

## CURRICULUM FEATURE

### Independent Science Research: Awaiting the Phone Call from Sweden

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Each autumn, I eagerly await the announcement from Sweden of the Nobel Prizes in Science. The 2007 Nobel Laureates were honored for achievements in mouse genetic knock-out technology (medical models for disease), sub-atomic solid state surface chemistry (catalytic converters), nanotechnology (compact hard disks) and information of the dangers of climate change (Go green!). Avidly, I read the personal stories about research tribulations, triumphs and the early schooling of the winners. Naturally Alfred Nobel comes to mind, scientist, inventor, entrepreneur, author and pacifist who established his Nobel awards in 1901. Interestingly, he discovered dynamite (as well as nitroglycerine heart medication) by serendipity. Bravo to the scientific mistakes! Bravo to the boldness of discovery!

With admiration I too announce the many research projects thriving within the labs and cerebrums of Saint Ann's. This year over 40 students (ranging from 7th graders to seniors) have taken the plunge to explore personally picked and perplexing questions of science. Research interests are as unique and varied as the investigator population.

Topics include the reduction of carbon emission, consciousness, the adaptive value of community, a historical proof of geocentrism vs. heliocentrism, the grass diet of cats and their behavior. Biological and genetic projects include the search for antibiotic resistance genes in Hudson River samples, preservative effects of sphagnum moss, bacterial memory and methylation, mating factors in yeast, aging and regeneration in the flat worm. Marine projects include raising and studying cuttlefish, giant shrimp and the territorial establishments in freshwater communities. Engineering projects include the physics of cycloids, repairing an Omnibot robot, building historical mechanical machines, and creating wind-powered moveable sculptures. Anatomical projects include phantom limbs and consciousness, the neurobiology of music appreciation, caffeine, interocular pressure and yoga.

High School Independent Science Research is a cooperative endeavor between a student or several students and their chosen mentor. Saint Ann's science teachers, individually passionate in diverse disciplines, as well as auxiliary research investigators, serve as advisers. Research work proceeds at a pace stipulated by the project as well as the ambition of the research team. After completing a year of exploration, students summarize their projects in a formal research paper. In the spring, their discoveries are made public through a poster and oral symposium. Research students routinely meet as a group to participate in peer review. The Independent Science Research Program

## LOWER MIDDLE SCHOOL PLAY

### THE LITTLE PRINCE

Based on the book by  
Antoine de Saint-Exupéry

Directed by Laura Barnett  
Musical Direction by Jonathan Elliott

Performance dates are:  
January 25 — 7pm January 26 — 2pm  
January 27 — 2pm January 28 — 7pm

This year's Lower Middle School production is *The Little Prince*. The play is based on the book, published in 1943, by French aviator and novelist Antoine de Saint-Exupéry.

Please begin making reservations on or after Wednesday, January 9, 2008. The procedure for making reservations is the same as in previous years. From outside and within the building, please dial ext. 708. Leave a brief message stating your name, your child's name (if applicable), your phone numbers (work and home), the date you wish to attend the performance, and the number of tickets you want to reserve for each date. Your reservations will be taken in the order in which they are received. You will be contacted only in the event that there is a question or problem with your reservation request. Please be certain to phone us at any point with changes or cancellations. Reserved tickets will be available on the evenings of performances beginning at 6:00pm in the Ettl Lobby. When there is a conflicting event in the Lobby, the Undercroft will be used.

is strengthened by visiting outside science facilities and attending seminars. This fall students have enjoyed lectures by Steven Pinker, Oliver Sacks and Nobel Laureate Harold Varmus. Furthermore, students often opt to present their project in more public science forums such as the New York City Science and Engineering Fair or the Intel Science Talent Search.

The current academic year also marks the expansion of the research program into middle school science. A research elective meets twice a week to focus on the skills of planning, performing and documenting a successful research project. The first semester is dedicated to mini-projects as an introduction to diverse experimentation models, including Jello, flat worm regeneration, stem cells, human reflexes, garbage, compost and bacterial diversity. During the second semester, 7th and 8th grade researchers select their own research projects to dive into. The Saint Ann's thread of collaboration will be woven as high school and middle school students gather to present, motivate and critique each other's work.

## December

- 3 •**First Monday Concert**—postponed
- 13 •**Senior Parents Evening**, Bosworth Building—  
6:00pm
- 18 •**First Grade Sing**, Red Stairs, Bosworth  
Building—9:30am  
•**Choral Concert**, Church of St. Ann & the  
Holy Trinity—7:00pm
- 19 •**Second Grade Sing**, Red Stairs, Bosworth  
Building—9:30am
- 20 •**Third Grade Sing**, Red Stairs, Bosworth  
Building—9:30am  
•**Holiday Assembly**—10:15am  
•**Winter Vacation Begins**—11:10am

### *First Monday Concert Postponed*

The restoration of the 1903 Steinway Model A that has been lovingly used by Saint Ann's students is complete. The entire outside of the piano was restored and refinished, including the ivory keys which were salvaged from old pianos. Delivery is expected in December and the piano will need to acclimatize. It will be prominently featured in the First Monday Concert on February 4.

## January

- 7 •**Classes Resume**
- 11 •**High School Dance**, Ettl Lobby—8:00pm
- 15 •**Orchestral Concert**, Church of St. Ann & the  
Holy Trinity—7:00pm
- 16 •**Middle School Play Readings**, Ettl Lobby—  
6:30pm
- 17 •**Middle School Play Readings**, Ettl Lobby—  
6:30pm
- 21 •**Martin Luther King Day**—School closed
- 22 •**Middle School Play Readings**, Ettl Lobby—  
6:30pm
- 23 •**Middle School Play Readings**, Ettl Lobby—  
6:30pm
- 25 •***The Little Prince***, Theater—7:00pm
- 26 •***The Little Prince***, Theater—2:00pm
- 27 •***The Little Prince***, Theater—2:00pm
- 28 •***The Little Prince***, Theater—7:00pm
- 29 •**Chamber Players Concert**, Ettl Lobby—  
6:00pm
- 30 •**Chamber Players Concert**, Ettl Lobby—  
6:00pm
- 31 •**College Evening (Juniors and Parents)**,  
Dining Room—6:00pm  
*A discussion of the college admissions process with Tom Parker, Dean of Admission, Amherst College; Bonnie Marcus, Senior Associate Director of Admission, Bard College; Ted O'Neill, Dean of College Admissions, University of Chicago; Christoph Guttentag, Dean of Undergraduate Admission, Duke University; and Karen Parker, Dean of Admission, Hampshire College.*