

Upcoming Training Events:

- CMAQ – April 19-20, 2004
- SMOKE – April 21-23, 2004
- Intro to MIMS – April 20 or 21, 2004
- CMAQ – July 19-20, 2004
- SMOKE – July 21-23, 2004
- Intro to MIMS – July 20 or 21, 2004
- SMOKE – October 13-15, 2004
- CMAQ – October 21-22, 2004
- Intro to MIMS – October 21, 2004
- SMOKE Lecture – October 21, 2004

Can't come to us for training? Have the same courses taught on-site at your office location by the same experienced trainers. Contact cmas@unc.edu for more information.



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3rd Annual Models-3 Workshop Announced

To Be Held October 18-20 in Chapel Hill, NC

The Carolina Environmental Program and the CMAS are proud to announce that the 3rd Annual Models-3 User's Workshop will be held at the Friday Center at the University of North Carolina at Chapel Hill on October 18-20, 2004. Trainings on SMOKE, CMAQ, and MIMS will be offered both before and after the workshop.

This year's workshop will expand on previous workshops by including sessions devoted to policy makers as well as to air quality scientists. We have expanded the workshop to three full days to accommodate this addition, with dual sessions occurring on the second day (Tuesday).

The 2004 Models-3 Workshop will engage participants in earnest discussion and structured dialogue on topics such as these: Model Evaluations, Air Quality Management, Model Development, Air Quality Forecasting, Computational Issues, and Climate/Pollution Feedbacks. Papers submitted in the Model Evaluations session will be further reviewed for consideration in a special-issue journal publication.

Both poster and oral presentations are being accepted. To apply to be a presenter, please submit a

presenter registration form by **June 1, 2004**; include the title of your presentation and a short abstract. Session chairs will review the applications, and the applicants will be notified by July 15 regarding their acceptance. Accepted presenters must submit an extended abstract by **September 1**, and their PowerPoint presentation by **October 6**. Both the extended abstract and the PowerPoint presentation will be included in the workshop CD distributed to all participants.

The workshop will feature plenary presentations for each session and discussions at the conclusion of each session to allow for more community participation. Posters will be available throughout the workshop to provide attendees

with more time to explore the presented work and allow more focused discussions during the poster session.

The registration fee for the workshop is \$250 through September 7. Full-time students may register for a reduced rate of \$150. After September 7, the registration fees will increase by \$50 (\$300 regular registration, \$200 student registration).

For more information on the workshop and trainings or to register, visit the workshop website: www.cmascenter.org/2004_workshop. Please direct any questions regarding the workshop to Kim Hanisak, CMAS Events Coordinator, at khanisak@unc.edu.



The William and Ida Friday Center for Continuing Education at UNC-Chapel Hill will host the 2004 Models-3 Workshop this October in Chapel Hill, NC.

CMAQ Undergoes Peer-Review Process

CMAS, in collaboration with EPA, organized a peer review panel to provide a critical assessment of CMAQ science and possible policy-relevant issues. The review process started in November 2003, after the selection of the seven reviewers from among leading scientists representing various scientific and policy-related themes inherent in CMAQ.

The review process focused on five topics:

- (1) Meteorology
- (2) Chemistry/Chemical-Transport
- (3) Aerosol Physics and Chemistry
- (4) Numerical Tech-

niques and Algorithms
(5) Policy/Science Issues.

Reports and papers covering all aspects of CMAQ science were sent to the reviewers in November. These documents were organized in terms of four areas:

- (1) model development
- (2) emission modeling
- (3) fine-scale modeling
- (4) application and evaluation

The CMAQ reviewer meeting was held on Wednesday, December 17, and Thursday, December 18, in EPA offices in Research Triangle Park, North Carolina. EPA and CMAS scientists participated in the presentations and

discussions. Dr. Adel Hanna, Director of CMAS, Dr. Rohit Mathur, former CMAS Research Coordinator, Dr. Francis Binkowski, Research Coordinator, and Dr. Aijun Xiu from CEP, as well as Dr. Bill Benjey, the EPA CMAS Project Officer, also attended the two days of presentations.

A review report was received by the CMAS last month. The CMAS and EPA are studying the reviewers' report and their recommendations for future CMAQ releases.

For more information on the CMAQ review, please contact CMAS Director Adel Hanna at ahanna@email.unc.edu.

Training Classes Continue to Expand

To meet the needs of the ever-growing CMAS community, training classes are now being offered four times a year. Introductory courses are offered in SMOKE, CMAQ, and MIMS in January, April, July, and October. These half-day to three-day courses provide hands-on learning on each model/framework.

Unable to make one of our set training times? CMAS can travel to your location to train your staff, for additional charges for the trainer's travel, hotel, and transportation. This can be

very cost-effective for training larger groups of employees, rather than sending each of them to the trainings at the CMAS site.

CMAS can also customize additional training classes based on your needs. For example, have you already taken the SMOKE training and need more advanced instruction? We can create a class tailored to your goals for using a particular model. Costs vary based on the amount of time it takes to create the class.

For more information on the training classes, please visit

www.cmascenter.org/training/announce_2004train.html. There are still a few spaces left in the April classes, and we are already taking registrations for July and October. Any questions? E-mail cmas@unc.edu.

CMAS Names New Research Coordinator

Dr. Rohit Mathur has left the Carolina Environmental Program to take a job with the U.S. EPA. While at CEP, Dr. Mathur was serving as the Research Coordinator for the CMAS.

To replace Dr. Mathur, Dr. Francis Binkowski has been appointed the new Research Coordinator. Dr. Binkowski will continue to identify research needs of the CMAS community, and develop the research agenda for the CMAS. He will also direct the testing and recommendation of new science modules, while integrating scientific updates to the models. The evaluations of Models-3 modules will continue as new modules are added or enhanced.

Contact Dr. Binkowski at cmas@unc.edu.

Seeking Nominations

At last year's workshop, CMAS awarded three community modelers for their enhancements to the CMAS. We are currently seeking nominations for this year's conference awards. Nominees should have contributed to the community modeling paradigm, be avid participants in the help tickets system, have provided support to other users, or have shared a unique methodology with the community. To nominate a candidate, please send cmas@unc.edu a brief paragraph on why the person deserves to be recognized; put "Workshop Award Nominee" in the subject line. Help keep this community alive and well.

What is MIMS? Can It Really Help Me?

The Multimedia Integrated Modeling System (MIMS) was created by the U.S. EPA in 2000 as a replacement for the Models-3 framework. It is a software framework that allows users to comprehensively simulate multimedia modeling issues. Over the last few years, scientists from the EPA's National Exposure Research Laboratory (NERL) have added new features and enhancements to the system, making MIMS an ideal modeling tool.

The framework includes common software libraries; an infrastructure for constructing, composing, and executing models; and tools to support common modeling and assessment tasks. Additionally, MIMS provides data manipulation, data analysis, and data visualization, as well as decision support tools.

During its initial testing, a multimedia model prototype simulated the atmospheric, surface, and subsurface loading of nitrogen and the effects on the aquatic ecosystem and water quality of the Neuse River Estuary in North Carolina. Multiple models, including SMOKE, CMAQ, MCIP, and TRIM, have since been integrated into MIMS; a GUI front end to these existing models has been created and provides a gateway with which to connect these models to one another.

The framework runs in Java, making MIMS portable across platforms. It uses object-oriented programming to create scenarios, modules, domain objects, and parameters as the building blocks of the modeling system. Through the interconnectedness of the

system, information in the form of files or data can be passed from one module (or model) to another such that model outputs can later be used as model inputs. MIMS provides users with an easy and efficient method for running multiple models.

CMAS offers an introductory training class in MIMS four times a year. In the course, students learn the fundamental terminology used in MIMS, follow along with trainers to set up a MIMS project, and gain hands-on experience integrating CMAQ into MIMS.

For more information on the MIMS training classes, visit http://www.cmascenter.org/training/mims_training.shtml, or contact us at cmas@unc.edu.



CVS Archive in the Works for SMOKE and CMAQ

The current system for obtaining SMOKE and CMAQ code will soon be enhanced with a Concurrent Versions System (CVS) archive. A CVS archive is used to record the history of source files, allowing multiple versions of code to be documented and stored.

The archive will be a public and anonymous archive, and will provide a

record of all releases as well as monitoring bugs and code modifications prior to new releases.

CMAQ will use the new unified archive that consolidates all of the previous CMAQ releases and also includes experimental development code. As developers make modifications to the SMOKE and CMAQ codes, other users will have access to these

when the new codes are checked into the system.

Until this new system is in place, please continue to download SMOKE and CMAQ from <http://www.cmascenter.org/modelclear.shtml>. Bugs or feature requests for these models can still be submitted online through our Bugzilla tracking site. We anticipate the new archive being available in the next few months.

MIMS Features

Existing Capabilities

- Allows users to define model inputs and outputs to the framework
- Allows users to define components of a simulation
- Allows users to connect models and data
- Indicates when data required for a simulation are missing
- Allows for dependencies between parameters
- Executes simulations
- Tool for creating and viewing regular grids
- Iterative features based on parameter lists
- Data analysis tools
- Visualization of I/O API input/output files
- Execution of models on remote computers
- Easy access to logs and error files

Design Goals

- Support multiple families of models
- Be flexible and easy to use, and support appropriate uses
- Operate with a variety of data sources
- Operate on desktop PCs, workstations, and distributed computer systems
- Minimize the cost of using the system
- Access GUI-based or script-based models from within framework

Additional Models-3 Workshop Information



From the Help Desk

If you are experiencing trouble getting SMOKE or CMAQ to compile and run, use the CMAS Help Desk to get technical support. SMOKE and CMAQ developers and experienced modelers provide individual attention in response to help requests you submit through the CMAS Help Desk.

If you have a question related to data sharing, or the experiences of other CMAQ/SMOKE users, or general non-operational related questions, use the Models-3 listserv to post your request.

Important deadlines:

June 1 – Presenter registration (form, title, short abstract)

July 15 – Session Chairs notify presenters

September 1 – Accepted presenters submit extended abstracts

September 7 – Deadline for Early Bird Registration (\$250 regular, \$150 student)

After September 7 – Regular Registration continues through October 11 (\$300 regular, \$200 student)

October 6 – Presenters submit PowerPoint presentations



Preliminary Agenda

Oct. 13-15 – SMOKE Training

Oct. 17 evening – Early check-in for workshop

Oct. 18 – Workshop sessions on CMAS Status, Model Evaluations
 Oct. 19 – Sessions on Computational Issues, Model Development, Air Quality Management, Climate/Air Pollution Multi-scale Applications, Posters
 Oct. 20 – Sessions on Forecasting, Risk Assessment
 Oct. 21 – MIMS Training, SMOKE Lecture, EAC Meeting
 Oct. 21-22 – CMAQ Training



Accommodations

CMAS has blocked off rooms at three hotels

during the Models-3 workshop and training events. Please make your own reservations. You can receive the special rate by mentioning the Carolina Environmental Program and CMAS when calling.

Best Western University Inn – 1-800-780-7234

\$72/night for queen, \$79/night for double. State-employee rates are also available upon request.

Holiday Inn Chapel Hill – 1-888-452-5765

\$71.95/night

Holiday Inn Express Chapel Hill – 1-800-465-4329

\$85/night

We're on the Web!

www.cmascenter.org

Training information, user support, model downloads, and more. Look for the new and improved CMAS website to be launched soon!

Is there something specific you would like to see offered through the CMAS? Drop us an e-mail and make a suggestion. Our goal is to serve the needs of the CMAS community.

COMMUNITY MODELING AND ANALYSIS SYSTEM

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