

"All The v's That's Fit
To Print"

ΦYAST ΦLYER

*The Homer L. Dodge Department of Physics and Astronomy
The University of Oklahoma*

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FROM THE CHAIR: A 2008 RETROSPECTIVE

By Ryan Doezema

It was a good year for the Department in 2008: we hired our first Dodge Chair, saw most of the Nielsen Hall renovation completed, and chose a new Chairperson.



After the disappointing failure to find an astrophysicist to fill an endowed chair in 2007, we were delighted with the success of our search for a high-energy physicist. Our new occupant of the Homer L. Dodge Chair in High-Energy Physics is Howie Baer. Howie, who came to us from Florida State University, is a phenomenologist: that peculiar breed of theoretical high-energy physicist that bridges the divide between theory and experiment. Howie, as well as students and post-doc, has enthusiastically joined in the life of the Department, teaching courses and seminars, serving on committees, planning conferences, and pushing his aggressive research agenda. We are lucky to have him!



Although as of this writing, several tasks remain to be completed (not the least of which is the hallway lighting!) most of Phase III of the Nielsen Hall Addition and Renovation Project has been finished. This last phase of the project is a renovation of old Nielsen Hall, built in 1948, and last renovated in 1980. That "renovation" in many respects spoiled some of the more pleasing aspects of the building. In particular, the beautiful, arched ceilings of the first and second floor hallways were replaced by flat ceilings to make way for heat and air ducts. But it did get us air-conditioned! The current renovation has returned the arched ceilings and added tiles and wood accenting to these hallways to re-create the "feel" of the original building. It has also renovated all offices and spruced up lab space in the old building. The

building was given a desperately needed new roof and furniture was replaced in the main office area. Very importantly, we were able to move all our teaching labs from the third floor to the second floor and equip them with modern lab furniture. The old windows were replaced with modern,

but "look alike," double pane windows so that, when the exterior stonework has been reworked, the building will look great outside and inside, complementing the new construction of Phase I (2000) and Phase II (2005).

The completion of Phase III fulfills the promise of OU President David Boren nearly 15 years ago to "do all three phases of our building and renovation project." It is also important to note that the hiring of Howie Baer and the Phase III project are direct results of the 2005 gift of \$6M from the Avenir Foundation. We are grateful indeed for President Boren's leadership and for the continuing benefits of the Avenir gift.

During much of the year 2008, the faculty was talking and meeting to figure out who should replace me as Chair beginning in July 2009. Late in the year, we elected our colleague Greg Parker, and the dean agreed to recommend him to the higher administration. The handoff to Greg promises to be very smooth and I look forward to helping to ease him into the job and to observe very successful years ahead!

WELCOME TO NEW GRADUATE STUDENTS

The Department welcomed 11 new graduate students last fall. Their names and previous institutions are:

Christopher Bares, OU; **Henry Bradsher**, OU; **Shayne Cairns**, Cal State Fullerton; **Daniel Habchi**, University Blaise Pascal; **Biao Jiang**, Nanjing University, China; **Andre Lessa**, Florida State University; **Craig McMellon**, California University of Pennsylvania; **Scarlet Norberg**, Kent State University; **Nima Pourtolami**, Amirdabir University of Technology; **Shivakumar Rajagopalan**, Florida State University; and **Daniel Stanley**, Marietta College. We wish these students much success in the years to come!

RECENT DISSERTATION DEFENSES

Three individuals have recently and successfully defended their doctoral dissertations.

Aida Nava defended her thesis, "*Is The Scatter In N/O of Metal-Poor Systems Real?*

Do H II Regions Become Significantly Self-Enriched In O?", on July 23, and is now preparing to move to Baltimore, where she will begin a postdoc with Claus Leitherer at the Space Telescope Science Institute in early February. Aida's advisor was Dick Henry.

Blake Laing defended his thesis, "*Confined Quantum Systems: Beyond Harmonic Order in Dimensional Perturbation Theory*," on November 19. He is now a postdoc in Brett Esry's group at Kansas State University. Blake was a student of Deborah Watson.

Xuan Li, a student of Greg Parker, defended his dissertation, "*Coherent Control and Geometric Phase*", on December 8. Xuan is now a postdoctoral fellow working with Moshe Shapiro at the University of British Columbia.

Congratulations to these three new graduates. We wish you successful careers!

ROMANISHIN SPEAKS AT THE OKIE-TEX STAR PARTY



In early October of last year, Bill Romanishin journeyed to Black Mesa at the far western end of the Oklahoma Panhandle to attend the 25th annual OkieTex Star Party hosted by the Oklahoma City Astronomy Club. Even with \$3 a gallon gasoline, there was a record attendance of over 300 amateur astronomers at the week-long event, where telescopes of all shapes and sizes were set up for viewing under some of the darkest skies this side of the Hubble Space Telescope. Dr. Bill gave two talks at the event, including the Saturday night keynote talk entitled "Boy Beyond Neptune", an account of his research on the Kuiper Belt and a general overview of our state of knowledge of the outer solar system.

EYE WITNESS TO THE OLYMPIC GAMES

By Xifan Liu (OU Physics PhD 1992)

I had the opportunity to cover the 2008 Summer Olympic Games at Beijing, China, as a photojournalist. I worked for *World Journal*, New York City based, the largest Chinese newspaper in North America with a 350,000 daily circulation.



As the sole photojournalist for the newspaper, my credential allowed me to be on the sidelines of any competing venue. To take advantage of this, I covered 32 different competitions, plus opening/closing ceremonies during the course of the summer games. The most exciting competitions I experienced were the US/Chinese basketball game (all NBA stars made for a deluxe line-up), Soccer final (team Nagel and team Argentina played with passion), men's 100m and 200 m world records runs (Mr. Bolt sprinted 5 m in front of my cameras), men's fencing and field bicycle (my first experience to cover these sports), gymnastics-women's all-round (Team USA received gold and silver medals), and Triathlon (nice

lake and biking/running courses, sunshine and breeze).

I arrived in Beijing on 7/27 and received my media pass at the airport. Media shuttle took me to media hotel without any delay. I filed my first report and first set of photos to NYC on the same day. Our media lodging site was about 2 km from the main Olympic center, and there were

regular shuttle services. We didn't have to worry about traffic-there were designated lanes for our media shuttles. I tried to cover everything-for our readers and for my own experiences. I could only sleep 4-5 hours daily from July 27-Aug 26 with no time for regular meals. My working condition was very harsh-hot temperatures in the season (many 100F plus days) and 40 lbs. of photos gears bounded with me. Plus, I had to fight for photo positioning consistently with others. After each game, I needed to sort through my



photo files and email them back to NYC ASAP.

Worldwide, there were 5,500 official registered journalists to report the games at Beijing. There were more than 15,000 media credential requests in USA. USOC (US Olympic Committee) only has 450 journalist credential quotas (about 350 regular reporters and 100 photojournalists) from IOC (International Olympic Committee).

Beijing is my hometown. My parents live there. However, I just got to see them twice. I don't have to describe the changes of the giant metro area. Not all changes are positive. I like the city image in the 1960's. At that time, the population was about 4 million. Nowadays, it is 16 million. By the end of the games, I have 20,000 high quality photos in my portable hard drive. My newspaper ran my photo page on a daily basis and occasionally, I contributed articles.



I teach physics at Oklahoma School of Science and Mathematics. And I have covered OU and Big XII sports since 1987 while I was a graduate student at Nielson Hall. I am glad my hobby could go that far and provided me many challenges, excitements and joys. Is there any connection between photojournalist and physicist? Yes, I know which new lens technology makes sense and which one is just for boosting sale price.

By the way, I was on sideline to cover OU's BCS Champion game for an Oklahoma media at Miami last week. As a Sooner, I did not like the final score. Yet, I enjoyed the excellent media accommodations. (Photos courtesy of Xifan Liu.)

ALUMNI NEWS

From Jasper Jackson (B.S. 1948, M.S. 1950, PhD 1955): "One of the memories was in helping Prof. Nielsen reestablish the weekly Thursday colloquium, which had been suspended during the war. In 1946, I returned to OU after service in the Navy. My experience there as an electronics technician had whetted my interest in physics and I transferred from my prewar engineering major to physics.

"When Prof. Nielsen expressed interest in reviving the weekly colloquium, I volunteered my car to drive us to the local TG&Y where we purchased a complete set of cups, saucers, spoons and teapots, napkins, etc. Thus was reborn the tradition of the Thursday Physics colloquium.

"Another memory of the early days was looking forward to the new Research institute building (now Nielsen Hall, I believe), where the Physics

department would be housed in a single building. For many years, Physics had been split between the University administration building and the pharmacy building, with some of the research labs located among the pipes in the crawl space under the administration building.

"It was a great day when the new building was finished, even though physics had to share it with other research labs. I took photos during the construction, but only a couple survived to be sent to Prof. Fowler for his book."

(Editor's note: Jasper has sent two group photos of students and faculty taken in 1947 or 1948. These will appear on the Department website in the near future.)

From Steve Warren (B.S. 1983, Meteorology): "I noticed your press release on the International Year Of Astronomy and thought you might be interested in knowing that I am a 1983 OU graduate with a BS in Meteorology. I currently serve as the Superintendent of the U.S. Naval Observatory in Washington, DC. Although my primary expertise is in Meteorology and Oceanography (MS in Meteorology/Oceanography from the Naval Postgraduate School), the Navy assigns the Observatory Superintendent position from the Meteorology/Oceanography Officer Community in the Navy.

"Here at the U.S. Naval Observatory, we are also working a schedule of events to participate in the International Year Of Astronomy. Very good to hear from you. The Superintendent provides operational, scientific and administrative oversight for the U.S. Naval Observatory (USNO). The Naval Observatory has four operational departments: Astrometry, Time Services, Astronomical Applications, and Earth Orientation Departments. We also have two subordinate activities: U.S. Naval Observatory Flagstaff, AZ (the Navy's only dark sky observing facility) and an Alternate Master Clock Facility in Colorado. Along with our operational and research related astronomical activities, we provide the Master Time for all Department of Defense applications (Universal Coordinated Time (USNO)) and serve as a standard of time for the entire United States. More information on our activities can be found at <<http://www.usno.navy.mil/usno>>

"Of general interest in case you are unfamiliar with the Naval Observatory, we share our grounds with the Vice President of the U.S. (new neighbor as of yesterday). The Vice President's residence was originally built as the Naval Observatory Superintendent's residence in the late 1800's. I have been Superintendent of the U.S. Naval Observatory since Oct '07. I regret I will be due to rotate out of the position in June of this year. It will be tough to leave such an interesting and unique position. Upon departure, I expect to move to a new position related to staffing of environmental satellite program issues in Silver Spring, MD.

"On a separate note, I had the opportunity to meet an OU astronomy/physics grad student at the recent AAS Conference in Long Beach (I believe Leann Dang) during her poster presentation (nice work)."

HENRY RECEIVES 2008 KINNEY-SUGG AWARD

By David Branch



At the fall semester faculty meeting of the College of Arts and Sciences (CAS), Professor Dick Henry was announced as the recipient of the 2008 Kinney-Sugg Award for Outstanding Professor in the CAS. Since 2002 this award has been bestowed annually on a member of the CAS faculty who has "established a record of outstanding teaching and scholarship" and who is recognized for "dedication, effectiveness, and the ability to inspire students to high levels of achievement."

This is hardly the first time that Dick's teaching has been recognized. He is the past winner of several awards, and since 2004 he has held the career title of David Ross Boyd Professor, OU's highest recognition of "outstanding teaching, guidance, and leadership of students". Dick's research efforts, directed toward understanding how the chemical elements were synthesized in stars and how their relative abundances have evolved over the history of the universe, have made him a leading international authority on the subject and are supported by the National Science Foundation.

The Kinney-Sugg Award is generously remunerative and the names of recipients are inscribed on a plaque for permanent display in the CAS office. In addition to Dick Henry, the plaque bears the name of another of our David Ross Boyd Professors, John Cowan, the 2004 recipient of the Kinney-Sugg Award. Two for seven in a college of some 500 faculty members isn't shabby.

INTERNATIONAL YEAR OF ASTRONOMY 2009



This year both professional and amateur astronomers around the world will be celebrating the 400th anniversary of Galileo's first use of the telescope in his study of astronomical objects. The United Nations, along with other world organizations is recognizing 2009 as the International Year of Astronomy; The Universe, Yours to Discover. A great deal of information is available at the both the International and US websites, <http://www.astronomy2009.org> and <http://astronomy2009.us> , respectively.

Our Department is also getting involved. We are coordinating with Norman Public Schools, the Sam Noble Oklahoma Museum of Natural History, and numerous other organizations to offer the public monthly events. Each event will take place at the Museum and will feature a public lecture

followed by an opportunity to view celestial objects through several telescopes set up on the Museum grounds. Door prizes are being donated for each event by Astronemics, Inc., a Norman based company. On January 13, the mayor and city council of Norman passed a proclamation to make 2009 the International Year of Astronomy in Norman. (This boosts the city's sales tax by another 2%, with the revenue to be given directly to our Department for building a 10 meter telescope and hiring five new astrophysicists. Just kidding! Other than the recognition, we got zip.)

The first program took place on Wednesday, January 21, at 7pm at the Museum. The other 11 monthly events will fall on the first Thursday of each month. More local details are available at <http://nhn.ou.edu/iya09>.

ASTEROID (20361) ROMANISHIN

Last summer, the International Astronomical Union (IAU) named an asteroid, or minor planet, after Professor Bill Romanishin. The asteroid now known as "(20361) Romanishin" orbits the Sun every 4.3 years between Mars and Jupiter, in the main asteroid belt. The IAU is the official international body that, among other responsibilities, names astronomical bodies and geological features on other planets.

The IAU citation reads: "William Romanishin (b. 1952) is a professor of astronomy at the University of Oklahoma. An expert in imaging faint objects using CCD cameras, Romanishin has recently concentrated on observing Kuiper Belt Objects. With Stephen Tegler, he discovered the bimodal nature of centaur colors."

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