

Camp Reach Newsletter

June 2003

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Come to the SUMMER REUNION— Segways and Karaoke!

The next reunion activity for all alumnae (campers and staff) is planned for

**Friday, July 25
5:00-8:30 p.m.
and it's FREE!!**

5:00 p.m.: Join Reach 2003 campers for a barbeque in Higgins House courtyard.

5:45 p.m.: Demonstration of a Segway™ Human Transporter (HT), an amazing device engineered by DEKA Research and Development Corporation.

6:30-8:30: Have fun with karaoke in the food court on the ground floor of the Campus Center.

8:30: Pick-up time, in front of Alumni Gym.

Karaoke is back by popular demand—it was a blast last year! Come if you love to sing, if you want to try to sing, or if you just like to watch others sing!

RSVP by returning the response card on page 7, OR by calling the Office of Diversity and Women's Programs at (508) 831-5819, OR by sending an e-mail message to reach@wpi.edu by Friday, July 18. It is very important that you RSVP because we need to provide an accurate meal count!

When you RSVP, please be specific about whether you are coming for the barbeque and Segway demo, karaoke, or both. Higgins House is located directly behind the Campus Center, and the Campus Center is adjacent to Alumni Gym, which is the easiest drop-off point. If directions are needed, please call the Reach phone number given above, or refer to the campus map on WPI's web site (<http://www.wpi.edu/About/Visitors/>)



A WPI campus police officer and an admissions volunteer using Segway HTs this past winter. Read more about Segways on page 6! (Photo used with permission, WPI Media Relations.)

A National Award for Camp Reach!

It is with pride and pleasure that we report that Camp Reach has received the Women in Engineering Program Award by the Women in Engineering Programming and Advocates Network (WEPAN). This very competitive national award recognizes programs that serve as models for other institutions. To be considered, programs must demonstrate im-

provements in the educational environment for women in engineering, and must have been established for five or more years and have assessment data, including long-term tracking, to indicate how the program has made an impact.

Chrys and Stephanie recently accepted

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Camp Reach Receives WEPAN's Women in Engineering Program Award

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the award at WEPAN's national conference in Chicago.

In addition to a plaque, the award carries a \$500 prize. Most importantly, however, the award carries the recognition of Camp Reach as a premier women in engineering program by a group of professionals who work in this field. It is a great honor, and we know Denise would be proud.

The decision has been made to add the prize money to the Camp Reach Memorial Fund, which was established in memory of Denise Nicoletti. The fund will be used for special projects intended to take the program to an even higher level!

The award citation reads:

"In recognition of the success of Camp Reach as an inspiration to young women and as a model program for other outreach efforts. This award is presented in memory of Camp Reach co-founder Denise Nicoletti."

This award would not have been possible without the interest of prior campers and staff members. Most especially, we would like to thank the alumnae, staff, and parents who wrote letters of support for the nomination: Abby Cooney (Reach '01); Jen Giard (Reach '01) and her mother Doreen; Aimee Hart (Reach '97, Staff '01-'02); Amanda Kight (Staff '01); Carolyn Purington (Reach '00); and Dan Seltzer (MST '01). And a BIG round of applause for Stephanie Blaisdell, who put together the whole nomination packet!

Awards and Appreciation for Denise

A number of Reach alumnae have asked about memorials to Denise. Since our last newsletter, the WPI community has continued to remember her in a variety of ways:

In April on a beautiful spring day, members of the WPI community gathered outside the Atwater Kent building to witness the unveiling of a beautiful granite and bronze memorial to Denise, surrounded by colorful pansies. (See picture at right.)

Also in April, the WPI Board of Trustees voted to establish the **Denise Nicoletti Trustees' Award for Service to Community**. This award joins the other major awards for outstanding teaching, scholarship, and advising. The award may be given annually to a member of the WPI community who shows genuine care for the enrichment of life for others. The 2003 recipient of the award is Jim O'Rourke, senior electrical engineer and manager of the electronics shop in the Electrical and Computer Engineering Department, who has been a staff member since 1973. Known as a "volunteer extraordinaire," he offers his personal time and shares his broad interests and expertise to help anyone in need, both within and outside the WPI community.

And in early June, the WPI Alumni Association gave

the **William R. Grogan Award** posthumously to Denise. This award recognizes outstanding contributions by an individual in support of the mission of the college and/or for the welfare of its students.



*DENISE NICOLETTI
1963-2002
Teacher
Scholar
Mentor
Friend
Mother and Wife*

*Dedicated in loving memory
by her colleagues.
January 2003*



Spotlight on Science Projects

Thanks to the following Camp Reach alumnae who wrote to tell about science projects they completed in the last year. They sound fun and fascinating!

Tara Jacobsen (2002): I did my science project on compost piles and I won 1st place for my school, Holy Name Jr./Sr. High School, out of about 100 other 7th graders. For my project I made two compost piles, one with good ingredients and one with bad ingredients. The good ingredient compost pile was good for the environment and the bad ingredient compost pile was bad for the environment. In my project I was testing to see how long each pile would take until it was decomposed and made a soil-like substance. I wanted everybody to see that compost piles are easy to make, are a great money saver, and are great for the environment.

Jacqueline Mooney (1999): This year I was a freshman at Wachusett Regional High School. Being the crazy person I am, I decided to take honors physics, which requires every student to complete a year-long project. With much prompting from my teacher, I ended up completing a project on parachutes. I tested the effect of string length on the drop time of a parachute that I designed and built on my own. The conclusion was that there is an "optimum" length for parachute suspension line lengths. If the lengths are too short or too long, the parachute falls more quickly, which is not the job of a parachute. The length should be between one and three times the radius of the parachute's canopy.



Our school science fair was in February and I was required to enter it because I was a member of the science club (which is a lot more fun than it sounds!) To my complete amazement, I won first place, which meant I would be going to the regional fair at WPI.

The regional fair was a daylong affair that leaves all the contestants tired when it's done. At the award ceremony, I was shocked to discover that I had taken fourth place. The state science fair at MIT was one of the best experiences of my life. I had a blast and met some of the smartest people I'll ever have the honor to be near again. Despite my enthusiasm and catchy project board, I didn't place at the award ceremony. Despite that, however, I'll never forget the fair and how much I learned and saw. I hope to see you all at the science fair next year!!!

Carolyn Purington (2000): I did my year-long sci-

ence project on the effect of surface roughness on light reflection. Using a light probe, I took data at different angles with varying sandpaper grits. I concluded that the rougher the surface, the more light returns to the original source. The practical application is the rougher the road surface on a painted sidewalk, the more reflected light will return to the driver's eyes.

Sarah Rich (1998): "A Color Changing Hand Soap to Encourage Successful Hand Washing." One of the best ways to prevent disease is to wash your hands. For years this has been recommended, and yet the number of people who do it properly is surprisingly small. The recommended amount of time that should be spent lathering the soap on one's hands is twenty seconds. Many people do not do this, because proper hand washing is not a concern when one is in a hurry. A product that could help solve this problem is a soap that could measure hand washing effectiveness. The easiest way to do this is through time. If a certain amount of time is spent in the hand washing process, it is more likely that it will be effective. The goal of this project was to create a liquid hand soap that changes color after twenty seconds to indicate that enough time has been spent in hand washing.



To do this, a pH indicator was put into the soap, and beads were added to the soap when hand washing begins. The indicator used was made from boiling red cabbage leaves, which contain a pigment called flavin that is pink in an acid, blue in a base, and purple in a neutral solution. The substance added is alginate beads, which slowly release baking soda, a weak base, into the soap. In this experiment, it was determined that the proper amount of beads for 2.5 mL of cabbage juice and soap combination is 1.25 mL. With this amount, the time it takes for the soap to change color is a reliable 20 seconds. This type of product could be used to improve hand washing technique in food service areas, healthcare facilities, childcare centers, and the home.

Sarah won the Frederick P. Fish patent award at the State Science Fair, which means that her project will be patented for free if possible. Her project also won a third-place award.

Nicolette Schlichting (1998): Nicolette completed a project entitled "The Effect of Garlic on the Life-

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Spotlight on Science Projects

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span of *C. elegans*,” a continuation of last year’s study of garlic (the effect of temperature on its anti-bacterial properties). It was conducted in order to further investigate other potential health effects of garlic. Garlic is currently being studied in the scientific world for its many health benefits, including its supposed “life-lengthening”

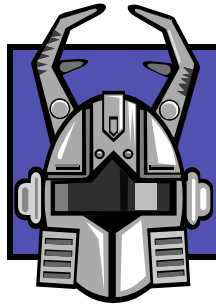


characteristics. This project explored the effects that garlic had on the lifespan of *C. elegans*, a common worm, as well as what concentration of garlic allowed these worms to live the longest. It was concluded that garlic did have an effect on the lifespan of *C. elegans*. (up to 33%). To complete this project, Nicolette worked in a laboratory at the UMass Medical School.

Looking for a challenge and lots of fun? Think FIRST!

At least three Reach alumnae worked on the WPI-Mass Academy FIRST robotics team this year: **Amanda Kristoff (1998)**, **Jenelle Pope (1997)**, and **Sarah Rich (1998)**. (Sorry if I’m not aware of others!) Sarah attends Mass Academy, and Amanda and Jenelle were able to participate because it was not possible to create a team at their own high schools.

Typically there are clear roles and assignments on FIRST teams. Jenelle was the “human player” who put bins on the field during matches. She also helped with the CAD-Ding (Computer-Aided Design and Drafting) and with several award submissions. Next year she will be “Chief of Awards”. Sarah attended all the brainstorming sessions and worked on designing the wall part of the robot. She helped in the lab after school two or three times a week. She



was involved most in scouting, helping to create scouting sheets, and did some scouting in Houston where the national competition was held.

The purpose of FIRST is to “build self-confidence, knowledge and life skills while motivating young people to pursue opportunities in science, technology and engineering” (www.usfirst.org). Ken Stafford, Manager of Academic Initiatives at WPI, coordinates the WPI-Mass Academy team, and suggests that anyone interested in FIRST should try to find an enthusiastic teacher to help start a team at their school. The WPI team can serve as an official “mentor” for other local area teams, and will come to your school to give a demonstration and offer advice. If you’re interested, contact Chrys and she can put you in touch with Ken!

Winter Reunion Highlights

More than 30 alumnae and staff attended the winter reunion in early March, and the WPI pool sure did warm us up! Old acquaintances were renewed, and some new ones were made.

For the first time this year alumnae who were high school sophomores and juniors were invited to participate in a “Mock Admissions Committee” to get some further insight into the college admissions process in a fun and interactive way. Participants reviewed some actual ad-



missions applications (with names changed!), got to decide whether to “admit”, “reject”, or “wait list” the applicants, and then found out what the real admissions committee decided. Based on the positive feedback of the participants, we’ll definitely try this again in future years!

And we always are looking for YOUR ideas for future reunions! Send them to Chrys or Stephanie!

Reach Class of '97 Goes to College!



2003 is a milestone year for Camp Reach— our first group of campers from 1997 are graduating high school seniors! Thanks to the following alumnae for sharing their plans with us:

Sara Burnham (St. Peter-Marian) has decided to go to the University of Connecticut and intends to major in pharmacy.

Erin Dalianis (Mass Academy/Burncoat) will be attending Emmanuel College in Boston, majoring in secondary education/English.

Melissa Grant (Leominster) is off to the University of New Hampshire where she'll be pursuing a Bachelor of Science degree in Mathematics.

Aimee Hart (Gardner) will be attending the Coast Guard Academy in New London, CT. She is considering a major in Civil Engineering.

Heather Hussey (Leominster) will be attending James Madison University in Virginia and has decided to major in pre-physical therapy with a minor in psychology.

Emily Miranda (Athol) will be in the College of Arts and Sciences at Boston University. She is leaning towards English, Biology, or maybe pre-Med.

Kelly Peterson (Oxford) will be going to Framingham State College and plans to major in criminal justice/pre-law with a minor in Spanish.

Jenelle Pope (Wachusett) will be attending WPI, majoring in mechanical engineering or aerospace engineering.

Erin Young (Milford) will be studying chemical engineering at Tufts University.

Congratulations and best wishes to all!

Other Class News

Abby Cooney (2001): I just wanted to say that this June, I am graduating from 8th grade, and have been thinking about high school a lot. I am going to Wachusett, and for 11 and 12th I am hoping I can get into Mass Academy. If I hadn't gone to Reach, I don't think I would have EVER thought about going to Mass Academy. Also I took a look at the alumnae website today, and was just thinking about how great a time I had at Camp Reach.

Tara Jacobsen (2002): During this summer I am going to attend the Gems Jr. camp for girls at WPI.

Amelja Kukli (2002): I don't have any big plans for the summer, I am planning on going to the reunion and to a summer camp.

Journey to Japan

Angela Harvey (2002) traveled to Japan in February. She writes: I went with 6 other students from my school and I had a great time. In the schools they all wear school uniforms and instead of switching classes the teachers do. They have no lunch ladies or janitors, so the students serve the food in their classrooms and clean up at the end of each day. When they get to the middle school they have to take a test to get into high school, much as we do to get into college. After school the kids are just like us and go to the mall, hang with friends, watch tv and play playstation or nintendo. They have some technology that we don't have like Playstation



3. They spend a lot of time working on their sports, instruments and academics, so they usually only participate in one thing at a time. We even visited some of the shrines which were really fun and we learned about their culture. The 6 of us students that went to Japan had a great time and are even thinking of saving up to go back in the next couple of years. I think that it surprised me how similar they are to us even though people make it seem like we're anything but the same. I also think it gave me a lot more courage to do things that I might not do before, such as talk to people I don't know; sometimes I can be shy. In Japan everybody wanted to meet us because we were Americans, and they were so happy, and people we had never met before were not hesitant to be kind to us. I think it taught me that it is important to learn about cultural differences and be willing to accept others for who they are.

What's a Segway?

Material for this story was gathered from a WPI News Release and from the DEKA website (<http://www.dekaresearch.com>). See also <http://www.segway.com>.

The Segway™ Human Transporter (HT) is the world's first self-balancing, electric-powered human transporter that allows people to go anywhere a person can walk. It was designed for short-distance travel, to enhance people's productivity by increasing the distance they can travel and the amount they can carry.

Its advanced technology uses gyroscopes and tilt sensors to emulate human balance. When a person leans slightly forward, the Segway HT moves forward. When leaning back, the Segway HT moves back. Riders can comfortably cruise at six to eight miles per hour on sidewalks and paths, which is about two to three times walking speed. They can also travel a distance that ranges from 11 to 15 miles on a single

Did you know that in December 2002 WPI became the first university in the world to implement use of Segway HTs for some of its daily operations on campus?

charge— no use of gasoline and thus no harmful emissions!

Some have envisioned how much cleaner the air in the world's largest cities would be if people could use these HTs for short distance traveling, rather than their personal cars, taxis, or motorcycles.

The Segway was invented by DEKA Research and Development Corporation in New Hampshire, a company which focuses on technologies that enhance quality of life. DEKA's president, Dean Kamen, holds more than 150

patents for his inventions, and is also the creator of the non-profit organization FIRST (For Inspiration and Recognition of Science and Technology). See more about FIRST elsewhere in this issue!

Come to the Summer Reunion to see a Segway in action!

News of Other Innovative Technologies

Amelja Kukli (2002) wrote in about some new and interesting technologies she's heard about recently:

I have heard of a **new car** that will come out in 2010. This car has no engine, and it doesn't need gasoline, and doesn't even need a steering wheel!! The car seems like you are playing a video game because it has a color screen and two little handles that if you twist right it goes faster, you move them up to turn right and down to turn left, and you squeeze them to stop. This car is good because it doesn't release harmful gases into the air. The car only releases water vapor. And it can also change looks!!!

Another device that they build in Japan is a "**virtual twin of the earth**." This is the size of four tennis courts and can predict the weather next year on earth. Scientists have found the temperatures for the next fifty years!!!!

And I also heard that the Massachusetts Institute of Technology has created a new **vacuum cleaner**. This machine works on its own, you just press the button!!!! There is a sensor that keeps the machine from bumping into walls and falling down stairs.

And Chrys was intrigued by the announcement of a

project at WPI to develop a **firefighter locator system**, a collaborative effort between faculty and students in the Electrical and Computer Engineering Department and in the Center for Firesafety Studies to use technology to address the problem of firefighters being lost in burning buildings.

Currently, firefighters sometimes use a rope to find their way out of a burning building, but there is the risk that the rope may burn. Others wear an alarm that sounds when they stop moving, but the signal tends to get drowned out by the noise of large fires.

The plan is for the new system to have three main components: sensors worn on each firefighter, several reference stations (perhaps mounted on trucks at the scene), and a monitoring and display station for the onsite commander, all connected via a wireless network. New signal coding techniques will be developed to provide the accuracy needed to locate people in three dimensions inside complex buildings. One of the biggest challenges will be to make the system easy to use, with no setup or forethought required, since firefighters usually have the instinct to save others rather than thinking about their own lives!

(Information from a WPI News release.)

Staff and Project Sponsors in Place for Reach 2003

The staff is in place for our **seventh annual** offering of Camp Reach! Again this year we are able to benefit from the talents, experience, and enthusiasm of Camp Reach alumnae.

Two Teaching Assistants (TAs) from 2002 will be returning this year to help provide some continuity: **Jessie DePalo ('98)** and **Lindsey Woodhull**. Rounding out the TA staff will be: **Christina Kach ('98)**, **Amanda Kristoff ('98)**, **Alissa Paquette ('98)**, **Kara Potter**, **Sarah Rich ('98)**, **Nicolette Schlichting ('98)**, and **Samantha Wilner ('99)**. Thanks to all 15 Reach alumnae who applied for the TA positions, along with 6 others. All were terrific, and the decisions were difficult!

Christina Kach, Amanda Kristoff, Alissa Paquette, Sarah Rich, Nicolette Schlichting, **Jessica Stevens ('99)**, Samantha Wilner, and Lindsey Woodhull have also volunteered as Program Development Assistants to help with preparations for some of the workshops.

Resident advisors will be WPI students **Erica Abrahamsen** (Mechanical Engineering major), **Kyna Hu** (Computer Science and Theatre Technology double major), and **Kerry Malone** (Biomedical Engineering major).

And we will be privileged to work with the following Middle School math and science teachers (MSTs): **Kristden Cornaire**, Grafton Middle School; **Julie Guerin**, St. Peter Marian; and **Robin Scarrell**, For-

Response Card for the Summer Reunion Friday, July 25, 2003

Remember to save the front page of this newsletter so you remember the details of time and location!

Name: _____

Reach Year: _____

Yes, I plan to attend the barbeque, Segway demonstration, and karaoke (5:00-8:30).

I plan to attend the barbeque and Segway demonstration only (5:00-6:30).

I plan to attend karaoke only (6:30-8:30).

Please cut out this response card and **return by Friday, July 18** to:

WPI Camp Reach, Office of Diversity and Women's Programs, 100 Institute Rd., Worcester, MA 01609

OR call us at (508) 831-5819 **OR** e-mail reach@wpi.edu. Please provide all of the information that we ask above. Thanks!

est Grove Middle School.

And last but not least, we have some great sponsors for the design projects: the **Central Massachusetts Chapter of the American Red Cross**, the **Flagg St. School Community Playground Initiative**, and the **Henry Lee Willis Family Care Program**. We'll describe more about these projects in the next newsletter!

Support for Reach 2003

Did you know that Reach (including both the camp and alumnae activities) has about \$58,000 in operating expenses each year, and the tuition we charge brings in only about \$10,000? That means that EVERY camper and alumna receives a *significant* amount of financial aid, thanks to the generosity of corporations, foundations, and individuals who contribute toward the operating costs of the program.

Many, many thanks to the following corporations, foundations, groups, and individuals who have pledged support for Camp Reach 2003, as of the printing of this newsletter:

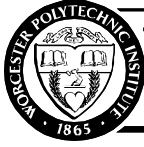
Albert Rice Charitable Foundation
Anonymous Donor
Nadene Hausmann (Friend of WPI)



Thank You!

Intel Corporation
Intellution (Emerson Charitable Trust)
Mercury Computer Systems
Richard M. Nicoletti, PE
Raytheon
TJX Companies, Inc. and the TJX Foundation
WPI Chapter of the Society of Hispanic Professional Engineers

Reach would also not be possible without the support of the WPI administration and community. We owe a special thanks to Terry Schmidt Adams (WPI '91), WPI's Director of Corporate Relations, who takes the lead each year in fundraising to support Camp Reach. Thanks Terry! We couldn't do it without you!



WPI

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Submit ideas for the next newsletter!

This newsletter is published twice a year. Your submissions make each issue a success! Please send news of your achievements, questions, advice you'd like to share, or suggestions for story ideas to Chrys.

We want your new postal or email address!



If you move: Please take a moment to contact us, either by phone, letter, or e-mail. We very much want to keep in contact with everyone!

If you get access to e-mail or change your e-mail address, please let us know so we can update our e-mail alias! This allows you to get announcements of Reach events as soon as they are known, as well as other useful postings (typically no more than one per month).

There is an easy form you can use on the Reach website to submit changes in postal and e-mail addresses. The Reach website is <http://www.wpi.edu/+reach>, and the change of address form is in the Alumnae section.