EARSeL TIR Special Interest Group – History, Goals, Community, Tasks

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Abstract

The European Association of Remote Sensing Laboratories (EARSeL) is a scientific network of European remote sensing institutes, coming from both academia and the commercial/industrial sector. EARSeL was founded in 1977 and currently has about 250 member laboratories.

The main scientific efforts of EARSeL are concentrated in Special Interest Groups (SIGs). They encourage co-operation and foster innovative applications of remote sensing. The Special Interest Group on Thermal Remote Sensing (SIG-TRS) was formed during the EARSeL Symposium in Istanbul in June 2008.

The objectives of the Special Interest Group Thermal Remote Sensing are:

- Bringing together European thermal remote sensing scientists from different disciplines
- Encouraging international exchange of knowledge and data common to all thermal research groups independent of application
- Increasing awareness of the thermal remote sensing domain
- Joining forces in the TRS domain, in order to position TRS higher on the agenda for new sensor development in Europe

We intend to achieve these objectives by organizing:

- Workshops in the framework of EARSeL Symposia
- Topical sessions attached to other EARSeL and/or non-EARSeL events
- Informal demonstrations or training courses

SIG-TRS does not know a formal membership but distributes information through two main channels: the SIG-TRS **mailing list** and **website** (www.itc.nl/sigtrs).

EARSeL Special Interest Group on

Thermal Remote Sensing, SIG-TRS

History, Goals, Community and Tasks

Claudia Künzer (DLR) & Chris Hecker (ITC)

EARSeL?

- European scientific network
- Remote sensing institutes
- 230 members (UK: 22)
- Bureau, council (country reps), secretariat
- Annual symposium, publications, newsletter

- 16 Special Interest Groups (SIGs)
  - Imaging Spectroscopy
  - Geological Applications
  - Thermal Remote Sensing
  - …

EARSeL SIG - TRS

Short history of SIG-TRS

- 2008 need identified
- Jun 2008 Kick-off at EARSeL Symposium Istanbul
- Jun 2009 TIR sessions at EARSeL symposium
- Dec 2009 Thermal day GRSG

Future:

- Sep 2010 SIG-TRS workshop in Gent

Background of Claudia Künzer, DLR

Current Research Interests:

- Thermal remote sensing, regional hot spot detection, multi-band analyses
- Integrated Water Resources Management, IWRM
- Landcover / landuse change & Information Systems

Education Info

- Diploma in Physical Geography, Major in Remote Sensing, University of Trier, Germany (2001)
- PhD in Remote Sensing from IPF of TU Wien (2005)
- 2001-2006 DFD-DLR, 2006-2008 Assistant TU Wien, 2008-present DFD-DLR

Current position:

- Project coordinator of German-Vietnamese IWRM project at DFD-DLR (www.wisdom.caf.dlr.de)
- Project management and project acquisition

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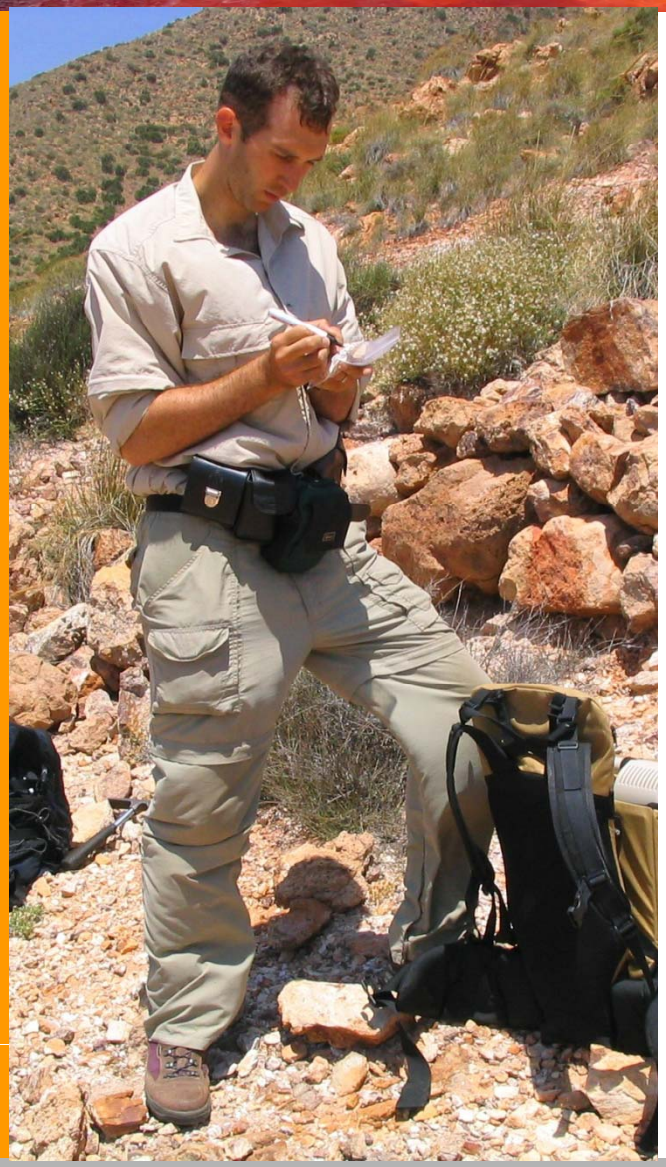
Background of Chris Hecker, ITC



Current Research Interests:

- Thermal spectroscopy (lab, field, airborne)
- Thermal RS for geologic mapping applications
- Hyperspectral data analyses
- Sensor characteristics and data processing

Education Info

- M.Sc. Earth Sciences (1999), University of Basel
- Pursuing PhD in remote sensing

Current position:

- Lecturer and Researcher in Geologic Remote Sensing, ITC, The Netherlands
- Working on Ph.D. in thermal RS for MinEx (Feldspars)

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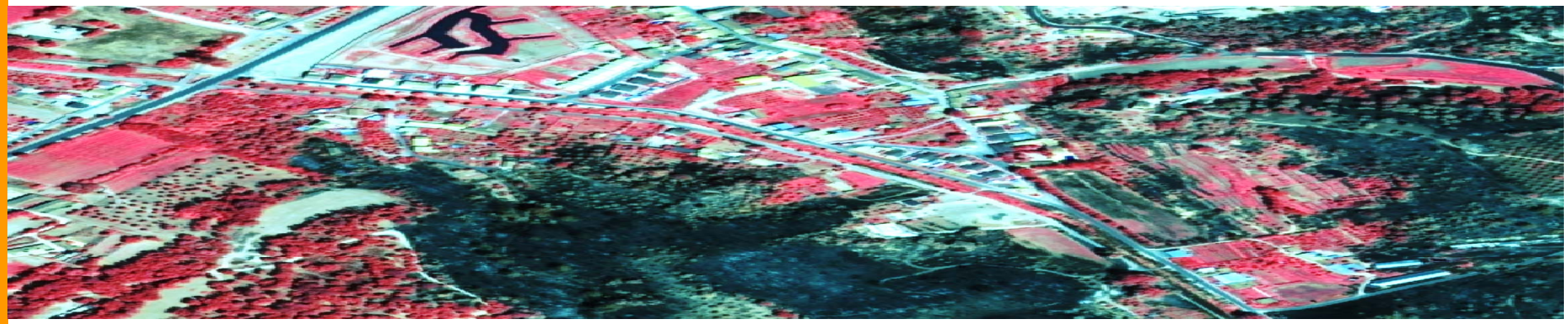
Goal of SIG-TRS

1. Exchange about applications, methods, sensors in TRS
2. Bringing the “thermal community” together, creating synergies
3. Better “visibility” of thermal related research



Through:

- Workshops in the framework of EARSeL Symposia
- Topical sessions during EARSeL and non-EARSeL events
- Informal training courses
- Dissemination through Website, Mailing list, Proceedings, Newsletter

…

Fields of Application of SIG-TRS

1. LST retrieval in general
2. LST for model input in fields of vegetation, agriculture, climatology
3. Evaporation studies
4. Climatology
5. Hydrology
6. Analyses of thermal heat island and heat sink patterns in urban areas
7. Volcano observation
8. Geothermal analyses
9. Forest fires
10. Peat fires
11. Burned area detection
12. Coal fires and mining environments
13. Observation of industrial areas
14. Pipeline monitoring and security applications
15. Retrieval of soil moisture
16. Rock type discrimination
17. Alteration mapping for mineral exploration
18. Heat pollution in rivers and lakes
19. Fluvial- and lake habitat analyses

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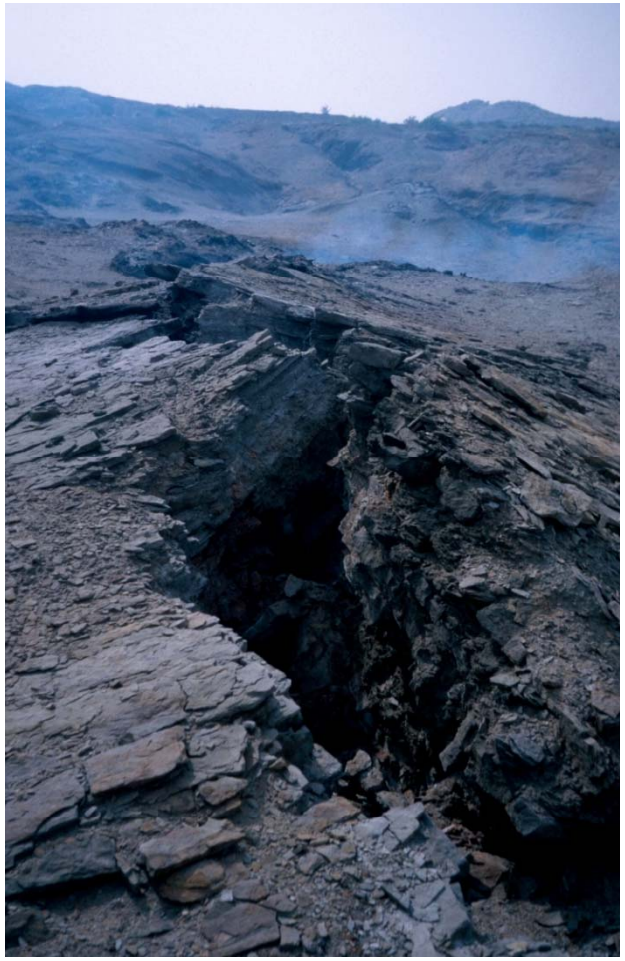
Technical Approaches (Methods) within SIG-TRS

1. Thermal anomaly detection
2. Emissivity analyses and mapping
3. Apparent thermal inertia approaches
4. Subpixel thermal mapping
5. Multi band analyses
6. Multi-diurnal analyses
7. Time series exploration and change detection
8. Thermal fluxes
9. Thermal field spectrometry
10. Thermal laboratory spectrometry
11. others

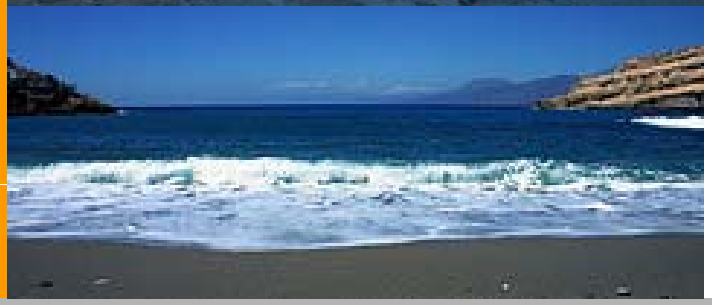


How to join?

- SIG: no formal membership (EARSeL membership appreciated!)
- Mailing List = membership

- Information dissemination
  - Mailing list — claudia.kunzer@dlr.de
  - Website — www.itc.nl/sigtrs
  - (linkedIn Group Sig-TRS — www.linkedin.com)

Events / Contact



Information on new sensors?

Thermal foci at future conferences?

Doing research in the field?

Planning in-situ campaigns?

Please email to:

Chris / Claudia

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To be added to SIG-TRS listserver:

claudia.kuenzer@dlr.de