

Christopher Columbus Fellowship Foundation

May 4, 2011

Via U.S. Mail and Email

Judith M. Shellenberger
Executive Director
Christopher Columbus Fellowship Foundation
110 Genesee Street, Suite 390
Auburn, NY 13021

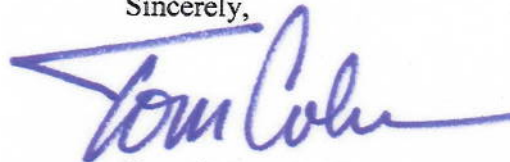
Dear Ms. Shellenberger:

The Christopher Columbus Fellowship Foundation administers a number of financial awards to encourage and support research designed to produce new discoveries in several fields of endeavor. These awards include, but are not limited to: (1) Agriscience Awards; (2) Homeland Security Awards; (3) Life Science Awards; (4) Frank Annunzio Awards; (5) Freida J. Riley Teacher Awards; and (6) Christopher Columbus Foundation Awards.

I am interesting in learning about the recipients of these awards. For the awards listed above, please provide the following information for all individuals that received any payment from these programs during Fiscal Years 2007, 2008, 2009 and 2010, who also reported income of \$1,000,000 or greater through any Foundation measurement of income (such as Adjusted Gross Income): (1) name of individual; (2) total reported income for the Fiscal Year in which the payment was made; (3) name of each award the individual received funds through; (4) amount of funds received from each program; and (5) total amount of all funds received during each Fiscal Year. This information should be produced in an electronic usable format, such as Microsoft Excel.

Please provide the above information by May 18, 2011. If you have any questions, including the format in which the information should be produced, please contact [REDACTED]

Sincerely,



Tom Coburn, M.D.
United States Senator



Christopher Columbus Fellowship Foundation

May 16, 2011

The Honorable Tom Coburn, M.D.
172 Russell Senate Office Building
Washington, D.C. 20510
Sent via mail and email:

Dear Senator:

Per your letter of May 4, enclosed is the information you requested regarding the awards programs sponsored by the Christopher Columbus Fellowship Foundation from Fiscal Years 2007-2010 and the recipients of the awards.

The Foundation's mission is to promote and encourage new discoveries, and this is accomplished through the sponsorship of competitions. The Foundation honors innovative Americans from scientist, researchers, educators and students for their creative "cutting edge" ideas, research and physical work. The Foundation presently sponsors four programs as follows: 1) *Agriscience Awards* (2nd year); 2) *Christopher Columbus Awards* (15th year); 3) *Homeland Security Awards* (9th year); and 4) *Life Sciences Awards* (4th year). The *Frank Annunzio Awards* were discontinued after 2005, and the *Freida J. Riley Teacher Award* was discontinued after 2009 and transferred to the National Museum of Education.

The *Christopher Columbus Awards* is a national, community-based science and technology program. Designed for sixth, seventh and eighth grade students, the program encourages teams of three or four students to work together, along with an adult coach, to identify an issue in their community, and use the scientific method to create an innovative solution to the problem.

The competition has attracted more than 19,000 students, and receives hundreds of team projects each year. Annually, eight teams and their coaches--up to 32 students and eight coaches--are selected as Finalists, and receive an all-expenses-paid trip to Orlando, Florida, for National Championship Week where the final judging takes place. They also attend the *Christopher Columbus Academy*, a specially designed hands-on program facilitated by Disney scientists and engineers who work with the students behind the scenes. The five-day trip to Orlando is also a component of the awards program for teams and coaches, however, I have not added those travel expenses to the spreadsheet. Please see the attached Fact Sheet.

When soliciting Nominations, the Foundation sends a Call for Nominations across the country to Governor's offices, appropriate government agencies, Congressional offices, government labs, colleges and universities, schools, companies, media outlets, etc.

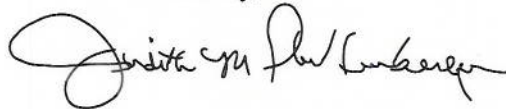
The Honorable Tom Coburn
Page Two

The Foundation honors Americans for the incredible work they do every day on behalf of the United States--whether it is in the diverse fields of homeland security, agriscience, medical research, or encouraging student interest in these fields. The Foundation also promotes STEM education and service learning/community service.

Awards are typically presented to individuals. The Foundation does not consider a recipient's reportable income for any reason. However, as you will see in the enclosed spreadsheets, a recipient may designate that the monetary award be payable to their employer to further their research. To my knowledge none of the winners honored by the Foundation have personal "reported income of \$1 million or greater."

If you would like additional information or have any questions, please contact me at:
_____ or via email at: _____

Sincerely,



Judith M. Shellenberger
Executive Director

Attachments



Christopher Columbus Fellowship Foundation

FREIDA J. RILEY TEACHER AWARDS

From 2000-2009, the Christopher Columbus Fellowship Foundation cosponsored or sponsored the *Freida J. Riley Teacher Award*. The award was bestowed on an American educator who worked with a physical disability, taught in an especially challenging educational environment, or had performed a heroic act by making an exceptional, personal or physical sacrifice.

Freida J. Riley was a science and math teacher from Coalwood, West Virginia, during the 1950s and 1960s. During most of her career, Miss Riley taught while suffering from Hodgkin's Disease, until succumbing to the disease at the age of 31. The impact she had on her students is captured in the 1999 film *October Sky*, based on the book *The Rocket Boys* written by her student, Homer Hickam. Miss Riley inspired her students to dream beyond and overcome the limited opportunities of their era and environment.

The Foundation's Board of Trustees decided to end its sponsorship of the *Freida J. Riley Teacher Award* at the end of 2009, and the trademark was transferred to the National Museum of Education™ located in Akron, Ohio.

2007



Joanne B. Tindall – Teaching principal at the W.F. Tallman School, Nashville Transition Center, for the Tennessee Department of Children's Services, Nashville, TN, was awarded the **2007 \$10,000 Freida J. Riley Teacher Award**. Doctors told Joanne's parents that she would most likely be mentally retarded, would never walk or talk, and should possibly be institutionalized due to her premature birth and diagnosis of cerebral palsy at age two. Defying the doctors' dire predictions, Joanne quickly learned to walk and talk and has worked hard to remain ambulatory. Far exceeding the school system's expectations, she was quickly mainstreamed from self-contained special education classrooms into inclusion classrooms not only by graduating from high school as a National Honor Society student, but graduating as a member of Phi Beta Kappa from Tennessee Technological University with a teaching degree in special education, followed by a Master's Degree in Administration and Supervision. Building on the lessons learned through her own experiences as a disabled student, Joanne was determined to become a teacher and make a difference in her students' lives. She has dedicated her career to working with students with all types of special needs. After teaching for a few years, she began working as a crisis hotline phone counselor on weekends at a mental health center. This soon led to teaching GED classes to adult clients in the alcohol drug treatment facility and then the lead teacher and principal position of the adolescent day-treatment program. This eventually led to her current position as a teaching principal in a State-operated juvenile justice facility, where many of her students have earned regular diplomas, GEDs, or special education diplomas in this very difficult teaching and learning environment.

FREIDA J. RILEY TEACHER AWARDS

2008



Teresa E. Loving – Special Education Teacher and Founder of S.O.A.R. Academy in Spartanburg, SC, was awarded the **2008 \$10,000 Freida J. Riley Teacher Award**. Through great determination and perseverance, Teresa overcame her own disadvantaged childhood and severe learning disability to achieve her dream of becoming a Special Education teacher. When funding cuts threatened early intervention services to local children with special needs, Teresa began a grassroots campaign to try to save these services. When community efforts to reinstate these much needed services failed, Teresa resigned her teaching position to fulfill her new dream of opening a school where children with special needs would be able to learn and thrive in a place tailored to their needs – a place where their individual education and therapy needs are met under one roof. Thus, the S.O.A.R. (Success, Opportunity, Achievement and Rewards) Academy was born, with the help of her friends, teachers, parents, nurses, therapists, and other community members to provide services to children with special needs in a three-county area in South Carolina.

2009



Alan Bronstein – Chemistry teacher at Central High School, Philadelphia, Pennsylvania, is the recipient of the Tenth Annual **2009 \$10,000 Freida J. Riley Teacher Award**. Paralyzed from the chest down due to an auto accident, Alan has overcome many challenges. Selling his business and choosing to relocate to Philadelphia after his rehabilitation, Alan then focused on a new career choice. He chose to return to teaching, which he had done briefly after college. Upon presentation of his Masters degree, he was surprised when his college gave him special recognition for “overcoming adversity.” Rather, Alan viewed it as “doing what had to be done and doing what makes life worth living” not “overcoming adversity.” Alan has the gift of making science come alive to his students and peers alike by incorporating real-life situations into his science classes, thus making the lessons both relevant and memorable. He loves to create “the look of wonder on the faces of fellow teachers and students – then I know I’m doing what science is supposed to do for people: amaze them and make them wonder; arouse their curiosity - the ‘wow’ factor!”



Christopher Columbus Fellowship Foundation

HOMELAND SECURITY AWARDS

The Christopher Columbus Fellowship Foundation is a Federal government agency with the mission of promoting and encouraging new discoveries. Since 2006, the Foundation has had a public/private partnership with AgustaWestland North America, a Finmeccanica company, one of the largest helicopter manufacturers in the world, in sponsorship of the *Homeland Security Awards*.

The United States and the world have moved into a new era which necessitates tighter and more vigilant security in all areas. The Foundation and AgustaWestland are doing their part by awarding **four \$25,000 Homeland Security Awards** to American individuals or companies who are making measurable and constructive contributions related to basic or advanced research in the area of homeland security which will result in significant and positive benefits to society.

The mission of the awards is to promote and encourage "cutting edge" innovation in the vast arena of homeland security, including but not limited to the detection, prevention, or response to threats to the United States. The presentation of the awards has changed from a single \$25,000 award in 2006-2009, to the presentation of four **\$25,000 Homeland Security Awards**, one in each of the following four fields:

- 1) ***Biological, Radiological, Nuclear, Chemical and Explosive Attacks***
- 2) ***Border and Transportation Security***
- 3) ***Cyber Security and Information Sharing***
- 4) ***Emergency Response to Natural and Man-made Disasters***

AgustaWestland presented the \$25,000 award from 2007-2009. In 2010 AgustaWestland presented one \$25,000 award and the Foundation presented two \$25,000 awards. The FBI Criminal Justice Information Services receive an award and recognition, but not the \$25,000 monetary award.

2007

Douglas L. McMakin – Staff Engineer in the Applied Physics Group at Pacific Northwest National Laboratory, operated by Battelle for the U.S. Department of Energy, Richland, WA, was awarded the **2007 \$25,000 Homeland Security Award** for the development of the first-of-its-kind personnel security system that safely detects non-metallic and metallic objects, including explosives that might be worn by a suicide bomber. The system provides a safe, fast and effective alternative to metal detectors, X-ray machines and pat-down searches at security checkpoints. As Project Manager and Technical Lead at the Radar Imaging Laboratory, where he has worked since 1987, Mr. McMakin and his team developed and tested innovative real-time microwave and millimeter-wave holographic-imaging systems for airport personnel screening for the U.S. Federal Aviation Administration (now the TSA) and body-measurements for biometrics and clothing applications using various planar and cylindrical imaging techniques. Mr. McMakin was very active in the commercialization of these technologies with two licensed partners L-3/SafeView (www.safeviewinc.com) and Intellifit (www.intellifit.com).

HOMELAND SECURITY AWARDS

2008

James Jones, Ph.D. – Senior Research Scientist at the Idaho National Laboratory, Idaho Falls, ID. Dr. Jones was awarded the **2008 \$25,000 Homeland Security Award** for the development of a long-range, nonintrusive nuclear materials detection technology called the Photonuclear Inspection and Threat Assessment System (PITAS). PITAS represents a breakthrough homeland security technology capable of detecting hidden nuclear materials at several hundred feet. This technology utilizes a high-energy linear electron accelerator to produce a controlled photon inspection beam. If nuclear materials are present, the inspection beam produces fission reactions within the nuclear material, resulting in the emission of prompt and delayed neutron and gamma-rays. These rays are analyzed by a series of detectors, which alert operators to the presence of illicit nuclear materials. The technology performs this process within minutes, while leaving no residual environmental impact.

2009

James J. Thomas, - Laboratory Fellow, Pacific Northwest National Laboratory, Richland, WA. Mr. Thomas was awarded the **2009 \$25,000 Homeland Security Award** for his leadership in establishing the growing science of visual analytics and associated technology to aid in detecting, predicting, preventing and responding to acts of terrorism and other catastrophic threats. Mr. Thomas is the founder and past Director of the Department of Homeland Security National Visualization and Analytics Center.

2010

Biological, Radiological, Nuclear, Chemical and Explosive Attacks

Charles A. Gentile – Head, Tritium Systems, Princeton University - Plasma Physics Laboratory, Princeton, NJ, was awarded the **2010 \$25,000 Homeland Security Award** in the field of **Biological, Radiological, Nuclear, Chemical and Explosive Attacks**. Mr. Gentile was honored for the development of the Miniature Integrated Nuclear Detection System (MINDS), which can rapidly identify radioactive materials, that could be used in a radiological dispersion device commonly known as a dirty bomb.

Border and Transportation Security

Milind Tambe, Ph.D. – Professor of Computer Science and Industrial & Systems Engineering at the USC Viterbi School of Engineering, Los Angeles, CA, was awarded the **2010 \$25,000 Homeland Security Award** in the field of **Border and Transportation Security**. Dr. Tambe was honored for his research in game theoretic algorithms for use in counter-terrorism and homeland security. An example of his work is the Assistant for Randomized Monitoring Over Routes (ARMOR) system deployed at Los Angeles International Airport.

HOMELAND SECURITY AWARDS

Cyber Security and Information Sharing

Law Enforcement National Data Exchange (N-DEx) System – FBI Criminal Justice Information Services, Clarksburg, WV, was awarded the **2010 Homeland Security Award** in the field of **Cyber Security and Information Sharing**. N-DEx provides law enforcement agencies with a powerful new investigative tool to search, link, analyze and share information--connecting the dots on a national level in ways never before possible.

Emergency Response to Natural and Man-Made Disasters

Budhendra Bhaduri, Ph.D. – Group Leader, Geographic Information Science & Technology, Oak Ridge National Laboratory, Oak Ridge, TN, was awarded the **2010 \$25,000 Homeland Security Award** in the field of **Emergency Response to Natural and Man-Made Disasters**. Dr. Bhaduri was honored for the development of the LandScan USA database which can estimate the population at risk during emergency preparedness and saving lives during emergency response.



Christopher Columbus Fellowship Foundation



LIFE SCIENCES AWARDS

The Christopher Columbus Fellowship Foundation is a Federal government agency with the mission of promoting and encouraging new discoveries. The Foundation has formed a public/private partnership with the U.S. Chamber of Commerce in sponsorship of the *Life Sciences Awards*. The mission of this partnership is to present *Life Sciences Awards* to recognize, through monetary awards, adult scientists, high school educators, and high school students who are judged to exemplify excellence in life sciences. In 2010 the Foundation also began providing research funds to the honored scientists to provide an employment opportunity for a graduate student or to be used to further the research.

2008

2008 Life Sciences Chairmen's Distinguished Scientist Award

Christine E. Schmidt, Ph.D. – Laurence E. McMakin Professor of Biomedical Engineering and Chemical Engineering, at the University of Texas at Austin was awarded the **2008 \$25,000 Chairmen's Distinguished Life Sciences Scientist Award**. Dr. Schmidt was honored for her research in neural cell and tissue engineering, a subfield within bioengineering. Dr. Schmidt has invented a chemical process to modify human nerve tissue so it may be utilized for patients with nerve damage. In particular, she works on engineering advanced biomaterials and therapeutic devices to stimulate damaged peripheral and spinal neurons to regenerate and promote healing of damaged nerve tissue due to traumatic injuries, cancer and other diseases.

2008 Life Sciences Educator Award

Paul Cammer, Ph.D. – Director, Neurobiology Research Laboratory Thomas Jefferson High School for Science and Technology (TJ) in Alexandria, VA, was awarded the **2008 \$10,000 Life Sciences Educator Award**. Dr. Cammer was honored for his innovative and challenging teaching methods. In 2007, TJ, a science magnet school, was ranked as the nation's number one high school by *U.S. News and World Report*.

2008 Life Sciences Biology Student Award

Stori Jensen – A senior at Brighton High School, Salt Lake City, UT, was awarded the **2008 \$5,000 Life Sciences Biology Student Award**. Ms. Jensen was honored for her after school research conducted under the supervision of Dr. Andres V. Maricq in the neurobiology laboratory at the University of Utah. During her research, Stori isolated and identified pharmacological agents found in the venom of cone snails which modulate the function of the brain. Her research has led to a major discovery in brain function and the treatment of neurological disorders, which has been patented – with Stori as an equal partner in the patent.

LIFE SCIENCES AWARDS

2008 Life Sciences Chemistry Student Award

Peter Kamel – A junior at Centennial High School in Ellicott City, MD, was awarded the **2008 \$5,000 Life Sciences Chemistry Student Award**. Mr. Kamel was honored for his after school research at the Johns Hopkins Hospital on a patent-pending artificial tissue material that changes color in response to an internal temperature influence. The change is a result of a cascade of chemical reactions that take place when the tissue is heated. Peter's research findings are important, as doctors will be able to accurately profile tissue damage when treating cancer through a procedure known as heat ablation.

2009

2009 Life Sciences Chairmen's Distinguished Scientist Award

Bryon Petersen, Ph.D. - University of Florida in Gainesville, FL, was awarded the **2009 \$25,000 Chairmen's Distinguished Life Sciences Scientist Award**. Dr. Petersen is recognized worldwide as a foremost authority in hepatic stem cells and their role in liver pathobiology. He is currently conducting research in stem cell biology and how it relates to the patho-physiology of the liver. This research shows that bone marrow derived cells could become functioning hepatocytes, and several clinical trials have been attempted based upon his discovery. Additionally, Dr. Petersen is investigating the usefulness of gene/stem cell therapy in the treatment of certain inherited metabolic diseases of the liver—Crigler-Najjar Syndrome (C-NS) and Glycogen Storage Disease (GSD). Children with C-NS are unable to eliminate bilirubin from their bodies and, therefore, must undergo daily 12-hour exposure to special blue lights, just to survive. Without daily treatments, a child would suffer brain damage, muscle and nerve damage and death due to bilirubin toxicity. Children with GSD suffer in a different way, having to eat/drink a corn-starch meal every four hours to maintain their blood glucose levels. If they don't, they become hypoglycemic and will fall into a coma and die. His studies combine two high-profile fields—stem cells and gene therapy—that will hopefully cure these children of their disease, not just treat them.

2009 Life Sciences Educator Award

Beenu Gupta – Biology teacher at The Charter School of Wilmington, Wilmington, DE, was awarded the **2009 \$10,000 Life Sciences Educator Award**. Beenu's classroom is dubbed the "Disneyland of Biology." Students have been known to sing and dance as they dive into Molecular Biology. Mrs. Gupta said: "I have always been passionate about learning and teaching, so I decided to become a high school teacher, where I could provide a solid foundation for college-bound students. My goal has always been to make learning fun, and a life-long experience." The Charter School of Wilmington is a college preparatory high school with a focus on mathematics and science and was ranked 41st in *U.S. News and World Reports'* America's Best High Schools 2008.

LIFE SCIENCES AWARDS

2009 Life Sciences Biology Student Award

Henry Zheng - A senior at Centennial High School in Ellicott City, MD, was awarded the **2009 \$5,000 Life Sciences Biology Student Award**. Henry has been conducting research at The Johns Hopkins University Applied Physics Laboratory since his sophomore year of high school. Under the supervision of Dr. Jeffery Lesho, Biomedical Engineering Group, Henry has worked on his computational neuroscience project that improves the performance of an arm prosthesis. He has received many awards and recognition for this research including the international 2008 FUSION conference in Köln, Germany and in 2009 from coast to coast—Seattle, Washington to Washington, D.C.

2009 Life Sciences Chemistry Student Award

Justin Grzyb – A senior at Westchester Country Day School, High Point, NC, was awarded the **2009 \$5,000 Life Sciences Chemistry Student Award**. Since his freshman year in high school, Justin has spent his summers at The Johns Hopkins University. Working for two years under the supervision of Professor Tim Weihs, Department of Materials Science and Engineering, Justin researched and learned about technology surrounding NanoFoil, a reactive thin film composed of alternating, nano-scaled layers of Nickel and Aluminum. He then successfully completed his own project—to find a way to create uniform, curved particles of NanoFoil, and then measure the reaction velocity of these particles inside a vacuum. His work was acknowledged in two different research papers, and he is the co-inventor on a provisional patent for creating microscopic particles of NanoFoil.

2010

2010 Life Sciences Chairmen's Distinguished Scientist Award

James F. Leary, Ph.D. – SVM Professor of Basic Medical Sciences and Biomedical Engineering, Birck Nanotechnology Center, Purdue University, Lafayette, IN, was awarded the **2010 \$25,000 Distinguished Chairmen's Life Sciences Award**. Dr. Leary's research involves designing "next-generation," advanced nanodelivery systems for drugs and genes to combat cancer and other diseases. He has invented a variety of new nanomedical devices with targeting molecules that deliver therapeutic drugs precisely to diseased cells to perform single cell "nanosurgery," which eliminate the diseased cells while trying to preserve nearby normal cells, allowing for much smaller drug doses and fewer side effects. Dr. Leary will also receive up to \$25,000 in research funds.

LIFE SCIENCES AWARDS

2010 Life Sciences Educator Award

Michelle Bagley – Biology Educator, Centennial High School, Ellicott City, MD, was awarded the 2010 **\$10,000 Life Sciences Educator Award**. Michelle has been an educator for 30 years teaching biology and research, a passion she developed doing science fair projects during her own school years. Michelle has written curriculum for the county and the National Association of Biology Teachers and has made numerous presentations for conferences and organizations on a variety of topics. She has been at Centennial High School since 1991 and currently works with students in the Intern/Mentor Program as part of the Gifted and Talented Program. Among her students, she boasts winners in the Siemens Competition, Christopher Columbus Life Science Student Award, Intel Science Talent Search, Intel International Science and Engineering Fair, and many others. She has been honored as a Presidential Scholar Teacher, a Coca-Cola Educator of Distinction, and Intel Teacher of the Year.

2010 Life Sciences Educator Award

Ryan Templeton – Biology Educator, Mathematics and Science High School at Clover Hill, Midlothian, VA, was awarded a 2010 **\$10,000 Life Sciences Educator Award**. Ryan teaches freshman Biology and AP Biology at the Mathematics and Science High School at Clover Hill, where he also serves as Research Coordinator. Ryan is also Director of the Virginia Summer Governor's School for Life Sciences and Medicine at Virginia Commonwealth University. Emphasizing and encouraging student research in his classes, his students conduct independent research projects and present their findings at national and international competitions. His efforts have been recognized by the Virginia Academy of Science with an E.C.L. Miller Teaching Award, and a Virginia Presidential Award for Excellence in Mathematics and Science Teaching, as well as commendations from the Virginia Department of Education and Virginia Mathematics and Science Coalition.

2010 Life Sciences Educator Award

Derrick C. Wood – Chemistry Educator, Conestoga High School, Berwyn, PA, was awarded a 2010 **\$10,000 Life Sciences Educator Award**. Teaching at Conestoga High School since 2004, Derrick instills the same passion for Chemistry that he experiences - by showing his students that Chemistry is not an exercise in futility, but is extremely relevant to their lives. He authored Case-Studies for his high school Chemistry curriculum and uses them as an alternative and authentic way of integrating the lab component into Chemistry, giving his students the opportunity to experience science in the same way it is done outside the classroom. Derrick has given presentations at NSTA and ACS National Conventions where he shared his curriculum with teachers across the country. In Derrick's opinion though, his greatest accomplishments are "the students that have graduated from Conestoga with a passion for science and have pursued college majors and careers as a result of the same love for science that I embrace."

LIFE SCIENCES AWARDS

2010 Life Sciences Student Award

Jason Gandelman – Senior, Staples High School, Westport, CT, was awarded a **2010 \$5,000 Life Sciences Student Award**. Jason's high school research investigated toxic compounds called Advanced Glycation End-products (AGEs), which are known to contribute to the long-term health problems associated with diabetes, a disease his family has a long history with. Jason's study showed that yeast has evolved mechanisms to minimize the formation of toxic AGE compounds. Attempting to identify a protein that will block the human body's receptor sites from binding with AGEs, Jason believes his study will lead to new medications to prevent or cure blood vessel and kidney damage associated with diabetes.

2010 Life Sciences Student Award

Anirudh Mohan – Senior, Thomas Jefferson High School for Science and Technology, Alexandria, VA, was awarded a **2010 \$5,000 Life Sciences Student Award**. Ani's primary passion lies in the field of biomedical engineering, with an interest in pursuing both technical and business perspectives. During his last two years of high school, he conducted nanobiotechnology research at George Mason University. His research involved the nanoengineering of polymers to synthesize novel, "smart" diagnostic devices which can be utilized in lieu of conventional techniques, such as differential diagnosis. He published his results in American Chemical Society journals, earned semifinalist status in the Siemens Competition, and received multiple science fair honors at the Virginia State level.



Christopher Columbus Fellowship Foundation



LIFE SCIENCES AWARDS

The Christopher Columbus Fellowship Foundation is a Federal government agency with the mission of promoting and encouraging new discoveries. The Foundation has formed a public/private partnership with the U.S. Chamber of Commerce in sponsorship of the ***Life Sciences Awards***. The mission of this partnership is to present ***Life Sciences Awards*** to recognize, through monetary awards, adult scientists, high school educators, and high school students who are judged to exemplify excellence in life sciences. In 2010 the Foundation also began providing research funds to the honored scientists to provide an employment opportunity for a graduate student or to be used to further the research.

2008

2008 Life Sciences Chairmen's Distinguished Scientist Award

Christine E. Schmidt, Ph.D. – Laurence E. McMakin Professor of Biomedical Engineering and Chemical Engineering, at the University of Texas at Austin was awarded the **2008 \$25,000 Chairmen's Distinguished Life Sciences Scientist Award**. Dr. Schmidt was honored for her research in neural cell and tissue engineering, a subfield within bioengineering. Dr. Schmidt has invented a chemical process to modify human nerve tissue so it may be utilized for patients with nerve damage. In particular, she works on engineering advanced biomaterials and therapeutic devices to stimulate damaged peripheral and spinal neurons to regenerate and promote healing of damaged nerve tissue due to traumatic injuries, cancer and other diseases.

2008 Life Sciences Educator Award

Paul Cammer, Ph.D. – Director, Neurobiology Research Laboratory Thomas Jefferson High School for Science and Technology (TJ) in Alexandria, VA, was awarded the **2008 \$10,000 Life Sciences Educator Award**. Dr. Cammer was honored for his innovative and challenging teaching methods. In 2007, TJ, a science magnet school, was ranked as the nation's number one high school by *U.S. News and World Report*.

2008 Life Sciences Biology Student Award

Stori Jensen – A senior at Brighton High School, Salt Lake City, UT, was awarded the **2008 \$5,000 Life Sciences Biology Student Award**. Ms. Jensen was honored for her after school research conducted under the supervision of Dr. Andres V. Maricq in the neurobiology laboratory at the University of Utah. During her research, Stori isolated and identified pharmacological agents found in the venom of cone snails which modulate the function of the brain. Her research has led to a major discovery in brain function and the treatment of neurological disorders, which has been patented – with Stori as an equal partner in the patent.

LIFE SCIENCES AWARDS

2008 Life Sciences Chemistry Student Award

Peter Kamel – A junior at Centennial High School in Ellicott City, MD, was awarded the **2008 \$5,000 Life Sciences Chemistry Student Award**. Mr. Kamel was honored for his after school research at the Johns Hopkins Hospital on a patent-pending artificial tissue material that changes color in response to an internal temperature influence. The change is a result of a cascade of chemical reactions that take place when the tissue is heated. Peter's research findings are important, as doctors will be able to accurately profile tissue damage when treating cancer through a procedure known as heat ablation.

2009

2009 Life Sciences Chairmen's Distinguished Scientist Award

Bryon Petersen, Ph.D. - University of Florida in Gainesville, FL, was awarded the **2009 \$25,000 Chairmen's Distinguished Life Sciences Scientist Award**. Dr. Petersen is recognized worldwide as a foremost authority in hepatic stem cells and their role in liver pathobiology. He is currently conducting research in stem cell biology and how it relates to the patho-physiology of the liver. This research shows that bone marrow derived cells could become functioning hepatocytes, and several clinical trials have been attempted based upon his discovery. Additionally, Dr. Petersen is investigating the usefulness of gene/stem cell therapy in the treatment of certain inherited metabolic diseases of the liver—Crigler-Najjar Syndrome (C-NS) and Glycogen Storage Disease (GSD). Children with C-NS are unable to eliminate bilirubin from their bodies and, therefore, must undergo daily 12-hour exposure to special blue lights, just to survive. Without daily treatments, a child would suffer brain damage, muscle and nerve damage and death due to bilirubin toxicity. Children with GSD suffer in a different way, having to eat/drink a corn-starch meal every four hours to maintain their blood glucose levels. If they don't, they become hypoglycemic and will fall into a coma and die. His studies combine two high-profile fields—stem cells and gene therapy—that will hopefully cure these children of their disease, not just treat them.

2009 Life Sciences Educator Award

Beenu Gupta – Biology teacher at The Charter School of Wilmington, Wilmington, DE, was awarded the **2009 \$10,000 Life Sciences Educator Award**. Beenu's classroom is dubbed the "Disneyland of Biology." Students have been known to sing and dance as they dive into Molecular Biology. Mrs. Gupta said: "I have always been passionate about learning and teaching, so I decided to become a high school teacher, where I could provide a solid foundation for college-bound students. My goal has always been to make learning fun, and a life-long experience." The Charter School of Wilmington is a college preparatory high school with a focus on mathematics and science and was ranked 41st in *U.S. News and World Reports'* America's Best High Schools 2008.

LIFE SCIENCES AWARDS

2009 Life Sciences Biology Student Award

Henry Zheng - A senior at Centennial High School in Ellicott City, MD, was awarded the **2009 \$5,000 Life Sciences Biology Student Award**. Henry has been conducting research at The Johns Hopkins University Applied Physics Laboratory since his sophomore year of high school. Under the supervision of Dr. Jeffery Lesho, Biomedical Engineering Group, Henry has worked on his computational neuroscience project that improves the performance of an arm prosthesis. He has received many awards and recognition for this research including the international 2008 FUSION conference in Köln, Germany and in 2009 from coast to coast—Seattle, Washington to Washington, D.C.

2009 Life Sciences Chemistry Student Award

Justin Grzyb – A senior at Westchester Country Day School, High Point, NC, was awarded the **2009 \$5,000 Life Sciences Chemistry Student Award**. Since his freshman year in high school, Justin has spent his summers at The Johns Hopkins University. Working for two years under the supervision of Professor Tim Weihs, Department of Materials Science and Engineering, Justin researched and learned about technology surrounding NanoFoil, a reactive thin film composed of alternating, nano-scaled layers of Nickel and Aluminum. He then successfully completed his own project—to find a way to create uniform, curved particles of NanoFoil, and then measure the reaction velocity of these particles inside a vacuum. His work was acknowledged in two different research papers, and he is the co-inventor on a provisional patent for creating microscopic particles of NanoFoil.

2010

2010 Life Sciences Chairmen's Distinguished Scientist Award

James F. Leary, Ph.D. – SVM Professor of Basic Medical Sciences and Biomedical Engineering, Birck Nanotechnology Center, Purdue University, Lafayette, IN, was awarded the **2010 \$25,000 Distinguished Chairmen's Life Sciences Award**. Dr. Leary's research involves designing "next-generation," advanced nanodelivery systems for drugs and genes to combat cancer and other diseases. He has invented a variety of new nanomedical devices with targeting molecules that deliver therapeutic drugs precisely to diseased cells to perform single cell "nanosurgery," which eliminate the diseased cells while trying to preserve nearby normal cells, allowing for much smaller drug doses and fewer side effects. Dr. Leary will also receive up to \$25,000 in research funds.

LIFE SCIENCES AWARDS

2010 Life Sciences Educator Award

Michelle Bagley – Biology Educator, Centennial High School, Ellicott City, MD, was awarded the 2010 ***\$10,000 Life Sciences Educator Award***. Michelle has been an educator for 30 years teaching biology and research, a passion she developed doing science fair projects during her own school years. Michelle has written curriculum for the county and the National Association of Biology Teachers and has made numerous presentations for conferences and organizations on a variety of topics. She has been at Centennial High School since 1991 and currently works with students in the Intern/Mentor Program as part of the Gifted and Talented Program. Among her students, she boasts winners in the Siemens Competition, Christopher Columbus Life Science Student Award, Intel Science Talent Search, Intel International Science and Engineering Fair, and many others. She has been honored as a Presidential Scholar Teacher, a Coca-Cola Educator of Distinction, and Intel Teacher of the Year.

2010 Life Sciences Educator Award

Ryan Templeton – Biology Educator, Mathematics and Science High School at Clover Hill, Midlothian, VA, was awarded a 2010 ***\$10,000 Life Sciences Educator Award***. Ryan teaches freshman Biology and AP Biology at the Mathematics and Science High School at Clover Hill, where he also serves as Research Coordinator. Ryan is also Director of the Virginia Summer Governor's School for Life Sciences and Medicine at Virginia Commonwealth University. Emphasizing and encouraging student research in his classes, his students conduct independent research projects and present their findings at national and international competitions. His efforts have been recognized by the Virginia Academy of Science with an E.C.L. Miller Teaching Award, and a Virginia Presidential Award for Excellence in Mathematics and Science Teaching, as well as commendations from the Virginia Department of Education and Virginia Mathematics and Science Coalition.

2010 Life Sciences Educator Award

Derrick C. Wood – Chemistry Educator, Conestoga High School, Berwyn, PA, was awarded a 2010 ***\$10,000 Life Sciences Educator Award***. Teaching at Conestoga High School since 2004, Derrick instills the same passion for Chemistry that he experiences - by showing his students that Chemistry is not an exercise in futility, but is extremely relevant to their lives. He authored Case-Studies for his high school Chemistry curriculum and uses them as an alternative and authentic way of integrating the lab component into Chemistry, giving his students the opportunity to experience science in the same way it is done outside the classroom. Derrick has given presentations at NSTA and ACS National Conventions where he shared his curriculum with teachers across the country. In Derrick's opinion though, his greatest accomplishments are "the students that have graduated from Conestoga with a passion for science and have pursued college majors and careers as a result of the same love for science that I embrace."

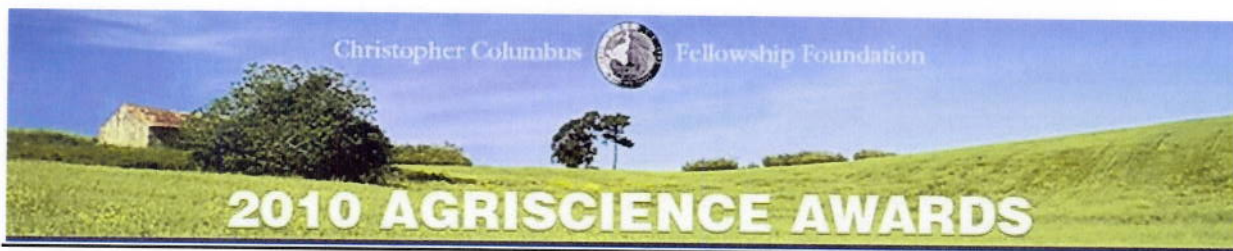
LIFE SCIENCES AWARDS

2010 Life Sciences Student Award

Jason Gandelman – Senior, Staples High School, Westport, CT, was awarded a **2010 \$5,000 Life Sciences Student Award**. Jason's high school research investigated toxic compounds called Advanced Glycation End-products (AGEs), which are known to contribute to the long-term health problems associated with diabetes, a disease his family has a long history with. Jason's study showed that yeast has evolved mechanisms to minimize the formation of toxic AGE compounds. Attempting to identify a protein that will block the human body's receptor sites from binding with AGEs, Jason believes his study will lead to new medications to prevent or cure blood vessel and kidney damage associated with diabetes.

2010 Life Sciences Student Award

Anirudh Mohan – Senior, Thomas Jefferson High School for Science and Technology, Alexandria, VA, was awarded a **2010 \$5,000 Life Sciences Student Award**. Ani's primary passion lies in the field of biomedical engineering, with an interest in pursuing both technical and business perspectives. During his last two years of high school, he conducted nanobiotechnology research at George Mason University. His research involved the nanoengineering of polymers to synthesize novel, “smart” diagnostic devices which can be utilized in lieu of conventional techniques, such as differential diagnosis. He published his results in American Chemical Society journals, earned semifinalist status in the Siemens Competition, and received multiple science fair honors at the Virginia State level.



AGRISCIENCE AWARDS

The Christopher Columbus Fellowship Foundation is a Federal government agency with the mission of promoting and encouraging new discoveries. Beginning in 2010, the Foundation formed a public/private partnership with the American Farm Bureau Federation in sponsorship of the *Agriscience Awards*. The mission of this partnership is to present *Agriscience Awards* to recognize, through monetary awards and research funds, adult scientists, high school educators and high school students who are judged to exemplify excellence in the field of agriscience and to highlight the importance of agriculture in the 21st century.

2010 Distinguished Agriscience Scientist Award

Thomas J. Jackson, Ph.D. – Research Hydrologist with the U.S. Department of Agriculture, Agricultural Research Service, Hydrology and Remote Sensing Lab, Beltsville, MD, was awarded a **2010 \$25,000 Distinguished Agriscience Scientist Award**. Dr. Jackson's research involves the application and development of remote sensing technology in hydrology and agriculture, primarily microwave measurement of soil moisture, resulting in over 300 scientific publications. The focus of his current research is the development of the Soil Moisture Active Passive (SMAP) satellite, scheduled for 2014. He is the SMAP science team lead for calibration and validation. He will also receive up to \$25,000 in research funds.

2010 Distinguished Agriscience Scientist Award

Patricia Kennedy, Ph.D. – Professor in the Department of Fisheries and Wildlife at Oregon State University, Eastern Oregon Agricultural Research Center, Union, OR, was awarded a **2010 \$25,000 Distinguished Agriscience Scientist Award**. Dr. Kennedy has a unique faculty position; she is one of the few wildlife biology faculty at a land grant institution who is stationed at an Agricultural Experiment Station. She represents the future of these stations where research into agricultural sustainability requires both a commodity and ecological perspective. Dr. Kennedy is renowned for her practical and proactive approach to endangered species management, with research aimed at reducing the need to list wildlife as threatened or endangered. Currently, Dr. Kennedy directs a variety of collaborative investigations on management alternatives that promote sustainable livestock and crop production in the inter-mountain west. She will also receive up to \$25,000 in research funds.

AGRISCIENCE AWARDS

2010 Agriscience Educator Award

Byron L. Ernest – Department Head for Agriculture, Lebanon Community School Corporation, Lebanon, IN, was awarded a **2010 \$10,000 Agriscience Educator Award**. Mr. Ernest was recruited to start Lebanon's Agriculture Department which now, in its 7th year, has four teachers and an enrollment of 584 students in grades 8-12, the largest in Indiana. Byron teaches Advanced Life Science courses in animals, plant and soil, and food science. These are dual credit courses with Purdue University College of Agriculture. In cooperation with AgReliant Genetics, he has developed project/inquiry-based agriscience lessons where students are doing actual research, and publish their findings through the use of pod-casts and wiki sites. This transparency allows actual scientists from around the world to critique the students' work. Byron was named the 2010 Indiana Teacher of the Year, the first time an Agriculture Instructor has ever been selected for this honor.

2010 Agriscience Educator Award

Lisa Konkell – Agriscience Educator and FFA Advisor, Big Foot Union High School, Walworth, WI, was awarded a **2010 \$10,000 Agriscience Educator Award**. Lisa is a veteran teacher with 17 years of teaching experience. When she started at Big Foot, it was a half-time program which quickly became a full-time program after her first year and is now a two-person Agriscience Department. Curriculum transformation has occurred in the past 15 years from a primarily production agriculture focus to the balance of production and agribusiness concepts with a strong emphasis on science incorporation.

2010 Agriscience Educator Award

Crystal Retzlaff – Agriculture Educator and FFA Advisor, Oconto Falls High School, Oconto Falls, WI, was awarded a **2010 \$10,000 Agriscience Educator Award**. Crystal has been teaching at Oconto Falls High School for seven years. She teaches Genetics, Biotechnology, Pet/Companion Animals, Exploring Agriculture, Veterinary Science, Food Science, Introduction to Career Foods, Food Processing, Wildlife/ Forestry, Animal Science, Landscape/Floriculture, and Anatomy/Physiology. She also advises the local FFA consisting of over 125 members.

AGRISCIENCE AWARDS

2010 Agriscience Student Award

Jake Carlson – Junior, Elk Grove High School, Elk Grove, CA, was awarded a **2010 \$5,000 Agriscience Student Award**. Jake has been showing livestock since he was eight, and he currently owns 35 head of Toggenburg and Saaenen dairy goats. Jake has successfully exhibited his goats in California and across the western United States. He also completed his Eagle Scout requirements this year by building and installing 10 wood duck nesting boxes in Deer Creek Wildlife Preserve. He will begin serving as President of the Elk Grove FFA Chapter, as well as Sacramento Section Vice President, and plans to run for a California State FFA office.

2010 Agriscience Student Award

Rosemary Chapple – Senior, Waterloo High School, Waterloo, IL, was awarded a **2010 \$5,000 Agriscience Student Award**. Raised on a small Angus cattle farm in Southern Illinois, Rosemary has been a 7-year, 4-H member, showing cattle and chickens. Her three chick experiments led her to 24 different competitions including two international science fairs and three national FFA agriscience fairs. Rosemary recently won the Illinois State SAE award in Emerging Technologies featuring her experiments. As a member of the Waterloo FFA, she served on the State officer team as president of 14 FFA chapters.

2010 Agriscience Student Award

Stephanie Hoskins – Senior, Lincoln Park Academy High School, Fort Pierce, FL, was awarded a **2010 \$5,000 Agriscience Student Award**. From a young age, Stephanie was intrigued by the enigmas of natural science. In 7th grade, she began researching the use of bacteria isolates as biological control agents against plant pathogenic fungi and has developed her research over the past six years. At the conclusion of her research, she has confirmed *Paenibacillus lentimorbus* and *Burkholderia pyrrocinia* as biological control agents against 13 plant pathogenic fungi and is the first person to identify the genes responsible for the observed antimicrobial activity.

**Christopher Columbus Fellowship Foundation
FY 2007 PROGRAM EXPENSES**

Freida J. Riley Teacher Award 2007

	<u>Amount</u>	<u>Company/Individual</u>
FY 07	\$10,000.00	Joanne B. Tindall, Nashville, TN
Total	\$10,000.00	

Homeland Security Award 2007 - AgustaWestland, NA paid \$25,000 monetary award

<u>Date</u>	<u>Amount</u>	<u>Company/Individual</u>
FY 07	-\$25,000.00	AgustaWestland NA (Deposit)
FY 07	\$25,000.00	Battelle, Pacific Northwest National Laboratory, Richland, WA (Doug McMakin)
Total	\$0.00	

Christopher Columbus Awards 2007 - Middle School Students

<u>Date</u>	<u>Amount</u>	<u>Company/Individual</u>
FY 07	\$1,600.00	\$200 Cash Grant - 8 Finalist teams to improve project for Finalist judging
FY 07	\$10,000.00	MMS Education (Chairman's Award)
FY 07	\$8,000.00	MMS Education (Savings Bonds for Gold Medal Teams)
	\$19,600.00	

Finalist Teams

Unrecognized Hazard: Used Oil Filters, West Branch, IA - **\$25,000 Grant Winning Team**
 Energizers, Whiteface, TX - **Gold Medal Team**
 Wetlands Education Team, Chesterland, OH - **Gold Medal Team**
 L.O.S.T. - Lights on Sign Technology, Federal Way, WA
 Tred Med, Saddlebrook, NJ
 Challenge Walk, Manahawkin, NJ
 SoCo VI for Sophie, Melbourne, FL
 Pooper Scooper Plow 2000, Massapequa Park, NY

Chairman's Award

Salt Water Marshals, Myrtle Beach, NC - Chairman's Award

Problem: Disappearing saltwater marshes and the need for alternative energy sources.

Solution: A tidal mill using the ocean's tides to generate energy and an environmental education program.

Breakdown:

\$5,000.00 Coastal Carolina University - community partner to assist Team in implementing their solution.
\$5,000.00 \$1,000 Savings Bond each to four Team members and Coach.

**Christopher Columbus Fellowship Foundation
FY 2007 PROGRAM EXPENSES**

Grant Winning Team

Unrecognized Hazard: Used Oil Filters, West Branch, IA

Problem: Environmental hazards caused by used oil filters being disposed of in household trash.

Solution: Public awareness campaign to educate the community about this environmental hazard.

Breakdown: Beginning in FY08 - up to \$25,000 to their chosen community partner to assist the Team in implementing their solution.

Note: The Team's research and civic work was used to pass an Iowa State law banning the disposal of uncrushed oil filters in landfills.

	\$25,000.00 West Branch Community School District (2007 Grant team)
FY 08	-\$13,700.25 West Branch Community School District
FY 08	-\$2,500.00 West Branch Community School District
FY 08	-\$1,000.00 Brian Brennan (2007 grant team)
FY 08	-\$4,723.98 West Branch Community School District
FY 09	-\$2,344.00 West Branch Community School District
FY 09	\$9.11 Deposit (West Branch Middle School return unused funds -2007 grant)
	<hr/> \$740.88 Not spent; funds retained by the Foundation

Gold Medal Team

Energizers, Whiteface, TX

Problem: Rising fuel prices affecting local cotton farmers

Solution: Use wind turbines to generate electricity to run water pumps and irrigation systems.

Breakdown:

\$4,000.00 \$1,000 Savings Bond each to three Team members and Coach

Gold Medal Team

Wetlands Education Team, Chesterland, OH

Problem: Destruction of the local wetlands leading to the disappearance of the Osprey.

Solution: Educate the public and schools about nearby existing wetlands and enlist their help to preserve them.

Breakdown:

\$4,000.00 \$1,000 Savings Bond each to three Team members and Coach