



**REGISTRATION for MODTRAN®6 TRAINING and TUTORIAL
November 5-7, 2024
Hilton Garden Inn, 5 Wheeler Road, Burlington, MA 01803**

Registration Details: Tuesday-Thursday, November 5-7 8:00 AM-5:00 PM
Continental breakfast, lunch, and snacks will be provided.

Registration Fee/Payment:

The Registration Fee is \$3,500.00 per person. Registration form and payment must be received no later than 14 days in advance (October 22nd) to ensure delivery of course materials prior to the class date. Class size is limited to 24 attendees. MODTRAN6 must be purchased separately and loaded onto attendee's personal computer.

Payments should be made to Spectral Sciences, Inc. via check or credit card.

Attendee Information:

Name: _____

Address: _____

City/State/Zip Code: _____

Email Address: _____

Company: _____

Attendee Signature: _____

Please email or fax your completed registration form to Ms. Samantha Perkins at Spectral Sciences, Inc (SSI). Ms. Perkins is also available to arrange payment for the training, and to answer any course logistics or registration questions.

Phone: 781-273-4770

Fax: 781-270-1161

Email: sperkins@spectral.com

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**Agenda for MODTRAN6 Training and Tutorial – November 5-7, 2024
Hilton Garden Inn, 5 Wheeler Road, Burlington, MA 01803**

Tuesday, November 5

- 7:30 am Continental Breakfast (available 6:00 am-8:00 am)
- 8:00 am Check-In, Introductions and Set Up
- 8:20 am **MODTRAN Band Model Transmittance Lecture**
- 10:00 am Break
- 10:30 am **MODTRAN Band Model Transmittance Lecture (cont'd)**
- 11:00 am *MODTRAN6 GUI and a Thermal Test Case*
- 12:30 pm Lunch
- 1:30 pm *MODTRAN6 GUI and a Thermal Test Case (cont'd)*
- 2:30 pm **MODTRAN Correlated-k Lecture**
- 3:00 pm Break
- 3:30 pm **MODTRAN Correlated-k Lecture (cont'd)**
- 4:00 pm *A Solar Test Case*
- 5:00 pm Adjourn

Wednesday, November 6

- 7:30 am Continental Breakfast (available 6:00 am-8:00 am)
- 8:00 am *A Solar Test Case (cont'd)*
- 10:00 am Break
- 10:30 am **MODTRAN6 API Examples (Tim Perkins)**
- 12:30 pm Lunch
- 1:30 pm **MODTRAN Radiance Lecture**
- 3:00 pm Break
- 3:30 pm *Aerosol & Climate Test Case / Aerosol Generator Toolkit*
- 5:00 pm Adjourn
- 6:30 pm Dinner (not included in course price)



(Agenda Cont'd)

Thursday, November 7

- 7:30 am Continental Breakfast (available 6:00 am-8:00 am)
- 8:00 am *Aerosol & Climate / Aerosol Generator Toolkit (cont'd)*
- 10:00 am Break
- 10:30 am **MODTRAN6 Line-By-Line Lecture**
- 12:30 pm Lunch
- 1:30 pm *Radiosonde Test Case / Atmospheric Generator*
- 3:00 pm Break
- 3:30 pm *Radiosonde Test Case / AGT (Cont'd)*
- 4:30 pm Questions/Your Specific Scenarios/Discussions
- 5:00 pm Adjourn



Training Instructors

Alexander Berk, Ph.D.

lex@spectral.com

Dr. Berk joined Spectral Sciences, Inc. (SSI) in 1986. In his current role of Principal Scientist, he has served as principal investigator or project manager on many of the SSI radiative transport (RT) projects. His research activities have concentrated on the modeling of atmospheric absorption, scattering, radiance, flux, refraction and remote sensing phenomena in the microwave, infrared, visible, and ultraviolet spectral regions. This work has greatly enhanced the accuracy of band model RT and resulted in algorithms that are now standard in AFRL codes. He has served as the lead developer of the MODTRAN atmospheric RT model since its inception in 1986. For the current release of MODTRAN, he developed a novel line-by-line capability for MODTRAN and upgraded MODTRAN multiple scattering to incorporate spherical Earth effects. He recently added a MODTRAN option for computing the single scatter adjacency (point spread) function and is now leading an effort to introduce polarimetric signature prediction into the model. Previously, Dr. Berk developed the RT algorithms in MCScene, SSI's state-of-the-art 3D simulation software for generating synthetic solar and thermal regime hyperspectral images using Direct Simulation Monte Carlo (DSMC) photon tracking based on MODTRAN optical data. Unlike essentially all other DSMC 3D RT algorithms, MCScene computes spectral channel radiances with requiring sub-channel spectral sampling, greatly accelerating processing.

Tim Perkins

tperkins@spectral.com

Mr. Perkins is a Principal Scientist at Spectral Sciences, Inc. (SSI), where his research activities concentrate on novel image processing and radiometric modeling techniques relevant to remote sensing applications, specifically in the domains of: atmospheric retrieval and compensation, scene simulation, target detection, sensor characterization, and image classification. As a developer of MODTRAN6, he has created new user interfaces for the software and heads the MODTRAN user support team. He serves as the lead software developer for several other image analysis codes at SSI, including FLAASH-R, an automated implementation of the FLAASH atmospheric correction algorithm for hyperspectral/multispectral images, and FLAASH-E, a complementary code for operation in the thermal-emissive regime. His other research activities investigate radiometric modeling of targets using spectral bi-directional reflectance distribution functions (BRDF) for use in scene simulations and machine learning models.