Department of Physics at Virginia Tech

Awards Ceremony
April 12, 2013
Virginia Tech Physics Department

Awards Ceremony

April 12, 2013

Master of Ceremonies
Michel Pleimling and Eric Sharpe

Opening remarks and
Leo Piilonen

Introduction of Guests

Recognition of College Awards
Leo Piilonen

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Daniela and Gregory Topasna

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John Simonetti

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Jean Heremans

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Jean Heremans

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Awards and Recipients

Each award recipient has provided a short autobiography that includes his or her personal background, extracurricular activities, honors and achievements, research endeavors, and career goals.

Jamie Dunn Award
Brandon Bear – Hellam, PA

This award was established in 1982 in the memory of Jamie Dunn by the Dunn family. Jamie was a graduate student in the physics department doctoral program. He was in the final stages of the research of a very difficult experiment on electron energy loss spectroscopy. A tragic accident claimed his life in 1982. In recognition of his work, he was awarded the Ph.D. posthumously. The award is given to a physics graduate student or students who demonstrate some of Jamie’s qualities: goodwill, enthusiasm for physics, determination to overcome adversity, and a great love for life.

Brandon Bear is a fourth year graduate student from Hellam, PA, researching the detectability of radio transient signals from neutron star binary system mergers. He is also half-way through completing a Master’s degree in Educational Psychology, with the intention of teaching and researching astrophysics and physics education at a liberal arts college. Brandon aims to contribute to the promotion of science education and to produce more high school physics teachers. On the side, Brandon is an assistant coach for cross country and track & field at Blacksburg High School and is training to be an elite marathon runner within the next four years.
Ray F. Tipsword Graduate Scholarship
Shaola Ren- Suide, Shaanxi, China

Following his retirement in 1992 from a career in both general and condensed matter physics, friends and family members of Professor Ray F. Tipsword established a scholarship in his name. The Tipsword Graduate Scholarship, first awarded in 1995, is awarded to a promising graduate student in the area of condensed matter physics, statistical mechanics, and/or optics.

Shaola Ren was born in Suide, Shaanxi, China. She joined Virginia Tech in the fall of 2009 after graduated from Tsinghua University. She started to work in Prof. Heremans’ group from the summer of 2010. The research is focused on spin involved phenomenon and electronic transport properties of low dimensional nano devices fabricated on InGaAs and GaAs semiconductor.

Dr. James A. Jacobs Memorial Graduate Fellowship
Yao Zhang- Jinan, Shandong, China

The Dr. James A. Jacobs Memorial Graduate Fellowship was established in 2007 as a memorial to Dr. James A. Jacobs. Dr. Jacobs was a professor in the department from 1960-1978 and served as the department head from 1960-1973. Faculty and students who remember Dr. Jacobs and his numerous accomplishments established the award in his honor. It recognizes a graduate student who demonstrates academic excellence.

Yao Zhang is from Jinan, the capital of Shandong province in eastern China, more or less like where Blacksburg is in United States. He graduated from Peking University in 2007, and then joined Prof. Heremans’ group at Virginia Tech for his graduate study in 2008. He chose experimental condensed matter physics as his research area, mainly focus on low temperature magneto-transport characterization of III-V semiconductors. He is interested in both academic and industry. In his spare time, he loves playing American football and basketball.

William E. Hassinger Graduate Fellowship
Doug Edmonds– Richmond, VA
Ben Intoy– Stafford, VA
Michael Meeker-Smithtown, NY
Erich See– Chapel Hill, NC

In Spring 2006, the physics department first presented the William E. Hassinger Graduate Fellowship as one of its most recent endowments. A physics graduate in the Class of 1950, Bill has been an enthusiastic supporter of our department. This fellowship was created to encourage and support students coming from the surrounding communities, who are pursuing graduate degrees in physics.

Before joining Virginia Tech in the fall of 2007, Doug Edmonds received Master of Science degrees in physics and mathematics from Virginia Commonwealth University. His physics research was on characterizing spacetime very near singularities, and his mathematics research was on Dynamical Groebner bases, a topic in algebraic geometry that has application to integer programming problems. At Virginia Tech, Doug studies outflows from accreting supermassive black holes under the guidance of Professor Nahum Arav. While he is kept quite busy with research, Doug has an art background and hopes to get back to painting and print making some day soon.

Ben Intoy was born in Oxnard, California where his father, an officer in the Marine Corps, was stationed at the time. They traveled a lot because of his father’s deployments before settling in Stafford, Virginia in 1999. He started his undergraduate studies at Virginia Tech in fall 2006 and received his bachelors degrees in physics, mathematics, and economics in spring 2010. Ben continues his studies as a PhD student in the physics department at Virginia Tech under Professor Michel Pleimling and researches population dynamics of cyclically competing species. Later Ben hopes to use his physics background to solve socio-economic problems. When he is not researching or helping physics majors in the Physics Learning Center, Ben is taking online classes on Coursera or patiently waiting for Game of Thrones episodes/books to come out.

Michael Meeker completed his undergraduate work at Stony Brook University. He came to Virginia Tech in 2011 in order to perform experiments in condensed matter. He currently works in Professor Khodaparast’s group where he employs several advanced optical techniques to understand fundamental properties of several semiconductor structures. After graduation, he would pursue a post-doctoral position, and ultimately intends to work in either a national laboratory or the private sector.
Clayton D. Williams Graduate Fellowship in Theoretical Physics

Ulrich Dobramysl-Puchenau, Austria
Bei Jia- Yan’an, Shaanxi, China

This award was established in 2008 by Dr. Klaus Wiemer and his wife, Stella Wiemer. Dr. Wiemer is a proud alumnus of the College of Science, having received his Ph.D. in physics in 1969. The couple created this award in honor of Associate Professor Emeritus of Physics, Dr. Clayton D. Williams, who taught full-time at Virginia Tech from 1961 to 1996, and who was Dr. Wiemer’s mentor. Recipients shall be, at the time of receipt of the fellowship funds, graduate students within the Department of Physics, demonstrating academic excellence and good progress towards a Ph.D. in theoretical physics.

Ulrich “Uli” Dobramysl grew up in the small town of Puchenau near the city of Linz, Austria. He enrolled in the physics program of the Johannes Kepler University Linz and graduated in spring 2009. Uli joined the Department of Physics at Virginia Tech in Fall 2009. His research, under the guidance of Dr. Uwe C. Täuber, focuses on relaxation properties of driven magnetic flux lines in type II superconductors, as well as effects of environmental and internal variability in ecological models. Uli will defend his Ph.D. thesis in mid-August and already accepted a position as a postdoctoral researcher at the Mathematical Institute at the University of Oxford, UK. Starting in October he will work on the stochastic modelling of biological systems. In his spare time Uli likes to spend time with his family and play with his two-month old daughter.

Bei Jia was born in Yan’an, Shaanxi, China. He has been working on topics in string theory, quantum field theory and pure mathematics under the guidance of his physics Ph.D. advisor, Professor Eric Sharpe, and his math Master’s advisor, Professor Peter Haskell. He is about to get his math Master’s degree by the end of this semester. He has plans of pursuing a career as a researcher in fundamental physics and pure mathematics. He has a lovely 11 months old daughter, with whom he spends his spare time playing.

Phillip Morris Physics Fellowship
Martin Rudolph- Jena, East Germany
Dong Wang- Xi’an, Shaanxi, China

Established in 1989, the Phillip Morris Physics Fellowship honors academic excellence in graduate studies.

Martin Rudolph was born in Jena, East Germany and immigrated to the United States at the age of four. He grew up in Albuquerque, NM, where he spent a lot of time outdoors hiking, camping, playing soccer, and playing tennis, for which he was the NM state high school tennis champion. In 2008, Martin received a B.S. in physics, along with minors in mathematics and mechanical engineering, from New Mexico Tech in Socorro, NM.
Excellence Award for Graduate Teaching Assistant
Brian Roper - Jacksonville, FL

Established in 2007, this award recognizes excellence and exemplary commitment in the performance of teaching duties. It is awarded to a graduate student who exhibits outstanding rapport with undergraduates and successfully fosters understanding of physics concepts. The department strives to encourage and acknowledge this valuable contribution to our education mission.

Brian Wade Roper was born in Jacksonville, Florida and is a graduate student finishing his Masters of Education degree focusing on teaching of high school physics, chemistry, and mathematics. He has hopes to teach physics at the high school level next Fall in northern Colorado and would like to transition to a project-based-learning physics program in the near future. In his spare time he enjoys spending time at the observatory showing people the night sky, astrophotography, rock climbing, and reading.

Wan-Zia Scholarship (Graduate)
Linjun Li - Chengdu, Sichuan, China

Established by Prof. B. Schmittmann in 2012, the Wan-Zia Scholarship is endowed through generous donations from the friends and colleagues of Prof. R. K. P. Zia. Intended as a continuation of the C. H. Wan Scholarship, it is awarded to graduate and/or undergraduate students who are recognized for excellence in scholarship and active engagement in research.

Linjun Li was born and raised in Chengdu, the capital city of Sichuan Province of China. From very young, she was found inquisitive about all kinds of natural phenomena. On the third year of her high school, Linjun chose to study physics in Sichuan University so that she can have more opportunity to understand the physical world. In the mean time, she finished her second major of English Language and Literature. After graduating with bachelor’s degrees of science and arts, she came to the department of physics of Virginia Tech to further her education on physics, where she focused on the field of non-equilibrium statistical physics. Linjun will graduate in December of 2013 and will work on a technical or research job after graduation.

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Wan-Zia Scholarship (Undergraduate)
Mark Brown - Herndon, VA

Mark Brown grew up in Herndon, Virginia. His current physics interests are broad and developing, including the fields of nanotechnology, condensed matter physics, and nuclear physics. In addition, Mark is thrilled to be studying particle physics at the Cornell University Research Experience for Undergraduates program this summer. In his spare time, Mark also enjoys playing the trumpet in various university jazz and classical ensembles. After getting his undergraduate degree, Mark is looking to attend graduate school to obtain a PhD in physics.
Robert P. Hamilton Prize  
David “Matt” Kriete, Jr.- Chesapeake, VA

The Hamilton Prize is named in honor of Dr. Robert Preston Hamilton, who received his Bachelor’s degree from Virginia Tech in 1974. Led by Tech professor Dr. David Jenkins, several generous donors, including Hamilton’s classmates, professors, and especially his family, established the Robert P. Hamilton Prize in 1991, four years after his untimely death from cancer. As a prolific researcher in the field of experimental elementary particle physics, Hamilton established a notable record in the nine years he lived after receiving his Ph.D. from Berkeley. The prize is awarded to a student who has exhibited both career promise and the very high scholastic standards for which Hamilton was known.

Matt Kriete lived in St. Marys, GA, Crofton, MD, and Chesapeake, VA before arriving in Blacksburg fall 2010. He has been interested in nuclear fusion from a young age and hopes to work on the International Thermonuclear Experimental Reactor (ITER) after going to graduate school to conduct plasma physics research. He will spend the coming summer at General Atomics in San Diego, implementing a microwave imaging system on their DIII-D reactor. In his occasional spare time, Matt enjoys playing video games, especially from the Halo series, and reading books, the most recent ones being the A Song of Ice and Fire novels.

Frank Leigh Robeson Scholarship  
Adam Mills- Princeton, WV

Early leadership in the development of the Virginia Tech Physics Department was due to the work of one man - Dr. Frank Robeson, after whom the physics building is now named. Robeson was the first doctorate level physicist at VPI and was the author of a widely adopted textbook in the 1940s. In 1995, the Robeson family endowed a scholarship in his honor and memory. The scholarship goes to a student who has demonstrated academic achievement, personal integrity, extracurricular leadership, community service, and appreciation of physics.

Adam Mills is a second year physics major from Princeton, West Virginia. He is interested in solid state physics and is currently doing research in scanning probe microscopy. Aside from physics, Adam enjoys playing basketball, wallyball, and pretty much every other sport with or without a ball. He hopes to one day go to graduate school and figure out what he wants to be there.

Col. Nelson Carey Brown Memorial Scholarship  
James Mayberry– Madison Heights, VA

This scholarship is endowed by Dr. Nancy Brown in memory of her late brother, Col. Nelson Carey Brown, Virginia Tech Class of 1965. Col. Brown felt that both his education in physics and the leadership skills he learned in the Corp of Cadets were critical to his professional success. The scholarship is awarded to an entering freshman majoring in physics who demonstrates academic ability and financial need. The award can be retained for up to four years as long as the student maintains a GPA of 3.0 or higher and remains a physics major.

James Mayberry was born and raised in Madison Heights, VA. His physics interest sprouted from an influential mathematics teacher in high school. His current research interests are in condensed matter physics. In his spare time, he plays video games and spends time with friends.

Alice Estes Martin Scholarship  
Matthew Church- Bedford, VA

This scholarship provides incentive and support to a physics major of high academic achievement who is committed to teaching physics in secondary school. Professor Dale Long initiated this endowed scholarship in 1991 and named it in honor of Alice Estes Martin, an inspirational former teacher in Louisa County High School (Virginia). Family members and other students of Mrs. Martin, as well as friends of the Physics Department, have also contributed to this endowment.
Hugh D. Ussery Scholarship
Marc Pomeroy-Long Island, NY

When the family of the late Hugh D. Ussery endowed a scholarship in his name in 1984, they established the first such award for the Virginia Tech Physics Department. Professor Ussery joined the faculty in 1934 and remained at VPI for nearly 40 years. During his time here, he developed a laboratory in optical spectroscopic analysis of which he was very proud. The Ussery Scholarships are awarded each year to one or more rising juniors who have been deemed to show great promise for a career in physics.

Matthew Church is from Bedford County Virginia. His interest in physics overlaps a huge interest in the stars, studying planets, galaxies, black holes, anything that’s in space. He hopes to either go into research in the area of astrophysics or to become a professor and teach what he knows to the coming generations.

Marc Pomeroy is a junior from Long Island, New York. Currently he is a physics major with minors in math and astronomy. He is a member of the National Society of Collegiate Scholars and the Golden Key Honor society. He is hoping to work with the physics department this summer conducting research with faculty members. Marc hopes to one day achieve a Ph.D. in physics and conduct experimental research at a university while also being able to teach aspiring students. In his spare time, Marc likes skateboarding around campus, as well as spending time with his friends and watching movies.

Robert C. Richardson Scholarship
Mark Brown-Herndon, VA
James Brumbeloe-Culpeper, VA
Matthew Church-Bedford, VA
Laura Holsten-Arlington, VA
Bevin Huang-Portland, OR
David “Matt” Kriete, Jr.-Chesapeake, VA
Megan Lilly-Ruckersville, VA
Jennie Paine-Fairfax, VA
Elizabeth Piersall-Fredericksburg, VA
Abraham Shipley-Lovettsville, VA
Alexander Winemiller-Leesburg, VA

Through a generous gift by an anonymous donor, a scholarship has been established in honor of Dr. Robert C. Richardson, a professor of physics at Cornell University. Richardson, who earned his bachelor and master’s degrees in physics at Virginia Tech, was the co-recipient of the 1996 Nobel Prize for physics. This scholarship is awarded to an undergraduate physics major deemed especially deserving. This scholarship rewards academic talent, responsibility, and industry.

James Brumbeloe is from Culpeper, Virginia. He was always good at math growing up, but to see math applied to real life is what brought him to physics. With a physics degree, he plans to join the work force, looking for jobs in operations such as NASA or working in the private sector. In his free time, he plays games and also plays tennis when the opportunity arises.

Matthew Church-See “Alice Estes Martin Scholarship”
Laura Holsten is a life-long resident of Arlington, Virginia, and has spent some of the happiest moments of her life on her family farm in northwestern Costa Rica. She loves all animals but holds a special fondness for cows, and additionally enjoys books of both fiction and fact, cooking, and travelling the globe. She was introduced, as a junior in high school, to the joy and wonder of physics by Alma Robinson and high school physics teacher, Bill Chamblee. Laura hopes to explore her love of biophysics and astrophysics, and expand on her knowledge of the interplay of physical science and medical science to develop effective medical treatments.

Unlike most people here, Bevin Huang can proudly say that he is from the west coast, namely Portland, Oregon. In combination with an electrical engineering degree, he hopes to specialize in researching photovoltaic materials and solar cells after his undergraduate education. Things he likes to do when he is not swamped with homework are to play tennis, go on random excursions with friends, and hike – hiking especially when he is back in Oregon.

Megan Lilly is from Ruckersville, Virginia. Her primary interest is in astrophysics, which began with a family vacation to the Greenbank Observatory when she was ten years old. She is also interested in music, and is involved in bands here at Virginia Tech.

Jennie Paine is a first year physics student from Fairfax, Virginia, with a love for astronomy. Her goals for her time at Virginia Tech include pursuing undergraduate research and learning as much as possible. She aspires to go on to graduate school to continue learning about how the world works. Jennie’s interests outside of physics include reading, video games, and cats.

Elizabeth Piersall is from Fredericksburg Virginia and attended Stafford Senior High School. She enjoys studying physics primarily because she has always been curious about the way the universe works, and has enjoyed learning about and attempting to understand it. She is interested in astronomy for many of the same reasons. The scale of the universe and our lack of a complete understanding of it is something she finds fascinating and amazing and wishes to pursue further.

David “Matt” Kriete, Jr.- See “Robert P. Hamilton Prize”
Abraham Shipley was born and raised in Lovettsville Virginia, a small town in Western Loudoun County. He took his first physics class his junior year and was immediately hooked. He loves how physics not only teaches observation, but also teaches comprehension and explains why. Abraham loves to learn and no other class has given him the enjoyment that physics has. In his spare time here at Tech, he loves to hang around the machine shop; the knowledge that these gentlemen have is truly amazing and interacting with them is an experience in itself.

Alexander (Alex) Winemiller is from Leesburg, Virginia. With regards to physics, he is very interested in theoretical physics, specifically particle physics and string theory. However, he thoroughly enjoys every part of physics. His main other interest includes learning as much as he can. His free time consists of learning new subjects (especially studying mathematics and set theory) and learning new skills such as slacklining (a form of tightrope walking), picking up a new instrument, and calligraphy.

In 1990, a scholarship was endowed in the names of Daniel C. and Delia F. Grant, the parents of Dr. Frederick C. Grant, a former Virginia Tech doctoral student. These coveted scholarships are designated for entering National Merit Scholars. The recipients may retain the scholarships if they meet high academic standards.

Jonathan Baker is from the small town of Hanson, Massachusetts. He is a physics major, interested in astronomy and astrophysics, but he is still exploring for interests outside of these. He is also interested in model rocketry and traveling abroad.

Colin Fallon is a sophomore hailing from the magical (read: boring) town of Middletown, New Jersey. He became interested in physics in high school when he learned he did not like chemistry. When not studying in the lounge or researching biophysics, he can be found playing board and video games with his friends.
Sophia Novitzky moved in 2011 to Springfield, Virginia, from Kiev, Ukraine. She is double-majoring in Physics and Mathematics. In her free time, she enjoys drawing, painting, and spending time with her family.

Nicholas (Nick) Sharp is a physics major from Sterling, VA, and also is studying computer science and engineering mechanics. His research interests center around computational physics and the development of numerical techniques for new systems. In the past summers he has interned at Johns Hopkins Applied Physics Lab and Lawrence Livermore National Lab. Outside of academics, Nick is a long-distance runner and a member of Theta Tau Professional engineering fraternity.

Kyle Stewart was raised in Charlottesville, Virginia. He developed an interest in the natural world at a young age. He was not the most motivated student in high school, but since coming to Virginia Tech, he has discovered he can be quite studious when the subject is as interesting as physics or mathematics. Kyle hopes to acquire a doctorate in one of these two fields, and to eventually conduct research and teach at a university. In his free time, he enjoys hiking, camping, and playing any instrument resembling a guitar.

Greg Veber, currently a junior here at Virginia Tech, was raised in the city of Chesapeake, Virginia. He has been fascinated with math and science since high school where he obtained the 2010 Science Student of the Year award in his graduating class. Once enrolled at Virginia Tech his initial plans of pursuing an engineering degree were cut short when he realized the physics department here at Virginia Tech is awesome, something the engineering department lacks. With this knowledge Greg is now pursuing his bachelor’s degrees in chemistry and physics and a minor in math. His physics interests lie in nanotechnology and materials science. This summer Greg will be participating in undergraduate research here at Virginia Tech with Dr. Harry Gibson. His research will be focused on the synthesis and characterization of new mechanically linked self assembled supramolecular systems through the utilization of organic synthesis and polymerization of compounds known as rotaxanes and pseudorotaxanes.

Michael Warnock comes from Newport News, Virginia. His interests in physics include nanoscience and biophysics. He hopes to pursue a career in either of these fields. Other than that, he likes to hang out with his friends. They do a lot of things together such as go hiking or play intramural sports. He also enjoys reading and playing video games when he is not with his friends.

Webster & Sara Schoene Richardson Memorial Scholarship
Keith Tauscher- Hillsborough, NJ

Both Web and Sara Richardson taught in the Virginia Tech Physics Department for several decades. In addition to their work with the introductory courses, where they were known for their exacting standards, Sara developed a course called “household physics,” while Web developed an x-ray laboratory where he constructed extensive apparatus of which he was justly proud and which was used by many of the first graduate students in physics at Virginia Tech. The scholarship was established in 1998 by family members.

Keith Tauscher is twenty years old and from Hillsborough, New Jersey. He has been participating in undergraduate research in the department with Dr. Michel Pleimling since Fall 2012. In addition to his physics major, Keith is working towards a minor in computer science. After his graduation in 2014, he looks to go to graduate school and pursue a career doing research.
Here is Mark’s winning essay, in its entirety:

**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 Schrödinger first came up with the quantum mechanical paradox known today as “Schrödinger’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.

### H.Y. Loh Award
Andrew Lassiter- Virginia Beach, VA

The H.Y. Loh Award, a cash prize awarded upon graduation, became the very first award or scholarship dedicated to our physics majors. As a token of the high esteem in which Professor Loh was regarded by his colleagues, Dr. Ray Tipsword approached colleagues to create an endowed award which was first given in 1977. Loh retired in 1976, and at the time was the only member of the Virginia Tech Physics Department to have been awarded the W.E. Wine Award for Excellence in Teaching. The H.Y. Loh Award is made each spring to the graduating physics major who best exemplifies Dr. Loh’s very high academic and personal standards.

Andy Lassiter is from Virginia Beach, VA and is majoring in physics and math with a minor in horticulture. He is interested in the mathematical side of physics. After graduation he will be working at The Johns Hopkins University Applied Physics Laboratory. In his spare time, he enjoys playing disc golf, cooking, and yoga.

### Keynote Speakers

Daniela Marciu Topasna is originally from Sebeș, Romania. She earned her Physics Engineer degree at University of Bucharest. After working a few years in industry she came to Virginia Tech for graduate studies in physics, where she worked with Dr. Randy Hefflin on the study of nonlinear optical properties of fullerene materials and ionically self assembled polymer thin films. She was the 1996 recipient of The Ray F. Tipsword Graduate Scholarship. Daniela earned her PhD in 1999. A year before that she accepted a position as a research scientist at Luna Innovations (formerly F&S, Inc.) in Blacksburg, VA, where she worked on various government funded collaborative projects related to the fabrication, characterization, and applications of organic thin films, (including polymer light emitting diodes, photovoltaic devices, and electric field tunable devices). Currently, Daniela is an associate professor of physics in the Department of Physics and Astronomy at the Virginia Military Institute, in Lexington, VA. Besides teaching numerous physics courses she also works with Dr. Gregory Topasna on organic thin films for device applications, projects that often include undergraduate students’ participation.

Gregory A. Topasna finished his undergraduate degree in physics at Virginia Tech and graduated in 1999 with a Ph.D. with a concentration in astronomy. As a graduate student he worked with Dr. Brian Dennison (currently at UNC-Ashville) and Dr. John Simonetti on the Virginia Tech Spectral-Line Survey and his dissertation was on the scattering of Hα emission associated with the Rossette Nebula. Currently, Dr. Topasna is an Associate Professor of Physics at Virginia Military Institute in Lexington, VA. His current astronomical work centers on studying the polarization of starlight and the interstellar medium. Additionally, Dr. Topasna works with his wife, Dr. Daniela Topasna, in the thin films laboratory at VMI where they fabricate and characterize thin film devices.

Created by: Betty J. Wilkins

Special thanks to: Leo Piilonen, Chris Thomas, Daniela and Gregory Topasna, Diane Walker-Green, and all of this year’s recipients and presenters.
Congratulations to the Class of 2013!

**Doctor of Philosophy**

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**Master of Science**

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<td>Ben Intoy</td>
<td>Kimberly Williams</td>
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<tr>
<td>Michael Meeker</td>
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**Bachelor of Arts**

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Genevieve Bowles</td>
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**Bachelor of Science**

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>James Dailey*</td>
<td>Ahmed Roman</td>
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<tr>
<td>Rachel Elliott*</td>
<td>Sebastian Shaner</td>
</tr>
<tr>
<td>Christopher Fieldman</td>
<td>Anna Skinner</td>
</tr>
<tr>
<td>Joseph Heimburger</td>
<td>Sarah True*</td>
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<tr>
<td>Eric Kenney</td>
<td>Jackson Walters</td>
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<tr>
<td>John Kim*</td>
<td>James Ward*</td>
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<tr>
<td>Andrew Lassiter</td>
<td>Harry White*</td>
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<tr>
<td>Peter Lee</td>
<td>Douglas Wilson*</td>
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<tr>
<td>Peter Raum</td>
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<tr>
<td>Trevor Richards*</td>
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**Astronomy Minors**

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Dominic Godine</td>
<td>Patrick Ouellette</td>
</tr>
<tr>
<td>Morgan Hoover</td>
<td>Lauren Preiser</td>
</tr>
<tr>
<td>Laura Milan</td>
<td>Aaron Prunty</td>
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<td>Michael Naper</td>
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**Physics Minors**

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Shawn Bradford</td>
<td>Patrick Goley</td>
</tr>
<tr>
<td>David Brehm</td>
<td>Christophor Prophoda</td>
</tr>
<tr>
<td>Daniel Farmer</td>
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</tbody>
</table>

* Denotes astronomy minor