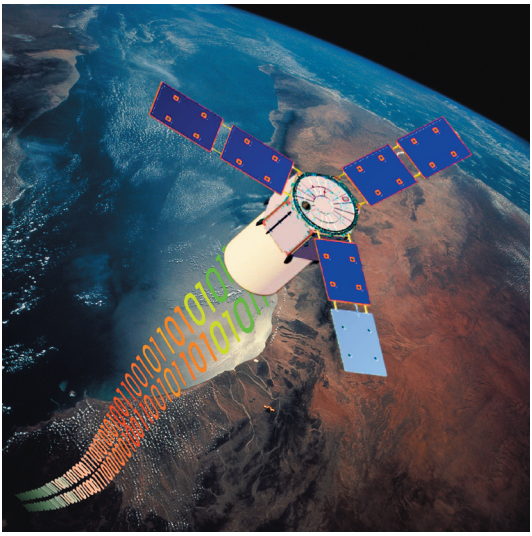
ADVANCE PROGRAM



32nd Review of Atmospheric Transmission Models Meeting

14-15 June 2010
National Heritage Museum
Lexington, Massachusetts

SPONSORED BY ...

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ORGANIZING COMMITTEE

Workshop Chairs

Gail Anderson
Air Force Research Laboratory/RVYBA
NOAA ESRL

Thomas Cooley
Air Force Research Laboratory/RVBYH

Alexander Berk
Spectral Science Inc.

James Brown
Air Force Research Laboratory/RVBYB

Marsha Fox
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Team Members

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Laurence Rothman, Harvard-Smithsonian Center for Astrophysics
John Selby, Northrop Grumman Aerospace Corp.
Eric Shettle, Naval Research Laboratory
Hilary Snell, Atmospheric and Environmental Research
Knut Stamnes, Stevens Institute of Technology

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WORKSHOP LOCATION

The *32nd Review of AtmosphericTransmission Model Meeting* is being held 14-15 June 2010 at the National Heritage Museum in historic Lexington, Massachusetts.

Located nine miles northwest of Boston, Lexington is a country village turned prosperous suburb. The town is notable as the site of the opening shots ("the shot heard round the world") of the Battle of Lexington and Concord, the first engagement of the American Revolutionary War. British troops marched from Boston to Lexington late on April 18, 1775. Patriots Paul Revere and William Dawes rode ahead to sound warning which came around midnight, followed about 5 hours later by some 700 British troops, en route to Concord, where they planned to destroy the rebels' military supplies. Ordered to disperse, the colonists — fewer than 100 — stood their ground.

Guests may wish to tour the historical downtown area on foot, stopping at shops along the way, or visit recommended attractions which include **Lexington Green** (site of the first battle between the Minutemen and the Redcoats during the Revolutionary War), **Buckman Tavern**, and the **Hancock-Clarke House** (the residence in which Samuel Adams and John Hancock awoke to hear Paul Revere's famous warning that British troops were on their way).

AIRLINE TRAVEL

Lexington is serviced by Boston's Logan International Airport. Multiple rental car companies are located at the airport, or taxi service may be secured from the airport to the hotel of your choice (information on area hotels is provided on page 8).

MEETING VENUE

National Heritage Museum
33 Marrett Rd. (Route 2A)
Lexington, MA 02421

From Route I-95/128 ...

Take Exit 30A. This exit will put you onto Route 2A East (also known as Marrett Road). The Museum is located approximately 3 miles from the exit. The entrance is on your left — a brick wall and large iron gates.

From Route 495 ...

Take Route 2 East to Exit 55 Pleasant Street, Waltham and Lexington. At the end of the ramp, take a left onto Pleasant Street. Merge left onto Routes 4/225. At the end of the road, turn left onto Massachusetts Avenue. At the junction of Rte. 2A and Mass. Ave., take a left onto Route 2A West. The Museum entrance is your first right — a brick wall and large iron gates.

From Boston ...

Take Route 2 West to exit 56 (toward Lexington and Bedford). Turn right at the end of the ramp, following the sign for Routes 4/225. Turn right onto Routes 4/225, which then merges right onto Pleasant St. At the rotary, turn left onto Massachusetts Ave. At the junction of Rte. 2A and Mass. Ave., take a left onto Route 2A West. The Museum entrance is your first right — a brick wall and large iron gates.

From the Massachusetts Turnpike ...

Take Route I-95/128 and exit 15. This exit will put you onto Route 2A East (also known as Marrett Road). The Museum is located approximately 3 miles from the exit. Our entrance is on your left — a brick wall and large iron gates.

ACCOMMODATIONS

Individuals attending the *32nd Review of Atmospheric Transmission Models Meeting* are responsible for securing personal hotel accommodations. Following are hotels located in the immediate Lexington area. Additional accommodations may be found in neighboring towns which are minutes from the conference venue.

Those attending from outside the Boston area should note that all area hotels, including those in Lexington, are not within walking distance of the conference venue. Therefore, individuals will need either to secure a rental car for the duration of their stay or make arrangements with an attending colleague for daily transportation. Online travel sources may be helpful in obtaining the best rate for the hotels suggested.

Lexington, Massachusetts

Aloft Lexington
727-A Marrett Road, Lexington
781.761.1700
http://www.starwoodhotels.com/preferredguest/property/overview/index.html?propertyID=3209

Element Lexington
727 Marrett Road, Lexington
781.761.1750
http://www.starwoodhotels.com/element/property/overview/index.html?propertyID=3210

Quality Inn & Suites
440 Bedford Street, Lexington
781.861.0850

Additional hotel options are available in Burlington and Waltham, Massachusetts, located 3 miles northeast and 4 miles southwest of the conference venue, respectively.

GENERAL INFORMATION

CURRENCY
The unit of currrency is the US dollar divided into 100 pennies. All conference payments must be made in US currency. Traveler's checks are honored in most banks, hotels and shops. Major credit cards are also widely accepted.

CURRENCY EXCHANGE
Guests are encouraged to exchange foreign currency at the arrival airport prior to securing ground transportation to Lexington.

MEALS
Continental breakfast, breaks, and lunch are included each day as part of the registration fee.

MESSAGES
Guests should provide hotel contact information to the appropriate persons for receiving telephone messages and faxes. See ACCOMMODATIONS.

PARKING
For those renting or driving personal vehicles, complimentary parking is available at the National Heritage Museum.

REGISTRATION

Individuals who have been accepted to present a paper(s) must be registered to participate.

METHODS OF PAYMENT
Credit Cards — American Express, Mastercard and VISA will be accepted.

Checks — Checks must be payable in US$ and drawn on a US bank. Checks should be made payable to the ***2010 Transmission Meeting.***

†Collective payments must be accompanied by a list of participant names and the details of payment for each person.
††Bank charges may not be deducted from the registration fee; attendees will be responsible for all fees deducted by both the sending and receiving financial institutions.

PRE-REGISTRATION
Pre-registration prior to June 1 is strongly encouraged to avoid delays at check-in. **Lunches are guaranteed for pre-registrants only.**

REGISTRATION FEES

IEEE Member	$295.00
Non-Member	$345.00
Student	$200.00

Materials, including a name badge which must be worn at all times while in attendance, certificate of participation, and a receipt of payment will be included in the registration packet provided each registered participant.

REGISTRATION

INCLUSIONS
The participant registration fee includes:

- admission to conference sessions
- continental breakfast, each day
- coffee breaks
- lunch, each day
- *Proceedings* on CD ROM (1 copy).

ON-SITE REGISTRATION AND CHECK-IN
All attendees are required to check-in at the Registration Desk upon arrival at the conference site. The Registration Desk is located adjacent the Farr Conference Center, which is to the right of the Museum main entrance.

REGISTRATION DESK
The Registration Desk will be open at the following times to assist you:

Monday	June 14 07:30 - 17:00
Tuesday	June 15 07:30 - 14:30

CANCELLATION POLICY
Cancellations received prior to 01 June 2010 are entitled to a full refund less a $50.00 processing fee. No refunds will be granted thereafter.

QUESTIONS
Questions may be directed to the meeting coordinator via telephone to 832.331.4022 or via email to steintammy@sbcglobal.net .

Technical Program

All technical sessions will be held in the Maxwell Auditorium at the National Heritage Museum with breakfasts, breaks, and lunches, to be held in the Farr Conference Center.

NOTES:

Monday, June 14

7:30 REGISTRATION/CHECK-IN and CONTINENTAL BREAKFAST
Farr Conference Center

MAXWELL AUDITORIUM

8:15 WELCOME & OPENING REMARKS

Session 1 — Climate and Sensitivity
Gail Anderson, Chair

8:30 Solar Irradiance, Solar Variability and Climate Change
J. Lean, Naval Research Laboratory

9:15 Effects of Incident Solar Radiation at Fine Spectral Resolution on the MODTRAN® Computation of Atmospheric Cooling Rates
J. Fontenla, University of Colorado, and G.P. Anderson, Air Force Geophysics Laboratory

9:35 MODTRAN®4 vs. MODTRAN®5.2.0.0/5.2.1.0 and the Advanced Finite Spectral Bin Voigt Transmittance Algorithm
A. Berk, P.K. Acharya, S.M. Adler-Golden, L.S. Bernstein, M.J. Fox, R.G. Kennett and D.C. Roberton, Spectral Sciences Inc.; G.P. Anderson and M.L. Hoke, Air Force Research Laboratory/RVBYA; and R. McMullen, Boston College

10:05a — 10:30a BREAK
Farr Conference Center

***BOLD** type indicates invited speaker.*

Monday, June 14

Session 2 — RT Codes
Alexander Berk, Chair

10:30 Overview of MATISSE-v2.0
L. Labarre, K. Caillault, S. Fauqueux, C. Malherbe, P. Simoneau and A. Roblin, ONERA, France

11:15 SMARTI: A Suite for Multi-Resolution Atmospheric Radiative Transmission Interface Library Developed at DRDC-Valcartier
V. Ross, AEREX Avionique Inc., DRDC-Valcartier; and D. Dion, DRDC-Valcartier, Canada

11:35 Band Model and Surface Observation Input Updates to the LEEDR Atmospheric Characterization Package
S.T. Fiorino, R.M. Randall, D.P. Ranney, R.J. Bartell, M.J. Krizo and S.J. Cusumano, Air Force Institute of Technology; and E.P. Magee, MZA Associates Corporation

11:55 Models for Laser Propagation Using Customized LEEDR Atmospheric Characterization
E.P. Magee, MZA Associates Corporation; S.T. Fiorino, R.M. Randall, D.P. Ranney, R.J. Bartell, M.J. Krizo and S.J. Cusumano, Air Force Institute of Technology

12:15p — 1:15p LUNCH
Farr Conference Center

***BOLD** type indicates invited speaker.*

Monday, June 14

Session 3 — New Directions
James Brown, Chair

1:15 **Next Generation Atmospheric Background Scene Modeling**
J.W. Duff, J. Gruninger, R. Panfili, H. Dothe, R. Kennett and L. Bernstein, Spectral Sciences Inc.

2:00 **Advances in Clutter Suppression Algorithms: Spatiotemporal Clutter Rejection and Trace-Before-Detect Methods for Tracking Small Dim Objects**
A.P. Brown, Toyon Research Corp.; A.G. Tartakovsky, Argo Science Corp. and University of Southern California; and J.H. Brown, Air Force Research Laboratory

2:45 MOSART v3.0: A Four-Dimensional Radiative Environment Prediction Tool
W.M. Cornette, Computational Physics Inc.; and J.M. Goldspiel, US Naval Research Laboratory

3:05p — 3:30p BREAK
Farr Conference Center

Session 4 — Data Analyses
Hilary Snell, Chair

3:30 Enhanced High-Altitude Ozone Model for Atmospheric Radiative Transmission Codes
J.M. Griffin, R. Aschbrenner and H.E. Snell, Atmospheric and Environmental Research Inc.

3:50 Polar Mesospheric Clouds and Cosmic Dust: Three Years of SOFIE Measurements
M. Hervig, L. Gordley, L. Deaver and M. McHugh, GATS Inc.

***BOLD** type indicates invited speaker.*

4:10 Longwave Spectral Anisotropic Distribution Model, Spectral Flux, and Band-by-Band Cloud Radiative Forcing Synergy of MODTRAN5 and Coincidental AIRS and CERES Measurements

X. Huang, University of Michigan Ann Arbor; N.G. Loeb, NASA Langley; and W. Yang, Hunter College

4:30 Forward Calculation and Retrieval of Column Abundances of Carbon Dioxide and Methane from GOSAT Data

T. Yokota and Y. Yoshida, National Institute for Environmental Studies; N. Kikuchi, Fujitsu RIP Corporation; N. Eguchi, Y. Ota, I. Morino and O. Uchino, National Institute for Environmental Studies

***BOLD** type indicates invited speaker.*

Tuesday, June 15

7:30 CONTINENTAL BREAKFAST
Farr Conference Center

MAXWELL AUDITORIUM

Session 5 — Hyperspectral Mode
Alan Wetmore, Chair

8:30 Advances in Remote Sensing Data Processing Using the MODTRAN (R) 5-Enhanced MODO and ATCOR Software
D. Schlaepfer, ReSe Applications Schlaepfer

9:15 Generating True Color Remote Imagery Using Atmospheric Correction
S. Adler-Golden, Spectral Sciences Inc.; and B. McCarty, eMap International LLC

9:35 Characterization of Surface Directional Reflectance Properties from Airborne Angular Reflectance Measurements to Improve the Accuracy and Consistency of Long-Term Data Records
M.O. Roman, NASA Goddard Space Flight Center; C.K. Gatebe, University of Maryland Baltimore; and C.B. Schaaf, Boston University

9:55 Incorporation of Cloud Radiance Effects into Hyperspectral Target Detection
C.J. Hart and M. Gartley, Rochester Institute of Technology

10:15a — 10:40a BREAK
Farr Conference Center

***BOLD** type indicates invited speaker.*

Tuesday, June 15

Session 6 — Radiative Transfer Models
Michael Hoke, Chair

10:40 Collisional Effects on Atmospheric Transmission and Remote Sensing
J-M. F. Hartman, Centre National de la Recherche Scientifique, Universite Paris-Sud, France

11:25 Theoretical Line Profile Models and Semiclassical Approaches to Calculation of Collisional Line Shape Parameters
J. Buldyreva, University of Besancon, France

12:10 Near-Infrared Continuum Absorption by Water Vapor and Oxygen
M.E. Thomas and D.M. Brown, Johns Hopkins University Applied Science Laboratory

12:30p - 1:35p LUNCH
Farr Conference Center

Session 7 — Aerosols/Clouds I
Chair TBD

1:35 Characterization of Atmospheric Aerosols Using Optical Remote Sensing Techniques
R. Philbrick, North Carolina State University and Pennsylvania State University; A. Brown, Pennsylvania State University

2:20 Application of a Fast Scattering Radiative Transfer Model for Variational Cloud Property Retrievals
R. Aschbrenner, R. d'Entremont and G. Gustafson, Atmospheric and Environmental Research Inc.

2:40 Comparison of Aerosol Attenuation at 1.06 um Using Radiosonde and CIMEL Data
J. van den Bosch, Chavacan Enterprises LLC

3:00p — 3:30p BREAK
Farr Conference Center

***BOLD** type indicates invited speaker.*

Tuesday, June 15

Session 8 — Aerosols/Clouds II
Chair TBD

3:30 Atmospheric Measurements for Airborne Infrared System Testing
J.R. Norstrom, Jr., and J.L. Truitt, Massachusetts Institute of Technology

3:50 Another Look at Visual Range in the Atmosphere
P. Giannola, Northrop Grumman Corporation

4:10 Assessing the 'Full Spectral' Potential Radiative Impact of Arctic Aerosols: Dust, Smoke, Haze
R.S. Stone, NOAA Earth System Research Laboratory and University of Colorado; G.P. Anderson, NOAA Earth System Research Laboratory and Air Force Research Laboratory; E.P. Shettle, Naval Research Laboratory; E. Andrews, University of Colorado and Air Force Research Laboratory; and E.G. Dutton, NOAA Earth System Research Laboratory

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