



# Earth Science Informatics Technical Committee Report

**Chairs:**

***Rahul Ramachandran, NASA/MSFC***

***Peng Yue, Wuhan University***

**Standards Group:**

***Siri Jodha S. Khalsa, University of Colorado***

***Kaylin Bugbee, University of Alabama in Huntsville***

## GRSS AdCom Meeting



## Outline

- | **TC chair election**
- | **ESI related sessions at IGARSS**
- | **ESI TC sponsored activities**
- | **Publication in GRSM**
- | **ESI TC Initiatives**
- | **Standards activities**

## ESI TC membership status

- | **New Chair elected: Peng Yue, Wuhan University, China**
  - Co-chairs – Rahul Ramachandran, NASA Marshall Space Flight Center, USA, and Peter Baumann, Jacobs University Bremen , Germany
- | **Currently ESI TC has more than 90 members**
- | **Countries/Areas represented:**

– Australia	– Germany	– Switzerland
– Belgium	– India	– Taiwan
– Brazil	– Italy	– Turkey
– Canada	– Japan	– UK
– China	– New Zealand	– USA
– France	– South Africa	

## IGARSS 2015 Sessions

**Holding one invited session sponsored by ESI TC:**

- Why Data Matters: Value of Stewardship and Knowledge Augmentation Services – 2 half sessions (oral - TU3.Y2, TU4.Y2 – Tuesday, July 28, 13:30 - 15:10, 15:40 - 17:20 – Location: Yellow 2)

**General sessions of interest to ESI TC:**

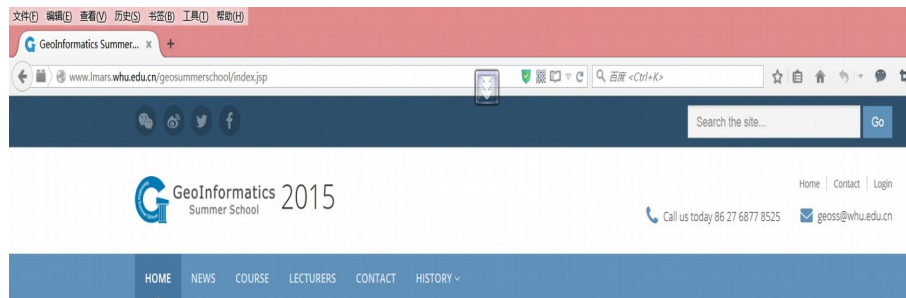
- Data Management – 2 half sessions (oral - MO3.Y2, FR3.T12 Monday, July 27, 13:30-15:10, 13:30-15:10 - Location: Yellow 2); 1 poster session (17:20-19:00 - THP.PO )
- Policy Decision (TU1.Y2) – 1 half session (oral)
- Remote Sensing Education (TU2.Y2) – 1 half session (oral)

**TC Meeting:**

- Tuesday, July 28, 17:30-18:30 Location: Yellow 2

## ESI TC sponsored activities

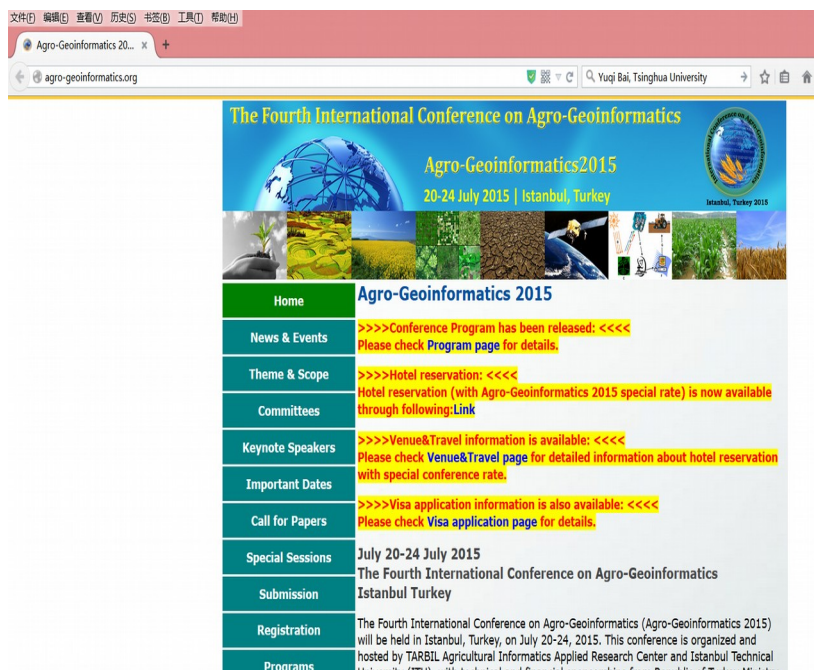
- | 2015 International Geoinformatics Summer School, Wuhan University, Wuhan, China, June 4-14, 2015.
- | 135 participants from 7 countries





## ESI TC sponsored activities

### The Fourth International Conference on Agro-Geoinformatics, 20-24 July 2015, Istanbul Turkey



# ESI TC Article for GRSM June Issue

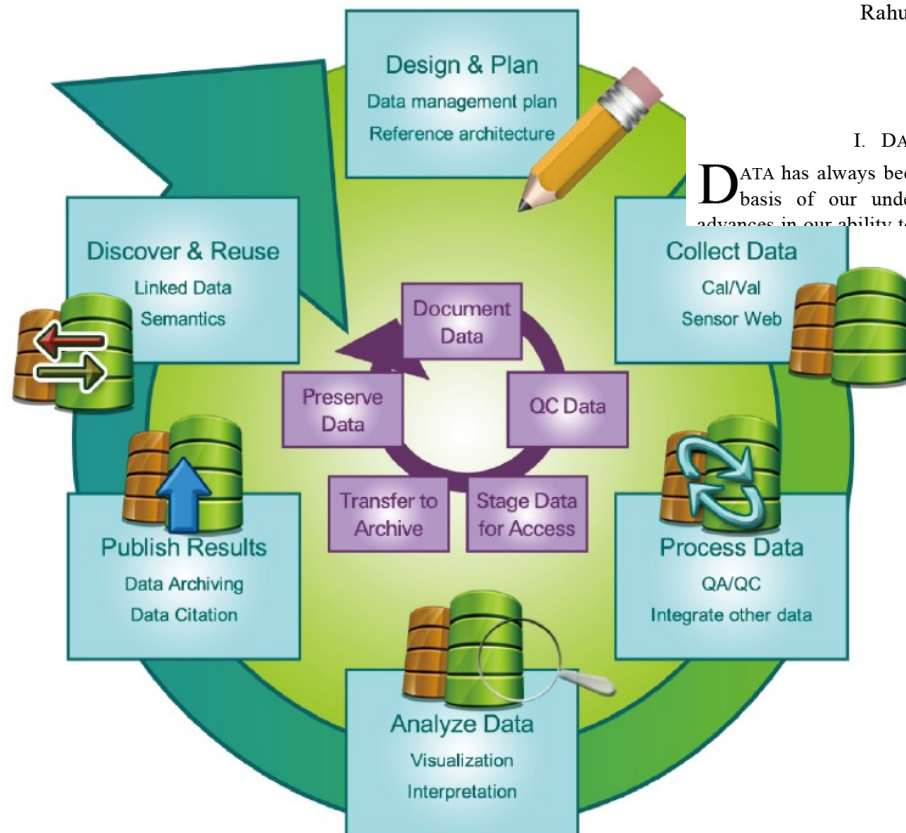
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## Moving from Data to Knowledge: Challenges and Opportunities

Rahul Ramachandran, *Member, IEEE*, Siri Jodha S. Khalsa, *Senior Member, IEEE*



### I. DATA TO KNOWLEDGE

DATA has always been the cornerstone of science and the basis of our understanding of the world. But with advances in our ability to collect, record and generate data the

### II. DATA PERSPECTIVE

*Explosion in Data Volume* – The data production capability of the research community has seen explosive growth which has resulted in increased needs for processing and storage. In

## Perspectives

- Data
- Technology
- End User
- Policy

## 2015 New Initiative status

- | ***IEEE GRSS Sponsored Workshop Series on Geospatial Data Science(1)***
- | **Lead:**
  - Ranga Raju Vatsavai, ORNL and NC State University
- | ***IEEE GRSS Sponsored Workshop Series on Geospatial Data Science (2)***
- | **Lead:**
  - Jonathan Li, University of Waterloo
  - Planning to combine the IEEE Geospatial Data Science Workshop with an IEEE Data Science Forum at Xiamen University, Xiamen, China in late December 2015.

**Approval came too late to implement funding support**





## 2016 New Initiative Proposal

- | **IEEE Summer school on Big Geospatial Data and Its applications in Agriculture**
  - Continuing IEEE GRSS Sponsored Workshop Series on Geospatial Data Science
  - A part of the fifth international conference on Agro-Geoinformatics in July 2016 in China
- | **Lead:**
  - Liping Di, George Mason University, Peng Yue, Wuhan University, Yuqi Bai, Tsinghua University
- | **Funding**
  - Seeking \$20K to reimburse travel expense for invited experts or additional travel costs and facilities.
- | **Return on Investment**
  - Promoting activities of Globalization Committee and ESI TC
  - Enhancing the reputation of IEEE GRSS in the geospatial field
  - Course material on geospatial data science education
  - Potential new members of IEEE GRSS
  - More attendees to IGARSS 2016 in China

## Member Contributions: GEO and USAID

- | **Implementation Plan for Global Earth Observation System of Systems (GEOSS) 2016-2025**
  - *A Framework for Connecting Earth Observations Systems for Understanding and Decision-Making*
- | **Task Force to define *Data Management Principles* for GEO**
  - Eleven principles defined and approved by GEO ExCom
  - Now working on Implementation Guidelines
- | **USAID-funded training for CHARIS Partners in High Asia**
  - 5 day workshop on remote sensing and hydrological modeling scheduled for Bishkek, Kyrgyzstan

## GRSS and Standards Development

- | **The TAB Strategic Viewpoint on Standards**
  - *Each S/C should develop a standards strategy... assess which standards are important to the technical communities they serve*
  - *Strengthen its standards posture, if appropriate, and assess its support budget and metrics for success*
  - TAB created Ad Hoc Committee on Technical Support for Standards
- | **IEEE-SA “Industry Connections” has reached out to GRSS**
- | **GRSS liaises with both OGC and ISO TC 211**
  - Kaylin Bugbee now also supporting standards work

## Open Geospatial Consortium Membership

### The OGC has strong industry participation

- Ongoing dialog w/ George Percivall regarding potential collaborations, including holding a TC meeting around IGARSS

### Active OGC Initiatives

[Citizen Observatory Web \(COBWEB\)](#) (COBWEB)

[CityGML Quality Interoperability Experiment](#) (CityGMLQIE)

[GEOSS Architecture Implementation Pilot \(AIP\)](#) (GEOSS/OGC)

[HDWG Groundwater 2 Interoperability Experiment](#) (GW2IE)

[Incident Management Information Sharing - Virtual USA](#) (vUSA)

[IMIS Internet of Things](#) (IMIS IoT)

[OGC Testbed 10](#) (OWS-10)

[OGC Testbed 11](#) (Testbed 11)

[OGC Testbed 12](#) (Testbed 12)

[Soil Data Interoperability Experiment](#) (SoilDataIE)

[USGS Interoperability Assessment](#) (USGS IA)

## ISO/TC211 – Geographic Information

### | ISO works through National Standard Bodies

- With support from experts in academia and industry



- Metadata for Imagery and Gridded Data (19115 series)
- Content and Encoding Rules for Imagery and Gridded Data (will be multipart standard)
- Calibration and Validation of Remote Sensing Imagery Sensors – Part 3: SAR/InSAR
- Preservation of Digital Data and Metadata (proposed)

### | Meeting take place 2x/year

- Khalsa and Bugbee attended Southampton, UK June 8-12