



Understanding the Air We Breathe: The Science of Air Quality

The University of New Hampshire's AIRMAP program, in collaboration with the Seacoast Science Center (SSC), will present a lecture series for the general public to highlight some of the broadly relevant components of this summer's large, international air quality field study based in seacoast New Hampshire. The study, called the International Consortium for Atmospheric Research on Transport and Transformation or ICARTT, is a combined effort of atmospheric researchers in North America and Europe. The study – the largest and most complex air quality study ever attempted – will involve a host of institutions and agencies and hundreds of scientists who will probe the complex physical and chemical processes that drive our dynamic atmosphere and control the quality of the air we breathe.

The seminar series, held at SSC in Odiorne Point State Park, Rye, on Tuesday evenings, will give the general public the opportunity to hear some of the study's chief scientists discuss, in general terms, the inner workings and importance of this unprecedented air quality study.

Families are encouraged to attend seminars as there will be a companion set of events for children organized by SSC staff. Refreshments and desserts will be provided and families are welcome to picnic and enjoy the spectacular views of coastal New Hampshire.

AIRMAP, the Atmospheric Investigation, Regional Modeling, Analysis and Prediction program, is a joint UNH-NOAA (National Oceanic and Atmospheric Administration) effort that monitors hundreds of chemical compounds around New Hampshire at state-of-the-art atmospheric observatories located around the state.

For more information about ICARTT, see www.al.noaa.gov/ICARTT





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Presentations will be on select **Tuesdays** in July and August, all in the following format:

6:00-6:30pm
refreshments and desserts provided; family picnics welcome

6:30-7:30pm
presentation & questions, children's program

7:30-8:00pm
follow-up discussion

The Seacoast Science Center is offering companion children's programs during the same time period as the lectures. Bring your family!

Lectures will be at the Seacoast Science Center, 570 Ocean Boulevard, Rye, NH. Program fee is \$2 for non-members. For more information call the Center at (603) 436-8043 or visit www.seacentr.org.

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| 13 July | Tracking Air Quality in New England: Satellites, Planes, Balloons, Ships and Towers
Robert Talbot
Director, Climate Change Research Center and NOAA AIRMAP Cooperative Institute
Research Professor, University of New Hampshire |
| 20 July | View From the Top: How Satellites and Airplanes Help us Understand Air Quality
Daniel Jacob
Gordon McKay Professor of Atmospheric Chemistry and Environmental Engineering
Harvard University |
| 27 July | Climate Change: What We Know and What We Don't Know
Dan Albritton
Director, Aeronomy Laboratory
National Oceanic and Atmospheric Administration |
| 3 August | The Influence of Weather on Air Quality in New England
Henry Fuelberg
Professor of Meteorology, Florida State University
Mission Meteorologist, NASA Intercontinental Chemical Transport Experiment-North Amer. (INTEX-NA) 2004 |
| 10 August | Using Lasers and Radars to study the Atmosphere and Ocean
Michael Hardesty
Chief, Optical Remote Sensing Division
Environmental Technology Laboratory
National Oceanic and Atmospheric Administration |
| 17 August | Air Quality and Human Health
Cameron Wake
Research Assoc. Professor, Univ. of New Hampshire
Climate Change Research Center
Director, Project INHALE |



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About Our Lecturers . . .

Dr. Robert Talbot is Director of the Climate Change Research Center in the Institute for the Study of Earth, Oceans, and Space (EOS) at the University of New Hampshire (UNH). He is also Chief Scientist for the Atmospheric Investigation, Regional Modeling, Analysis Prediction (AIRMAP) Cooperative Institute – a joint National Oceanic and Atmospheric Administration (NOAA) and UNH program that investigates regional air quality, atmospheric dynamics, and climate change in New England.

Dr. Daniel Albritton is the Director of the National Oceanic and Atmospheric Administration's (NOAA) laboratory in Boulder, Colorado. The Aeronomy Laboratory's research is focused on understanding the atmospheric processes needed to improve the understanding and prediction of the stratospheric ozone layer, the radiation and chemistry of climate, and regional air chemistry. He is also one of the Coordinating Lead Authors on the recent assessment of the Intergovernmental Panel on Climate Change (IPCC) on the science of the climate system. The IPCC provides scientific and technical assessments on the state of climate change science for governments, industry, and the public.

Dr. Cameron Wake is a Research Associate Professor with the Climate Change Research Center in the Institute for the Study of Earth, Oceans, and Space at the University of New Hampshire. In addition to directing active ice core paleoclimate research in central Asia and the Arctic, Professor Wake is tracking climate change in New England as part of the in the NOAA funded AIRMAP project. He is also leading an integrated assessment aimed at improving our understanding of how air pollution and weather effect human health. The results will be used to create informed public policy and guide the development of air quality forecasting tools.

Dr. Daniel J. Jacob is the Gordon McKay Professor of Atmospheric Chemistry and Environmental Engineering in the Division of Engineering & Applied Science at Harvard University. His research interests span a range of atmospheric chemistry issues from air pollution to climate change. He is heavily involved in global 3-D modeling of atmospheric chemistry, aircraft measurement campaigns, satellite data retrievals, and chemistry-climate interactions. He has a particular interest in the link between regional air pollution and global atmospheric chemistry.

Dr. Henry Fuelberg is a Professor of Meteorology at Florida State University. Prof. Fuelberg's primary research interests are in synoptic meteorology and mesometeorology—those aspects of the discipline that we most often hear discussed on The Weather Channel and other news outlets. Prof. Fuelberg has served as Mission Meteorologist on six NASA field projects that have investigated atmospheric chemistry and the role of long-range transport in distributing pollution around the globe. This summer he is Mission Meteorologist on NASA's INTEX field mission. In the area of mesometeorology, Prof. Fuelberg is actively involved in developing ways to better forecast thunderstorms and their associated lightning.

Dr. Michael Hardesty is currently Chief of the Optical Remote Sensing Division of the Environmental Technology Laboratory of NOAA. His research interests are centered on development and application of optical techniques for remote measurement of atmospheric winds, water vapor, clouds, aerosol particles, and gases. The Optical Remote Sensing Division applies a wide variety of remote sensing techniques to study important problems associated with severe weather, air pollution, cloud radiative effects, mesoscale meteorology, and ocean properties.



Seacoast Science center Children's Programs July 13 – August 17, 2004

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6:30-7:30pm
presentation & questions,
children's program

7:30-8:00pm
follow-up discussion

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| 13 July | Sink or Float?
Activities and experiments related to planes, boats and hot air balloons |
| 20 July | View From the Here
Activities about the animals and plants of Odiorne Pt State Park |
| 27 July | Tidepool Treasure Activities |
| 3 August | Wild Wacky Weather
experiments and activities |
| 10 August | Night Vision
Activities about nocturnal animals |
| 17 August | Human Impact
Come and learn how to clean up an oil spill and go on pollution control |

All children's programs will be at the
Seacoast Science Center,
570 Ocean Boulevard, Rye, NH.
For more information call the Science Center at
(603) 436-8043 or
visit www.seacentr.org.