



Prof. Bodo W. Reinisch  
 Director  
 Tel. 1-978-934-4903  
 Email. [Bodo\\_Reinisch@uml.edu](mailto:Bodo_Reinisch@uml.edu)

600 Suffolk Street  
 Lowell, MA 01854  
 Fax 1.978.459-7915  
<http://ulcar.uml.edu>

**Center for Atmospheric Research**  
*Environmental, Earth & Atmospheric Sciences Department*  
*College of Arts and Sciences*



# Eleventh International Digisonde Forum

30 April – 3 May 2007

## AGENDA

Prelude: Presentations of interest to the digisonde community from the Prof. Bodo Reinisch 70<sup>th</sup> Birthday Honorary Symposium, April 29, 2007:

Presenter	Topic
Dr. D. Bilitza	The importance of topside and bottomside sounding measurements for the development and updating of IRI
Drs. D. Buresova and J. Boska	Fifty years of ionospheric research at Pruhonice
Prof. P. Cannon	A random walk in science and engineering: from the Digisonde to the HF Communications Modem
Dr. I. Galkin	A tribute to the ARTIST: ionogram autoscaling research at UMLCAR
Dr. V. Galushko	Frequency-and-angular sounding of the ionosphere (FASI) as applied to the DPS system
Dr. L.-A. McKinnell	The progress of the South African ionosonde network

### DAY ONE: 30 April 2007, 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	Digisonde Network Today	Prof. B. Reinisch
0910	Digisonde users roundtable	Attendees

**SECTION 2 SCIENCE PROJECTS WITH DIGISONDES**

0930	Topside profile modeling	Prof. B. Reinisch
1000	Break	
1015	Major magnetic storms as seen by the digisonde network	Dr. V. Paznukhov
1045	Digisonde-measured profiles and tilts for real-time ray-tracing	Prof. X. Huang
1115	D-region absorption studies with digisondes	Prof. G. Sales
1145	Interplanetary shock event as seen by digisonde network	Prof. Q-G. Zong
1215	Lunch	
1300	Daily pattern of the F-region vertical drift from DGS measurements at mid-latitudes	Dr. D. Altadill
1330	E-layer Precision Group Height (PGH) campaign proposal	Dr. D. Altadill & V. Paznukhov

**SECTION 3 DIGISONDE IONOGRAM ANALYSIS**

<b>Time</b>	<b>Topic</b>	<b>Presenter</b>
1400	Review of upcoming changes in ionogram analysis and data reports	Prof. B. Reinisch
1415	ARTIST 5.0 goes operational	Dr. I. Galkin
1445	ARTIST Uncertainty: scaled characteristics	Dr. V. Paznukhov
1500	Break	
1515	ARTIST Uncertainty: N(h) profile	Prof. X. Huang
1530	Precision Group Height (PGH) in ARTIST 5	J. McElroy
1545	SAO Explorer, flagship ionogram data analysis tool	G. Khmyrov
1615	Overview of digisonde data products and formats	Dr. I. Galkin
1630	SAO.XML 5.0, new format for ionogram-scaled data	G. Khmyrov
1645	DIDBase with ADRES: archiving technology for digisonde data	G. Khmyrov
1700	Adjourn	

DAY TWO: 1 May 2007, Tuesday

**SECTION 4 ADVANCES IN DIGISONDE DEVELOPMENT**

<b>Time</b>	<b>Topic</b>	<b>Presenter</b>
0830	Advances in digisonde development	Prof. B. Reinisch
0900	DPS-4D Hardware Review	I. Lissyssian
0930	RFI mitigation	Dr. V. Paznukhov
1000	Break	
1015	New pre-processor card	Prof. G. Cheney
1045	Overview of DESC and DCART projects	Dr. I. Galkin
1100	DESC: Digisonde Embedded System Control software	G. Khmyrov

1120	DCART : New face of the digisonde	Dr. I. Galkin
1140	Under the hood of DCART project	A. Kozlov
1200	Lunch	
1300	Concept of operations with DCART-DESC tandem	G. Khmyrov
1320	DPS-4D test runs in Millstone Hill	G. Khmyrov
1340	DPS-4D Readiness Review	Prof. B. Reinisch

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 3 <sup>rd</sup> Floor

1700 Adjourn

### DAY THREE : 2 May, Wednesday

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

### SECTION 5 DIGISONDE DRIFT ANALYSIS

1100	Real-time drift processing and Web display	Dr. V. Paznukhov
1130	Drift Explorer and Drift Base	A. Kozlov
1200	Lunch	

### SECTION 6 DIGISONDE OPERATIONAL ISSUES

Time	Topic	Presenter
1300	Rx Antenna Direction Verification	D. Kitrosser
1330	Zero range calibration in the PGH mode	Dr. I. Galkin
1345	Computer security	R. Hamel
1400	Commanding and troubleshooting DPS-4 via Internet	Dr. I. Galkin

1415	Common errors in DPS programming	Dr. I. Galkin
1430	Lightning protection	I. Lissyssian
1445	DPS Built-In Test capabilities	I. Lissyssian
1500	Break	
1515	WatchIt automated data quality watch	G. Khmyrov
1530	Data quality control and management with DIDBase and Drift-Base	C. Dozois
1545	COSMIC, CalVal, and NWRA campaigns	Dr. V. Paznukhov
1600	Closing remarks	Prof. B. Reinisch
1800	Forum participants are invited to a wine and cheese reception	Reinisch Residence 14 Overlook Dr., Bedford, MA

## DAY FOUR: 3 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	A. Kozlov/V. Paznukhov
DDA – Drift Data Analysis	V. Paznukhov
Data Quality Control and Archiving	C. Dozois
DCART	I. Galkin
DCART	G. Khmyrov
DCART	A. Kozlov
DESC	G. Khmyrov