



## 4<sup>th</sup> NOAA Hyperspectral Workshop

August 17-19, 2004  
Pyle Center, 702 Langdon Street  
Madison WI



*Updated: August 16, 2004*

### **Goals :**

- Update on Radiative Transfer (RT), both in the visible/near IR and the infrared
- Explore broadband adequacy versus Hyperspectral necessity for environmental characterizations (land, ocean, atmosphere)
- Discuss some of the instrument trade-space with respect to applications
- Understand the roles of LEO and GEO for various applications
- Familiarization with tools for interrogating and visualizing hyperspectral data

### **Questions:**

- What are the advantages/disadvantages of Hyperspectral over multispectral data?
  - *Bring slides!*
- What are the future directions/shortfalls for Hyperspectral radiative transfer?
- How can NOAA best prepare for autonomous instrument synergy?
- What are the future directions/shortfalls for data compression?

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**Tuesday Afternoon 17 August 2004**

**Introduction**

<b>1300-1310</b>	Welcome	<b>Steve Ackerman, CIMSS</b>
<b>1310-1320</b>	Introductory Remarks/Logistics/Agenda	<b>T. Schmit, NOAA NESDIS &amp; Ed Howard, NOAA</b>
<b>1320-1330</b>	NOAA's needs for hyper-spectral imaging and sounding	<b>T. Schmit, NOAA NESDIS</b>

**Issues of hyperspectral data in relationship to Radiative Transfer (RT)**

<b>1330-1345</b>	IR RT	
<b>1345-1400</b>	IR RT (recent updates)	<b>Larrabee Strow, UMBC</b>
<b>1400-1415</b>	RT of clouds	<b>T. Greenwald, CIMSS</b>
<b>1415-1430</b>	Discussion	<b>All</b>
<b>1430-1445</b>	Break	
<b>1445-1515</b>	Vis/NearIR RT	<b>Mike Griffin MIT/LL &amp; A. Heidinger, NOAA NESDIS</b>

**Applications of hyperspectral data**

<b>1515-1545</b>	Atmosphere Summary + discussion	<b>Allen Huang, CIMSS</b>
<b>1545-1615</b>	Climate + discussion	<b>Hsiao-hua Burke, MIT/LL</b>
<b>1615-1645</b>	Tropical Applications	<b>M. DeMaria, NOAA/NESDIS</b>
<b>1645-1700</b>	Temporal/spectral/spatial	<b>J. Purdom, CIRA</b>
<b>1700-1715</b>	Closing Discussions for Tuesday	<b>All</b>

**Dinner – Location: Informal in the area**

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**Wednesday 18 August 2004**

**0825-0830** Intro/Logistics **T. Schmit, NOAA NESDIS**

**Instrument Options**

**0830-0845** What is HES? **Monica Coakley, MIT/LL**

**0845-0900** Grating **Richard Baron, JPL**

**0900-0915** Interferometer **Hank Revercomb, SSEC**

**0915-0930** Discussions **All**

**Applications (Continued from Tuesday)**

**0930-1000** NWP + discussion **Ralph Petersen, CIMSS**

**1000-1015** Break

**1015-1045** Land Summary + discussion **Bob Knuteson, CIMSS**

**1045-1115** Ocean Summary + discussion **Nick Nalli, QSS Group Inc.**

**1115-1145** Clouds/Aerosols Summary + discussion **Steve Ackerman, CIMSS**

**1145-1215** Trace gases + discussion **Larrabee Strow, UMBC**

**1215-1315** **Lunch – Location: Pyle Center**

**Working Groups**

**1315-1530** Split into Working Groups  
land/ocean/atmosphere&clouds/climate/trace gases  
What does Hyperspectral add over broadband imagers?

**1415-1430** Break

**1530-1630** “Report” from each working group

**1630-1700** Closing Discussion for Wednesday

**Dinner – Location: University Club 803 State Street (5:30 Cash Bar, 6:30 Dinner)**

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**Thursday 19 August 2004**

**0830-0845**      Intro/Logistics      **T. Schmit/A. Heidinger, NOAA NESDIS**

**System Strategies**

**0845-0900**      HES/ABI synergy      **T. Schmit, NOAA**

**0900-0915**

**0915-0930**      Discussion      **All**

**Tools**

**0930-0945**      Application Analysis Tools /  
AHABS Demonstration      **Mike Griffin MIT/LL**

**0945-1000**      Next generation McIDAS (V)      **Tom Whittaker, SSEC**

**1000-1015**      Break

**1015-1030**      Application Analysis Tools / "HYDRA"      **Kevin Baggett, CIMSS**

**1030-1045**      VNIR/SWIR compression results      **Su May Hsu, MIT LL**

**1045-1100**      Compression Techniques: HES IR Sounder      **B. Huang/CIMSS**

**1100-1115**      Compression Techniques: IR Sounder      **W. Blackwell/MIT LL**

**1115-1200**      Wrap up/future of Workshop(s)      **All**

**1200-1300**      **Lunch – Location: Pyle Center**

**End of workshop**