The University of Connecticut

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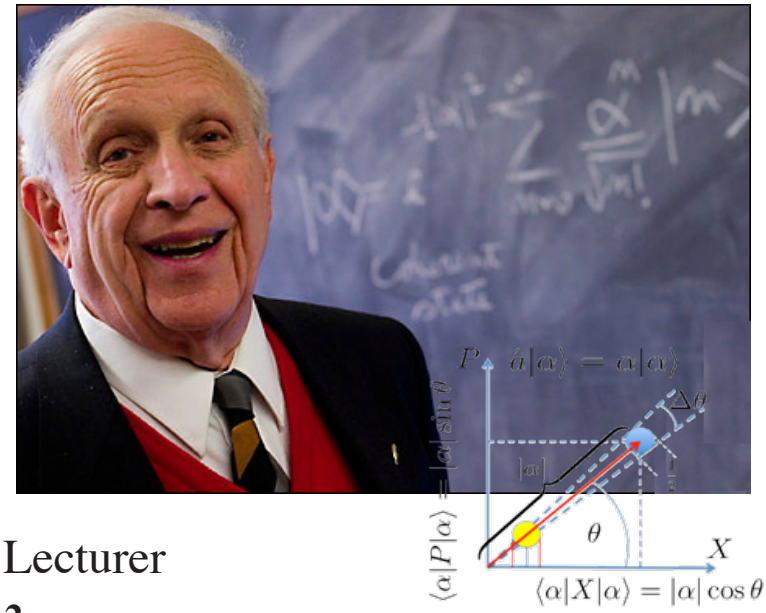


Roy Glauber, Katzenstein Distinguished Lecturer

Friday, October 12, 2012

The fifteenth annual Katzenstein Distinguished Lecture will be presented by Professor Roy Glauber of Harvard University on October 12, 2012. He was awarded one half of the 2005 Nobel Prize in Physics "for his contribution to the quantum theory of optical coherence," with the other half shared by John L. Hall (NIST/JILA) and Theodor W. Hänsch (Max-Planck-Institut für Quantenoptik, and the Ludwig-Maximilians Universität, München). His work, published in 1963, explained the fundamental characteristics of different types of light, such as from a laser or from light bulbs. His theories are widely used in the field of quantum optics.

Glauber's work relates to the understanding of the quantum nature of light and the interactions of light and matter. To that effect, he created a model for photodetection, also published in 1963, and introduced the concept of coherent states, which gives a quantum mechanical description of laser light. He is also credited with Glauber-Sudarshan P-representation, an insightful way to express observables of a quantum system in normal order using a quasi-probability distribution. Professor Glauber's recent research covers several topics in quantum optics, such as the quantum mechanical behavior of trapped wave packets, the interactions of light with trapped ions, the coherence and correlations of bosonic atoms near the Bose-Einstein condensation, and the statistical properties of atom and photon counting, or the fundamental nature of "quantum jumps." He is also involved in several topics in high-energy collision theory, including the analysis of hadron collisions, and the statistical correlation of particles produced in high-energy reactions.

Born in New York City on September 1, 1925, Roy Jay Glauber graduated from the Bronx High School of Science in 1941, and then went to Harvard University to start his undergraduate studies. He was recruited to work on the Manhattan Project after his sophomore year, becoming the youngest scientist at Los Alamos at the age of 18. After two years at Los Alamos, where he was involved in calculating the critical mass for the nuclear bomb, he returned to Harvard and received his bachelor's degree in 1946 and his Ph.D. in 1949.

Professor Glauber joined the faculty at Har-

vard University in 1954 as an Assistant Professor, where he has been the Mallinckrodt Professor of Physics since 1976. He is also Adjunct Professor of Optical Sciences at the University of Arizona since 1988. In addition to the 2005 Nobel Prize in Physics, he has received many other honors and prizes, including the Albert A. Michelson Medal from the Franklin Institute in Philadelphia (1985), the Max Born Award from the Optical Society of America (1985), membership in the National Academy of Sciences (1988), the Dannie Heineman Prize for Mathematical Physics from the American Physical Society (1996), and the "Medalla de Oro del CSIC" in Spain (2008). Finally, as "Keeper of the Broom" at the Ig Nobel Prize ceremonies at Harvard, Professor Glauber took a bow for many years, sweeping paper airplanes traditionally thrown on the stage. He missed the 2005 event, however, as he was being awarded his Nobel Prize at the time.

The Transit of Venus

A transit of Venus is a rare event. It occurs twice a century with pairs of transits 8 years apart. Such a transit happened recently, on June 5th, 2012. The Physics Department and the CT Museum of Natural History, Dave Colberg, Program and Public Information Coordinator, jointly hosted a program for the general public on June 5th, with about 130 participants. Professor **Cynthia Peterson** set up a small solar telescope—the same one used for the 2004 dawn transit—to project an image of Venus on the sun; but alas, the transit was visible only for brief seconds as clouds parted in Connecticut. Nevertheless, attendees gathered in the Astronomy Lab to watch the NASA simulcast from Hawaii and other NASA videos while enjoying special "transit cookies." Professor Peterson then gave a lecture on the scientific, historic and cultural significance of previous transits. She also emphasized the application of the present transit to current research on exosolar planets. Astronomers have used the Venus transit as a model for detecting exosolar planetary atmospheres when transits of its host star occur as seen from earth.

Graduate student **Ryan Carollo** took many photographs of the transit from Anaheim, CA while attending the DAMOP conference. The photograph here, showing the Black Drop Effect for Venus receding from second contact and also several sunspots, was taken with a Canon T1i camera, 250mm, f/8, 1/800 sec, ISO 100 with ND5 solar filter. Another graduate student, Wes Gohn, also took successful transit photos at an astronomy gathering near Newport News, VA.

We thank **Dave Perry**, **Heather Osborne** and museum volunteer Meghan Connolly for all their work in making this event a success, despite rather cloudy skies here.

Sigma Pi Sigma Events and Undergraduate Awards

This year's Sigma Pi Sigma physics honor society festivities were a smashing success: the SPS Lecture was delivered by UConn star alumnus Dr. **Robert Roser**, co-Spokesperson for the CDF experiment at Fermilab's Tevatron Collider. The title of Dr. Roser's fascinating and enjoyable talk was "From the Top Quark to the Higgs Boson- A Quest for Discovery at the Tevatron" (see http://www.interactions.org/cms/?pid=1031511%20and%20http://www.fnal.gov/pub/today/archive_2009/today09-04-10.html for more information). We will have to wait until later this year to see if FNAL experimenters have detected the elusive Higgs Boson along with colleagues at the Large Hadron Collider at CERN in Switzerland. The six new inductees, **Russel Gee**, **Shane Kelly**, **Sarah Lamotte**, **Kurt Nesteruk**, **Matthew Neubelt**, and **Daniel Violette** were joined by Dr. Roser, faculty and spouses, and family members for an inspiring induction ceremony and banquet in the Pharmacy Building's Morosko Student

Lounge. It was a fitting occasion for the semester's end. Parents and family members, some traveling from as far as Florida, proudly celebrated their academic achievements. Faculty too shared in the good feelings engendered by this new generation of physicists. As usual, the ceremony was emceed by the incomparable **David Markowitz**.

The Norman Hascoe Lectures on the Frontiers of Science

The Department of Physics greatly appreciates the support it has received for fourteen years of the Norman Hascoe lectures on the Frontiers of Science by the late Mr. Norman Hascoe and his family of Greenwich, Connecticut. The lectures are open to the public but focus on attracting undergraduates to scientific pursuits. The past academic year offered a variety of lectures which included talks on environmental issues, nuclear resonance and algorithims.

Nanoscale science involves application of the concepts and techniques of physics to systems at a higher level of complexity (e.g. the supramolecular and macromolecular) and is a focus of major federal research funding initiatives. Advances in nanoscale science are being made in many disciplines so a variety of topics were able to be offered to our students. This year's lectures also included popular topics in environmental science and sustainability.

The Department of Physics was the lucky beneficiary of two miniature model steam engines that belonged to Norman Hascoe. They are a unique and fascinating combination of science, engineering, and model making and we are happy to have them. Mr. Hascoe's hobbies and interests have truly benefited students at the University of Connecticut. It has always been a priority of the Physics Department to find ways to engage students in current scientific developments. With the support of the Hascoe family, we are able to invite distinguished guest speakers and offer informal gatherings for our students so they can discuss not only science, but also career choices and whatever else they wish with the invited speakers, in a much more personal way than in a classroom lecture.

Nick Majtenyi was awarded the Katzenstein prize for his senior thesis "Enhanced Third Harmonic Generation by Breaking the Phase Matching Symmetry." Nick worked under the supervision of **George Gibson**. The award was presented at the reception in the Physics library on Sunday, May 6th just before the Commencement ceremony. Department Head Douglas Hamilton commented that he was very impressed by both its scientific content and the clarity of his presentation. Congratulations!

New Mathematical Physics Major

UConn is in the process of establishing a new Major of Mathematics and Physics for undergraduates that may be available in spring 2013. This major is expected to graduate scientists able to apply their combined knowledge in mathematics and physics to solving important problems both in industry and in academic research. Other specialties being developed at UConn include Environmental and Human Rights Majors.

The total number of credits required for the Mathematical and Physics Major is 49, in courses at the 2000 level or above. This is considerably fewer than the number of credits required for a Mathematics and Physics Double Major (78), and also fewer than the number of credits required for the Engineering Physics Major (76 to 84). This bare-bones number of required credits shows that the new major is very basic, but the credits can be augmented voluntarily by those who want to specialize in well-defined areas of physics or mathematics. It is thus a flexible and practical major, that will enhance the usefulness of both the Mathematics and Physics Departments. No new courses are required to be introduced for these options, making them inexpensive for the University to implement.

CIMA 2012

An important event took place at UConn from March 26 to 29, 2012. It consisted of environmental talks that addressed Climate Impact, Mitigation and the needed Adaptation (CIMA) to the impending effects of climate change, caused to a large extent by global warming. The main purpose of this symposium was to alert the community to the extent of climate change, while encouraging students and citizens to consider a future important calling. Global environmental changes are already taking place, and will become more intense and frequent in the near future.

The event was introduced by the new President of the University, Susan Herbst, on March 26. Talks by Mark Hertsgaard followed, one of which, "Inspiring Our Communities To Fight Global Warming," took place at a well-attended meeting for Mansfield citizens at the Bishop Center. Student activities followed the next day at the Student Union and ended with a talk "The Hockey Stick: On the Front Lines in the Climate Wars" by the well known climatologist Michael Mann at the Konover Auditorium at the Dodd Center. This talk, part of UConn's Teale Environmental Series, was so well-attended that the Fire Marshall had to order people out of the stairwells and into adjoining rooms that also overflowed with attentive listeners.

This event was organized by enthusiastic and dedicated faculty, staff and students from several departments and groups from within and outside of UConn, including **George Rawitscher** in Physics. More information and a complete list of activities can be found at http:/cima.cese.uconn.edu.

Mbonye Appointed Vice Rector

Manasse Mbonye received his Ph.D. in physics from UConn in 1996 under the supervision of Professor **Ronald Mallett**. After lecturing at UConn for a year, he began a postdoctoral position at the University of Michigan, Ann Arbor, becoming a Visiting Assistant Professor of Physics in 2001. In 2003, Dr. Mbonye became a faculty member at the Rochester Institute of Technology (RIT); co-founding the RIT-Rwanda Collaboration which brings and supports Rwandan graduate students to attend RIT, supports interaction and exchange of academic personnel, develops research projects in Rwanda and encourages RIT exchange students to Rwanda. Dr. Mbonye, who was born in Rwanda, was recently appointed by the Rwandan government as the Rwanda National University's Vice Rector for Academic Affairs (Vice President and Provost). Dr. Mbonye, a cosmologist and black-hole astrophysicist, continues to maintain collaborative relationships with RIT and expects to travel to the east coast to visit RIT and UConn periodically in the future. We look forward to his visits and his continued success.

Distinguished Women and Minority Physicist Lecture Series

Spring 2012 saw the second Distinguished Women and Minority Physicist Lecture Series. A total of eight women and minority scientists from prestigious universities and national laboratories gave presentations that were embedded in the traditional colloquium and Hascoe lecture series. The visits were organized around meetings with faculty and had a particular focus on speaker visits with students, both undergraduate and graduate, to present them with real-life role models -- and they were appreciated! Topics included nanomaterials, and their effects and applications commercially, in the environment, and in medicine, the application of quantum-chromodynamics for models of the universe, and one presentation even focused on mentoring. This series will continue in future spring semesters.

Charles Reynolds Distinguished Lecture

Professor Jainendra K. Jain, Penn State University, will be presenting the Charles Reynolds Distinguished Lecture on Friday, October 26, 2012. His talk will be on "Exotic Emergent Particles in Fractional Quantum Hall Effect (FQHE)" and will review the status of anyons, composite fermions, and nonabelian anyons in FQHE. Professor Jain is a condensed-matter theorist working on problems related to fractional quantum Hall effect/composite fermions. Having received his Ph.D. in 1985 from Stony Brook University, he joined Pennsylvania State University in 1998 as the Erwin W. Mueller Professor of Physics. Professor Jain enjoys thinking about the collective physics of low-dimensional systems, especially the fractional quantum Hall effect. Among his honors are the Oliver E. Buckley Prize of the American Physical Society and Distinguished Alumnus Award of the Indian Institute of Technology, Kanpur. He was elected a Fellow of the American Academy of Arts and Sciences in 2008, and holds visiting positions at IISER, Kolkata, and IAS, Korea. He has written a book, Composite Fermions (Cambridge University Press, 2007).

Connecticut Science Fair Awards

The Department of Physics was honored to add its sponsorship to this year's Connecticut Science Fair which took place at Quinnipiac University March 13-17, 2012. The Department presented awards to **Alyssa Devin**, Guilford High School, for her project "Finding the Perfect Basketball Shot;" to **Olivia Kelly** from Sacred Heart Academy for "A Study of 'Ebb and Flo' Aquaponics as the Most Effective Growing System for Romaine Lettuce as Compared to a Hydroponic and an Organic, Soil-Based Growing System;" and to **Lindsey Noskin** of Greenwich High School for her "Design of a Smart Brick with Improved Insulation and Intuitive Reflection of Sunlight." Our heartfelt thanks go out to **Dave Perry**, **Heather Osborne**, **Mike Rapposch**, and **Cynthia Peterson** for volunteering for this worthy program. Congratulations to all the winners!

Zerner Award to Jason Byrd

The Symposium administration for the annual Sanibel Quantum Theory Physics and Chemistry Conference has awarded the IBM-Zerner Award for the 2012 Sanibel Symposium to **Jason Byrd**, graduate student in Physics at UConn. The award honors the scientific contributions of the late Professor Michael Zerner, an internationally known theoretical chemist, and outstanding teacher and research theorist at the University of Florida in Gainesville for many years. The award was presented at the symposium award dinner in February 2012. The basis of the award is the research presented by Jason at the meeting, "Anisotropic van der Waals dispersion interactions using TD-DFT." Jason's research interests are in a broad sense focused on computational research of quantum systems, and he is working on the ultracold chemistry of alkali clusters for his thesis, under the supervision of **Robin Côté**.

The first Sanibel Symposium was held in 1960 at the Casa Ybel resort on the island of Sanibel, just off the coast from Fort Myers, Florida. It was difficult to get to and quite primitive. The new Casa Ybel resort on Sanibel is a great improvement in convenience, facilities and service. The early Symposia usually focused on a few hot topics of the day: perturbation theory, basis sets, molecular integrals, primitive atomic and molecular electronic structure programs, and many pioneering ab initio and semi-empirical atomic and molecular calculations. A special topics group on solid state problems was led by John Slater and his students. The famous X-alpha method for molecules originated at one of these early meetings. Unfortunately, the early versions of the X-alpha method predicted that water should be a linear molecule!

A Celebration of Cerebration and Cheer

On Nov. 4, 2011 and on the occasion of the Katzenstein lecture (by Gerard 't Hooft), former students of Professor **Quentin Kessel** gathered to celebrate friendship, reminisce about UConn days gone by, fact and fiction, and share present day successes. At the heart of the celebration were Quentin and his wife Margaret, both of whom have influenced many of us in so many ways. Surprise guests included Professors **Arnold Russek** and **Robert Schor**, both of whom also played significant roles in the lives and careers of these students. The diversity of students and their accomplishments over the years are indicative of the strength of Quentin's mentorship and speak strongly of the UConn faculty, the Physics program and the joy and passion they all share for physics.

Ali Antar (M.S. '72, Ph.D. '77) is an Emeritus Professor of Physics at Central Connecticut State University. **David Olson** Ph.D. (B.S. '79, M.S. '80, M.D. '95) is the Clinical Director of the Brain Imaging Center, McLean Hospital, Harvard Medical School, Belmont, MA. **Robert Rubino** (B.S. '81, M.S. '85) of Stran Technologies, is President and CTO, Naugatuck, CT. **Robert Roser** (B.S. '84) is Fermilab Head of the Scientific Computing Division, CDF co-spokesperson and a co-discoverer of the top quark. **Paul Clapis** (Ph.D. '85) is the Director of Professional Services at SunGard in Manhattan. **Brian Lincoln** (B.S. '87, M.S. '88) is a Regional Sales Manager at Nufern in East Granby, CT. **Peter de Groot** (Ph.D. '87) is the Director of Research and Development at Zygo Corporation, Middlefield, CT. **Michael Zarcone** (Ph.D. '90) is the Manager of ESH&T Programs, in the Physics Department at Brookhaven National Laboratory in Upton, NY. **Edward Deveney** (Ph.D. '93) is a Professor of Physics at Bridgewater State University in Massachusetts. **Michael Reaves** (Ph.D. '97) is now in California at SVP Product Development, United States Digital Gaming. **Phil Gee** (M.S. '05) is an Assistant Professor at Norwalk Community College. **Thomas Ehrenreich** was a Post Doctoral Fellow working for Quentin from January 2002 to July 2004. He is currently a Scientist at Nufern in East Granby, CT. **Kenneth A. Miller** (Ph.D. '08) is an Associate Research Scientist at Columbia University.

Pictured (left to right, front row) are Thomas Ehrenreich, Mike Zarcone, Charity Ehrenreich, Quentin Kessel, Margaret Kessel, Brian Lincoln, Robert Roser, Paul Clapis, David Olsen, Ed Deveney, Phil Gee, Peter de Groot, Mike Reaves, Ken Miller and Rob Rubino (back row).

Arrivals/Departures/Visitors

Dr. **Marko Gacesa** has been a Postdoctoral Fellow in the astrophysical research group of Professor **Vasili Kharchenko**. Marko has investigated the general features of interactions between the solar wind plasma and neutral interstellar gas and determined the fundamental properties of X-ray emission induced in this interaction. He has also developed a novel scenario of the molecular escape from the atmospheres of planets, exoplanets, and satellites. The results of Marko's postdoctoral research have been published in the leading astrophysical journals, the Astrophysical Journal Letters and Geophysical Research Letters. Recently, Marko accepted a postdoctoral position in

the Division of Finite Systems, Max Planck Institute for the Physics of Complex Systems (Dresden, Germany). We are looking forward to hearing about his work on new and exciting research projects. Congratulations!

This fall semester, **Jason Hancock** will join UConn as Assistant Professor of Physics. Prior to coming to UConn he was maître assistant at the University of Geneva (Switzerland), and before that a postdoctoral fellow at Stanford University. Jason obtained his Ph.D. at the University of California at Santa Cruz in 2005 and his B.S. at the Georgia Institute of Technology in 1998, graduating summa cum laude. Jason is an experimental condensed matter physicist with general research interest in strongly correlated electron systems. His most recent research efforts have included studies of charge excitations in novel materials, including high temperature superconductors (HT_c) and topological insulators. Jason has an extensive background in infrared and terahertz spectroscopies, which he plans to pursue at the Storrs campus. His most recent work also utilizes the emerging technique of inelastic resonant X-ray scattering. He plans to continue that work at the National Synchrotron Light Source-II, currently under construction at the Brookhaven National Laboratory in nearby Long Island, NY, which will be the brightest source of X-ray radiation in the world. Jason is already building an international reputation, spending the last three years in Europe where he has co-organized a symposium on HT_c and related systems at the Fall 2011 meeting of the European Materials Research Society (E-MRS, Warsaw, Poland). Jason was hired for a joint faculty position with the Institute for Materials Science (IMS). We are excited to welcome Jason Hancock and look forward to the contributions he will make to the Physics Department, IMS and the University.

Mahmoud Jaghoub, head of the Physics Department of the University of Jordan, spent the summer of 2011 at the University of Connecticut at the invitation of **George Rawitscher**. They collaborated on extending the nuclear optical model, a subject of interest for Professor Rawitscher since the 1970s. The optical model, especially its nonlocalities, is back in the limelight through its connection to astrophysics. The reactions between nuclei in exploding supernovae involve unstable nuclei, prone to breakup during their collisions. To study these effects in the laboratory, a national facility is being built at Michigan State University, and another in South Korea. First the big machines produce the unstable nuclei via collisions of a beam of protons with stable target nuclei, then they accelerate the emerging unstable fragments onto a target of stable nuclei. Professors Jaghoub and Rawitscher will continue their collaboration – and add to the four papers they have produced thus far.

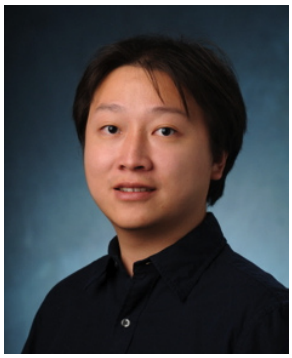
Professor **Pushpendra K. Jain**, University of Botswana, delivered the Condensed Matter Physics Seminar on May 29, 2012, entitled "Materials Research at the University of Botswana: Phases in Ni-Based Ternary Alloys." Dr. Jain received his Ph.D. from UConn in May, 1975, under the supervision of Professor **Ralph H. Bartram** (also his host for the visit).

A native of India, Dr. Jain had little thought of Botswana being part of his future scientific career. However, several years after returning to India, he heard of a position in Physics at the

University of Botswana and he applied. He was hired and has been there well over 30 years! Currently, Dr. Jain is a member of the University of Botswana Senate, Senate Executive, and the University Research Committee. He is also a fellow of the Institute of Physics, UK.

The University of Botswana is one of a group of five African universities {African Materials Science and Engineering Network (AMSEN)} receiving major long-term funding from the Carnegie-IAS RISE (Regional Initiative in Science and Education) network. Their buildings and equipment are impressive. In his seminar at UConn, Professor Jain provided some glimpses of Botswana and his university before discussing his interesting research on potential Ni-based Ternary alloys. Professor Jain renewed his friendships with Professors Ralph Bartram, **Cynthia Peterson**, and **Joseph Budnick**, and met new faculty and students. Dr. Bartram remembers him as a gifted research student who went on to a distinguished career. Dr. Peterson recalls that he was also a conscientious TA, interested in both his students and physics, particularly optics.

We are pleased to welcome Dr. **Jia Wang**, a new postdoctoral fellow starting this September in the group of Prof. **Robin Côté**. Jia received his B.S. in Physics from Tsinghua University (China) in 2004 and his M. Phil. in Physics from the Chinese University of Hong Kong (Hong Kong) in 2006. He recently completed his Ph.D. in Physics at the University of Colorado at Boulder, under the supervision of Prof. Chris H. Greene. In his thesis entitled "Hyperspherical Approach to Theoretical Studies of Quantal Three-body Systems," Jia developed a series of theoretical and numerical tools to tackle a very difficult system in Atomic, Molecular, and Optical (AMO) Physics, namely the three-body problem. He applied them to a broad variety of processes, ranging from H_3 Rydberg energy levels, to recombination-pumped triatomic hydrogen infrared lasers, laser-induced fluorescence studies of HfF^+ produced by autoionization, or the numerical study of three-body recombination for systems with many bound states. All of these led to the publication of five journal articles, the latest on the origin of the three-body parameter universality in Efimov physics having just been accepted in Physical Review Letters. In Côté's group, Jia will be using his knowledge of three-body physics to extend our understanding of ultracold chemical reactions between diatomic molecules and atoms. This promises to be a very fruitful endeavor.



The Physics Department is excited to welcome **Alessandra Zarlenga** into our community. Alessandra is a financial specialist and will oversee budgeting and financial planning for the department. She recently worked in the corporate world setting up retirement plans for businesses, but she was drawn to higher education because she thought she would feel more at home. She also worked as the coordinator for international interns at Six Flags, giving her good experience in working with our international graduate students. Alessandra is of Italian descent and spent many childhood summers in Italy with her closely-knit family. She likes to read and play tennis, but she has two big projects on the horizon: designing and building a house with her fiancé and getting married this fall! We all look forward to working with her.

Holiday Party Highlight

One of the highlights of the holiday party in December 2011, was the puppet movie created by graduating senior **Matt Neubelt** (see http://www.clas.uconn.edu/news/news_2012_04_17b.html), **Anne Marie Carroll**, **John Turner** and **Brendan Pratt**.

In the movie, Matt and Brendan give a tour of the department to a prospective student, introducing him to several professors – all of whom were spoofed. They included **Gerald** [Crocodile Dundee] **Dunne** for whom all integrals are TRIVIAL; **Richard** [Indiana] **Jones** who controls everything in his lab in a determined and energetic manner, although the group meetings can be exhausting; **Juha** [Lion King] **Javanainen** who explains that undergraduate students don't know enough to know what they do not know; **Philip Mannheim** who convinces everybody that [saucy] Dark Matter does not exist, and then secretly meets her after the class; and the animated **Vasili Kharchenko** who uses animation in class.

The movie (http://vimeo.com/ 33154755) was a milestone in the emerging student entertainment business in our department. We hope our holiday gatherings continue in this entertaining manner!!

UConn Physics Graduate Student Placement, Fall 2012

Our last group of M.S. and Ph.D. graduates has done well beginning careers after physics graduate school. **Drew Chieda** is a Senior Design Engineer at ASML. **Cesim Dumlu** has returned to Turkey, his native country. **Shaozhen Ma** is a Senior Hardware Development Engineer at JDS Uniphase Corp. **Otim Odong** and **Nolan Samboy** are Visiting Assistant Professors; Otim at Delaware State and Nolan at the College of the Holy Cross. **Nikolay Markov**, **Ionel Simbotin** and **Renuka Rajapakse** have research positions at UConn. During his tenure in our graduate program, **Joseph Power** has been a full-time software engineer at Integrated Custom Software in Glastonbury. **Dimitry Karpov** is exploring the world of finance and **Zoran Pavlovic** is taking time off to enjoy being a new dad.

In Memoriam

We are sorry to report the passing of **Aino Ashton** on November 12, 2011. Aino was born in Estonia and immigrated with her family to the United States in 1924. She worked at Pratt and Whitney, Electro-Motive and Akim Engineering and the Willimantic Chronicle before accepting the position of Accounting Clerk for the Physics Department at UConn in March of 1963. Aino was known for her enthusiasm and friendly, helpful attitude inside and outside the department. She did an excellent job keeping accurate and timely records of grants and the department's funds - with a ledger and a pencil! She also processed all purchase orders, travel authorizations and reimbursements, visitor and seminar speaker stipends, payroll, etc. The Physics Dept. was a second family to her. Aino retired in 1979 with plans to move to California to be closer to her daughter and grandchild. However, the Physics Department was lost without her so she was hired back for several months the following year to help us adjust. She enjoyed holiday get-togethers where everyone brought their families and she loved baking for these events. Aino was a special friend to us all.

We are saddened by the loss of **Abu Fasihuddin** who passed away on November 19, 2011. At the time of his passing, he was actively teaching physics for the Hartford campus. Abu, originally from Bangladesh, was awarded his Ph.D. in physics in 1997 under the supervision of Professor **Douglas Pease**. He spent some time as a research specialist in Doug's group before becoming one of our undergraduate students' favorite professors.

Doug writes, "I know Abu through being his major thesis advisor. Abu's thesis work with Joe Budnick and me resulted in an article that has been cited by eighteen other publications. However, it is for his dedication to the students he taught and to his family that I will always value having known Abu. Abu felt a strong commitment to the University of Connecticut community; he always volunteered to help incoming freshmen move into their dorms and spent hours talking to students and helping them during his office hours. He and his wife, Azizun, raised two wonderful and successful children, Farah and Labib. Abu showed great courage in his battle with cancer; he was, in this struggle, always able to take an optimistic viewpoint. Even when I talked to him by phone in his last week, he told me he was looking forward to how much better he would feel with home care and comfort from his family. Abu was and remains a role model for gentle, courageous and compassionate living."

Paul G. Klemens, Emeritus Professor and former Department Head of Physics, passed away on July 26, 2012 at age 87. Born in Vienna, Paul was 12 when Kristallnacht occurred and the Nazis arrested Paul's father. Upon his release, the family fled to Australia in June of 1939. German-speaking Paul learned English and excelled immediately in math. A scholarship to University of Sydney led to B.S. and M.S. Degrees in physics. In 1948, Paul won a scholarship to Oxford University in England. In London Paul met Ruth Wiener and her family, who had fled Holland. Paul and Ruth married in 1950. With Paul's Ph.D. in physics, the couple settled in Australia until 1959 when they emigrated to the United States. Paul worked as a research manager at Westinghouse Research Laboratories in Pittsburgh, heading one of the groups advancing technology for national defense. In 1967, Paul began as Department Head at the University of Connecticut. He supervised thirteen Ph.D. students and helped advise many others on his specialty of transport properties of materials. During the turbulent years of the Vietnam war and of students' clamoring for greater influence in university governance, Paul was called upon to be one of the voices for civility and responsibility. It was a difficult time. Paul was a devoted student of history, discussed it with knowledge and eloquence, and had lived through a time when force had overwhelmed reason in Europe and elsewhere. While at UConn, Paul consulted for United Technologies, United States Naval Research Laboratories, and Los Alamos and Oak Ridge National Laboratories. A prolific author, he was recognized with a number of professional awards and fellowships. He also holds a number of patents. Paul stepped down as Department Head in 1974 and retired in 1991. His wife Ruth died this past October. Always grateful to the United States and devoted to their Jewish faith, Paul and Ruth both contributed greatly to education and other values of American society. Paul was quiet and unassuming in spite of his international renown. He was known for being gracious, approachable and always available to students. We feel honored to have known and worked with him.

ENDOWMENT NEWS

The Physics Department is very thankful for your endowment contributions, which continue to enhance our mission. The endowment of Drs. Henry and Constance Katzenstein will once again bring a Nobel Laureate to campus for the fifteenth annual "Katzenstein Distinguished Lecture." This fund also provides a monetary prize for the best undergraduate physics paper of the year (see related article on page 3). The Edward Pollack Endowment for Physics, initiated by Ed's family, supports an annual distinguished lecture in Atomic, Molecular, and Optical Physics.

We have several maturing funds intended to support graduate students doing research. Our most recent endowment, the "Kurt Haller Academic Opportunity Fellowship" which was initiated by Thomas J. Welsh (his former student, B.S. 1975) and acknowledged by Lottie S. Haller (wife of Kurt) in memory of Kurt Haller (Professor in Physics 1964-2004), was awarded this year to **Robert Dabrowski** from the City College of New York. This award provides support for graduate students demonstrating academic achievement and financial need.

The Georgiana and Marshall Walker Endowment rewards the student voted by the faculty as the best Teaching Assistant of the year. For 2012, the award was presented to **Drew Chieda**. The Anne and Win Smith Fellowship (Win Smith is currently Emeritus Professor of Physics) is awarded to students demonstrating academic achievement. This year, awards were given to **Hari Sharma** and **Brad Clarke**, arriving from the Tribhuvan University Kathmandu and Boston University, respectively. The Isaac S. and Lois W. Blonder Graduate Fellowship in Physics was named for Isaac Blonder - our first physics major, B.S., 1938. The Nagavarapu Graduate Award in Physics (Nagavarapu S. Mohan received his Ph.D. in 1975) was presented to **Richard Obrecht,** from the University of Nevada, Las Vegas. Other endowments include the Ruth and Paul Klemens Endowment Award, named in honor of our distinguished Emeritus Professor Paul Klemens (a world expert on phonons and thermal conductivity in condensed matter physics) and his wife Ruth, which supports graduate students interested in solid state physics; the Dwight Hills Damon Graduate Fellowship in Experimental Physics (initiated in 2006 in his honor and memory); the Edward Frisius Memorial Fellowship (initiated by his family, which includes Mauricette (Frisius) Stwalley, wife of William Stwalley, former Head of the Department (1993-2011) and Professor of Physics); and the Kurt Haller Endowment for Physics Research and Graduate Education, which provides research awards to our best graduate students (initiated in 2004 in his honor and memory).

Thanks to all of you who contribute to these funds. Many of you respond to the general solicitations sent out by the University; we would be grateful if you used the fund numbers on the next page to direct such contributions to the Physics Department. We appreciate your assistance in supporting and educating our students.

Making a Gift

There are many ways of making a gift including checks; marketable securities; planned or estate gifts; and through payroll deduction for University employees. Checks should be made payable to The University of Connecticut Foundation, with a cover note directing your gift. All gifts are eligible for tax deductions as The University of Connecticut Foundation, Inc., is recognized as a 501(c)(3) non-profit organization. Donors have the option of remaining anonymous if they wish.

STAY IN TOUCH

We've added a feature to our departmental web page that also assists our Alumni Office in updating their records. We would like to start an email distribution list for our Physics Alumni and Alumnae so that we can update you promptly when we have important news to share. Please help us by logging on to our site http://www.physics.uconn.edu and clicking onto the link for Alumni. That will take you to a page that requests your contact info, including your email address. There is also a place for any comments you would like to send us. We want to keep in touch and keep you posted. Thank you for your assistance.

I/we would like to support the Physics Department programs.
Please direct my gift of $_____ to:

- Kurt Haller Academic Opportunity Fellowship (31224-2014)
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- Edward Frisius Memorial Fellowship (22520-2014)
- Space-Time Twisting by Light Project (22398-2014)
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- Dwight Hills Damon Graduate Fellowship in Experimental Physics (31028-2014)
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I work for a matching gift company. The form is enclosed.

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Should you wish to support one of these efforts, please send your contribution directly to the University of Connecticut Foundation with the fund number of the program of interest to you written on your check.

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Thank you for your support!

Do you have any news about yourself that you are interested in sharing? We have enjoyed the unsolicited mail we receive as a result of our newsletters so now we're actively soliciting. Please send suggestions to: David Markowitz, Editor, at the Department address.

SAVE THE DATE October 12, 2012

Invitations for the Katzenstein dinner are about to be mailed. If you are interested in attending but do not receive your invitation by the end of September, please contact Kim Giard at 860-486-4924, email: kim.giard@uconn.edu.