

GEST DIGEST

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FEBRUARY 2004

GEST Visiting Scientist Seminar

Date: March 2, 2004

Time: 4:00 to 5:00 pm (reception to follow)

Location: Goddard Space Flight Center
Bldg. 33, Room H-114

Speaker/Home Institution: Susanne E Bauer
Goddard Institute for Space Studies
The Earth Institute at Columbia University, New York, USA

Seminar title: Modelling of Heterogeneous Chemistry: Interaction
between Aerosols and Tropospheric Chemistry

Short Abstract : Aerosols provide reactive sites for heterogeneous reactions in the atmosphere. Mineral dust and sea salt aerosols influence the photochemical cycle by the uptake of nitrate and sulfate containing gaseous species. These heterogeneous reactions lead to changes in ozone chemistry and the sulfur cycle, but as well changes the surface properties of the aerosol particles.

The impact of heterogeneous reactions on our climate system is investigated with the new version of the GISS climate model. In this model aerosol and gas-phase chemistry is calculated online, so that the changed trace gas chemical compositions can feedback within the climate model

Speaker's Biographical Sketch:

- since 2003 Earth Institute Fellow, Columbia University in the City of New York
- 2000 – 2003 Postdoc at Laboratoire des Sciences du Climat et de l'Environnement CEA/CNRS – LSCE, Paris, France
- 1997-2000 PhD student at Max Planck Institute for Meteorology, Hamburg, Germany

INSIDE THIS ISSUE

| | |
|-------------------|-----|
| FELLOWS SEMI- | 2 |
| OPEN SOLICITA- | 2 |
| UPCOMING CONF. | 3 |
| GRANT PROPOSALS | 4 |
| BLACK HISTORY | 4 |
| EMPLOYMENT OPPO- | 5-6 |
| ST. PATRICK'S DAY | 6 |
| IMPORTANT DATES | 7 |



SCHEDULE FOR GODDARD VISITING SCIENTISTS SEMINAR SERIES

| | |
|---------------|--|
| March 2, 2004 | Dr. Bauer - Modelling Heterogeneous Chemistry |
| April 6, 2004 | Dr. V. Garcia - Ocean Color Studies in S.W. Atlantic Ocean |
| May 4, 2004 | Dr. C. Garcia - Mesoscale Variability in the Brazil-Malvinas Confluence Region |
| June 1, 2004 | Dr. Freund - TBA |



OPEN SOLICITATIONS IN EARTH SCIENCE

NASA Office of Earth Science (Code Y)

Open Solicitations (Office of Earth Science)

| Program Title of Solicitation | Announcement Number | Solicitation Release Date | NOI Due Date | Proposals Due Date |
|----------------------------------|-------------------------------|------------------------------|--------------|--------------------|
| Oceans and Ice | NRA-04-OES-02 | 03-Feb-2004 | 04-Mar-2004 | 04-May-2004 |

UPCOMING CONFERENCES AND SYMPOSIUMS

SPIE's Fourth International Asia-Pacific

Environmental Remote Sensing Symposium

CALL FOR PAPERS

8-12 November 2004
Waikiki Beach Marriott Resort
Honolulu, Hawaii USA

Conferences · Presentations · Exhibition

- Passive Optical Remote Sensing of the Atmosphere and Clouds IV
- Lidar Remote Sensing for Industry and Environmental Monitoring V
- Microwave Remote Sensing of the Atmosphere and Environment IV
- Multispectral and Hyperspectral Remote Sensing Instruments and Applications II
- Active and Passive Remote Sensing of the Oceans
- Image Processing and Pattern Recognition in Remote Sensing II
- Applications with Weather Satellites II
- Enabling Sensor and Platform Technologies for Spaceborne Remote Sensing
- Solar and Geospace Instrumentation and Science
- Instruments and Methods for Planetary Remote Sensing
- Remote Sensing Applications of the Global Positioning System

IMPORTANT DATES

- **Conference Dates**
8–12 November 2004
- **Abstract Due Date**
26 April 2004
- **Manuscript Due:**
11 October 2004

<http://spie.org/conferences/calls/04/ae/>



Please check out **ExplorerSchoolsNews** - a monthly newsletter for the teachers of tomorrow's explorers at: <http://learners.gsfc.nasa.gov/ExplorerSchoolsNews>. This newsletter is edited by our very own GEST employee, Dr. Daniel Laughlin. Please send comments and questions to Daniel.Laughlin@gsfc.nasa.gov.

GRANT PROPOSALS SUBMITTED

Olson, Kevin - ITR (ASE+NHS+EVS)-(sim+dmc_int): HyperCode-Interoperable Infrastructure Initiative

Pap, Judith - Study and Interpretation of Solar EUV and UV Irradiance Variations Using Full Disk and Spatially Resolved Data

FEBRUARY IS BLACK HISTORY MONTH

Did you know that the first African American Senator, Hiram Revels took the oath of office in February 1870?

Americans have recognized black history annually since 1926, first as "Negro History Week" and later as "[Black History Month](#)." Although blacks have been in America at least as far back as colonial times, it was not until the 20th century that they gained a respectable presence in the history books.

We owe the celebration of Black History Month, and more importantly, the study of black history, to [Dr. Carter G. Woodson](#). Born to parents who were former slaves, he spent his childhood working in the Kentucky coal mines and enrolled in high school at age twenty. He graduated within two years and later went on to earn a Ph.D. from Harvard.

In the words of Yaw Boateng, Professor of Education, Eastern Washington University, "The month of February is significant and recognized in African American history for the birthdays of great African American pioneers and institutions to include the birthdays of Frederick Douglass, W.E.B. DuBois, Langston Hughes, Eubie Blake, NAACP and the first Pan African Congress."

GEST WEBSITE

Please don't forget to check out our (GEST) website at: <http://gest.umbc.edu>.

Information you will find:

- Faculty Resources -including The Faculty Guidebook
- Sponsors Resources—including the Sponsors Handbook

- Student Opportunities
- Employment Opportunities
- Research Groups
- Science Highlights
- Events
- Newsletter & Media
- Information about GEST
- Directory

EMPLOYMENT OPPORTUNITIES

Associate or Senior Research Scientist

The Goddard Earth Sciences and Technology Center (GEST) is a Cooperative Agreement between the University of Maryland, Baltimore County (UMBC) and the NASA Goddard Space Flight Center (GSFC) to collaborate in research programs in the Earth, Information, and Instrumentation sciences. These faculty positions would work at GSFC, subject to funding approval.

GEST 913-54-205 - MODIS Aerosol Analysis

Three Associate or Senior Research Scientists are sought to collaboratively conduct research with GSFC scientists and MODIS Science Team members to test and validate current MODIS aerosol algorithms and products, propose improvements to the algorithms, and test these improvements. Researchers will also access MODIS aerosol and other products for scientific investigations into aerosol radiative forcing on climate, aerosol-cloud interaction, the fire/smoke/burn scar environment and Air Quality and other applications of the data. Researchers will work on radiative transfer problems of interest to NASA efforts, and will collaborate with non-NASA agencies such as EPA and NOAA to pursue real-time direct broadcast capabilities and to further enhance the applications aspect of the MODIS aerosol products.

A - MODIS Satellite Remote Sensing

Requirements:

Two positions require a Ph.D. in a physical science discipline, plus at least 10 years of post-doctoral experience in Satellite Remote Sensing. Additional requirements include i) specific knowledge of atmospheric aerosol composition, physical and optical characteristics; radiative transfer modeling; geographical and seasonal global trends; understanding of spectral differences between atmospheric constituents and the Earth's surface; and general knowledge of the instrumentation used to remotely sense atmospheric aerosols from the ground and from space; ii) experience in aerosol retrieval methods and in producing and validating an operational product from satellite data; iii) experience with accessing and processing HDF data in the EOS environment; iv) ability to produce high quality imagery and to use ENVI imager processing software; and v) proficient knowledge of IDL and/or FORTRAN. It is recommended to have the ability to establish collaborations in several Federal agencies.

B - MODIS Radiative Transfer

Requirements:

One position requires a Ph.D. in a physical science discipline, plus at least 10 years experience in radiative transfer including the full polarization case. Knowledge of light scattering by small particles is required, as is experience with inverse problems. Algorithm development, and experience with atmospheric aerosols and cosmic dust, is recommended.

Deadline:

Applications are requested prior to March 15, 2004.

Applications:

Applicants should identify the position by number on a cover letter which includes home address and visa status, if any, and submit it together with a complete curriculum vitae, including the names, addresses, and telephone numbers of three references, to:

L. Anatheia Brooks
GEST Center, Mail Code 900.1
NASA Goddard Space Flight Center
Greenbelt, MD 20771

Email applications will not be accepted.

UMBC is an Affirmative Action/Equal Opportunity Employer.

EMPLOYMENT OPPORTUNITIES (CONTINUED)

Graduate Student Assistantship in Astrobiology

GEST is seeking a graduate student to work 20 hours per week for a one-year period (with possibility of continued funding) in Goddard Space Flight Center's portion of the NASA Astrobiology Institute. In collaboration with research faculty, the student will assist in carrying out research in the area of organics analysis and derivatization separation techniques and protocols. The student should have a strong interest in astrobiology research and a strong orientation toward experimental research and chemical and isotopic analysis. The position will be located at Goddard, in Greenbelt, Maryland. Due to NASA security regulations, citizens of some nations may not be eligible. For more information please contact Anatheia Brooks by email: abrooks@umbc.edu

St. Patrick's Day is March 17th

The person who was to become St. Patrick, the patron saint of Ireland, was born in Wales about AD 385. His given name was Maewyn.

When he was 16, he was sold into slavery to Ireland where he was a shepherd for 6 years. While in captivity he studied and turned to religion. He escaped slavery and later returned to Ireland as a missionary, determined to convert Ireland to Christianity. He used the shamrock to explain the Holy Trinity.

Patrick was quite successful at winning converts. And this fact upset the Celtic Druids. Patrick was arrested several times, but escaped each time. He traveled throughout Ireland, establishing monasteries across the country. He also set up schools and churches which would aid him in his conversion of the Irish country to Christianity.

His mission in Ireland lasted for thirty years. After that time, Patrick retired to County Down. He died on March 17 in AD 461. That day has been commemorated as St. Patrick's Day ever since.

Much Irish folklore surrounds St. Patrick's Day. Not much of it is actually substantiated. Some of this lore includes the belief that Patrick raised people from the dead. He also is said to have given a sermon from a hilltop that drove all the snakes from Ireland. Though originally a Catholic holy day, St. Patrick's Day has evolved into more of a secular holiday.

One traditional symbol of the day is the shamrock. And this stems from a more bona fide Irish tale that tells how Patrick used the three-leafed shamrock to explain the Trinity. He used it in his sermons to represent how the Father, the Son, and the Holy Spirit could all exist as separate elements of the same entity. His followers adopted the custom of wearing a shamrock on his feast day.

The holiday, March 17th, is marked by parades in cities across the United States. The largest of these, held since 1762, is in New York City, and draws more than one million spectators each year. In Ireland, it is a religious holiday similar to Christmas and Easter.

IMPORTANT DATES & REMINDERS

IMPORTANT DATES - 2004

5TH of each month

Monthly time sheets due into GEST Office

Jan. W2 received at home by Jan 31st

Feb. GEST Annual Report input due to Faculty Group Spokesperson

Mar. UMBC Faculty Annual Report (FAR) due
GEST Quarterly Faculty Meeting March 18th

Apr. Deadline for filing Federal and State tax returns April 15th.

May Memorial Day

June UMBC Fiscal year closes June 30th.
All expense forms due in by early June
GEST Quarterly Faculty Meeting - June 24th

July GEST Annual Research Program Plan distributed (ARPP)

Aug. No health insurance taken out of pay one cycle

GEST Faculty Quarterly Meeting - Aug. 19th

Sept. Consulting Report due to Nancy
Labor Day Holiday September 1st
NASA Fiscal Year ends Sept. 30

Oct. Columbus Day Holiday - October 14th
Open enrollment for Health Plans -

Nov. Veterans Holiday - November 11th

Thanksgiving - November 27th

Dec. All non-US citizens must file new Citizenship Status Form and W4

GEST Faculty Quarterly Meeting- Dec. 15th, GSFC

Christmas - December 25th

Moving expenses this year taxed final paycheck of year

GEST Faculty Quarterly Meetings

March 18, 2004

June 24, 2004

August 19, 2004

Dec. 15, 2004

GODDARD EARTH SCIENCES AND
TECHNOLOGY CENTER



GEST

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WE'RE ON THE WEB AT
[HTTP://GEST.UMBC.EDU/](http://gest.umbc.edu/)

Please email information for the

newsletter to

roscoe@umbc.edu

prior to the 15th of each month