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# XII International Digisonde Forum

11-14 May 2009

## A G E N D A

Version 2: May 8, 2009

~~~~~ DAY ONE: 11 May 2009, Monday ~~~~~

### SECTION 1 FORUM REGISTRATION AND OPENING PRESENTATIONS

- 0830 Forum Registration, 1st Floor, 600 Suffolk St, Lowell, MA
- 0845 Welcome remarks from Prof. Partha Chowdhury, Vice Provost for Research, UMass Lowell
- 0900 Global Ionospheric Radio Observatory -- GIRO Prof. B. Reinisch
- 0930 Digisonde user roundtable Attendees

### SECTION 2 SCIENCE PROJECTS WITH DIGISONDES

- 0950 Review of existing and emerging digisonde science projects Prof. B. Reinisch
- 1000 Space weather events as seen by GIRO Prof. Q-G. Zong
- 1030 Break
- 1045 Precision ranging campaign in European digisonde network Dr. V. Paznukhov
- 1100 Sensing plasma perturbations due to HF heating Prof. G. Sales/Dr. Todd Pedersen
- 1130 Passive observations of HAARP/EISCAT signals Dr. V. Paznukhov
- 1200 Lunch
- 1245 D-region absorption studies with digisondes Prof. G. Sales

|      |                                               |                  |
|------|-----------------------------------------------|------------------|
| 1315 | A proposed assimilative IRI with DIDBase data | Prof. X. Huang   |
| 1340 | Major magnetic storms as seen by GIRO         | Dr. V. Paznukhov |

**SECTION 3 DIGISONDE IONOGRAM ANALYSIS**

| Time | Topic                                                            | Presenter         |
|------|------------------------------------------------------------------|-------------------|
| 1400 | Review of upcoming changes in ionogram analysis and data reports | Prof. B. Reinisch |
| 1410 | ARTIST 5.0                                                       | Dr. I. Galkin     |
| 1440 | SAO.XML 5.0, new format for ionogram-scaled data                 | Dr. I. Galkin     |
| 1500 | Break                                                            |                   |
| 1510 | Fundamental principles of NHPC true height analysis              | Prof. X. Huang    |
| 1540 | Modeling the topside profiles                                    | Dr. P. Nsumei     |
| 1600 | Dual-frequency precision ranging for digisondes                  | Prof. B. Reinisch |
| 1620 | Precision ranging analysis in ARTIST 5                           | Dr. I. Galkin     |
| 1630 | GIRO Front End: SAO Explorer with DIDBase and ADRES              | G. Khmyrov        |
| 1700 | Adjourn                                                          |                   |

~~~~~ DAY TWO: 12 May 2009, Tuesday ~~~~~

**SECTION 4 DIGISONDE 4D**

| Time | Topic  | Presenter         |
|------|--|-------------------|
| 0830 | Digisonde 4D and first light data                | Prof. B. Reinisch |
| 0850 | DPS-4D hardware overview                         | I. Lisysyan       |
| 0920 | RFI mitigation principles for Digisonde 4D       | Dr. V. Paznukhov  |
| 0950 | FPGA technology for hardware data pre-processing | Prof. G. Cheney   |
| 1010 | Break  |                   |
| 1020 | Software organization and data traffic           | Dr. I. Galkin     |
| 1040 | DESC: Digisonde Embedded System Control software | G. Khmyrov        |
| 1100 | DCART : New (inter)face of the digisonde         | Dr. I. Galkin     |
| 1120 | Under the hood of the DCART project              | A. Kozlov         |
| 1140 | Overview of Digisonde 4D data products           | Dr. I. Galkin     |
| 1200 | Lunch  |                   |
| 1245 | Concept of operations with DCART                 | G. Khmyrov        |
| 1315 | System fault isolation with BIT                  | R. Hamel          |
| 1345 | Upgrade path to Digisonde 4D                     | S. Stelmash       |

|      |                         |                                   |
|------|-------------------------|-----------------------------------|
| 1400 | Working Group Session 1 | Wannalancit 3 <sup>rd</sup> Floor |
| 1500 | Working Group Session 2 | Wannalancit 3 <sup>rd</sup> Floor |

|      |                         |                       |
|------|-------------------------|-----------------------|
| 1600 | Working Group Session 3 | Wannalancit 3rd Floor |
|------|-------------------------|-----------------------|

1700 Adjourn

~~~~~ DAY THREE : 13 May, 2009 Wednesday ~~~~~

|      |                         |                                                                    |
|------|-------------------------|--------------------------------------------------------------------|
| 0830 | Working Group Session 4 | Millstone Hill Field Trip<br>and Wannalancit 3 <sup>rd</sup> Floor |
| 1000 | Working Group Session 5 | Wannalancit 3 <sup>rd</sup> Floor                                  |

**SECTION 5 DIGISONDE DRIFT ANALYSIS**

|      |                                                           |                  |
|------|-----------------------------------------------------------|------------------|
| 1100 | Drift measurements, real-time processing and Web displays | Dr. V. Paznukhov |
| 1140 | Drift Explorer and Drift Base                             | A. Kozlov        |
| 1200 | Lunch                                                     |                  |

**SECTION 6 DIGISONDE OPERATIONAL ISSUES**

| Time | Topic                                                         | Presenter                                          |
|------|---------------------------------------------------------------|----------------------------------------------------|
| 1300 | Digisonde system site validation and new Tx antenna design    | D. Kitrosser                                       |
| 1330 | Computer security and remote control                          | R. Hamel                                           |
| 1400 | Common errors in digisonde programming                        | Dr. I. Galkin                                      |
| 1430 | Lightning protection                                          | I. Lisysyan                                        |
| 1445 | Oblique sounding with DPS and DPS-4D                          | G. Khmyrov                                         |
| 1500 | Break                                                         |                                                    |
| 1515 | WatchIt: automated monitor of digisonde data quality          | G. Khmyrov                                         |
| 1530 | Troubleshooting of post-processing and archival subsystems    | Dr. I. Galkin                                      |
| 1600 | Closing remarks                                               | Prof. B. Reinisch                                  |
| 1800 | Forum participants are invited to a wine and cheese reception | Reinisch Residence<br>14 Overlook Dr., Bedford, MA |

~~~~~ DAY FOUR: 14 May, Thursday ~~~~~

|      |                         |                                   |
|------|-------------------------|-----------------------------------|
| 0900 | Working Group Session 6 | Wannalancit 3 <sup>rd</sup> Floor |
| 1000 | Working Group Session 7 | Wannalancit 3 <sup>rd</sup> Floor |
| 1100 | Working Group Session 8 | Wannalancit 3 <sup>rd</sup> Floor |

## Working Groups

| <u>Topic</u>              | <u>Curator</u> |
|---------------------------|----------------|
| SAO Explorer 1            | G. Khmyrov     |
| SAO Explorer 2            | I. Galkin      |
| ARTIST 5                  | I. Galkin      |
| DIDBase with ADRES 1      | G. Khmyrov     |
| DIDBase with ADRES 2      | A. Kozlov      |
| IRI Windows               | X. Huang       |
| NHPC and ARP              | X. Huang       |
| Drift Explorer 1          | A. Kozlov      |
| Drift Explorer 2          | V. Paznukhov   |
| DDA – Drift Data Analysis | V. Paznukhov   |
| DPS Hardware              | I. Lisysyan    |
| DGS-256 Hardware          | D. Kitrosser   |
| DCART                     | I. Galkin      |
| DCART                     | G. Khmyrov     |
| DCART                     | A. Kozlov      |
| DESC                      | G. Khmyrov     |