



# November AdCom

## International Spaceborne Imaging Spectroscopy Technical Committee





## Recent Activities

- Prepare and submit proposal for calibration and validation workshop;
- Collate IGARSS presentations and upload into ISIS webpage;
- Organised 2 full sessions for IGARSS 2015;





# Calibration and Validation Workshop

- **Objective**

To bring together a small group of key players in the areas of international standards, experts on calibration and validation of current optical (multi-spectral) sensors, specialist on calibration and validation related to imaging spectroscopy and proponents of future imaging spectroscopy missions to establish a best/good practice framework for calibration and validation in support of spaceborne imaging spectroscopy missions.

- **Outcomes**

A white paper on calibration and validation specifically related to imaging spectroscopy missions, to be published in IEEE TGARS.

Engagement and collaboration with communities such ISPRS and CEOS with potential for increasing membership.

Other comments: This is a collaboration between the ISIS Technical Committee and the ISO standards working group of the Earth Science Informatics Technical Committee of IEEE GRSS.





# ID# 523 International Spaceborne Imaging Spectroscopy Missions: Updates and News (Full Session)

- **Keynote:** 'Current development of spaceborne imaging spectroscopy missions – overview, potential cross-links and synergies' Mr. Andreas Mueller (DLR)
- 'The German spaceborne imaging spectroscopy mission ENMAP – An update' Dr. Luis Guanter (GFZ)
- 'The ECOSystem Spaceborne Thermal Radiometer Experiment on Space Station (ECOSTRESS)' Dr. Simon Hook (JPL)
- 'The two imaging spectroscopy systems on MUSES platform onboard ISS' Dr. Andreas Eckardt (DLR)
- 'News about the French EO High Spatial Resolution Hyperspectral Dual Mission HYPXIM' Prof. Veronique Carrere (Uni Nantes)
- 'SHALOM: News about the Italian- Israeli Hyperspectral Orbital Mission' Prof. EYAL Ben-DOR (Tel-Aviv University)
- 'CURRENT STATUS OF Hyperspectral Imager Suite (HISUI)' Prof. Tsuneo Matsunaga (CEMA)
- 'Update on status of HYPERION and HYSPIRI missions' Prof. Rob Green (JPL)
- 'The new commercial HySpecIQ mission concept' Dr. Joe Fagnoli (Teledyne)





# ID# 508 Calibration And Validation, Inter-Calibration And Coming To Terms With Terminology

- **Keynote:** 'CEOS Calibration and Validation' Dr. Nigel Fox
- 'Calibration and validation of TIR sensors' Dr. Simon Hook
- 'The ISO technical specification for remote sensing: ISO/DTS 19159-1.2 Geographic information - Calibration and validation of remote sensing imagery sensors – Part 1: Optical sensors' Dr. Wolfgang Kresse
- 'Spectral inter-calibration of multispectral sensors using spaceborne IS data' Dr. Martin Bachmann
- 'RADCALNET' Dr. Marc Bouvet
- 'Cross calibration of sensors' Dr. Hirokazu Yamamoto
- 'Calibration and validation activities for the EnMAP mission' Dr. Luis Guanter
- 'Operational imaging spectroscopy calibration validation' Mr. Chris MacLellan
- 'Australian calibration and validation activities' Dr. Cindy Ong





# Strategic Initiative Proposal: Calibration and Validation Workshop

## Objective:

- To bring together a small group of key players in the areas of international standards, experts on calibration and validation of current optical (multi-spectral) sensors, specialist on calibration and validation related to imaging spectroscopy and proponents of future imaging spectroscopy missions to establish a best/good practice framework for calibration and validation in **support of spaceborne imaging spectroscopy missions.**





# Calibration and Validation Workshop

## Rationale

- Lack of linkages between important international calibration validation initiatives, eg. ISO 19159-1.2TS, numerous imaging spectroscopy missions' catalogue of terminologies => need for semantic mapping (vocabulary interchangeability) between the terminologies;
- Outreach to other TCs within IEEE GRSS, other standards and other organisations such as CEOS, ISPRS, IS mission proponents, EuFAR, etc.;
- Gap in the knowledge of calibration and validation of spaceborne imaging spectroscopy needs to be closed to enhance international Cal/Val activities such as CEOS in preparation for imminent IS missions (last records shows China dual commercial sensors to be launched 2016)





# Calibration and Validation Workshop

## Outcome

- A **white paper** on calibration and validation specifically related to imaging spectroscopy missions, to be published in IEEE TGARS;
- Potential for increase **collaborations** with other organisations such as ISPRS and CEOS;
- Potential for **outreach opportunities** to audience who are not traditionally involved in IEEE GRSS and increase in memberships.







# Calibration and Validation Workshop

- **Location**

- Natural Environment Research Council (NERC) Field Spectroscopy Facility (FSF), University of Edinburgh.
- Rationale for location: FSF's reputation for airborne and laboratory calibration and validation related to imaging spectroscopy

- **Timing**

- 21-23 July 2015 or later

- **Budget**

- USD 21,330 (may be potential for co-funding with ISPRS WG VII/3 (Information extraction from hyperspectral data))

