

PROTON



PHYSICS REPORT ON THINGS OF NOTE

VOLUME 8 NUMBER 1

IN THE NEWS



Teaching/Advising Award

The College of Liberal Arts and Sciences Teaching/Advising Awards Committee has selected **Amlan Biswas** to receive one of the 2008-2009 College Teaching Awards. Many fine CLAS teachers were nominated for these awards, so his success in such a competition is a significant achievement. Congratulations Amlan!

Presidential Early Career Award Winner

Dr. Wei Pan, a long time collaborator with the National High Magnetic Field's High B/T facility in the Microkelvin Laboratory at UF and frequent visitor to the Department of Physics has been named as a winner of the Presidential Early Career Award. Wei Pan was one of eight recipients named by the Department of Energy for this year's awards. He was cited for *leadership in the field of experimental many-particle physics, especially non-Abelian states in ultra-clean two-dimensional systems; and for broad scientific community outreach activities and leadership.* Photo: President George W. Bush stands with recipients of the 2007 Presidential Early Career Awards for Scientists and Engineers Friday, Dec. 19, 2008, in the Grand Foyer of the White House. White House photo by Chris Greenberg



Dr. Wei Pan received his Ph.D. from Princeton University, and is a Principal member of the Technical Staff in the Physical, Chemical and Nano Sciences center at Sandia National laboratory where he leads Sandia's DOE basic Energy Sciences project on quantum electronic phenomena and Structures. He is the principal investigator for laboratory Directed Research and Development projects on Bloch oscillations and silicon nanocrystals. His research at the University of Florida Microkelvin Laboratory with Jian-sheng Xia and his co-workers led to the discovery of novel quantum Hall states in two-dimensional electron systems (2DES), and the first observation of precisely quantized Hall plateau at the Landau filling level $n=5/2$, which unequivocally established for the first time that this even-denominator state is a true fractional quantum Hall liquid. The interest in this state is that it is believed to be non-Abelian and exchange of quasi-particle excitations can change the many-body wave-function, depending on the order of the exchange -- *a state of matter not previously observed*, and of great interest for topological quantum computation.

Wei Pan has served as a member of the External Users Advisory Committee and Research Program Committee for the National High Magnetic Field Laboratory from 2005.

Spring 2009 SEMINAR Schedule

Astrophysics
Fridays @ 4:00pm in
Room 2165 NPB

Condensed Matter Physics
Mondays @ 4:05pm in
Room 2165 NPB

Physics Colloquium
Thursdays @ 4:05 in
Room 1002 NPB

High Energy Physics
Tuesdays @ 2:00pm
and Fridays @ 2:00pm
in Room 2165 NPB

Quantum Theory
Wednesdays @ 4:05pm
in Room 2205 NPB

EDITORS

Alan Dorsey, Chair
Pam Marlin



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The Foundation for The Gator Nation



In Research

Scaling up the Search for Dark Matter

A recently published paper by the CDMS experiment has been highlighted in the APS "Physics Spotlight". Read 'Scaling up the search for dark matter' at <http://physics.aps.org/viewpoint-for/10.1103/PhysRevLett.102.011301>

A Future in Physics



The latest issue of Symmetry Magazine, <http://www.symmetrymagazine.org/cms/>, features an essay by **Jordan Sorokin**, a high-school student, who recently toured Fermilab with **Jacobo Konigsberg**. As a result, Jordan is extremely interested in pursuing a career in Physics, particle physics, in particular. Read the essay and view photos at: <http://www.symmetrymagazine.org/cms/?pid=1000676>

Pathways to Prevention

Adrian Roitberg's work, 'Pathways to Prevention', was recently featured in *Access*, a publication from the University of Illinois. Read full article at <http://www.ncsa.uiuc.edu/News/Stories/Chagas/>

UPCOMING SEMINARS

FOR TIMES PLEASE SEE PAGE 1 OR VISIT <http://www.phys.ufl.edu/seminars>

COLLOQUIUM

JAN 8, J. R. (RANDY) JOKIPII
REGENTS' PROFESSOR
UNIVERSITY OF ARIZONA
JAN 15, ANDREAS ALBRECHT
UC DAVIS
JAN 22, ART EDISON

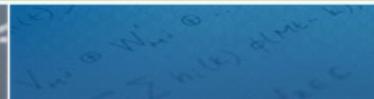
CONDENSED MATTER

JAN 12, RICHARD DICKINSON
UF CHEMISTRY

HIGH ENERGY

JAN 16, ANDREAS ALBRECHT
UC DAVIS
JAN 23, RAUL ABRAMO
U SAO PAULO

CCMS



Center for Condensed Matter Sciences

News from the Center for Condensed Matter Sciences:

The Indo-U.S. Science and Technology Forum (IUSSTF) and the American Physical Society (APS) have awarded the India-US Professorship to Profs. **Yoonseok Lee** and **Shankar Das** (Jawaharlal Nehru University). The Professorship assists institutions in India and the U.S. wishing to collaborate with scientists in the other country to deliver short courses or a lecture series. Prof. Das will be guest lecturer in Gainesville this summer as part of the 2009 CCMS Summer Lecture Series entitled, *Freezing of liquids into crystalline and amorphous states*. CCMS will also provide partial support for this lecture series in addition to the \$4,000 grant received from the APS. Visit <http://www.phys.ufl.edu/ccms> for upcoming lecture dates.

The Center for Condensed Matter Sciences will offer graduate fellowships to 1st year students, who have passed their preliminary exams and are in a good academic standing, to instigate their graduate research. The fellowship will cover the full costs (tuition, stipend, and insurance) for the summer of the 1st year. Nominations should come from the CCMS member who will mentor the candidate. A supporting letter from the adviser and a one-page research plan from the candidate should be submitted to the Director of CCMS, **Yoonseok Lee** (yoonslee@phys.ufl.edu), no later than the deadline, February 6, 2009. Visit <http://www.phys.ufl.edu/ccms> for more information.

Physics Alumni Receives Award



Former High Energy Theory student, **Kyoungchul Kong**, now finishing his first postdoc at Fermilab, has been awarded an LHC Theory Initiative Postdoctoral Fellowship in the amount of \$150,000 over two years. The money can be used for salary and travel expenses. This is only the second year that this award is being given. There is only one such postdoctoral fellowship each year (in addition, there are several graduate fellowships at 40k each). The awards are made by a selection committee, through a national competition. View last year's press release for the inaugural LHC-TI awards at http://www.jhu.edu/news/home07/dec07/lhc_theory.html.



Physics Student Receives Metropolis Award

Congratulations to Physics student, **Chao Cao** (Chair, **Hai-Ping Cheng**), who was recently awarded the 2008 Metropolis Award for Outstanding Doctoral Thesis Work in Computational Physics. Cao's thesis title is *First-Principles and Multi-Scale Modeling of Nano-Scale Systems*. Cao graduated in Fall 2008.



Physics Students Awards



Tom Scott Memorial Award: Rajiv Misra

This award is made annually to a senior graduate student, in experimental physics, who has shown distinction in research. The award honors the memory of Professor Tom Scott, who made significant contributions to the Department both as a Chair and as a noted researcher, and provides a \$500 prize.

Rajiv Misra is a 5th year student working with Professor **Art Hebard** on the effects of disorder on magnetism in thin films. His is recognized in the lab for his skills in fabrication, processing, and characterization of thin films, and his willingness and skill in interacting with (maintaining, modifying, and/or repairing) all types of laboratory equipment. His patience and persistence with a uniquely quirky system have allowed the obtaining of reproducible data in a critical region near the edge of instability between conducting and insulating states, convincingly confirming a previously unobserved scaling relation, highlighted in University of Florida News piece "Quantum dance draws unexpected guests."

Photos are of Physics Chairman, Alan Dorsey, with award recipients



Charles F. Hooper Award:

Dan Sindhikarai (left) and Michael Ian Vega (right)

This award is made annually to senior graduate students in physics who have shown distinction in research and teaching. The Award honors the memory of Professor Chuck Hooper who made seminal contributions to the Department as a Chair, as a distinguished researcher, and as a beloved mentor/teacher.

Each award carries a prize of \$250.

Dan Sindhikarai is a 5th year student in computational biophysics working with Professor **Adrian Roitberg**. He has taught lab and discussion classes, and even had the opportunity to lecture during the summer of 2006. He has received awards for teaching including the campus-wide teaching assistant of the year award. In addition to formal classes, he also continues to mentor undergraduate students in publication-level research. He has published a manuscript that was highlighted as a "hot paper" in the Virtual Journal of Biological Research.

Michael Ian Vega is a 6th year student working in gravitational physics with Professor **Steve Detweiler**. Ian has also previously been a department TA of the year. He won the "Blue Apple" award of the Topical Group on Gravitation for the best presentation by a student at the Gulf Coast Gravity Meeting in March 2008. He has helped organize the summer IREU (International Research Experience for Undergraduates) program in gravitational physics and has been maintaining its web pages, and he singlehandedly ran the graduate student seminar series for two years. He is also a new father.



Wayne Bomstad II Award for Distinguished Teaching Assistant - Discussion Sections:

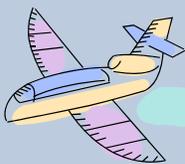
This award is for performance that extends beyond the standard duties and for providing students with a variety of learning tools and aids, the Department recognized **Andrew Douglas** with this Award and a \$250 prize. Andrew is a 7th year student in Condensed Matter Theory working with Professor **Khandar**

Muttalib, who says, "While working hard on his project (and always coming up with new results), he takes his teaching job very seriously and really cares about his students. He is seen spending hours with them, and they seem to like him very much as a teacher." Photo: Andrew (l) with Henrietta Shuminsky (Wayne Bomstad's mother) and Physics Chairman, Alan Dorsey



Wayne Bomstad II Award for Distinguished Teaching Assistant - Laboratory Sections:

This award is for dedicated diligence in the instruction of students taking the introductory laboratory courses, the Department recognized **Mohammed Zakaria** with this Award and a \$250 prize. Mohammed is a 2nd year student.



Student Travel Awards

The college has selected two graduate students, **Chi-Deuk Yoo** and **Ritesh Das** to receive spring travel awards. The following is extracted from the letter of nomination:

Chi-Deuk Yoo is a 7th-year student working with Professor **Alan Dorsey**. He plans to attend the March Meeting of the American Physical Society in Pittsburgh PA, where he will present a contributed talk "Viscoelastic behavior of solid 4He".

Ritesh Das is a 5th-year student working with Professor **Art Hebard**. He plans to attend the March Meeting of the American Physical Society in Pittsburgh PA, where he will present a contributed talk "Scaling behavior of irreversible magnetism".

Students Meet Faculty Event



The Department's annual "Graduate Students Meet the Faculty" poster session event was held on Thursday, December 11th. It was an opportunity for students to

present and discuss their current research. The student awards were also presented. To view more photos of the event visit :

<http://www.phys.ufl.edu/media/2008-Meet-Faculty/index.html>



Congratulations to Physics Fall 2008 graduates:

Chao Cao 'First-Principles and Multi-Scale Modeling of Nano-Scale Systems' Chair: **Hai-Ping Cheng**

Deepak Kar 'Using Drell-Yan to Probe the Underlying Event in Run II at Collider Detector at Fermilab (CDF)' Chair: **Richard Field**

SUMMER 2009 REU

University of Florida Physics Research Experience for Undergraduates (REU)

2009 Summer Program will offer...

- valuable research experience
- workshops on cutting-edge science and career choices
- tours of research facilities
- ten-week program from May 26 through July 31
- a \$4,700 stipend, paid housing and travel

Research opportunities in...

Materials Physics in Condensed Matter and Related Fields

Computer Modeling & Simulation

For more information...

Project descriptions and applications are online at www.phys.ufl.edu/reu

Questions?
Contact Prof Selman Hershfield
selman@phys.ufl.edu



Henkfest

Professor **Henk Monkhorst** retired Fall 2008. On December 5 Quantum Theory Project (QTP) hosted a lecture by **Frank Harris** in Henk's honor which was followed by a wine and cheese reception.

To view more photos of the event visit

<http://www.phys.ufl.edu/media/monkhorst/>

