

**"All the v's  
That's fit to Print"**

# **ΦYAST ΦLYER**

*The Department of Physics & Astronomy*

*The University of Oklahoma*

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**Web Site: <http://www.nhn.ou.edu>**

## WELCOME NEW POSTDOCS!

Robyn Wilde, Mike Morrison's new postdoc, joins the Department as of May 29. Robyn received his PhD last spring from the University of Nebraska where Mike worked with Ilya Fabrikant. Robyn's research was on vibrational excitation and dissociative electron attachment in several small molecules. Some of his other interests are golf, chess and the guitar.

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Dr. Ramaz Khomeriki is visiting OU under a NATO-NSF postdoctoral fellowship. Ramaz is a native of the country of Georgia, formerly part of the Soviet Union. He is working with Prof. Kieran Mullen in theoretical condensed matter physics. Ramaz is an expert in nonlinear dynamics and in magnetic systems. He is accompanied by his wife, Nino, and their son Georgi.

Their collaboration started via the Internet. Dr. Khomeriki found a description of Kieran's research on OU's web pages closely matched his own interests. After a brief e-mail correspondence they decided to apply for a grant to allow Ramaz to come to the US for a year. Both are keen to see how to continue their fruitful collaboration into the future.

Ramaz joins Dr. Ramin Abolfath, and Dr. Milica Milavanovic, who are also working with Prof. Mullen. Ramin will stay for another year and work on quantum Hall physics as well as magnetic semiconductors. Milica will be leaving at the end of the summer to look for a position on the East Coast, to join family there.

In the fall, Prof. Jean-Marie Ndjaka will visit for a semester from Cameroon. This visit is funded by the NSF International Programs office. In addition to helping start a research collaboration between Profs. Ndjaka and Mullen, it will strengthen the tie between OU and the University of Yaounde, which has brought several graduate students to OU.

## **SUMMER REU/RET STUDENTS**

Fourteen students will be participating in this summer's Research Experience for Undergraduates (REU) and Research Experience for Teachers (RET) programs. The 12 who will be part of the REU program (along with their general subject, local advisor, and home institution) are: Fred Carlsson (ECM, Johnson, OU); Jason Collier (ASTR, Cowan, OU); Darin Corman (CM, Murphy, OCU); William Fendt (CM, Mullen, U. Cent. Ark.); Jeremy Graham (CM, Johnson, OU); Kevin Hobbs (CM, Johnson, OU); Noah Kolodziejski (EP, McCann, Conn. Col.); John Lafayette (HEP, Skubic, U. Ark.); Martin Marigold (CM, Doezema, Cameron U.); Jeremy Marzuola (CM, Mullen, OU); Edgar Quintana (AM, Parker, Imperial Valley Col.); and Richard Waskawski (AM, Abraham, Cameron U.). The two RET participants are: Marty Peters and Jason Rausch. Welcome to all!

## **FACULTY AWARDS**

Once again this year the Department garnered a large number of awards for teaching and research accomplishments. Bruce Mason received the Regents Award for Superior Teaching, Eddie Baron was given the Regents' Award for Superior Research, Karen Leighly and Eric Abraham received Junior Faculty Research awards, and Sheena Murphy was awarded a Presidential Professorship. This last award is the sixth such prize given to the Department in as many years. Congratulations to all the recipients!

## **NIELSEN AWARDS**

This year two recent graduate students received the coveted Nielsen Award, given for PhD dissertations which are viewed by the faculty as representing the highest quality work. Eric Lentz (Astro; Baron) was given the award for his work on "NLTE Synthetic Spectra and Lightcurves of Type Ia Supernovae." Giti Khodaparast (Physics; Doezema) received the award for her thesis "Magneto-optical studies of InSb based quantum

wells." Both students will receive a check and an invitation to return and present a Department colloquium.

### **UNDERGRADS RECOGNIZED**

The Department held its annual student awards ceremony on May 3. The *Karcher Awards* in Physics went to Zachary Blankenship, Carl Carlsson, Ben Dribus, Faith Jordan, Brady Longenbaugh, Geoffrey Lovelace, Kim Overstreet, Timothy Russin, Matthew Szabo, Brandon Tomson, and Patrick Zabawa. Those receiving the *Karcher Awards* in Engineering Physics are John Ehrhart, Jeremy Graham, James Hilty, Timothy Nall, and David Reeves. The *Roy B. Adams Award* was presented to Jack Franklin, the *C.R. Quade Award* went to Kevin Hobbs, and the *Cuba and Ted Webb Award* was given to Zoe Siloti. The *Fowler Prize* was awarded to Grant Biedermann. Finally, *commendations* were handed out to Haitham El-Moaty, Grant Biedermann, China Bolling, Baniel Brue, Jason Bryant, Blake Burdett, Isaac Childres, Daryn Collie, Trevor Decker, Brendan Furneaux, Jeffrey Harwell, Kimberly Hines, Lise Johnson, Christopher McRaven, Joseph Milton, Michael Nguyen, Lance Oelke, Adam Parry, Sylwester Ratowt, Juliette Rupert, David Smith, Kimberly Stephens, David Stewart, Mark Trosper, Kyle Whipple, and Timothy Wofford. Congratulations to all of these students for their hard work and achievements!

### **TAPE OF BOHR LECTURE SOUGHT: RESPONSES**

You may recall that the last issue of the newsletter included a request from an alum for a tape of a lecture given at OU by Neils Bohr. Although a tape has not been located, I thought you might be interested in some of the responses I received from readers who wrote about their memories of the lecture.

David E. Pitts (61, 64, 71): I remember vividly the Neils Bohr lecture, but I remember it being in Holmberg Hall and not in 1957, but probably 1959 or 1960. I remember Dr. J. Rudd Neilsen introducing him, since Dr. Neilsen was one of Bohr's students. In 1957 I didn't know who Dr.

Neilsen was, because I was a freshman and hadn't taken any physics classes. I took Modern Physics from Dr. Neilsen in 1960, I believe.

I do remember another Dane or Swede giving a lecture in Meacham auditorium. I remember this because the speaker's name had a o with a strike through it, and the person making the announcements thought this letter should be stricken and the speaker's name ended up with all consonants. Could it be that Neil Bohr came to OU twice?

Lastly, in the late 50's and early 60's, I think most tape recorders were reel to reel, so a student couldn't have just walked in with one like can be done today. It would most likely have been somebody who helped with the production arrangement at Holmberg or Meacham, since I think it would probably have been a permanent facility tape machine that would have been used.

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Bob Howard: My wife and young son accompanied me to a Bohr lecture in Holmberg Hall (Not Meacham) . I'm not good on dates, but I don't think Bohr gave more than one talk here. Holmberg was packed for the occasion, but I don't think the audience got much out of the lecture. Even Nielsen, who worshipped the ground Bohr walked on, conceded that Bohr was a terrible lecturer. His trouble was that he started sentences off at normal volume but the volume grew less and less as he approached the end of the sentence with the result that the hearer usually had no idea what the whole sentence was about. Because of this, Nielsen took it upon himself to transcribe what he was able to make out on the tape. Unfortunately, I have no idea what happened to his transcription.

I don't know what the alumnus wanted with the tape, but he might be better advised to search for the transcription if he really wants to know what Bohr said.

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From the Editor: I find these anecdotes very interesting, and I encourage other readers who attended Dr. Bohr's lecture to send in their impressions of it, including their recollection as to where and when the lecture was held.

### **GRADUATE STUDENT NEWS**

Chris Stockdale will (upon completion of his Ph.D. studies in July) be taking a NRC Postdoc to work with Kurt Weiler at the NRL in D.C., this August.

### **RECENT ADDITIONS**

Cian Christopher Mullen was born at 8:18 pm on Saturday, March 24. He is the first child for Kieran Mullen and his wife, Theresa Vaughan. Cian ("Key-un") was 8 lb. 10 oz. at birth, and measured 20.5 inches long. His name means "ancient" or "ancient wisdom" in Gaelic. Mother and child came through in great health. Born with a full head of brown hair and blue eyes, Cian takes after his mother. With one parent a professor of physics, and the other a professor of humanities, he has yet to declare a major. His current hobbies mostly involve depriving his parents of sleep.

### **RESEARCH NEWS**

*Recent Publications*

"Temperature Dependence of Exciton Linewidths in InSb Quantum Wells," N. Dai, F. Brown, R.E. Doezema, S.J. Chung, and M.B. Santos, Phys. Rev. B, Vol. 63, 115321 (2001).

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"Spectroscopically Peculiar Type Ia Supernovae and Implications for Progenitors", D. Branch, PASP, 113, 169 (2001)

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Iver Brevik, K. A. Milton, Shin'ichi Nojiri, and Sergei D. Odintsov "Quantum (In)Stability of a Brane-World AdS<sub>5</sub> Universe at Nonzero Temperature," Nucl. Phys. B 599, 305 (2001).

### Grants Funded

John Furneaux: 1. Research corporation Grant for \$50,000 with \$25,000 in matching funds from OU for "Vibrational Spectroscopy of polymer Electrolyte Systems." 2. National Science Foundation, Division of Undergraduate Education, Course, Curriculum, and Laboratory Improvement, Adaptation and Implementation, (CCLI, A&I) Project titled "Adaptation of Modern Equipment and Teaching Methods with Implementation in the Undergraduate Physics Laboratories," John Furneaux, Eric Abraham and Nicole Judice (Psychology), \$130,000 for 2 years, May 2001 to April 2003.

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David Branch and Eddie Baron: NASA Astrophysical Data Program, "Comprehensive Supernova Spectroscopy," \$40,000

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Karen Leighly: Space Telescope Science Institute, K. M. Leighly & J. P. Halpern, "Exploratory Observations of a New Bright Quasar," \$19,762

### Talks Presented

Kim Milton: "Julian Schwinger: From the Radiation Laboratory to Renormalized QED," University of Texas at Dallas, February 14, 2001. I [also] gave eight talks this year to church groups, civic organizations, school groups on Science and Religion: The Case for Evolution, under the auspices of the University's Speakers Service.

Karen Leighly: "Narrow-line Seyfert 1 Galaxies - Still Crazy After All These Years," Laboratory for High-Energy Astrophysics (LHEA) Seminar Series, NASA Goddard Space Flight Center, March 22. "Looking at the Universe Through X-ray Glasses: An Exploration of X-ray Astronomy," The Oklahoma City Astronomy Club, April 13

Dick Henry: "The Origin of Carbon and Nitrogen," Physics Department, Trinity University, San Antonio, April 3.

### Meetings Attended

Karen Leighly: "Mass Outflow in Active Galactic Nuclei: New Perspectives," March 8-10, 2001, The Catholic University of America, Washington, D.C., "HST STIS Ultraviolet Spectral Evidence for Outflows in Extreme Narrow-line Seyfert 1 Galaxies," K. M. Leighly. HUG: Heasarc Users Group, March 23, NASA Goddard Space Flight Center. The HEASARC (High Energy Astrophysics Science Archive Research Center) is the largest repository of high energy (X-ray and Gamma-ray) astronomical data in the world. It also provides analysis tools for these data. The

HEASARC Users Group meets once a year to evaluate and monitor the performance of the HEASARC. I was asked to serve in the HUG for three years, and attended my first meeting this year. Add some high energy to your papers: <http://heasarc.gsfc.nasa.gov>

### Research Travel

Dick Henry: I spent a week in March at Williams College working with Karen Kwitter on our project, which is concerned with the nucleosynthesis of the elements S, Cl, and Ar in the galactic interstellar medium.

### Visitors Hosted

Karen Leighly: Andrzej Zdziarski from N. Copernicus Astronomical Center visited March 9 - March 15. We worked on a nearly completed paper on ASCA data from NGC 4151. We also got charged by a buffalo in the Wichita Mountains!

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Dick Henry: Harriet Dinerstein from the UT Austin Department of Astronomy visited for a week in April to give talks and meet with students and faculty during her sabbatical semester.

### Summer Plans

Kim Milton: I plan to attend the European Physical Society meeting HEP2001 in Budapest, Hungary, in July.

Karen Leighly: My new postdoc, Chiho Matsumoto, arrived May 15. We will spend the first month of the summer preparing for a meeting at Johns Hopkins University on "X-ray Emission from Accretion onto Black Holes." She will present some of my Chandra data that she has already started working on.

### Books In Press

Kim Milton: "The Casimir Effect: Physical Manifestations of Zero-Point Energy" is now in the hands of the publisher, World Scientific, in Singapore. It should come out by the end of the summer. It will provide a definite account of the state of the field, from my perspective.

## ALUMNI NEWS

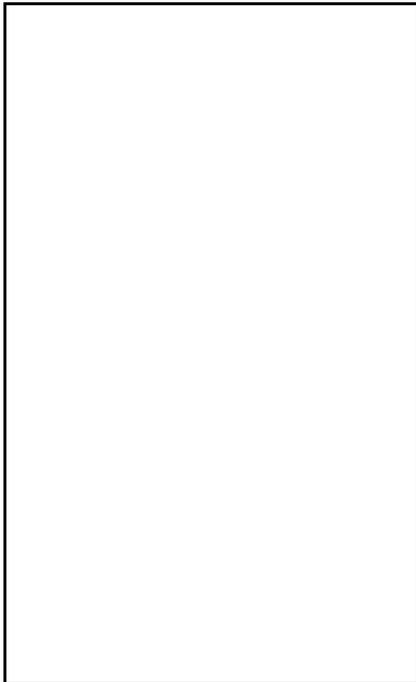
Franklin E. Niles (frankniles1@juno.com): I am no longer working at ICI University. My wife and I have chosen to retire in San Angelo. As adjunct professor for Global University of the Assemblies of God, I continue to mentor students in leadership and science.

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Bill Jennings (BS ENG PHYS, 1980 bill.jennings@idt.com): It's been a long time since I've had contact with the department. Last spring, I completed a PhD in Electrical Engineering at Southern Methodist University in Dallas, Texas. My dissertation title was "Modulo Arithmetic Systems and Key Escrow," doing some work in circuit design as well as Cryptography. Just after that, I took a new job working as a ASIC design manager in the new Dallas Design Center (Plano) for Integrated Device Technology, Inc. (IDT) where I am designing semiconductor products for the telecommunications market place. Seems that a lot of really good things are going on in the department as well as the University!! My work contact information is: Bill Jennings, ASIC Design Manager, Integrated Device Technology, Dallas Design Center, 6065 Windcrest Drive, Plano, Texas 75024

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From the editor: As always, we'd like to hear from more alums about what they're doing. Some of you may want to relate your experiences at the Lin Symposium last fall. Or you may have further comments about when and where the Bohr lecture was held (see above). Here's your chance for the 15 minutes of fame that the world owes you!



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