

SUMMER NEWSLETTER  
OF THE  
SOUTHEASTERN SECTION  
OF THE  
AMERICAN PHYSICAL SOCIETY

JULY 15, 2002

The 69th Annual Meeting of the Southeastern Section of the American Physical Society (SESAPS) will be held October 31-November 2, 2002 (Thursday-Saturday) at Auburn, Alabama. Our host for this meeting will be the Auburn University Department of Physics. The local arrangements committee is chaired by Micheal Pindzola who may be reached at (334)-844-4127 (phone) and [pindzola@physics.auburn.edu](mailto:pindzola@physics.auburn.edu) (e-mail). The Program Committee Chair is Brad Cox of UVa, who may be reached at (434)-982-5377 (phone), (434)-982-3575 (Fax), [cox@uvahea.phys.virginia.edu](mailto:cox@uvahea.phys.virginia.edu) (e-mail).

**THIS IS THE SECOND CALL FOR ABSTRACTS OF CONTRIBUTED PAPERS:** SESAPS will use electronically submitted abstracts (brief instructions are at the end of this newsletter) for publication in the BULLETIN of the AMERICAN PHYSICAL SOCIETY. The deadline for the receipt of contributed papers and abstracts is no later than **5 pm EST Friday, August 16, 2002**. The entire program will be organized the following week. All abstracts received electronically by the deadline will be published in the November 2002, BULLETIN of the AMERICAN PHYSICAL SOCIETY. **All abstracts of contributed papers must be prepared in the standard APS format as specified in recent issues of the APS News.** If the abstract is submitted to the APS only on paper, just the title and authors will appear in the BULLETIN.

The Program Chairman is:

Dr. Brad Cox  
Department of Physics  
University of Virginia  
Charlottesville, Va. 22901  
(434) 982 5377 (Phone)  
(434) 982 3575 (Fax)

[cox@uvahea.phys.virginia.edu](mailto:cox@uvahea.phys.virginia.edu) (e-mail)

The scheduled time for your presentation must be obtained from the bulletin WHICH WILL BE AVAILABLE ELECTRONICALLY on the WWW. Meeting rooms will have an overhead projector and chalkboard - to request other audio-visual aids, including 35 mm projectors, please make your request in writing by typing it in the special instructions box of the abstract template. Any questions about the program should be directed to Dr. Cox.

**CONTRIBUTED/INVITED PAPERS!** Invited papers at this meeting, as in all APS meetings, are given by experts in areas selected by the Program Committee, and these talks are usually of thirty minutes duration. Contributed papers, however, are on topics of the author's choice and are ten minutes in length. On the day following the abstract deadline, all papers are organized into sessions and the sessions into the program of the meeting. This year the Program Committee will continue an idea suggested by an APS member. Some of the contributed abstracts are of such interest that the committee will INVITE THE AUTHORS to give a SPECIAL PAPER of twenty minutes duration on the topic of their abstract at the beginning of the contributed paper session to which their talk is assigned. **There will only be a few such papers selected.** The invitations will be listed in the printed program of the meeting and will be verified promptly by mail to the authors. If the author(s) would like to be considered for such an invitation, they are asked to type the following statement in the special instructions box: **If invited to do so, the author is willing to expand the talk for the above abstract to twenty minutes.**

**POSTER PRESENTATIONS:** Facilities will also be available for poster presentations. If a SESAPS contributor would prefer a poster presentation, it should be noted with the following statement typed below the abstract: **Poster presentation preferred.** You should also check the appropriate box or fill the appropriate blank on your electronic submission form.

**Abstract Submission:** Complete abstract submission instructions can be found at <http://www.aps.org/meet/meet-abstract.html>. Authors are strongly urged to proof their abstract

carefully before submission. Contributors may submit in one of two ways:

(1) Via the web: To submit a contributed abstract using the online web submission process, an author needs to know two things: (a) the number and ordering of authors and collaborations; and (b) what to write for the abstract content. The web page will guide you through the rest. Try a test submission before submitting your abstract. Log onto <<http://abstracts.aps.org>> and select the meeting TEST. Follow the directions online to create your own practice abstract. When ready to submit your abstract online, select the meeting (SES02) by clicking on the appropriate button. A form will be created for you. Simply input the information.

(2) Via e-mail: Contributors must create their abstracts from an electronic template supplied by the American Physical Society. The template and instruction files for contributed abstracts can be obtained by sending e-mail to <[abs-request@aps.org](mailto:abs-request@aps.org)> with the phrase REQUEST SES02 in the message. Also, see attached material at the end of this newsletter.

**If you have questions** regarding abstract submission, please send them to <[abs-help@aps.org](mailto:abs-help@aps.org)>.

**Registration** will be \$35.00 for SESAPS and other APS members, \$50 for nonmembers, \$5 for retired physicists and \$15 for graduate students. Awardees and banquet speakers will not pay the registration or banquet fees. There will be pre-registration, and on-line registration using credit cards. Credit cards may be used to register on site. The scheduled time for each presentation must be obtained from the Bulletin which will be available electronically.

#### **The Chair announces the banquet speaker**

Dr. Hans Christian von Baeyer, Chancellor Professor of Physics at the College of William and Mary, has accepted an invitation to be the speaker at our banquet at Auburn University. Hans is a member and former Chair of SESAPS. One of his primary research interests is the "Public Understanding of Physical Science," and he has written the following books in this area:

Taming the Atom - The Emergence of the Visible Microworld, (Random House, 1992), The Fermi Solution - Essays on Science, (Random House Paperback, 1993), Rainbows, Snowflakes, and Quarks - Physics and the World Around Us, (Random House Paperback, 1993.) Hans has not selected a title for his presentation at this time.

**TRAVEL SUPPORT WILL BE AVAILABLE FOR STUDENTS THIS YEAR.** Students will be pleased to learn that modest travel grants will again be available for those presenting research papers at the SESAPS sessions. Please use the form included with this newsletter.

**The winners of the Pegram, Beams, and Slack** awards will be announced on our home page. SESAPS members are urged to nominate candidates for these awards for next year's competition, as a large number of candidates generally results in meaningful awards. Member's attention is called to the new procedures in the spring newsletter.

**SUGGESTED NOMINATIONS FOR SECTION OFFICERS** should be included on the election ballot, included in this newsletter, for consideration by the Nominating Committee which is made up of the Executive Committee. Please vote, and please suggest candidates to help run the section!

#### **A Letter from the Chair-Elect**

Dear Southeastern Section Colleagues,

I am writing to you as chair-elect of the Southeastern Section of the APS. In the past weeks we have seen the release of the President's budget which is essentially flat for the physical sciences. However, there is considerable bipartisan support in Congress for an increase in the physical science funding comparable to that experienced by the NIH over the last few years. Of course, this is highly desirable and would generate a renewed vigor in many fields.

However, to cause anything to happen in the present budget climate will take consistent and coordinated work on the part of all of us. Some of us have already participated in the exercise of visiting our congressional delegations to make the case for the following three points suggested by the American Physical Society:

1. A 17% increase in the budget of the Office of Science in DOE.
2. A 15% increase in the budget for the physical sciences in the NSF.
3. The raising of the Office of Science in the Department of Energy to the undersecretary level. At present the Office of Science is one third of the budget of DoE and, thus, merits the increased stature from this standpoint but is buried in the complex organizational chart of DOE. There are several perceived advantages to raising the visibility of the Office of Science, not the least of which is divorcing it from some of the more politically controversial activities of the Department. The APS strongly advocates this move.

The APS hopes that all of us at the grass roots level in our districts will bring up these issues with our representatives and senators. The APS staff at One Physics Ellipse at the University of Maryland has materials to aid you in making the various case. I urge you to contact them directly to get fact sheets concerning federal funding for research specific to your state.

I think you will be surprised at the support that you will receive from most of the congressmen. I strongly urge that you contact them and make them aware of the need for increased funding for the physical sciences.

Brad Cox  
 Chair-elect SESAPS  
 Professor of Physics  
 University of Virginia

**MEMBERS SHOULD CHECK OUT THE SESAPS HOME PAGE.** The home page may be found through the link from the APS home page at "HTTP://WWW.APS.ORG". Click on sections and click on Southeastern. The home page is at Davidson and was put together and is maintained by our treasurer, Larry Cain. Larry would welcome suggestions for changes to make the page more useful. Thanks Larry.

Draft SESAPS Meeting  
 Invited Speaker Session Program

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Thursday Morning, October 31

Invited Session I: 8:30-10:45 Plasma Physics Organizer: James Hanson Auburn

Talk 1: Steve Knowlton, Auburn University  
 Stellarators and the Compact Toroidal Hybrid (CTH)

Talk 2: TBA  
 Dusty Plasmas

Talk 3: TBA  
 Space Plasmas

Coffee Break 10:45-11:15

Invited Session II: 11:15-12:30 Materials Science Organizer: John Williams Auburn

Talk 1: Leonard C. Feldman, Vanderbilt University  
 Semiconductor Interfaces-Key to Future Electronics

Talk 2: James W. Harrel, Univ. of Alabama  
 Ultra-High Enstiy Magnetic Recording- Possibilities and Limitations

Talk 3: O.W. Holland, Oak Ridge National Laboratory  
 Formation of Thin Pseudomorphic and Relaxed GeSi Films by Ion  
 Implantation

Lunch 12:30-2:00

Thursday Afternoon, October 31

Invited Session III: 2:00-3:15 Astronomy/Cosmology Organizer: Craig Sarazin UVA

Talk 1: Martin Weisskopf, Marshall Space Center  
 Highlights from Three Years of the Chandra X-ray Observatory

Talk 2: Joseph Giaime, Louisiana State University  
 LIGO and Gravity-Wave Astrophysics

Talk 3: Donald Clayton, Clemson University (to be confirmed)  
 Radioisotopes and the Formation of the Solar System

SESAPS Executive Committee Meeting 7:30 PM

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Friday Morning, Nov. 1

Invited Session IV: 8:30-10:45 Atomic Physics Organizer: Gene Oks, Auburn University

Talk 1: Donal C Griffin, Rollins College

The Three Body Problem in Electron-Atom Collision Physics

Talk 2: Steven T. Manson, Georgia State University

Photoabsorption by Atoms and Ions, Recent Results and New Physics

Talk 3: Turgay Uzer, Georgia Institute of Technology

A New Approach to Classical Modeling of Atomic and Molecular Systems

Coffee Break: 10:45-11:15

Invited Session V: 11:15-12:30 Particle Physics Organizer: Paul Sheldon, Vanderbilt University

Talk 1: Sergio Conetti, University of Virginia (to be confirmed)

CP violation in BTeV and other Kaon and Beauty Experiments

Talk 2: Jerome Businetz, University of Alabama (to be confirmed)

Neutrino Physics in MiniBoone

Talk 3: Tom Weiler (to be confirmed)

Ultra High Energy Neutrino Physics

Lunch 12:30-2:00

Friday Afternoon, Nov. 1

Invited Session VI: 2:00-3:15 Nuclear Physics Organizer: Ralph Minehart, Univ. of Virginia

Talk 1: Nilanga Liyanage, University of Virginia

The Spin Structure of the Neutron via Polarized He3

Talk 2: Glen Warren, Jefferson Laboratory

Measurements of the Neutron Electric Form Factor

Talk 3: Larry Dennis, Florida State University

Strangeness Studies Using the CLAS Detector at JLab

Coffee Break: 3:15-3:45

Invited Session VII: 3:45-5:00 Teaching/Outreach Organizer: Marllin Simon, Auburn University

Talk 1: John Halbrooks, Alabama State

Alabama Science in Motion

Talk 2: TBA

Talk 3: TBA

SESAPS Business Meeting: 5:00PM-??

Conference Banquet: Time 7:30 (????)

Invited Speaker: Dr. Hans Christian von Baeyer, Chancellor Professor of Physics at the College of William and Mary

Title: TBA

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Saturday, Nov. 2

Invited Session VIII: 8:30-10:45 Biophysics Organizer: George Holzwarth, Wake Forest Univ.

Talk 1: Glenn Edwards, Duke University

Free Electron Laser Work with Biological Systems

Talk 2: Richard Superfine, University of North Carolina (to be confirmed)

Nanotechnology and Scanning-Probe Biophysics

Talk 3: Keith Berland, Emory University (to be confirmed)

Detection of Specific DNA Sequences Using Fluorescence Correlation Spectroscopy

Coffee Break: 10:45-11:15

Oak Ridge Symposium: 11:15-12:30 Physics at Oak Ridge Organizer: Lee Riedinger, Univ. of Tenn.

Talk 1: Doug Lowndes, Center for Nanophase Material Science, ORNL  
Nanoscience Initiative at Oak Ridge National Laboratory

Talk 2: Thom Mason, SNS/HFIR Oak Ridge National Laboratory  
The Status of the Oak Ridge Spallation Source

Talk 3: Jim Beene, Oak Ridge National Laboratory  
Radioactive Ion Beam Physics at ORNL

**THE FOLLOWING INFORMATION WAS GENERATED BY APS TO ASSIST YOU WITH THE PREPARATION OF ELECTRONICALLY SUBMITTED ABSTRACTS**

**Abstract Submission**

The deadline for the submission of all abstracts is Friday, August 16, 2002, 5:00 pm EST at the APS Headquarters.

The deadline is firm, so don't wait until the last minute! Send early - save yourself the stress!

**Electronic Submission**

The APS has instituted an electronic abstract submission process, which was an enormous success, with almost 80% of all the abstracts being submitted electronically. We are hoping for an even better turnout electronically this year. There are many advantages to submitting electronically.

E-mail message confirming receipt of your abstract

E-mail notification of the scheduling of your paper

The complete abstract will appear in the electronic version of the program which will be posted on the APS Home Page, well in advance of the printed program. (Abstracts submitted in paper form will have only the title and author listed in the electronic program)

For information on how to submit an abstract electronically, send an e-mail message to "abs-info@aps.org" and use the word "info" in the text of your message. To receive the template, send a message to "abs-request@aps.org" and put the words "request <ses02>" in the text of your message. The information and/or template will be returned to you by e-mail. If you have particular questions regarding the information, or need assistance, send a message to "abs-help@aps.org".

Submitting your abstract electronically is surprisingly simple. The mark-up language we use is LaTeX, but you do not need to know LaTeX in order to submit an abstract. Simple ASCII text will suffice, unless you need to put mathematical symbols or Greek characters in the text of your abstract - and most of those instructions are very simple.

**Paper Submission**

Abstracts received via postal mail will be accepted; however, only the title and authors of the paper will appear in the printed version of the Bulletin and on the World Wide Web version of the Bulletin.

Please follow the instructions for the preparation of paper abstracts as they appear in each issue of APS Meeting News. These abstracts should be sent to:

<ses02>  
Meeting Abstracts  
APS Meetings Department  
One Physics Ellipse  
College Park, MD 20740-3844

Please do NOT also send a paper abstract to APS if you are submitting your abstract

electronically. All abstracts must be at the headquarters office by the deadline date. APS assumes no responsibility for mail delays. Receipt of paper abstracts will not be confirmed unless accompanied by a self-addressed, stamped envelope.

### **Some Electronic Do's and Don'ts**

Do not simply "reply" to the address from which you received the abstract template. Send the abstract to "abs-submit@aps.org". Make sure you have the correct meeting ID <ses02>.

One abstract per message! The system is automated. Sending two or more abstracts in one message increases the likelihood that all but the first abstract will disappear into the ether.

Use only one sorting category for your abstract in the "Sort Category" field. In order to sort the papers properly, it is important that the system deals only with one request. If you wish to give additional guidance to those who are putting the program together, please feel free to do so in the "Special Instructions" field. The Sort Category" field has four curly braces. Please use them as follows:

`\Sort Category {15}{L}{}{}{}`. **Not** `\Sort Category {15L}{}{}{}`  
and not `\Sort Category{15}{L}{32}{B}`. **Do not remove left over braces.**

Only submit your abstract once. You should receive an e-mail message telling you that we received your abstract within 24 hours. If you do not receive such a message then contact "abs-help@aps.org" for assistance.

### **Directions to Auburn**

Some maps of the area are included for those who are driving. On the upper small-scale maps, Auburn is marked by a cross. On the campus maps, which have the same orientation, the conference center is shown on the lower left hand map.

Respectfully,

Kenneth A. Hardy  
Physics Department  
Florida International University  
Miami, FL 33199  
(305) 348-2605 (phone), (305) 348-6700 (fax)

APPLICATION FOR STUDENT TRAVEL SUPPORT TO THE SESAPS MEETING  
The student must be a presenter at a SESAPS session

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_

ZIP: \_\_\_\_\_ EMAIL: \_\_\_\_\_

SCHOOL: \_\_\_\_\_

UNDERGRADUATE/CLASS: \_\_\_\_\_

GRADUATE/CLASS: \_\_\_\_\_

ABSTRACT TITLE: \_\_\_\_\_

ABSTRACT AUTHORS: \_\_\_\_\_

AMOUNT REQUESTED (\$300 MAX) \_\_\_\_\_

PURPOSE OF REQUESTED FUNDS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

RETURN BY 15 OCTOBER TO:  
LEE RIEDINGER  
OAK RIDGE NATIONAL LABORATORY  
PO BOX 2008  
OAK RIDGE TN, 37831-6263

SOUTHEASTERN SECTION OF THE AMERICAN PHYSICAL SOCIETY  
EXECUTIVE COMMITTEE 2002

Vice Chair

Dr. Lee Riedinger  
Oak Ridge National Lab  
P.O. Box 2008  
Oak Ridge, Tn 37831-6263  
865 574 4321 P  
865 574 8225 F  
riedingerl@ornl.gov

Past Chair

Dr. Ronald Mickens  
Department of Physics  
Clark Atlanta University  
Box 172, Atlanta, Ga. 30311  
404 880 6923 P  
404 880 6258 F  
ROHRS@MATH.GATECH.EDU

Chair

Dr. Walter Croft  
Mississippi State Univ.  
Box 5167  
Mississippi State, MS 39762  
662 325 2806 P  
662 325 8898 F  
croft@ra.msstate.edu

Chair elect

Dr. Bradley Cox  
Department of Physics  
University of Virginia  
Charlottesville, Va. 22901  
434 982 5377 P  
434 982 3575 F  
COX@UVAHEA.PHYS.VIRGINIA.EDU

Treasurer

Dr. Larry Cain  
Department of Physics  
Davidson College, Box 6919  
Davidson, NC 28035-6919  
704 894 2073 P  
704 894 2894 F  
lacain@DAVIDSON.EDU

Secretary

Dr. Kenneth Hardy  
Department of Physics  
Florida International Univ.  
Miami, FL. 33199  
305 348 2605 P  
305 348 6700 F  
HARDYK@FIU.EDU

Executive Committee 02-05

Dr. Stephen Teitsworth  
Department of Physics  
Box 90305  
Duke University  
Durham NC 27708-0305  
919 660 2506/2551 P  
919 660 2525 F  
teitso@phy.duke.edu

Executive Committee 99-02

Dr. Lawrence Akers  
Department of Physics  
401 Crewdson ave.  
Chattanooga, Tn. 37405  
423 756 2329 P  
423 755 4279 F  
larry-akers@utc.edu

Executive Committee 00-03

Dr. David Ernst  
Vanderbilt University  
Nashville, Tn 37235  
615 322 2828 P  
615 322 1103 F  
DAVID.J.ERNST@VANDERBILT.EDU

Executive Committee 01-04

Dr. Glen Edwards  
Department of Physics  
Duke University, BOX 90309  
Durham, NC. 27708  
919 681 7416 F  
edwards@fel.duke.edu

APS Representative

Dr. Joe Hamilton  
Department of Physics  
Vanderbilt Univ. PO Box 1807-B  
Nashville, TN 37235  
615 322 2456 P  
615 343 7263 F  
j.h.hamilton@VANDERBILT.EDU



Please mail in the enclosed envelope or turn in at meeting by 5PM, Oct. 31

SOUTHEASTERN SECTION  
AMERICAN PHYSICAL SOCIETY  
2001 BALLOT

\*\*\*\*\*  
FOR VICE-CHAIR

James Harrell            University of Alabama            \_\_\_\_\_

Calvin Howell           Duke            \_\_\_\_\_

\*\*\*\*\*  
FOR EXECUTIVE COMMITTEE

Dale Sayers            N.C. State            \_\_\_\_\_

Steve Shaforth        University of N.C.            \_\_\_\_\_

\*\*\*\*\*  
FOR TREASURER

Larry Cain            Davidson            \_\_\_\_\_

(Write in selection)

\_\_\_\_\_

\*\*\*\*\*  
Please list below any suggestions for  
future officers of the section

NAME

OFFICE

Many members of the section have made donations to the Jesse Beams Award for outstanding contributions to research and to the George Pegram Award for outstanding contributions to teaching so we want to offer an opportunity for others to contribute to the Beams-Pegram and Slack fund. Please feel free to cut this section from the ballot and use it to make your contribution by sending it to Dr. Laurence Cain, Department of Physics, Davidson College, Davidson, NC 28036. Dr. Cain will also accept contributions at the SESAPS meeting.

Name\_\_\_\_\_

Beams-Pegram Amount\_\_\_\_\_

Slack Amount\_\_\_\_\_