Quanta

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A publication for the faculty, staff, students, alumni, emeriti & friends of the Department of Physics at Virginia Tech

IN THIS ISSUE:

Message from the Chair:

Here it is, the week of Thanksgiving already, when it seems that the semester had started just a few days ago! As we prepare for the end of classes and then final exams here in the department, we also anticipate the College of Science Staff Association's holiday party on December 9 and then our department's party on December 12 where we can share some cheer and laughter with our friends and colleagues. Looking further, everyone - including me! – will relish the opportunity to spend time with our close family and friends while Virginia Tech is on academic hiatus.

We have had many changes in our department since I wrote to you a year ago. Three new faculty have joined us in August - Lara Anderson, Shengfeng Cheng, and James Gray - and you will find a brief biography of each in this newsletter. Hans Robinson was promoted to Associate Professor with tenure in 2013; you will find a brief message from him as well. We have had several staffing changes over the past year: Ms. Sue Teel assumed the role of Business Manager after the early departure of Glenda Dalton in January. (Sue is the president of the Staff Senate and also a member of the search committee for Virginia Tech's new president - but she is sworn to secrecy so we can't get any inside information from her about our next leader!) Ms. Sherri Collins stepped up into the role of Assistant Business Manager when Tina Lawrence left for the green pastures at VT's Office of Sponsored Programs. We had a very nice retirement party for Tina and still keep in touch. Meanwhile, Ms. Christa Thomas retired after a long and storied career of 37 years with the Physics Department. Our staff organized a wonderful retirement celebration and dinner for Chris in August that was attended by her beloved students, family members, and friends from across the university and beyond. Ms. Betty Wilkins then moved up to assume the Graduate Coordinator position. The two vacancies were filled very recently by Ms. Heather Toler Osborne and Ms. Michele Strauss (replacing Betty). Meanwhile, Ms. Diane Walker-Green, our Undergraduate Coordinator and winner of the Presidential Star Award for excellence in 2013, was overwhelmed by our threefold increase in the number of freshman physics majors - we had the largest incoming physics class in the nation! - so we hired a new undergraduate advisor, Ms. Caitlyn Pin, to work with Diane in helping guide our students as they progress toward their bachelor's degree. Whew - so much going on!

As I said last year, we have a very young faculty now - John Simonetti and I are the old-timers, having both arrived in 1987 - and all of us continue to be very excited about the prospects for our collective future. We have just started the gears turning for an external review of our department - the last one having been conducted in 2008 - and are advertising for a new faculty hire in cosmology. With all of this activity, Robeson Hall is bursting at the seams! We need your moral support and encouragement to the university administration to start the renovation and expansion of Robeson! This project is high on the university's master plan but we need to get it to Number One. Working together and with your backing, we will continue to refine and pursue our strategy to contribute to Virginia Tech's success and eminence through increased research productivity, Interdisciplinarity, an increase in the number and quality of our graduate students, and growth in our faculty and staff cohorts.

Please enjoy this newsletter and drop me a line whenever the mood strikes or stop by my office, Robeson 125, if you are in the neighborhood! I hope you have a joyous and restful holiday season.

COLLEGE OF SCIENCE

Virginia Tech

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

APS elect Department Chair Leo Piilonen, Professor Uwe Täuber, and Professor Bruce Vogelaar as Fellows

"For his important experimental confirmations in the areas of lepton physics, CP violation, the CKM matrix, and quarkonia; and for his leadership of the Belle and Belle II Collaborations."

Leo Piilonen received his Ph.D. in nuclear/neutrino physics from Princeton in January 1985. After a postdoctoral stint at the Los Alamos National Laboratory, where he worked on rare muon and pion decays, he came to Virginia Tech as an assistant professor in 1987, where he joined the team of Profs. Alexander Abashian and Kazuo Gotow on the AMY experiment at the KEK laboratory in Japan. This was the start of Piilonen's long-standing working relationship with KEK that continues to this day. After the AMY experiment ended in the mid-1990s, Piilonen, Abashian and Gotow joined forces with others in the US, Japan and elsewhere to propose and then build and operate the Belle experiment at KEK from 1999 to 2010. The results from Belle provided the confirmation of a 1970's-vintage theory of a fundamental particle physics symmetry known as CP by Profs. Kobayashi and Maskawa and led to their receiving an equal share of the 2008 Nobel Prize in physics. Piilonen is now embarking on the second-generation Belle II experiment that will operate for about a decade starting in 2016. Piilonen is co-spokesperson of the 400-strong Belle collaboration and has served in many other managerial roles in Belle and Belle II. He hosted the general meetings of both collaborations at Virginia Tech in July 2013. Since 1989, Piilonen has served as PI or co-PI on grants totalling approximately $9.6 million, with his personal share being approximately $5.1 million. He has supervised nine Ph.D. students and has trained seven postdoctoral fellows over his career. He has authored or co-authored 453 refereed publications in international journals and conference proceedings. Piilonen was promoted to Associate Professor in 1993 and then Professor in 2002. He holds the William E. Hassinger, Jr. Senior Faculty Fellowship in Physics and was inducted into the Academy of Teaching Excellence upon being awarded the William E. Wine Award for Excellence in Teaching in 2011. He was the inaugural director of the Center for Neutrino Physics at Virginia Tech and stepped down in 2012 when he was selected as the Chair of the Department of Physics.

"For seminal and sustained contirbutions to the understanding of non-equilibrium, universal properties of reaction diffusion processes and driven diffusive systems, with applications in materials science and biological systems."

Uwe C. Täuber received his diploma (1988) and doctorate (1992) in condensed matter theory under the supervision of Franz Schwabl at the TU Munich, Germany, where he later also obtained his habilitation (1999). He spent his postdoc years at Harvard (1993-95), working with David Nelson and at Oxford (1995-97), with John Cardy. He joined the Physics Department faculty at Virginia Tech in January 1999, was promoted Associate Professor in 2003, and to Professor in 2006. He spent his two sabbaticals at Orsay and Oxford (2005) and at Paris (2012). Dr. Täuber's research has evolved from the theory of structural phase transitions and the critical dynamics of magnets to the statistical physics of systems driven away from equilibrium. Recent work has addressed nonequilibrium phase transitions and structure formation in reacting particle systems, the dynamics of driven flux lines in superconductors, and nonequilibrium relaxation in disordered systems. He has coauthored more than 80 scientific papers and a graduate textbook on Critical Dynamics (to be published at Cambridge University Press in 2014).

"For significant contributions to neutrino physics and underground science, especially through his leadership in calibrating the Borexino detector, with the first real-time detection of 7Be solar neutrinos, and his creation of the Kimballton Underground Research Facility, which is opening up new opportunities for fundamental physics experiments."

Prof. R. Bruce Vogelaar received his Ph.D. in nuclear astrophysics from Caltech in 1989, and became an assistant professor at Princeton University after two years as head of its cyclotron operations. During that period he led and expanded the nuclear astrophysics program and branched into neutrino physics, where he developed the critical nylon vessel technology for the Borexino solar neutrino experiment (designed to measure the Be-7 neutrino flux from the Sun) in the LNGS underground laboratory in Gran Sasso Italy. He subsequently moved to Virginia Tech in 1998, was promoted to professor, and does research in fundamental weak-interaction physics. He launched the 'neutrino initiative' at VT, resulting in four additional faculty hires in that sub-field, and in 2005 led a science team of over a hundred researchers to develop the local Kimballton mine as a venue for the NSF proposed Deep Underground Science and Engineering Facility (DUSEL). While DUSEL never materialized, he is currently the founding director of the reduced scope Kimballton Underground Research Facility (KURF). His research today is funded by the National Science Foundation (over $17M as PI/co-PI, over 60 publications), and includes fundamental symmetries using ultracold neutrons at the Los Alamos National Laboratory, calibration of the Borexino experiment, and leading the LENS collaboration to develop a next-generation solar neutrino detector (capable of measuring the complete solar neutrino spectrum for the first time). Prof. Vogelaar is also leading development of a new transformative approach to accelerator-driven nuclear energy production called GEM*STAR in collaboration with ADNA Corp. and Muons, Inc.

"Visitors from Afar: Meteors, Comets, and Asteroids, Including new Comet ISON."

On November 12, professor Nahum Arav gave a campus wide Webinar titled "Visitors from Afar: Meteors, Comets, and Asteroids, including new Comet ISON."

The webinar was the second Human Resources "Our Virginia Tech: Building Community at Virginia Tech" virtual brown bag lunch for, and by, Virginia Tech employees. Roughly 100 VT employees watched the webinar on their computers and several participated by asking questions. The highlight of the talk was comet ISON, a much-anticipated first-time visitor to the inner solar system, which did not survive its Thanksgiving Day (November 28) close encounter with the sun. As it blasts around and very close to the sun, traveling at 400 kilometer per second, the comet was heated to about 3,000 degrees Kelvin, hot enough to vaporize rock and metals. Due to its small size and these extreme conditions the comet fully evaporated and its debris quickly faded from view a day after its closest encounter with the sun.

In short...

Professor Seong K. Mun was recognized as Virginia Tech scholar of the week June 18th.

- **Professor Nahum Arav** was recognized as Virginia Tech scholar of the week April 29th.
- **Professor Emeritus Royce Zia** co-hosts a reception for Humboldtians at the APS spring meeting in Baltimore MD.
- **Professor Patrick Huber** was awarded a Global Issues initiative grant by the Institute for Society, Culture, and Environment.

Professor Hans Robinson was promoted to Associate Professor with tenure. Hans received his Ph.D. from Boston University. He was a Post-Doctoral research associate at UCLA's Electrical Engineering department, where he did experimental and theoretical work in quantum information processing. Han's research interests include optoelectronic and quantum mechanical properties of nanostructures.

In Memoriam

Alumnus Robert Richardson, Nobel Laureate physicist and member of the College of Science Roundtable, died Tuesday, Feb. 19 in Ithaca, N.Y. He was 75.

Richardson, who received both his Bachelor of Science and Master of Science degrees from Virginia Tech in 1958 and 1960 respectively, received the Nobel Prize in Physics in 1996 for his work on superfluidity in helium-3, a breakthrough in the area of low-temperature physics.

Former professor Richard Rusk passed away on Friday, August 23, 2013 at the age of 97. He is survived by nieces, Kimberly Weiler and Alberta Weiler Shoulders and nephew, Jeffrey Keith Weiler. He was preceded in death by his wife of 46 years, Thelma Weiler Rusk.

Dr. Rusk joined the Department of Physics in 1949, where he remained until retiring in 1982. During his tenure in the department, he served as an associate professor and assistant department chair.

Welcome Our New Faculty Members

Lara Anderson joined the department as an assistant professor in August 2013. She completed her PhD at the University of Oxford in 2008 as a Rhodes Scholar and has held postdoctoral positions at the University of Pennsylvania and Harvard University. Her research interests include high energy particle physics and string theory. In particular, she explores the links between geometry and particle phenomenology in string theory -- including compactifications of heterotic string theory, M-theory and F-theory. She is interested in better understanding the low energy effective physics of string theory, using tools from algebraic geometry. When she's not doing physics/math, Lara enjoys cooking, martial arts, and playing the violin.

Mary Norris joined the department as Teacher in Residence. I am fortunate to have spent the last 28 years teaching physics, first at Radford High School and most recently at Salem High School. I hold a BS in Geophysics and an MA in Curriculum and Instruction, both from Virginia Tech, and am currently a PhD student in Educational Research and Evaluation. I live in Blacksburg with my husband, Dan, and 2 of my 3 sons. This year I am taking a leave of absence from the high school classroom to serve as Virginia Tech's teacher in residence. When I tell people that I am a physics teacher, they almost always share one of three memories with me. Either they loved physics because their teacher made it so interesting, they never understood physics because their teacher was so hard, or they happily managed to avoid physics because it sounded too difficult. Physics is a fascinating discipline, but it does not stand alone. In teaching, the topic is moderated by the teacher. If we want people to understand and care about physics, then we need to prepare highly qualified physics teachers. I am very excited to be a part of PhysTEC this year and to be able to spread the joy of physics teaching to our students.

Shengfeng Cheng joined the department as an assistant professor in August 2013. He obtained his Ph.D. from Johns Hopkins University in 2010 and then joined Sandia National Laboratories as a postdoctoral appointee. Before coming to the United States, he attended Nanjing University in China and graduated with a Master of Science degree in 2003. His research interests center on theory and molecular modeling of soft condensed matter systems including polymers and nanocomposites. His hobbies include soccer, weiqi (a board game popular in east Asia), and hiking.

2010 Johns Hopkins University (Baltimore, Maryland, USA), Ph.D. in physics
2003 Nanjing University (Nanjing, China), M.S. in physics
2000 Nanjing University (Nanjing, China), B.S. in physics

James Gray joined the department as an assistant professor in August 2013. He completed his PhD (in cosmology) at the University of Sussex in the UK before moving on to postdoctoral positions in Newcastle, Durham, Paris and Oxford. He came to VT from a assistant professor position at LMU in Munich. James' research interests are focused on studying the cosmology and particle physics which can arise from string theory. His work uses large algorithmic scans over classes of solutions to string and M-theory to find cases which are promising for phenomenology, and formal mathematical work in geometry to understand the underlying structures of the resulting models. When not doing research, his time is taken up by acting as staff for his cat, Izzy.

Diane Walker-Green receives 2013 President's Award for Excellence

Diane Walker-Green, undergraduate program coordinator for the Department of Physics in the College of Science at Virginia Tech, has received the university's 2013 President's Award for Excellence. As a result, she was also a finalist for the Governor's Star Award.

The President's Award for Excellence is presented annually to up to five Virginia Tech staff employees who have made extraordinary contributions by consistent excellence in the performance of their job or a single incident, contribution, or heroic act. Each recipient is awarded a $2,000 cash prize.

For more than 12 years, Walker-Green has been the support structure for undergraduate physics majors and for faculty in their teaching and daily interactions with students. Affectionately known as the undergraduate mom, Walker-Green is the direct contact for all physics majors.

"By design, Diane's office is directly across from the Society of Physics Students meeting room, where many majors gather daily," said John Simonetti, professor and associate department chair. "In addition, she frequently sees students passing by her office and calls them in if she hasn't seen them recently. Indeed, the students often come to her office to discuss personal problems, particularly if these problems are impacting their academic careers."

Of particular note is Walker-Green's work with a blind physics major, now in her third year. She has been heavily involved in not only recruiting the student, but also monitoring and enabling her progress. Walker-Green has been in continual communication with all parties involved in the education of the student, including faculty members, Services for Students with Disabilities, and the Office of Assistive Technologies.

Walker-Green spends many weeks each year on the road meeting with high school students and teachers and recruiting physics majors to Virginia Tech. The department's number of majors has increased significantly in recent years, so much so that it needs to find larger classrooms outside of its home base in Robeson Hall.

"Diane's presence in our department has made my work and the work of our faculty much more effective," Simonetti said. "Students dramatically testify to Diane's efforts on their part, and routinely tell the us how vital she has been to their success at Virginia Tech. I consider her as an indispensable colleague."

Excerpted from an article by Catherine Doss for Virginia Tech News. Published on April 26, 2013

Welcome Our New Staff Members

Sue Teel Sue joined the department in February as business manager and is a true Hokie. She received her BS in Family and Child Development with certification to teach preK-8 and her MAEd in Instructional Technology and Design from Virginia Tech. After spending time in the public schools she decided she didn't want to be a teacher when she grew up. Life took many paths and twisted directions until she landed at Tech as a fiscal technician in Aerospace and Ocean Engineering and then ultimately at Commerce Street. When not at work - "am I ever not at work?" Sue enjoys spending time with her husband, Bull, and 4 four-legged children (miniature schnauzers).

Caitlyn Pin - Cait joined the department as an Undergraduate Advisor in October 2013. Born and raised in Northern California, she and her husband moved to Blacksburg in July of this year. Cait has her Master's degree in Psychology and has experience as an Academic Advisor and as a licensed Marriage and Family Therapist in California. She is very excited to be back in advising and working at Virginia Tech with such an intelligent and interesting group of students. In her spare time Cait enjoys yoga, hiking, eating ethnic foods, creating things in the kitchen, and spending time with friends and family.

Heather Toler Osborne joined the department as a Program Support Technician in August. She lives in Christiansburg, Virginia with her husband Robbie Osborne. They have been married for four years and have two beautiful Pitt Bulls, Kassie and Kingston that they share their love and home with. Her professional background stems from the restaurant industry where she has over ten years of experience and with more than seven years in management. She has a strong background with accounting functionalities and customer service. Her passion is her family and she loves spending time outside in the sun on the lake or at the beach.

Michele Strauss joined the department in September as a Program Support Technician. She was born and raised in Radford Virginia. Although she lived in Columbus Ohio from 2000 to 2011 it never felt like home. Before joining the department she was an administrative assistant for NCO Financial Systems, Inc. a collection agency in Columbus. She has three children ages 16 to 21 that keep her very busy as well as entertained.

Mark Brown takes Bowden essay prize

Physics and the Unknown

Before the 20th century, no one could have dreamed that the non-intuitive, insane, and paradoxical world often described by a system as strange as quantum mechanics could be our own. It violates almost every principle of common sense. In this bizarre world, matter is both a wave and a particle, electrons regularly move through impassable barriers, and the universe seems to play dice with positions and velocities. Every instinct we have tells us that a mouse running at a solid brick wall will never break through it, appearing on the other side. Yet quantum mechanics tells us otherwise.

When Erwin Schrodinger first came up with the quantum mechanical paradox known today as "Schrodinger's Cat", he thought to use it as an example of the insanity of quantum physics, and as evidence that it could not possibly be true. However, years later the same thought experiment would be used to illustrate the fundamental principles of quantum mechanics he originally thought to disprove.

Even after quantum mechanics was understood and thoroughly tested, it was not immediately obvious how impacting it would be on society. It took science 54 years to get from the proposal of the quantization of certain physical properties to the development of the first silicon transistor. Quantum mechanics went from studying abstract and strange phenomenon that seems hardly affects us at all, to absurdly difficult and abstract theoretical work, to becoming the foundation of discoveries and technologies that have changed the world.

Quantum mechanics is a recent example of this phenomenon, but looking back far enough it is simple to see that many of the most foundational aspects of modern science began in exactly the same way. Newton's first challenges were mapping out the trajectories of the planets, and imagine how abstract and useless calculus must have seemed to the passerby of the time. The discovery of the connection between electricity and magnetism began by using a magnet and a loop of wire to make an ammeter needle twitch. To the passerby, it was still just someone playing with magnets. Neither of these had immediately obvious practical applications, and yet years later they would lead to the physics that hold skyscrapers together, and the laws governing modern electronics. These discoveries led to better tools and lives; they are the foundation of many current and future sciences.

Modern physicists face many problems. One of which is that people are ever more hesitant to fund and support research that has no apparent application. Some question the use of theoretical physics and science in general, at times attributing more credit to engineers who specifically design their cars or houses. Whether in string theory, astrophysics, or high energy particle physics, many scientists dismiss even their own research as being useless, having no application, or being purely for the intellectual thrill of it.

Much of the public views these studies in an even harsher light, criticizing them as a waste of money when our society has more pressing needs. Many see little use in these projects and studies because they have no obvious direct impact on their lives. Someone might begin to hear about the abstract eleven-dimensional 5-branes in string theory and immediately dismiss it, assuming that such an abstract study could never affect them. People hear about the Higgs Boson, but dismiss it because whether it exists or not, mass and gravity still work. People resist the opening of a vast new area of astrophysics based on gravity waves through LISA, a laser interferometer space antenna, on the basis that they cannot see what could come out of such research.

This approach to science defies its fundamental motivations and philosophies. The realm of physics is by nature an exploratory one. On its true forefront are scientists testing the unknown, looking for things that they have never seen before, and thinking of things that have never been thought of before. Many of the greatest physicists are motivated not by their materials, results, or money, but by true curiosity driving them to understand how the universe works. The greatest questions in physics are about phenomenon that we observe but cannot explain. From dark matter and dark energy to the theory of everything, these abundant questions are some of the most appealing, motivating, and inspiring aspects of physics. All while the greatest answers uncover things that, in a past life, we never could have imagined.

The same principle can be applied directly to many other areas, such as education. We do not teach students with the knowledge that one of them will become the next great Richard Feynman. Instead, we teach with the knowledge that each student has the potential to do something great, to make a difference, and to foster greater understanding.

Science's greatest discoveries often come from unexpected and unpredictable places. Great scientists do too. In being scientists we strive for objectivism, preventing our preconceptions as to what the results should be from interfering with the way we interpret our data. Then, we should also avoid letting our preconceptions as to what should come from an experiment from influencing what projects are funded. Instead, we should simply strive to explore the dark corners of the universe and our interactions with it. In supporting and funding future scientific endeavors, we must not limit ourselves to only what we can see directly in front of us. After all, you never know what lies around the next dark corner.

Applause, Applause!

- **Brian Roper** won the Commendation Award in the 2013 Graduate Teaching Assistant Excellence Award.
- Graduate student **Brandon Bear**, received the 2013 Jamie Dunn Award.
- Congratulations to our Society of Physics Students chapter and advisor Vicki Soghomonian for being named Outstanding SPS Chapter for 2011-12!
- **Ben Intoy** was awarded 2013 Lubna R Ijaz Scholarship.
- **William Lewis Jr**. '63, A. **Clifton Lilly Jr.** '89 (posthumous), and **Robert C. Richardson** '58 and '60 (posthumous) were inducted into the first class of the College of Science's Hall of Distinction.

Awards Day 2013

On Friday, April 12, 2013, the department held its annual awards day assembly. Awards were presented to thirty eight students in honor of their academic excellence in undergraduate and graduate studies.

Keynote speakers Daniela and Gregory Topasna (class of 1999) spoke of their time as graduate students at Virginia Tech. They also spoke of their experience teaching cadets at Virginia Military Institute.

An Undergraduate Physics Education Provides Nature Insights

By Marlene A. Condon Class of 1979

A Ruby-throated Hummingbird may not seem very important in the world of physics, where neutrinos and quarks to neutron stars and quasars are subjects of interest. However, this tiny bird, weighing only just more than a tenth of an ounce (3.4-3.8 grams, on average), plays vital roles—as all wildlife species do— in helping to make the Earth habitable for physicists (and the rest of mankind).

This species also gave me a clue from which I was able to deduce, with the aid of my physics education, a basic truth about wildlife behavior. Hummingbirds spend a great deal of time hovering at flowers to obtain nectar. Most people watching this activity think very little about it; they take for granted that the hummingbird is physically capable of hovering and they assume there's no reason for the avian creature to perch while feeding. Consequently, many commercial hummingbird feeders (to provide sugar water) have no perches for hummers to rest upon. However, I'd noticed that a hummingbird would rest when that option presented itself. I've ardently observed wildlife for as long as I can remember. While a student at Tech, I felt fortunate to live in an old trailer on Glade Road where I was able to watch hummingbirds visit my feeder and flowers as I studied outdoors. When feeding at Trumpet Creeper (Campsis radicans) blooms that can hold the bird's weight or morning glory (Ipomoea spp.) blossoms vining up a plant trellis upon which the bird can "sit" to feed, a hummer will often rest instead of hovering. Knowing that all biological functioning is affected by the laws of physics, I recognized that a hummingbird has to work (expend energy) to hover. I also realized that a wild animal (unlike an undergrad on the meal plan) often doesn't know when it's going to get more food. Thus it would be logical for an animal to want to conserve energy. In this case, it was easy to prove that my conjecture was valid. I set up two sugar water feeders, one without perches and one with perches. As I expected, the birds preferred the feeder that allowed them to rest while feeding. Switching the feeders made no difference; the birds preferred the feeder with perches no matter which location I hung it in. The knowledge gained from this experiment may seem trivial and perhaps even irrelevant, but it has vast and extremely useful application in the real world. For example, a bear is strong and quite capable of breaking into a car or house. People are terrified of these big mammals when they hear about or experience such an incident because they think a bear will force its way inside for no particular reason. Their fear often results in wildlife being killed. This tragic reaction might not take place if people truly understood the "why" of these situations. In other words, if they knew that an animal can't afford to waste energy, they could easily understand that it will only expend energy when the probability is high that it will be rewarded for its efforts. In other words, the bear needs to suspect (smell) that there is food on the other side of the barrier. When you know this, it's obvious that the solution is to keep food odors from emanating from doorways or windows and to never leave food or food wrappers inside a vehicle. For people to accept the natural world and not fear it, they must be able to make sense of it. My knowledge of physics has helped me to better understand nature, which has made my nature writing not only informative, but also practical in its application. It's the reason I've been so widely published, which has led to my being asked to teach. My classes have been offered through various University of Virginia public outreach venues: the School of Continuing Education and Professional Studies and JILL [Jefferson Institute of Lifelong Learning] which is now known as OLLI [Osher Lifelong Learning Institute] at the University of Virginia.

I've also been giving slide presentations from spring to fall for the past ten years in Shenandoah National Park.

Chris Thomas retires after nearly four decades of service

During her thirty-seven years as a staff member in the Department of Physics, Chris Thomas wore many hats. Upon her retirement, we look back on her career and why many have called her the "soul" of the department.

When Chris joined the department in 1975, she worked part-time in the physics library. Within months, she had secured a full-time position as bookkeeper. Her willingness to help with anything that needed to done gained her the favor of fellow staff members. "The staff asked me to please apply for the job. I was not sure about that but they were so encouraging that I did," Chris says.

Over the next 20 years, Chris took on various administrative roles in the department, covering the graduate program, research grants, the undergraduate program during a staff transition, and even the position that is now business manager. Then, in 1995, she assumed the role of graduate program coordinator, which would prove to be her lasting legacy.

Chris combined her expertise of the administrative workings of the university with her innate ability to work well with students, and set the bar high for graduate coordinators across campus. Soon, other coordinators were going to Chris for advice. In 2009, she was awarded the President's Award for Excellence for her consistent effort to go the extra mile for her students, from the time they apply to the graduate program to well after they leave the university.

At her retirement party in August, many current and former students expressed their gratitude for Chris' tireless dedication. One student sent flowers and a letter thanking her for all the help she gave him and his fellow students from China, even "officiating" an unofficial wedding for him and his wife here in Blacksburg. Other students told similar stories of how Chris went above and beyond the call of her job, whether it was picking up students from the airport, driving them to the emergency room, or making sure they had secured the funding needed to continue their studies.

Chris says her retirement party was one of the most memorable moments of her time with Physics. "It was all around amazing and people still comment on it and the palpable atmosphere of love and affection that was evident in the room."

Picture of Chris during her early years in the department

Although she will miss the students, faculty, and staff, Chris says that she will not miss leaving home when it is still dark in the morning or when the weather is bad. She looks forward to having more time to keep up with family and students. She also hopes to take advantage of reading and would love to accept some of the many invitations for traveling she has received from students since announcing her retirement.

The physics family thanks Chris for being such a faithful friend and wishes her all the best for what's to come!

Written by Betty Wilkins

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The Physics Department Annual Fund

One person can make a big difference!

The Department of Physics is seeking strongly enhanced national and international recognition for its research and educational programs. With excellence in nanoscience, complex systems, particle physics and astrophysics, the department is already targeting areas of nationally recognized importance. By strengthening these efforts and expanding into interdisciplinary opportunities in biophysics and medical physics, we will position the department at the leading edge of scientific discovery for many years into the future. We will continue to set high standards of excellence in undergraduate and graduate education, focused on fundamental principles and emerging frontiers.

Your support is critical for our success. Any monetary contribution you make could be used to expand and renovate Robeson Hall or fund student scholarships. You may also establish a fellowship or professorship in your name or endow a postdoctoral research position. When you receive your College of Science Annual Fund letter or phone call, please earmark your support for the Physics Department. Simply make a notation on the gift card or let the caller know that you want to direct your donation to the Physics Department. You can also visit our Web site, http://www.phys.vt.edu/giving, or call gift accounting at 1-800-533-1144. For more information or to learn more about other ways to give, please contact Jenny Orzolek, Director of Development for the College of Science, at 540-231-5643 or jorzolek@vt.edu.

We thank you in advance for your support!

Physics in Your Neighborhood!

Alumni Reunion – 2014 March Meeting of the APS in Denver, Colorado (Time and Place TBD)

For more information, go to http://www.phys.vt.edu/events