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Dear Friends of PAST,

What an exciting year this has been. Many projects and partnerships established by our Executive Director, Annalies Corbin in 2007 took off in 2008 allowing the PAST team to expand and stretch in new directions. Continuing to build experiential learning programs, we took our projects out to schools around Ohio and the nation. Garbology and Forensics in the Classroom touched over 2000 students in and around the state. These programs garnered PAST the OSU Kellogg Award for Outstanding Outreach Programming and Jules Angel, the 2007/2008 Battelle Scholar, OSU Graduate Student of the Year.

Initiating the Emerging STEM School Study, the PAST team led by Dr. Monica Hunter set new standards for studying and understanding STEM reform so that it can be successfully propagated in a wide variety of locations and communities, and more importantly that other STEM schools can begin to study and better understand their own community. This ground-breaking study establishes a new approach to insuring success of STEM rather than simply calculating whether it is succeeding or failing.

In 2008 PAST’s partnership with TIES, a company dedicated to the STEM reform, the Battelle Center for Science and Mathematics Educational Policy, and the Battelle Memorial Institute coalesced into the Ohio STEM Learning Network Technical Assist Group committed to assisting program development in Ohio STEM schools. This partnership is an excellent fit for PAST drawing on the foundation’s experience in developing holistic experiential learning, engaging public and private partnerships, and getting the excitement of programs out to the public. This partnership is also allowing PAST to codify some of the processes we have been refining since Red River and the Marshall Hotel projects in 2001. In the coming year I am sure you will see a number of publications that reflect this work.

While building new alliances, the PAST team continued to put together compelling summer field study programs that took high schools students around Ohio and around the nation. Twenty students went with Anne Corscadden to Michigan to work with the state’s Bureau of Tourism and the Historic Preservation Office developing historical markers for the ghost town of Bell. Twenty students went with Meghan Rector, our 2008/2009 Battelle Scholar, to the Carter Caves in Kentucky to study spider populations and human impact on the state park caves. Twelve students went with Annalies Corbin, Andy Hall and Sheli Smith to Florida to work once again with the Florida Keys National Marine Sanctuary and Dive Charter Association in developing submerged site, informational placards for charter boat captains. In Ohio, Jules Angel and her team of community experts guided fifty students through the Forensics in the Classroom and PAST provided support for the River Speaks, a STEM orientation program for all 300 Metro Early College High School students. At the collegiate level Anne Corscadden directed the annual underwater field school on the Civil War paddlewheeler, Memnon Sanford guiding twelve adults through process and techniques of an archaeological investigation.

2008 also saw us pushing out into the publications-on-demand field (POD). Coordinated by Kate McIntyre, PAST publications now boasts Master Theses, Proceedings, Special Publication Series, our programs for teachers, and site reports. One of the fastest growing areas of PAST, the increasing inventory of publications can be found on our website, which by the way is getting a makeover in the very near future.

There is so much to tell but I invite you to read through the report and see for yourself what great things are going on at PAST.

Regards,

Terry Liston
Board of Trustees President
American students are notoriously weak in the subjects of sciences, math and engineering resulting in dwindling college enrollment in these subjects. In response to this deficit is a new educational reform that aims to develop 21st century skills through the teaching and learning of Mastery, Problem-based learning and the anthropological Trans-disciplinary approach delivering content through scientific and system methods associated with science, technology, engineering and math (STEM). Rapidly emerging as a successful avenue of educational reform, STEM education has found a niche in Ohio. In the capital of Columbus, the state’s first STEM school, Metro Early College High School is in its 3rd year; the success of the school's STEM programs and the student achievements continue to expand. Metro’s success has leveraged funding and community support for the start-up of nine more new STEM schools around the Ohio.

PAST, who has been involved with Metro since 2006 and developed the Metro/PAST Program Design Center in partnership with the College of Education and Human Ecology at The Ohio State University. The Center provides graduate students and teachers with a location and support to learn how to successfully build holistic, STEM programs that partner with the community and have authentic goals and products that feed back to the world and other schools.

Today, PAST is a proud partner of the Ohio STEM Learning Network focused on delivering program development and technical assistance to the nine, new STEM schools.

These partnerships and the STEM approach are an excellent fit for PAST, coupling PAST’s experience in developing holistic projects that take on authentic problems and nurture life skills with young students ripe for experiential learning. PAST’s motto, Access Through Innovation insures that the programs the students undertake touch compelling scientific projects with an anthropological perspective and reach out to public audiences everywhere.

PAST’s interest in STEM education goes beyond the development of programs to the heart of this reform’s structure. In a ground-breaking effort to go beyond success/failure assessment PAST sought out a partnership with The Battelle Center for Science and Mathematics Educational Policy at OSU to study the fundamental structure of emerging STEM communities from a combined ethnographical and policy approach. The study, which took place over six months and went to press in the summer of 2008, explores the structure of public networks while examining the community effort of teachers, parents and students to successfully embrace a new approach that has a whole new set of needs, and requirements.

Moving forward PAST plans to publish our holistic approach to building programs

In 2008, OSU Biology graduate student and 2008/2009 Battelle Scholar Meghan Rector transformed her doctoral research on spider web, tensile strength into a summer field project that employed Metro students as her data collection, research team in the caves of Kentucky.
Ocqueoc, Michigan

On the shores of Lake Michigan lies the remains of an abandoned 19th-century town, Bell Village. This past June, high school students explored and mapped this area, providing data for the State of Michigan concerning the use of the community’s technologies of the time.

The sixteen students split into four groups, mapping the area, the General Store, and the Fisher House; they discovered artifacts such as a safe (sans money) and a Letter Box that contained ink, stamps, and a sketchbook. Another discovery was of a road possibly used in the logging camp, as logging was a main industry of the area.

Local institutions for the students’ research include the Alpena Library, The Jesse Besser Museum and Besser Memorial Library (so-named for the Alpena resident who donated the land). A two-masted canal Schooner, The Portland wrecked in the area in the late 19th century. At NOAA at Thunderbay Sanctuary, Dr. Pat Labadie taught the study of shipwrecks; students gained an appreciation for the difficulties involved in maritime archaeology.

Recreational activities included an 11-mile long canoe trip and a visit to the Planetarium.

Future plans at the site are continual surveying and the determination of the architecture of the General Store.

At the end of their field school each group presented their historical markers for the area: one describing Bell Village, another for the wrecked Portland, another illustrating the logging industry, and finally one to be placed at Fort Mackinac. You can view these presentations and excerpts from their journals at http://www.pastfoundation.org/2008Michigan/index.htm

The field trip students and PAST would like to thank the Battelle Memorial Institute and I Know I Can.
Carter Caves, Kentucky

2009 Battelle scholar, Meghan Rector, lead a field school of 20 students to discover cave ecology at Carter Caves State Resort in Kentucky. For preparation, students shared an open discussion with entomologist, Joshua Benoit, covering the topics of cave crickets, mycoflora, invasive species, natural springs, white nosed fungi, population fluctuation, and cave zoning.

In four groups, they designed respective research projects. One compared the ecology and environment of wet versus dry caves; another, the species and ecologies of cave environments at the entrance, twilight, and dark areas; the third, human impact on caves, for example the violence towards bats; and lastly, researching spider and cricket species and populations. The students then collected and analyzed the data for presentation of their projects at the end of the field school. As our group was respectful and genuinely excited, the tour guide lead our groups through sections that are closed to the public. Many had never been in caves before and were surprised at the unpredictability of the caves: the tight crawls and the underground rivers. They also had not considered all the many species that live in caves. The histories of the caves were diverse as well, from miners of sodium nitrate for gunpowder during the War of 1812, to Boy Scouts trapped in 1962.

This field school would not have been possible without the help of the Ohio Department of Natural Resources, Division of Natural Resources and Preserves, The Ohio State University—Newark. We would also like to recognize Tar Kiln Farm that granted us access to Cascade Caverns located on their private property. I Know I Can and the Battelle Memorial Institute sponsored the field study.
Columbus, Ohio

For the third consecutive year, the Forensics in the Classroom program was enjoyed by students desiring to learn about the field of forensic science from many perspectives. Investigating the crime scene and documenting all of the evidence very carefully is the first important step, they learned from Officer Cunningham. Dr. Dave Shetlar, OSU entomologist, lead the participants in examination of the interpretation of insects and maggots in the use of forensics, both in a PowerPoint presentation and in real experiments with decomposing animals.

The students cast shoeprints, printed and examined fingerprints. The hands-on experience continued with the separation of white and red blood cells and plasma from horse DNA from Dr. Carol Park, who then showed them how to compare DNA samples at crime scenes. Excavating graves of fake bodies was an exciting aspect of the camp. In the hot July day, the students learned first-hand the meticulous work of crime scene investigation and grave excavation.

Once all this work was finished, it was time to examine the bones. Deborrah Pinto and Lara McCormick, osteologist graduate students at OSU, lead the students in this activity. They assessed the bones to determine age, sex, stature, and ancestry of the “victim.” At the conclusion, the students compared their assessments with missing persons reports, adding gravity to the field school of understanding the importance of the work. The FITC Program was directed by OSU Ph.D. Candidate and 2008 Battelle Scholar, Jules Angel.

We would like to acknowledge those who have continued to assist us in this field school and without their help, this would not have been possible:

We also extend our appreciation to the the Women’s Fund of Central Ohio, the Ingram White-Castle Foundation, the Columbus Foundation, the Battelle Memorial Institute, Crane Plastics, The Ohio State University Department of Anthropology, and I Know I Can for their sponsorships.
Twelve Metro students enjoyed a week of snorkeling, diving and researching this past summer in the Florida Keys. At first arrival, they were introduced to many species of birds at the Florida Keys Wild Bird Center. At the John Pennekamp State Park, they snorkeled, researching a shipwreck recreation, taking notes on the flora, fauna and environment. Others had the opportunity to take scuba lessons. By the end of the week, Cassie, Jake, Zach, Deidra and Dr. Andrew Bruening all successfully completed the course and received their basic open water dive certifications.

Dr. Kira Kaufmann of the Florida Public Archaeology Network took time to give a presentation about regional prehistory. At the Marine Mammal Conservancy, students learned about marine animal rescue and the research conducted there. Captain Tom’s Wreck (James Baird) was the first of four shipwrecks they explored. The other shipwrecks the students dove were Sanford, Tomawanda, and Slobodna.

At each site, the students put to practice what they learned at the Pennekamp State Park; they noted the flora, fauna, geology and location of the ship and the artifacts they measured.

Researching the history of each ship was also an important part of their experience. At NOAA, coral reef assessment and restoration specialist, Dr. Bill Goodwin, lead the students through the history of the Florida Keys National Marine Sanctuary. Each group gathered their data for their respective shipwreck and presented their assessments. Rob Bleser, the founder of Quiescence Dive services, commented that while he has been visiting these sites for over 30 years, he learned something new about each of them he’d not known before. Journal entries, pictures and their presentations can be found online at http://www.pastfoundation.org/2008FloridaMarineEcosystems. We would like to extend our gratitude to the following people and organizations that made this field school possible:

I Know I Can, and Metro School, sponsors of the field school
Quiescence Dive Services of Key Largo, whose kind staff has been guiding our students each year.
The field school for University students is an expanded 2-week version of the original Forensics in the Classroom. Twenty undergraduate students from across the U.S. converge on the campus of The Ohio State University to be part of the Department of Anthropology’s Forensics Program. This program is directed by Dr. Sam Stout and graduate student, Jules Angel.

The students began with the DNA lesson, and in addition studied blood spatter, which reveals the distance of the attacker. Captain Dave Rose, of the OSU Police Department joined us again to discuss tool marks, ballistics, fingerprints and shoe print casting.

Jules Angel and Dave Pleisch demonstrated expert testimony as the expert witness and defense attorney, respectively.

At the Franklin County Coroner’s office, the students were able to witness an autopsy. Daniel E. Jolly, DDS lectured the students on the use of dental examination to determine age. While at The Ohio State University’s Waterman Farms, who hosted the ‘burial grounds’, Jarrod Burkes from Ohio Valley Archaeology Consultants introduced the students to geophysics equipment, Oakfield Soil Corer, a Metal Detector, an Electrical Resistance Meter, a Magnatometer, and a Ground Penetrating Radar machine.

Once again student favorite, Dr. Dave Shetlar (OSU Department of Entomology), the “Bug Doc,” returned for the university students, complete with more decomposing animals.

Other lecturers include Dr. Delaney Smith, of Twin Valley’s Behavioral Healthcare, forensic psychiatrist and Dr. Jan Gorniak, a forensic pathologist.

Finally, the students sat in the jury and testified at moot court with Judge Isaac Mowoe (retired OSU Professor) returning to preside. Debra Gorrell Wehrle and Bob Cheough, of the Ohio AG’s office served as attorneys.
Menemon Sanford was built at the John Englis Yard at Greenpoint, New York, and launched in 1854. She was named for the late founder of the Sanford Independent Line, Menemon Sanford (c. 1800-1852). She was a large vessel, measuring 244 feet long (74.4m), with a beam of 34 feet (10.4m), not including her sidewheels. Her machinery, built by Neptune Iron Works, consisted of a single-cylinder, vertical beam engine with a diameter of 50 inches (1.27m) and a stroke of 12 feet (3.66m). The new steamer was fitted with 24 staterooms, but could accommodate up to 249 passengers, including “deck passengers,” who would be left to find a spot wherever they could. It was said that while older boats of the Sanford Line were of more traditional, somewhat staid designs, the new steamer was “considered the extreme of the new type.”

Six graduate students, and one high school student from around the country attended our underwater field school in the Florida Keys. This year, we researched the *Menemon Sanford*, the only side-wheeled paddleboat discovered among the thousands of shipwrecks in the Florida waters. On a clear day in 1862, for an unknown reason, she ran aground near Cape Ann. Union soldiers were aboard, on a secret mission; the captain was arrested as a possible Southern sympathizer, but we do not know what became of him. Salvors retrieved the engine; the remains of the ship include fragments of the paddlewheels, remnants of the boiler, metal and wood fragments.

In the 1990s, volunteer diver Denis Trelewicz discovered and documented the ship, taking many photographs which fill multiple boxes. The students spent hours cataloging and entering data for each photo in preparation for their upcoming dives, 10 total.

*Nancy Diersing* of the Florida Keys National Marine Sanctuary lectured the students on the objectives and responsibilities of the Sanctuary. The Mel Fisher Maritime Museum provided them with information and artifacts of various shipwrecks. *Dr. Kira Kaufman* from Florida Public Archaeology Network also gave a presentation to the students about the archaeology of Florida. By the end of their field school, the students had a well-documented site report to present to NOAA. Newspaper reporters were on hand, documenting for the hometowns of the participants, and for local news.

http://www.gatorsports.com/article/20080809/NEWS/955580835

http://www.keysnet.com/diving/story/17253.html

http://www.herald-mail.com/?cmd=displaystory&story_id=200679&form
PAST Spotlight

Jules Angel
2007/2008 Battelle Scholar

Jules Angel, an Anthropology PhD candidate became the 2007/2008 Battelle Scholar at Ohio State University. Jules is originally from Upminster, Essex, England. She immigrated to the United States and began a graduate work in Anthropology after working for Scotland Yard as a crime scene photographer. Jules came to the Ohio State University to specialize in forensic archaeology. She is currently finishing her dissertation, and co-teaching the PAST/OSU collegiate field school in Forensics with Dr. Sam Stout.

Jules participated in PAST’s initial Forensics in the Classroom pilot developed under Drs. Melissa Connor and Douglas D. Scott, of Nebraska Wesleyan University. Since then Jules has coordinated the high school forensic program and worked with PAST to develop a solid collection of modules, now known simply as FITC. The main goal of the experiential program is to get students interested in science by teaching different topics such as chemistry, physics, and archaeology within the context of forensics. Created in 2006, the original program was a collaboration between PAST, Nebraska Wesleyan University, the Columbus School for Girls, and the Women’s Fund of Central Ohio. It targeted girls and science, enticing students to explore chemistry, ballistics, biology, law, archaeology and osteology.

Both teachers and students collectively enjoyed the program and PAST set out to improve and enlarge the field study. Through a grant from Battelle, PAST was able to develop Forensics in the Classroom into a vibrant summer program and publish the modules. Part of the grant created the Battelle Scholar as a avenue for working with graduate students and teaching them to develop holistic programming.

The key to the FITC program’s success is that the curriculum is extremely hands-on and uses the the popularity of specific television shows to entice student participation. Interactive lectures and activities expose students to the reality of forensic science, including simulated crime scenes, dusting for prints, extracting DNA, excavating mock crime burials, and testifying in a moot court. The field program has been run as an overnight as well as a day camp. Jules has worked very hard building a network of community partners that interact with the students and give the program a very real touch. Detectives, entomologists, coroners, archaeologists, DNA experts, lawyers, judges and even cadaver dogs are part of the week long program.

FITC engages kids in all kinds of science through something that intrigues them -- crime. The program hooks the students’ curiosity while providing a sound foundation in the realities of good science practice. “The work is strenuous, at times uncomfortable, and involves a lot of paperwork,” says Angel, “but the kids do it all.” Specialists make the program as real as possible and with the hands-on experiences the students taste success, build confidence in themselves, and discover abilities in science and new fields they didn’t know existed.

“One of the important lessons they walk away with is that there is a difference between forensics in the real world and what we see on TV,” notes Jules. “Popular television shows such as CSI and Bones that caught their attention originally and brought them to FITC, are reviewed for accuracy. We watch a new episode every day. One of the thrills for me, is watching the students begin to differentiate between good scientific practices and Hollywood license.”

As we track the students who have participated in FITC we can see the positive affect that the program Jules coordinates is having. The ability to detect reality from hype gives the kids a sense of success and a confidence in their scientific abilities that they take with them into other courses and classrooms. Jules further notes that this scientific systems approach is embedded in FITC and that the students walk away with a good foundation for methodically examining problems and evidence. “I don’t think they will ever watch TV shows in the same way again,” laughs Jules, “and we can be proud of that.”

Statistics show that the kids who take FITC before entering a STEM high school do better and complete more courses in their first year. It is this rate of success and the understanding of how important it is to engage the students and let them figure out the processes. In 2008 Jules pulled together the modules that had been piloted and beta tested across three years of programs. These were published both in print and as pdf files that teachers can easily access and use either as a full program or individually. The electronic version is free and is currently being adapted for this coming summer by several schools hoping to expose their incoming students to the wonders of science through a STEM approach.
Upcoming Field Study Programs

March

2009 Ohio State University/PAST Forensic Anthropology Field School

June

Life in Transition: Cave Ecology

July

Marine Ecosystems of the Florida Keys

Growing America

August

The Clarksburg Shipwreck

Forensics in the Classroom
PAST Research & Publications

Projects

Pomona makes the National Register of Historic Places

The people of California gathered at the historic state park of Fort Ross on March 17th to commemorate the 100th anniversary of the sinking of the steamship Pomona, once hailed “the jewel of the Pacific passenger fleet.” The shipwreck has been the focus of numerous studies and field schools over the past twenty years. However, it had never successfully been nominated for National Register status. PAST and California State Parks were particularly pleased with the day because it also marked the successful nomination of Pomona to the National Register of Historic Places. In an intensive two month process, PAST staff collaborated with staff at the National Park Service in Washington D.C. to write and pass a nomination for the shipwreck in time for its 100th anniversary. Normally the process can take up to a year. However, using modern web-based technology the PAST team was able to shorten the nomination process to 8 weeks and actively involve all participants across the country in the editing and response process.

PAST interns are now taking the Pomona process and formalizing the procedure building in easy instructions on how to use web-based technology in creating a nomination. In addition, the PAST team is busy collecting a compendium of historical data and modern publications about Pomona for publication.

Emerging STEM School Community: Volumes I & II

After six months of interviews and research, Dr. Monica Hunter and her team Maria Cohen and Jing Liu along with University of Indiana researchers, Dr. Robert Agranoff and Dr. Michael McGuire published their findings in a two volume set. The study was well received throughout the research community and is available on the PAST website.

This study was followed in the fall by a brief review of the new STEM schools scheduled to open in fall 2009.

Interest generated by the study has led to requests by schools across the nation for similar study of their communities and the underlying network and community structure.

Underwater Proceedings & Calendar

PAST successfully helped assemble and publish the second Underwater Archaeology Proceedings for the Advisory Council on Underwater Archaeology since reinstatement of the publication. In addition, PAST laid out the annual calendar highlighting winning photographs from the annual ACUA photo competition.

Sacramento River Survey

Through a grant from California State Parks the PAST research team spent two weeks on the Sacramento River in the fall documenting shipwrecks exposed by the extraordinary low water. The PAST team, made up of Anne Corscadden, Brooke Basse, Reid Haywood -- all PAST field school alumni -- collected location data, photographed the sites and began the process of filing these shipwrecks with the California Historic Resource Information System (CHRIS). The physical river survey was paired with historical research in the state archives and local historical societies.

Part of the research was in preparation of the 2009 field school planned for the Clarksburg shipwreck.
A note from the Executive Director -

This past year was a pivotal for the PAST Foundation. In 2008 we saw the development of new innovative programs and we saw the launching of new state-wide initiatives that had broad impact on education in Ohio. Fortunately, the dedication and expertise of the staff at PAST rose to the occasion. Through strategic partnerships with the Ohio STEM Learning Network (OSLN), TIES, The Ohio State University, and Battelle, PAST has not only had the opportunity to participate in education reform in Ohio and around the nation, but PAST has finally had the ability to fully see our potential.

In 2008 we engaged with more schools, more students, and more teachers than ever before. I am pleased to say that today, I feel we are closer to our original mission than ever before. This success has only been possible through the dedication and effort of our incredible staff and our wonderful partners.

Warm Regards,
The PAST Foundation & Friends

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Battelle Memorial Institute
The Ohio STEM Learning Network
TIES
The Ohio State University
Columbus Foundation
Battelle Center for Science and Mathematics Educational Policy
Educational Council of Franklin County
Crane Plastics
The Women’s Fund of Central Ohio
Ingram-White Castle Foundation
Columbus Opera
Columbus School for Girls
California Department of Parks and Recreation
National Fish and Wildlife Foundation
C & C Technologies
Montana State University
Metro Early College High School
MC2 STEM High School, Cleveland
Design Lab Early College High School, Cleveland
Hughes High School, Cincinnati
Dayton Regional STEM School
Inventors’ Hall of Fame STEM School, Akron
Linden McKinley STEM High School, Columbus
Perkins Local School District, Sandusky
Texarkana Independent School District
Reynoldsburg City Schools
New Miami City Schools
Groveport Madison School District
Andy and Rebecca Hall
Quiescence Dive Services
Florida Keys National Marine Sanctuary
Thunder Bay National Marine Sanctuary
Michigan Historic Preservation Office
Michigan Visitors and Convention Bureau
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