

## P02

### **ERT Monitoring of a Reclaimed Landfill in Thessaloniki (N. Greece)**

Tsourlos Panagiotis<sup>1</sup>, Fikos Ilias<sup>1</sup>, Vargemezis George<sup>1</sup>, Kazakis Nerantzis<sup>2</sup>

<sup>1</sup>*Department of Geophysics, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece*  
(tsourlos@geo.auth.gr)

<sup>2</sup>*Department of Geology, Aristotle University of Thessaloniki, 54124 Thessaloniki, Greece*

In this work we present an ERT monitoring case study which was part of a larger environmental monitoring project regarding the Derveni Landfill situated at the NW outskirts of the city of Thessaloniki (N. Greece). The landfill ceased operation in 1989 and was subjected to reclamation in 2006. However, recently, leakage of water polluted with leachate was observed both at a location at the foothills of the landfill as well as at a nearby stream. In order to investigate the local conditions of this polluted water leakage and to find ways to mitigate it, a large scale geophysical and hydrogeological study was commissioned. A dense network of 2D ERT measurements was carried out at larger scales in order to investigate the general site conditions. Further, a dense 3D ERT smaller scale survey was carried out at the area where the leachate leakage was observed. On the basis of the ERT images, ways for mitigating the problem were proposed and as these solutions were implemented ERT measurements were repeated at fixed intervals in order to monitor the progress of the remediation. In this work the results of the time-lapse ERT measurements obtained over this area are presented. Despite the lack of permanent monitoring installation the repeated time-lapse ERT data illustrate that, even at relatively sparse time intervals, they can provide high value and low cost information which is important for evaluating the overall progress of the remediation process.