Faculty Set Department Goals for 2009

The Faculty of the Department of Physics at Baylor University met just before the Christmas Holiday Break, in part, to set goals for the new year.

The goals were tailored to form the acronym BUILD to highlight both the strategic nature of the individual targets as well as to reflect their integral nature to moving the department upward among its peer institutions. The goals are to:

Bolster Undergraduate Research, by encouraging our undergraduate students to pursue research experiences internally to our department faculty or externally through REU and other experiences, as well as making it a goal to financially support the pursuit of journal-publishable research by our students.

Underwrite New Scholarships, to improve the recruitment, retention, and development of our undergraduate and graduate students, and working with Development to improve our Endowment and the resources with which to aid our students.

Improving Faculty Acclaim, increasing not only the number of faculty through departmental hires, but also the productivity of our research efforts through journal articles, grant proposals and the recognition of faculty for both their teaching and research successes.

Link to Outside Support, building collaborations to improve both our research and teaching missions, improving the infrastructure of the department here at Baylor by strengthening our interactions with colleagues in other departments at Baylor as well as at other universities and within industry.

Develop New Programs, keeping pace with both the needs and demands of our students and faculty in the 21st Century. The department is growing instructional and research options by building new curricular programs. Our recent effort to begin an Astronomy program is only the latest example.
Baylor Physics Alumnus Anh “Joseph” Cao Elected to Congress

The Department is proud to highlight one of our own undergraduate majors, Anh “Joseph” Cao, who received a physics degree from Baylor University in 1990. In addition to the numerous news agencies that have focused on his path to election in the recent weeks, Interim President David Garland highlighted Anh Cao’s story (and his physics degree) during the Commencement address in December. Here, we are reprinting a portion of the biographical information from his website, http://josephcaoforcongress.com/

Editor’s Note: We noticed in reading this story from his website that it lacks certain anecdotes we’re heard from one of Anh’s classmates, our very own John Vasut, about their experiences in Truell Hyde’s undergraduate Classical Mechanics class. We’re sure from those stories that Anh will have little trouble working late hours up until the last minute to accomplish great things for the people he now represents in Congress.

Anh "Joseph" Quang Cao, 41, was born in Saigon (now Ho Chi Minh City), Vietnam, the fifth of eight children. He grew up in Vietnam during the most turbulent years of the Vietnamese Civil War and can vividly remember bombs exploding next to his elementary school. After the fall of Saigon in 1975, Joseph fled Vietnam for the safety of the United States. His father, an Army officer committed to the freedom of South Vietnam was imprisoned by the Communists, leaving his mother to singlehandedly raise the five remaining children. At the age of eight, Joseph and two of his seven siblings arrived in the United States. He spent his first four years in America where he attended primary school and learned the English language and culture. Eventually, he settled in Houston, Texas, where he graduated from Jersey Village High School and in 1990 earned a Bachelor of Science degree in physics from Baylor University in Waco, Texas.

After graduation, Joseph entered the Society of Jesus (the Jesuits), finally arriving in Louisiana for the first time to begin his religious training at Grand Coteau. During his first two years in the Society, Joseph was sent by his religious superiors to various parts of the world to minister to the poor and indigent. Joseph was then sent to New Orleans in 1992 to study theology and philosophy, furthering his training for the priesthood. He subsequently was accepted to Fordham University in New York, where he earned his Master of Arts degree in philosophy in May 1995. He returned to New Orleans to teach philosophy and ethics at Loyola University. The following year, Joseph left the Society of Jesus and taught at a local parochial school in Virginia. While in Virginia, Joseph volunteered at Boat People S.O.S., Inc. (BPSOS) to assist poor Vietnamese in their quest for social justice and enculturation and to lobby the U.S. Congress on issues concerning civil and religious rights. He eventually became a board member of BPSOS and served in that capacity from September 1996 to March of 2002. In September of 1997, Joseph returned to New Orleans to study law at Loyola School of Law and subsequently resumed teaching philosophy at Loyola in 1998. In May of 2000, he obtained his Juris Doctorate from Loyola and began his legal career as an associate at the Waltzer Law Firm. He left Waltzer & Associates to become in-house counsel for BPSOS, opening a New Orleans office seeking social and legal equity for the many refugees in the city. During his time as BPSOS in-house counsel, Joseph initiated programs to help victims of torture and to provide social and cultural developments for poor minorities.

Joseph is married to Hieu “Kate” Hoang; they have two daughters, Sophia and Betsy. He opened his private law practice in 2002, which he continues to operate. Also in 2002, he was selected by Archbishop Alfred Hughes of the Archdiocese of New Orleans to be a member of the National Advisory Council to the United States Conference of Catholic Bishops, which addresses many pressing issues, such as women’s rights in the U.S. Church, social justice, pedophilia and children protection, the Catholic response to Hurricane Katrina, and education. Like many in New Orleans, on August 28, 2005, Joseph and his family fled from their home in Venetian Isles (located in New Orleans East) as Hurricane Katrina was bearing down on New Orleans. Returning in early September, Joseph saw that everything he possessed was destroyed, including his home and his law offices. Joseph would once again have to rebuild his life. Determined to return and rebuild, in October of 2005 he moved his family to Westwego and began the rebuilding of his Orleans home and law office. His office would take three months to repair, his home a year and a half. Like the people of Orleans and St. Bernard Parishes who were ravaged by Hurricane Katrina, Joseph has endured struggles against insurance companies and the political leadership and has proven to be a leader in rebuilding the Vietnamese community. He assisted the residents in New Orleans East in their successful fight against a landfill that threatened to change the social fabric of their community. He fought energy and telecommunication companies to have basic necessities restored in a timely fashion.

In 2007 Joseph ran as an independent for the State House of Representatives and carried Orleans Parish. He presently serves as a board member of the MQVN Community Development Corporation which is responsible for many programs such as charter schools, medical clinics, and retirement centers. Last year he was appointed by Governor Bobby Jindal to the Board of Elections for Orleans Parish. He was also elected to the Republican Parish Executive Committee and the State Republican Executive Committee where he continues to serve. In 2008 Joseph was elected as an at-large delegate to the Republican National Convention.

Joseph Cao understands the struggles of the rebuilding process and shares the hopes and desires of the people of New Orleans. His is a life of determination – to never submit to adversity and to always seek social improvement and justice.
Out and About ... The Emeriti Edition

Editor's note: Not only do we have a vibrant and active faculty in our department, but our retired Faculty continue to set a high bar for involvement with Baylor University into their Emeriti Careers. No word yet on when Dr. Don Hardcastle is returning, but the rumor is that he's enjoying his full time position as Grandfather. Until then, we reprint excerpts from the Baylor Alumni Association and the Waco-Trib publications about two of our very active Emeriti Faculty, George Wang and Robert Packard:

An Unusually Grand Trip
By George Wang

Recently my wife, May, and I had the rare privilege of being students of Dr. James W. Vardaman with the Baylor Alumni Association cruise on the Danube River. On Saturday, July 12, in eight-and-a-half hours we traveled 4,913 miles from Dallas-Fort Worth to the Schiphol airport in Amsterdam. While waiting for our connecting flight to Budapest, the starting point of the Danube River cruise, we had the pleasant surprise of being able to visit an exhibit of books and paintings from the age of Rembrandt at the airport branch of Amsterdam's Rijksmuseum.

After a two-hour flight to the Budapest airport, a bus took us to the boat River Empress. We found out that the Hungarians call their city "Budapest" and that the city consists of three main geographic parts: the hilly Buda, the flat Pest, and Obuda with famous hot springs dating from the Romans. The remainder of that afternoon we had a taste of local activities at the festival on the Chain Bridge, the main bridge connecting Buda and Pest. The bridge was closed on Sunday to automobile traffic but was filled with booths selling wooden toys, straw toy animals, embroidered items, jewelry, pastries, and books. The crowd included musicians, customers, and tourists like us.

Our boat had a crew of thirty-six to take care of about 130 tourists, of whom forty-two were from our Baylor group. After a bountiful breakfast on Monday morning, we boarded our group's own tour bus with a local guide for a city tour. In Pest, we stopped at the Heroes' Square with the Millennium Monument and the equestrian statue of King Stephen I. In Buda, we enjoyed a beautiful view of the city and the Danube River from the Fisherman's Bastion. Later on, Dr. Vardaman gave us the first of his daily lectures with his encyclopedic knowledge of world history. On our cruise, we sailed 362 miles up the Danube westward from Budapest, through the Gabčíkovo lock, stopping at Bratislava, capital of Slovakia; Vienna, capital of Austria; the small town of Durnstein in the scenic Wachau Valley with lush vineyards; Melk, another small town in the same valley with the very impressive Benedictine Abbey; Linz, from which we took a bus to Salzburg; and Passau, Germany, where the Rivers Ilz and Inn join the Danube. In Passau, we attended an organ concert in St. Stephen's Cathedral performed by the church organist, Mr. Ludwig Ruckdeschel, on the cathedral organ with five manuals and 17,947 pipes.

After a bus tour of the grand Ringstrasse in Vienna, Dr. Vardaman led us to the Central Cemetery to pay tribute to the great composers Beethoven, Brahms, Mozart, Schubert, and Johann Strauss. Their graves were grouped together in the section known as the Grave of Honor. After seven days and nights on the boat, the cruise ended in Passau. Most of us in the Baylor group took a three-day extension to Prague, which was the only millennium Monument and the equestrian statue of King Stephen I. In Buda, we enjoyed a beautiful view of the city and the Danube River from the Fisherman's Bastion. Later on, Dr. Vardaman gave us the first of his daily lectures with his encyclopedic knowledge of world history. On our cruise, we sailed 362 miles up the Danube westward from Budapest, through the Gabčíkovo lock, stopping at Bratislava, capital of Slovakia; Vienna, capital of Austria; the small town of Durnstein in the scenic Wachau Valley with lush vineyards; Melk, another small town in the same valley with the very impressive Benedictine Abbey; Linz, from which we took a bus to Salzburg; and Passau, Germany, where the Rivers Ilz and Inn join the Danube. In Passau, we attended an organ concert in St. Stephen's Cathedral performed by the church organist, Mr. Ludwig Ruckdeschel, on the cathedral organ with five manuals and 17,947 pipes.

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We were really fortunate to have Dr. Vardaman and his lovely wife, Betsy, travel to Prague as well. He gave us many hours of interesting and informative lectures. We were also privileged to learn from Dr. Robert Baird, a Baylor professor of philosophy. On our journey homeward, at the Amsterdam airport, May and I parted with the Baylor group to fly into Paris, from which we took a three-hour train ride on the TGV to Avignon. We were met by May's sisters for a short stay in scenic Provence, followed by only a day and a half in Paris. The Eiffel Tower was brightly lit at night. We walked our feet off in 95-degree temperature from the Louvre to the Cathedral of Notre Dame and then on the Champs-Elysees to the Arc de Triomphe. Gasoline in general was priced at 1.4 Euros per liter, or about 9 U.S. dollars per gallon. In most cities, we saw signs of U.S. influence in the presence of the ever-popular McDonald's golden arches. In the twenty days we were away from home, we met many nice people among our fellow travelers, and we had a most memorable experience of a lifetime.

And this from Around Town columnist Julie Carlson, writing for the Waco-Trib: There will be some lucky Baylor students enrolled in beginning physics for non-science majors come January. Dr. Bob Packard, legendary Baylor professor who retired in 2002 after teaching 50 years, will return to the classroom to teach "Packard Physics." Flyers around the Baylor Science Building proclaim: "The Pack is Back" to advertise the one section Dr. Packard will teach. Determined to bring fun into the classroom, Dr. Packard loves to demonstrate physics principles in novel ways. Using a cylinder and pieces of a potato, he has shown the physics behind the Heimlich maneuver; with an egg and some bubble wrap, he has explained the resiliency and the fragility of the human skull. "Physics is loaded with all kinds of practical applications, but I think that sometimes my students remember the demonstrations instead of the principles," Packard said after his final class day in 2002.

So welcome back to the Pack.

By day, Around Town columnist Julie Carlson is director of communications for Baylor Law school.
Before packing up all those Christmas ornaments...

The Department would like to thank Dana and Greg Benesh for hosting the Departmental Christmas reception at their house on Saturday, December 6th. In the midst of their plans to have a very large part of their family home for Christmas, the Benesh family opened their home to the Physics Department. Thank you, Greg, Dana and all the animals of the ranch!

Dr. Gerald Cleaver would like to share with you the physics of Christmas, or at least a link on the internet that discusses it:


Remember, there is a gift to each of us that is ours every day of the year.

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Senior Lecturers

Join us in congratulating John Vasut, Linda Kinslow and Ed Schaub, who were all promoted to the rank of Senior Lecturer.

“According to the minutes of the last faculty meeting, I’m somebody.”
- John Vasut
(It’s a long story, but funny if you ask us.)

Graduate Faculty Meeting

There was a departmental graduate faculty meeting on Nov. 20. Discussed were the recent changes in the graduate faculty procedure of reviewing the credentialing process. Also discussed were new Baylor Graduate School Program Profiles, student publication data, and SACS assessment reports. Dr. Jay Dittmann also reported on an important Scopus database author ID merge issue which may help us in future departmental rankings.
Lachlan Swint Matthews

Please join Sterling, Allyriane and Zayn (as well as Chris and Lorin) Matthews in welcoming the newest member of the family, Lachlan Swint Matthews, who was born on December 29th, 2008 at 7:52 a.m. He was 6 pounds 13 ounces and 20 1/2 inches long (and we wonder why our students complain about SI units!).

The Baylor Wormhole Video on YouTube just keeps going and going and going: The video has been viewed almost 11,000 times since it was posted and has garnered nearly 40 ratings and 30 comments!

Our Condolences ...

The Department is saddened to relay the loss of Brian Graves, husband of our long-time administrative assistant, Marian Nunn-Graves. Brian passed away just before the holidays from complications associated with a recent surgery.

Our thoughts and prayers continue to be with Marian and her family during this very arduous period of mourning.

Please remember the Nunn-Graves family in your prayers at this difficult time.
Student Research Opportunities

THE NATIONAL SCIENCE FOUNDATION

2009 PROGRAMS AND FINANCIAL SUPPORT

FOR UNDERGRAD AND GRAD STUDENTS

- Summer UNDERGRADUATE RESEARCH PROGRAMS and SUPPORT:
  PAID Summer Programs at Over 300 Schools in the US and Overseas

  Visit: www.agep.us/summer.asp or
  www.igert.org/summer.asp

2009 GRAD SCHOOL PROGRAMS and SUPPORT:

- Alliance for Graduate Education and the Professoriate (AGEP)
  Support Programs and Professional Development at Over 150 Colleges and Universities

  Visit www.agep.us

  National Programs at Over 100 Universities

  - IGERT Graduate Programs
    Interdisciplinary Doctoral Programs offering Stipends $30,000 per year + tuition and expenses

  Visit: www.igert.org
Undergraduate Research Opportunities

- Dr. Jeffrey Olafsen will present a departmental colloquium on January 21 on REU and other undergraduate research opportunities both here at Baylor as well as those available through other programs nationally. Keep in mind that if you have interests in applying for summer research fellowships, most programs have deadlines somewhere between January and March, so interested undergraduates are encouraged not to procrastinate.

- Ames Research Center (Mountain View, CA) is a leader in information technology research with a focus on supercomputing, networking and intelligent systems. Ames participates in several agency education programs such as NASA's Undergraduate Student Researcher's Program (USRP; http://www.epo.usra.edu/usrp), an undergraduate internship program for science, engineering and mathematics majors. Acting as a portal between minority institutions and the funding priorities of our nation, the United Negro College Fund Special Programs Corporation's (UNCFSP; http://uncfsp.org/) division of Science and Technology offers internships and fellowships to faculty members undergraduate students and graduate students who have an interest in the science, technology, engineering and mathematics disciplines. Some of the UNCFSP opportunities at Ames include, NASA Science and Technology Institute Summer Scholars Project (NSTI-SSP), NSTI Summer Faculty Fellowship Project (SFF), and Motivating Undergraduates in Science and Technology (MUST). For information on the full list of Ames educational opportunities, please visit the Ames Education website at http://education.arc.nasa.gov/.

- Glenn Research Center Hosts Broad Spectrum of NASA Higher Education Programs: Glenn Research Center (Cleveland, Ohio) is designated as NASA lead Center for Aeropropulsion from subsonic to hypersonic speed. For Higher Education programs that link to the foregoing opportunities, please visit http://newbusiness.grc.nasa.gov/university-affairs/.

- Goddard Space Flight Center (Greenbelt, MD) has set a goal of 50% minority participation among its highly competitive interns in its education programs. We seek help with summer intern programs. The main on-line application deadline for next summer is January 16, 2009. Our web based application (to the collection of programs) is at http://university.gsfc.nasa.gov/. The programs which cooperate in the process are described on the above cited web site. Students then apply for these projects. Hence, advisor support in recommending highly qualified students is most welcome. If you have questions, e-mail Janie.Nall@nasa.gov (301-286-0885) or Terri Patterson at Terri.J.Patterson@nasa.gov (301-286-4398).

- Johnson Space Center (Houston, TX) has a robust education program and participates in many Agency student programs. JSC’s main areas of research emphasize current and future Human exploration including life sciences as well as vehicle systems development and other systems engineering activities. JSC leads or participates in several agency education programs, such as NASA’s Undergraduate Student Research Program (USRP http://www.epo.usra.edu/usrp) the undergraduate internship program for science, engineering and mathematics majors; The Graduate Student Researchers Program (GSRP http://fellowships.hq.nasa.gov/gsrp) for graduate study leading to masters or doctoral degrees in the fields of science, mathematics, and engineering related to NASA research and development; and the Reduced Gravity Student Flight Opportunities Program (http://microgravityuniversity.jsc.nasa.gov/) for undergraduate students to propose, design, fabricate, fly and evaluate a reduced gravity experiment of their choice. Additionally, JSC encourages proposals to the Steckler/Space Grant Opportunity found at the NSPIRES website at http://nspires.nasaprs.com/ which will award Twenty $70,000 grants for research proposals concerning technology and development activities to enable space colonization or space settlement. For information on the full list of JSC educational opportunities, please visit the JSC Education website at http://education.jsc.nasa.gov/.

- Higher Education Student Opportunities at Marshall Space Flight Center: From advanced materials, avionics and optics research - to propulsion, robotics and systems engineering, Marshall proves it is more than a rocket center. Science areas emphasized are astrophysics, heliophysics/plasmas, Earth science (remote sensing and climate variability) and astrobiology. The new launch vehicles, the Ares I and the Ares V, are currently under development at Marshall. http://education.nasa.gov/edoffices/centeroffices/marshall/highered/

- Exploration Systems Mission Directorate Space Grant Project: NASA’s Exploration Systems Mission Directorate (ESMD) is offering opportunities related to Exploration in partnership with the National Space Grant Consortia. ESMD SG provides internships for full-time students, mentors for senior design projects and competitions for System Engineering and Research papers. For information on these programs visit our website at http://education.ksc.nasa.gov/esmdspacegrant/.

- The deadline for URSA applications is February 4 for support that would be available from Baylor in the Summer of 2009.
Potpourri

- **NSF Summer Institute Short Course on Multiscale Science Based-Modeling and Simulation and Experimental Validation on Enabling Materials**

  Hilton Garden Inn, 1818 Maple Avenue, Evanston, Illinois, 60201. Dates: May 27 (Wednesday) morning to May 30 (Saturday) afternoon 2009. The registration fee for the short course is: $2,000. An additional $200 fee will be added to late registrations received after June 1, 2009. Register by March 15, 2009 and receive a 20% discount. The fee includes coffee breaks, and lunches each day as well as all presentation materials, lecture notes and appropriate review papers. NSF fellowships are available to faculty members, high-school science teachers, post-docs and Ph.D. candidates from the US. The fellowship consists of full registration fee plus an accommodation allowance. Download the application form from [http://tam.northwestern.edu/summerinstitute/Home.htm](http://tam.northwestern.edu/summerinstitute/Home.htm). The deadline for fellowship application is March 1, 2009.

- Harmony Science Academy is seeking assistance and involvement of graduate students and faculty to aide in their science fair project with middle school students. Information is available through their website at [http://hsawaco.org](http://hsawaco.org)

- The new Arts and Sciences website offers an easy way for you to inform us of news, achievements, discoveries or awards. Visit [www.baylor.edu/artsandsciences](http://www.baylor.edu/artsandsciences) and click on the button marked “Got news?” There, you’ll be able to tell us not only news about yourself, your field or your students, you can also submit ideas to us for ways we can promote your department or other academic programs in Arts and Sciences.

- Dr. Gerald Cleaver will be submitting a new collection of department publications, accomplishments and honors to BaylorNews on Friday, January 16. Please send him your contributions by that deadline.

- The Pacific Northwest National Laboratory (PNNL) in Richland, Washington, is inviting graduate students and young scientists for a summer research experience in Interfacial and Condensed Phase Chemical Physics. The Summer Research Institute emphasizes personalized, hands-on approaches to research by participant-mentor teams. The typical research experience consists mostly of research and research-related activities, e.g., writing papers, attending seminars, etc. Further information is available at: [http://www.pnl.gov/si/](http://www.pnl.gov/si/)

  **Eligibility:** To be eligible for the SRI program, applicants must have a collaboration in place with a PNNL scientist.

  The following are eligible to apply:
  1. Graduate students (M.S. and Ph.D.)
  2. Postdoctoral fellows
  3. Faculty and professional researchers
  4. Students entering graduate school

  Participants must be U.S. citizens or foreign nationals with appropriate visa documentation. The Summer Research Institute is not suitable for those who will be graduating or finishing a postdoctoral fellowship.

- Last year’s response to Scholars Week poster and paper presentations was fabulous but many faculty expressed a desire to include the event as a course requirement. If you are requiring original research or creative work as a course requirement, please consider also including a requirement of submitting an abstract to URSA Scholars Week and presenting the work if accepted. URSA Scholars Week is April 27 - May 1, and the deadline for abstracts will be April 6. Guidelines and forms for submitting URSA Scholars Week abstracts will be posted on the URSA website ([http://www.baylor.edu/ursa](http://www.baylor.edu/ursa)) early in the spring semester.

  The programs within the URSA initiative are important components of the undergraduate experience at Baylor. The objective of URSA is to provide undergraduate students with research/scholarly opportunities in their areas of specialization beyond conventional classroom instruction. See [http://www.baylor.edu/research/ursa/](http://www.baylor.edu/research/ursa/) for an overview of all the resources available through URSA.

- **From Truell Hyde, concerning the Baylor REU program:** If you plan on being in town during the upcoming summer semester and are willing to accept a student, please let me know ASAP. For those of you who fit these criteria, please check the description of your research area found at [http://www.baylor.edu/CASPER/index.php?id=45022](http://www.baylor.edu/CASPER/index.php?id=45022) to make certain everything is up to date. If you have changes you’d like made, please send them to me. As always, thanks for all you do. I appreciate it.
Out and About ...

- Dr. Gerald B. Cleaver has been appointed Associate Editor of the Journal of Physics, Astrophysics and Physical Cosmology, a web-based peer-reviewed journal published by Scientific Journals International. Also, the London Telegraph newspaper included its September article "Scientists Propose Warp Drive", which reviewed recent research by Dr. Cleaver and his graduate student Richard Obousy, in its December 16 Science Review of the Year 2008: A Review of the Greatest Scientific Achievements, Discoveries and Breakthroughs of 2008. The September article discussed the Cleaver and Obousy paper, "Warp Drive: A New Approach," published in the peer-reviewed Journal of the British Interplanetary Society. The Cleaver and Obousy paper discussed a way in which dark energy could theoretically be altered locally in string theory, by an arbitrarily advanced technology, to allow effective faster-than-light (FTL) travel. The concept itself of locally altering dark energy around a spaceship to provide FTL travel had been proposed earlier in 1994 by Miguel Acubierre of the National Autonomous University of Mexico.

- In November, CASPER members Truell Hyde, Lorin Matthews, Victor Land, Bernard Smith, Jay Kong, Ke Qiao, Jorge Carmona, James Creel, Victor Zhang, Theresa Ma, Jonathan Perry, and Erik Remkus attended the 50th Annual Meeting of the Division of Plasma Physics in Dallas, Texas. Dr. Truell Hyde gave an invited talk in the Education and Outreach Session, "Complex Plasma Physics and Rising Above the Gathering Storm". A total of eight papers and posters representing research undertaken by faculty, staff, graduate, undergraduate, and high school students were presented during the science sessions. In addition, CASPER hosted a booth with interactive exhibits highlighting its Education and Outreach activities at the Plasma Expo, an event for local middle school and high school students and their teachers.

- Presentations at the 50th Annual Meeting of the Division of Plasma Physics, Dallas, Texas:
  - Numerical Simulation of Particle Alignment in Complex Plasmas, Ke Qiao, Lorin Matthews, and Truell Hyde
  - Complex Plasmas with Two Distinct Particle Sizes, Bernard Smith, Lorin Matthews, Truell Hyde
  - Coagulation of Fractal Aggregates in Lorentzian Space Plasma with Ultraviolet Radiation, Lorin Matthews, Victor Land, and Truell Hyde
  - Manipulating particle traps in a GEC Reference Cell through Thermophoresis, Victor Land, Erica Shen, Lorin Matthews, and Truell Hyde
  - Interaction Forces Between Particles in a Vertical Dust Chain, J. Kong, T. W. Hyde, B. Harris, K. Qiao, L. Matthews, B. Smith, and J. Carmona-Reyes
  - Conducting particles in a Complex Plasma, Jorge Carmona, Ke Qiao, Victor Zhang, Jay Murphree, Lorin Matthews, and Truell Hyde
  - Dipole-dipole interactions of Charged Magnetic Grains, Jonathan Perry, Erik Remkus, Lorin Matthews, and Truell Hyde
  - Dust Particle Contamination Detection Mechanisms, James Creel, Jorge Carmona, Jimmy Schmoke, Mike Cook, Chase Pearson, Jenny Tuggle, Brian Morris, Lorin Matthews, and Truell Hyde

- Dr. Jeffrey Olafsen’s Dynamics Imaging and Analysis Laboratory (DIAL) had quite the presence at the 61st Annual American Physical Society Division of Fluid Dynamics Meeting that was held this year in San Antonio, TX from November 23-25, 2008. The meeting gave nearly the entire research group the opportunity to present the results of their research at a national meeting. Presentations included:
  - K. Combs, J. S. Olafsen, A. Burdeau and P. Viot, Thermostatics of a Single Sphere in a Non-Gaussian Granular Bath
  - J. Jantzi and J. S. Olafsen, Translational and Rotational Velocity Statistics in a Rotating Granular Tumbler
  - J. S. Olafsen, K. Schwartz and B. Bammes, Folding Dynamics of a Polymer-like Granular Chain in a Thin Layer of Water

- Frank X. Lee, Scott Moerschbacher and Walter Wilcox, Magnetic Moments of Vector, Axial, and Tensor Mesons in Lattice QCD, Phys. Rev. D 78: 094502, 2008 has been published.

- December graduations: Prasanga Palihawadana: M.S. (Dr. Wickramasinghe Ariyasinghe), Richard Obousy: Ph.D. (Dr. Gerald Cleaver)

- Dr. Walter Wilcox would like to thank those of you from the physics department that came out to make the Habitat for Humanity workday on November 15 such a success helping to build the latest home site in Waco. The department was well represented by seven student and faculty members on hand.

- Deborah Benesh, daughter of our own Department Chairman, Dr. Greg Benesh graduated in December. Congratulations, Deborah!
# January 2009

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