Imaging and Mapping of Soil, Water and the Atmosphere (Ramot)

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The Remote Sensing Laboratory RSL

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The RSL is the leading laboratory in Israel for imaging spectroscopy, soil spectroscopy and remote sensing applications experts in soil mapping and environmental monitoring.

The laboratory is situated in the Department of Geography and Human Environment in the Tel-Aviv University which is considered as the largest university in Israel.

In the University there are six faculties, 1000 professors and 26,000 students for all degree levels.

In the RSL, there are 3 Post Docs, 7 PhDs student, 5 MSc students, 1 visiting scientists and 2 technicians.

The projects in the laboratory are financed by governmental administration (infrastructure, science, environment and agriculture), private sectors, municipalities and bi national funds.

More than 120 review and proceedings papers is the outcrop of the laboratory since 1997. The papers are focusing mostly on new methodologies for remote sensing soil, water, atmosphere, rocks and sand.

Recently RSL has been declared by the Ministry of Science as an excellence center for Imaging Spectroscopy and as such initiated a program where students and professors are trained in this promising technology. The core for this activity is supported by the Ministry of Science under a project entitled: "Establishing of a National Infrastructure for Imaging Spectroscopy Remote Sensing (IS) Processing: Quantitative Novel Approaches to Map the Earth's Surface ".

The RSL is expert in field and airborne campaigns and has gained significant experience to that end.

The RSL calibration validation activity is focusing in two fields:

In-flight calibration of airborne IS sensor and standardization the procedure to acquire reflectance information at very high level in the laboratory.

The group hold a very detailed soil library that were analyzed in the laboratory for exact chemistry and mineral composition. This group is used to develop methods that will be used to derive chemical information from spectral measurements.

The lab is furnished by state of the art infrastructure composed of 2 ASD FieldPro Spectrometers, 2 LT-1200 laboratory spectrometers, ground Eagle imaging spectrometers (AISA) and airborne AISA-Extended Range sensor. The lab consists of soil laboratory for chemical and physical analysis and a workshop to develop and fabricate prototypes for analytical spectral measurements. The RSL spectral activity is now in progress to cover the thermal and millimetric spectral range for quantitative soil analysis.

Services offered:

1) Developing methods to derive physical and chemical properties of any targets by spectral means
2) Image processing of multi and hyper spectral sensors

3) Consulting groups and individual to use remote sensing means
4) Precision agricultures capability (soil mapping)
5) Environmental assessment and mapping: indoor dust, hydrocarbon contamination in soils ect.
6) Atmosphere and sun radiation modeling
7) Planning, running and processing of airborne remote sensing mission
8) Laboratory and field spectral measurement and interpretation

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