas Saks**, University of Latvia  
Reconstructing the Caledonian structural complex deformation through  
thickness analysis

**Konrāds Popovs, Jānis Ukass, Jānis Jātņieks, Tomas Saks**, University of  
Latvia

BAB V1 geometrical model: integrating heterogeneous and uneven density  
data into a 3D geological model

**Oļegs Grigorjevs, Andis Kalvāns**, University of Latvia

The sensibility analysis of Cl<sup>-</sup> and SO<sub>4</sub><sup>2-</sup> titration in groundwater samples.

The session is organised in the scope of the European Social Fund project  
*„Establishment of interdisciplinary scientist group and modelling system for  
groundwater research”* ([www.puma.lu.lv](http://www.puma.lu.lv)).



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