

**Title :** Electrical Resistivity Tomography for Seepage Detection at Huai Sai Khao Dam, Fai Kaeo Subdistrict, Phu Phiang District, Nan Province

**Author(s) :** 1. Phadungkiad Chaisakun

**Student ID :** 650510443

**Major :** Geology

**Advisor(s) :** 1. Assistant Professor Dr. Suwimon Udphuay

**Type of presentation\* (choose 1) :**

<input type="checkbox"/>	<b>Oral Presentation</b>	(เฉพาะ ตัวแทนศ.ที่สาขาเลือกให้นำเสนอแบบบรรยาย)
<input checked="" type="checkbox"/>	<b>Poster</b>	(กรณี นำเสนอผลงานปัญหาพิเศษ/การค้นคว้าอิสระ)
<input type="checkbox"/>	<b>Cooperative Education</b>	(กรณี นำเสนอผลงานสหกิจศึกษา)

## ABSTRACT

This study employed a 2 D electrical resistivity tomography (ERT) survey to investigate seepage detection at Huai Sai Khao Dam, Fai Kaeo Subdistrict, Phu Phiang District, Nan Province. The geophysical survey was conducted along 3 parallel survey lines on the dam crest, spaced 2 meters apart with each line spanning a length of 220 meters. Data acquisition utilized a dipole-dipole electrode array with an electrode spacing of 2 meter. The maximum investigation depth achieved was approximately 17.6 meters. Measured resistivity data were processed and inverted using the AGI EarthImager™ 2D software to generate 2D ERT profiles. These profiles were interpreted in conjunction with local geological data, embankment fill characteristics, and field observations of surface seepage location. The interpretation identified resistivity anomalies across the dam crest that potentially indicate seepage pathways. Notably, the majority of the detected seepage zones were concentrated at the interface between the embankment fill and the dam abutments. The findings of this study provide critical data for the subsequent rehabilitation and reinforcement of the dam structure.

\*Type of presentation must be matched with an option you choosing on student upload system.

\*\*The abstract can be more than one page and must be approved by project advisor before upload.