

## EXECUTIVE SUMMARY OF PHYSICS DEPARTMENT ANNUAL REPORT 1997-1998

**David Aspnes**, was elected to the National Academy of Sciences. **Michael Paesler** and **Donald Ellison** were elected fellows of the American Physical Society, bringing the total number in the department to fifteen. **John Blondin** received an NSF Career Award, the third in the department. **Robert Nemanich** is President of the Materials Research Society. **Gary Mitchell** received the Jesse W Beams Research Award from the Southeastern Section of the American Physical Society. **Eric Swanson** organized an NC State/JeffersonLaboratory workshop in Raleigh on Hybrids and Photoproduction Physics. **Harald Ade** co-organized a workshop on "X-Ray Microscopy of Polymers" at NIST. **Robert Beichner** was elected to the NC State Academy of Outstanding Teachers, bringing the total number in the department to thirteen.

**Sharon Stephenson** received the 1997 Louis Rosen PhD dissertation prize, a national award for research carried out at the Los Alamos Neutron Science Center. **Felipe Llanes-Estrada** and **Ted Horton** were awarded nationally competitive one-year SURA/Jefferson Graduate Fellowships for 97-98. **Kristy Dyer** received a three year NASA/Goddard graduate student fellowship.

Federal research funding support (direct plus indirect) was \$5.9M, the second highest in the University. From the NCSU Research Office reports, total research funding for Physics was \$9.2M. The Department published 199 papers in journals (6 in Phys. Rev. Letts and Appl. Phys. Letts) and gave 203 presentations at meetings, seminars and colloquia.

The Department continues to offer one of the largest introductory physics teaching programs in the US: ranked ninth largest out of 763 programs nationwide in the latest American Institute of Physics enrollment report. Enrollment for 97-98 was 5432, up 3% over last year. Laboratory enrollment was 4241 students, an increase of 6% over last year. Visits to the Physics Tutorial Center were up 9% to 11,415 for the academic year. The Demonstration Room Facility handled 2975 requests for equipment. Students continue to be positive about the instruction: 80% responded yes to "I find this course to be generally satisfactory", and 78% responded yes to "I would recommend this instructor to other students". The Webassign homework project became fully operational, delivering thirty thousand individualized assignments each semester to students in the calculus-based physics sequence.

The department awarded 10 BS, 3 MS and 9 PhD degrees.

The speaker for the 1997 L. H. Thomas lecture was **Heinrich Rohrer**, 1986 Nobel prize winner from IBM Research Laboratories- Zurich. His talk was entitled "Nanotechnology- Nature's Way". The visit was sponsored by SAS, and included a presentation to students at Cary Academy.

### Honors and Awards Received, Fall 1997 - Spring 1998

**David Aspnes:** Elected to the National Academy of Sciences

Max Planck Research Award for International Cooperation

**Robert Beichner:** Hewlett Fellow

Outstanding Teacher for 1997-1998

Elected to the NC State Academy of Outstanding Teachers

**Jerzy Bernholc:** Finalist, Computerworld Smithsonian Science Award

**John Blondin:** National Science Foundation Career Award

**Stephen Cotanch:** Fellow, Institute for Nuclear Theory at University of Washington.

**Donald Ellison:** Fellow of the American Physical Society

**G.E. Mitchell:** Jesse W. Beams Research Award for the Southeastern Section of the American Physical Society

**Michael Paesler:** Fellow of the American Physical Society

## **Retirements:**

**Grover C. Cobb, Jr.**

**Gerald H. Katzin**

**D. Ronlad Tilly**

## **New Faculty:**

None

## **Undergraduate Awards**

### ***Department of Physics Awards:***

**Senior Award for Research:** Sukanya Chakrabarti

**Service:** Amber N. Morgan

**Humanities:** Scott R. Starin

**Outstanding Undergraduate Lab Instructor:** Sonja M. Fowler

**Outstanding Undergraduate Tutor:** Edwin Whiteman

**Outstanding Academic Achievement :** Sukanya Chakrabarti

### ***College of Physical and Mathematical Sciences Awards to Physics Majors***

**Intellectual Breadth:** Scott R. Starin

## Graduate Awards:

**Outstanding Graduate Teaching Assistants:** Duane Deardorff, Louie Elliott, Chris Thaxton, Vince Woods, Eric Wright

**Sura/Jefferson Graduate Fellowship:** Felipe Llanes-Estrada, Theodore Horton

**1997 Louis Rosen Prize:** Sharon Stephenson

## Service on major university committees:

**D. Aspnes** - NCSU Hazardous Materials Management Committee

**J. Bernholc** - University Research Committee

Chair, NC Committee on Partnerships for Advanced Computational Infrastructure

Graduate Fellowship Committee in Computational Sciences

**D. Brown** - University Grievance Panel

**S. Cotanch** - Steering Committee, NCSU Computational Engineering and Sciences Program

**R. Egler** - University Integrated Activity Database Planning Committee

**C. Gould** - Faculty Trustee Committee of Honorary Degrees

Radiation Safety Advisory Committee

Convenor for University Department Heads

**D. Haase** - Director of The Science House

**C-R. Ji** - University Council on Undergraduate Education

**K. Johnston** - University Government Committee

Council on Athletics

**M. Klenin** - Faculty Senate

**F. Lado** - University Phi Beta Kappa Committee

**G. Mitchell** - Committee on Interdisciplinary Graduate Education in Electronic Materials

Awards and Credentials Committee

Committee to Review Genetic Graduate Program

University Graduate Council to UNC General Administration

**J. Park** - NCSU International Study Group on Japan

**G. Parker** - University Open House Committee

**R. Patty** - Faculty Senate Executive Committee

University Honors Council

Merit Awards Advisory Committee

Chair, Executive Committee of the Academy of Outstanding Teachers

Chair, Provost Review Committee

**S. Reynolds** - University Arts Studies Advisory Committee

### **Publications Summary** (Calendar Year 1997)

Refereed Publications: 199

Other publications: 10

Papers presented at professional meetings; seminars or colloquia presented: 203

### **Bachelor Of Science Degrees Conferred**

Jason B. Baucom

Sukanya Chakrabarti

Anthony R. Ezzell

Sonja M. Fowler

Thomas J. Fritchey III

Salem L. Ganzhorn

Amber N. Morgan

Robert A. Norman

Scott R. Starin

James D. Pickelshimer

### **Master of Science Degrees Conferred**

Kimberly D.C. Benjamin

Benjamin M. Muto

Andrew J. Stoltz, Jr.

### **Doctor of Philosophy Degrees Conferred**

Peter K. Baumann

Mark Benjamin

Paula V. Engelhardt

Lucymarie Mantese

John F. Muth

Brian W. Raichle

Christopher Scarfone

Joseph R. Walston

Segi Yu