Profs encourage women
to succeed in science

On Campus — 26 April 1979

Liz Solomon

What does it take for women to succeed in sciences?

The competitiveness to survive," says th Wismar, an associate professor of

"the hide of an elephant," says June

Limer, professor of the history of

Men have made obvious strides in the anences in the last several years. A recent

Scientific Manpower Commission report shows that in that 1960s only 8
cent of all the science and engineering students went to women. The figure
rose to 18 percent in 1977. In the biological sciences women earned 15 percent of the
students in the 1960s and 23 percent in the 70s.

"These recent gains are impressive, men studying in the sciences still gain well below their total
total representation in the student population."

"Another reason is the lack of women role models on science faculties, suggests Limer.

"We need a sequence of viable role models and a strong support system," said. These are still lacking in many ances.

"Mr. said that over the years a proportionate number of successful

men scientists have been graduates of all women's colleges where they were
brought by women professors.

These professors often have been married women who have totally
dedicated their lives to their profession.

But questioned whether such women provide a real role model for many

women scientists who want to pursue a career, but may also want a

band and family.

"They showed that there were successful

women scientists, but at what price," she said.

"I really don't know, nor is there any way
determining, how greatly the physical sciences have been impoverished by the
loss of women. How many of them in the

10 to 15 percent, and have come to large coeducational universities with the ability and intentions
of becoming scientists, only to be subtly discouraged?" she asked.

"The women who have survived in science are very exceptional, they have a special

kind of dedication. They have had to be sensitive to their environment and to care for the hide of an elephant."

Wismar is a bit more sanguine about how

women students are faring, at least in the anatomical sciences. Women now make
up about a third of the graduate students.

"They are high achievers. They come up through frustration. They have a high

tolerance for frustration and a high drive level," she said. "I think as a woman you have to be more competitive at least to get

into graduate school and perhaps beyond that."

But Wismar said she has seen some changes in the last few years.

"We no longer see the women in graduate school here primarily because their

husbands are in school. Now we also see couples who come to Ohio State to advance the wife's career. The husband is

getting training to be more marketable and versatile because his wife is going into a job that is limited geographically to large

research centers," she said.

"That is the support you didn't see a few years ago, even when I came to graduate school. It's a more open, sharing climate," she said.

But is there something in their natural attitude that even with today's more open
climate keeps the majority of women from going into the sciences?

Joan Leitzel, vice chairperson of the Department of Mathematics, doesn't believe so. Socialization, rather than any

innate ability, is the thing that leads women away from math and the sciences, she said.

"Women are socially conditioned to expect to be unsuccessful in mathematics, yet math is the door to the hard sciences and the student who is not well prepared in mathematics will never get to the physical sciences," she said.

"It is the math that seems to prevent women from going into the sciences more than the science itself.

Leitzel said there is a sharper attrition among men math majors than men

because women lack assurance of their own abilities and tend to give up more easily.

"We should give our women extra support and attention. They need that reassurance because they are isolated and they are more likely to switch majors than the men," she said. In the Department of Mathematics, 25 percent of the master's degree students and 7 percent of the Ph.D. students are women.

Sandra Wismar, assistant professor of computer and information science,

consulted with the women students in her department need more encouragement and support than do the men. She felt that the women generally underrate their own ability and talents and that they were too quiet and self-effacing.

Wismar attributed this behavior in part to socialization and in part to the women students' minority status. They comprise
about 20 percent of the department's enrollment at the master's level and less than 5 percent at the Ph.D. level.

Graduate women are often the only females in a class and as such, sometimes find it difficult to be assertive, she said.

They are also less likely to initiate one-to-one discussions or meetings with faculty members.

The women students need more women role models among their professors, Wismar said, but this of course means more women graduate students going on to faculty positions.

"It's the old chicken and egg problem," she said.

The four women faculty members all agreed that women students need added

support and encouragement if they are to succeed in what is essentially still a male domain.

Wismar said that women faculty members have a particular responsibility to provide this support.

"We have to be more than role models, we have to be mentors, to all our students, of course, but especially to the women," she said.

Wismar said the academic community needs to be more vocal in telling parents not to channel their children into sex-stereotyped tracks or many options
will be closed to them by the time they reach college.

This same message also has to reach high school teachers and guidance counselors, Leitzel said.

Noting that tests show freshmen women come to Ohio State less prepared than men in mathematics, Leitzel said, "I believe we must make the strongest effort with girls in the middle grades and beginning high school years to see that their math preparation is strong enough to keep the option for science as a career open.

"We need to address this absence of women in the sciences because it is a great loss of talent which the nation cannot afford," she said. "It is also an injustice to a large segment of the population."
OSU ranks 13th of 50 colleges in percent of women scientists

The woman who successfully earns a doctorate in science or engineering may seek employment in an academic setting. What universities have the best track record in hiring women scientists and engineers?

A 1978 National Science Foundation survey of faculties of 50 of the nation's largest university science and engineering programs reveals the number of women employed in these areas range from four to 28 percent.

Only Ohio State University and Case Western Reserve University are included from Ohio among the 50 institutions surveyed.

Ohio State, with women filling 477 or 20 percent of the 2,375 science and engineering positions, ranks 13th on the list. Case Western, with 181 women holding 15 percent of these positions, is 24th.

The University of Michigan ranks third on the list with 27 percent of science and engineering positions filled by women, or 735 out of 2,677 individuals in these areas.

With a smaller total faculty, the University of Pittsburgh led the list with women holding 431 of the 1,552 science and engineering positions, or 28 percent.

The NSF statistics show Ohio State has 10 women among 280 persons employed in engineering, eight of 155 physical scientists, two of 50 environmental scientists, six of 114 math and computer scientists, six of 43 psychologists and 298 of 1,434 life scientists, a category that includes the medical faculty.

The data includes professors, associate professors, assistant professors, lecturers, instructors, researchers and research associates. It does not detail the faculty status, rank, salary or tenure of those employed.

What kind of academic rank have women in science and engineering actually achieved nationally?

A separate study by the U.S. Scientific Manpower Commission shows that among all those who received Ph.D.'s in science or engineering from 1970 to 1974, 4.4 percent of the men but only 2 percent of the women had reached the rank of professor by 1977.

Among men, 29.5 percent were associate professors while 17.8 percent of the women had reached this position. At the lower end of the scale, only 10.8 percent of the men were still instructors or lecturers but 18.2 percent of the women held these ranks. The variance held true in every science field, the commission survey shows.

The same survey shows a higher unemployment among women than men holding doctorates in science and engineering. In 1977, the unemployment rate for women was 3.6 percent as compared with 0.9 percent among men.

This represents only a minor improvement from 1973 when women with doctorates in science and engineering had an unemployment rate of 3.9 percent as compared with 0.9 among men.
Aid For Women In Science Boosted

By Whitt Flora
Dispatch Washington Bureau

WASHINGTON — The provost of Ohio State University has told a Senate committee that special programs are needed to advance the careers of women in scientific research areas.

Dr. Ann Reynolds, the OSU provost and professor, testified Monday before a subcommittee of the Senate Labor and Human Resources Committee that is considering legislation introduced by U.S. Sen. Edward Kennedy, D-Mass., to increase federal spending to aid women starting scientific careers.

DR. REYNOLDS appeared representing eight educational groups, including the American Association of State Colleges and Universities.

In addition to supporting Kennedy’s bill, Dr. Reynolds asked the Senate consider funding another new program she called the “National Research Awards for Young Women Scientists.”

She then told U.S. Sen. Howard M. Metzenbaum, D-Ohio, who was chairing the hearing, that such a program should include:

- Awards for periods of three to five years that would provide between $10,000 and $70,000 a year for women to start research programs.
- That the persons receiving those funds would be selected by the National Science Foundation on the basis of a “national merit competition.”
- And, that the university where the person is working be given a $5,000 cost allowance for expenses it had in connection with the research.

She said the program should provide for 30 awards annually at a cost of $2 million a year, and added:

“IT IS A modest investment, but one we believe that would return to the nation rewards disproportionate to the relatively modest cost involved. I would urge the Committee to provide for such a program as a way to encourage and maximize the chances of our very best young women scientists to pursue long term productive careers in science and engineering.”

Dr. Reynolds and other witnesses also told the subcommittee that women face hardships in getting employment in scientific fields, and several witnesses said women were discriminated against in terms of pay and advancement.
Provost urges aid for young women scientists

"Oh, Campus" 3-13-80

Provost Ann Reynolds urged a U.S. Senate subcommittee March 3 to create a program of "National Research Awards for Young Women Scientists" as one way to open up more opportunities for women in scientific research.

The provost testified before the Subcommittee on Health and Scientific Research on the bill S. 568, the Women in Science and Technology Equal Opportunity Act. Her testimony was presented on behalf of eight national organizations in higher education.

"The 1970s have brought us increasing enrollments of women graduate students in sciences," Reynolds told the panel. "However, the timing is ironically poor for young women scientists, especially in the academic job market.

"Our institutions of higher learning in the United States are severely limiting tenure-track openings and this condition will worsen as enrollments level off and drop. Thus, when we finally do have increased graduate school enrollments of women to a modest extent, their job opportunities will be limited and highly competitive."

Reynolds suggested the bill add a provision for research awards for young women scientists to be administered competitively by the National Science Foundation.

The program would provide three-year, one-time renewable, or one-time, five-year research grants of $10,000 to $70,000 per year, for young women within two to five years of the Ph.D. to use toward equipment purchase, laboratory operation and research time.

"This is a critical time for the young woman scientist," Reynolds said, "and modest support at this juncture could insure a lifetime of productive research for her."

S. 568, as introduced by Sen. Edward Kennedy of Massachusetts, would provide $25 million for a number of programs at all levels of education to inform and encourage female participation in science and engineering.

"I support the principle embodied in this bill for many reasons," Reynolds told the subcommittee. "First of all, it emphasizes encouraging young women in elementary and high school to become aware of scientific opportunities—and that is where career decisions are made, consciously or subconsciously.

"We see far too many talented and intelligent women enter The Ohio State University who have never seriously considered the sciences as an option and whose limited mathematics backgrounds would make a science major difficult or over-prolonged at best."

The subcommittee hearing was chaired by Sen. Howard Metzenbaum of Ohio, who earned his bachelor's degree in 1939 and his law degree in 1941 from Ohio State. Reynolds testified on behalf of the American Association of State Colleges and Universities, the Association of American Universities, the Association of Catholic Colleges and Universities, the Association of Graduate Schools, the Council of Graduate Schools in the United States, the American Council on Education, the National Association of State Universities and Land Grant Colleges and the National Association of Independent Colleges and Universities.
Professor Seeks More Aid For Women In Sciences

About The Author

Dr. W. Ann Reynolds is professor of anatomy and obstetrics and gynecology as well as the chief academic officer at OSU. Her work as a developmental biologist concerns the fetal period. She recently has studied islet cell transplantation in monkeys to alleviate diabetes, calcium metabolism and organic mercury toxicity in the developing primate and humans, among other research interests.

Before coming to OSU, she was associate vice chancellor for research and dean of the graduate college of the University of Illinois at the Medical Center in Chicago. She also is married and is the mother of two children.

Dr. Reynolds has been a leader in the movement for women's rights and has been involved in many organizations that support women in science. She is a member of the American Association for the Advancement of Science, the American Society for Cell Biology, and the Society for Gynecologic Investigator.

Dr. Reynolds has been a strong advocate for women in science and has worked to increase opportunities for women to pursue careers in science. She has served on many committees and task forces that have focused on issues related to women in science. She has also been involved in efforts to increase diversity in science.

Dr. Reynolds' work has been recognized with numerous awards and honors. She was named a fellow of the American Association for the Advancement of Science in 1973 and was presented with the Distinguished Service Award from the University of Illinois in 1975.

Dr. Reynolds' contributions to the field of science and her leadership have had a significant impact on women in science. She has been a strong voice for women's rights and has worked to increase opportunities for women to pursue careers in science.

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The 1970s have brought us increasing enrollments of women graduate students in sciences, in comparison to the 1960s and the dismal levels of the 1950s. However, the timing is ironically poor for young women scientists, especially in the academic job market.

Our institutions of higher learning in the United States are severely limiting tenure-track openings and this condition will worsen as enrollments level off and drop.

SOME OF OUR science departments are approaching 95 percent tenure densities. Thus, when we finally do have increased graduate school enrollments of women to a modest extent, their job opportunities will be limited and highly competitive.

Therefore, I urge that you consider as an addition to the bill a program on "National Research Awards for Young Women Scientists," targeted for the initial years of the careers of young women who have outstanding potential for research in a university setting.

These awards would be administered competitively by the National Science Foundation. They would serve to set up a research laboratory — a prospect that is increasingly difficult in these inflationary times and as university resources have grown skimpier.

This mechanism is not new. It has been proven effective and has been tested in both federal and non-federal programs. It is a modest investment, but one, we believe, that would return to the nation rewards disproportionate to the relatively modest cost involved.

I would urge the committee to provide for such a program as a way to encourage and maximize the chances of our very best young women scientists to pursue long-term productive careers in science and engineering.

This is a critical time for the young woman scientist, and modest support at this juncture could insure a lifetime of productive research for her.

THERE IS an old song, a woman's lament from an entirely different set of feminine circumstances, that contains the phrase, "You made me what I am today."

The Congress of the United States in the 1950s did just that by authorizing the National Science Foundation predoctoral fellowship awards. I received one in 1959, as a very unexpected surprise. That fellowship supported me completely through my doctorate in zoology at the University of Iowa. In fact, several graduate schools competed for my selection because of that award, and I ended up in an excellent program.

UPON COMPLETING the doctorate in 1962, I immediately received my first National Institutes of Health research award and have had uninterrupted support since I am still a co-investigator on projects. The congressional support of the National Science Foundation and the Department of Health, Education and Welfare results in graduate school training of meritorious women and minorities and encourages their subsequent success in the research field.

As a woman, I have been beset by other influencing forces. Societal pressures and the birth of children tend to add to one's load and make a scientific career overwhelming at times. The trust placed in me by National Science Foundation and National Institutes of Health support has always been a positive encouragement and an obligation. It has made me feel I could never give up, no matter how conflicting were the oftentimes justifiable other demands on my time.

IT HAS BROUGHT me here today when I'm sure my president would prefer I were home attending to our deans. It has made me take on unpleasant and thankless jobs that needed to be done for universities, for government and other institutions committed to the public welfare.

But the pool of women who choose science careers is still too small, there are still few women scientists. We must concentrate now on childhood and adolescent experiences where career choice are made, and on career opportunities for young women scientists.
Three women who made it

"OSU QUEST", WINTER 1985

Her daily routine throughout 1957 was rigid. Each morning she would wade out into the chilly depths of Canadian lakes, collecting plant and animal life for later observation in the laboratory.

Needed, of course, were hip boots. So Llewellyn Hillis-Colinvaux, then in the midst of post-doctoral work in New Brunswick, ordered a pair from the local store.

"When the delivery man came with the boots, he asked for the scientist who had ordered them. I said, 'I'm Professor Hillis-Colinvaux,' He said, 'You are?' And that wasn't an unusual reaction."

Hillis-Colinvaux is now a 54-year-old associate professor of zoology at Ohio State University. She told the story because, she said, people are inclined to forget just how far women have had to come in achieving professional equality with men. As recently as 1957, she said, the idea of a female Ph.D. could still raise eyebrows.

More women are entering scientific fields now than ever before, Hillis-Colinvaux acknowledged. But old prejudices remain, she and several of her female colleagues believe. And stereotypes linger.

"At times, one is shocked into a realization that what one is saying and doing is not being taken with the same level of concern as a male colleague's," said Hillis-Colinvaux, the first woman in the zoology department on Ohio State's Columbus campus and a pioneer in research on coral reefs around the world.

She was one of the first female scientists to conduct experiments in a research submarine. In the spring, Hillis-Colinvaux will travel to the Republic of China for a rare expedition along that nation's coastline.

"But I feel that I've lost 10 years of productivity in trying to maintain and succeed as a woman scientist," Hillis-Colinvaux said.

The problem, according to several women who teach science at Ohio State, is that few females are encouraged to enter the hard sciences. That necessarily limits the potential for women in faculty positions.

Also, each department at Ohio State makes its own decisions regarding hiring, promotion, and tenure. That makes it difficult for the University as a whole to commit itself to increasing the number of women in scientific fields, despite the good intentions of people such as Ohio State President Edward Jennings.

Said Bunny Clark, the first woman hired in Ohio State's physics department, "Everything depends on the attitude in the department. I'm encouraged by the attitude in the physics department. That can't be said across the board for every department at this University."

Clark, who joined the faculty in 1980, said there are still prejudices against women in fields from which they traditionally have been absent.

"A lot of it comes from people who should know better. But I feel that it's counterproductive to spend enormous amounts of energy trying to diffuse these prejudices."

Marita King, an Ohio State chemistry professor, believes that women's personal lives may constitute the most serious obstacles to their professional development.

"Among the women scientists I know, the spouse is usually what holds the woman back," said King, a native of Germany. "The woman can't just take a job that appeals to her, unless the husband can get a job in the same area."

She was relieved of that pressure, King said, for a reason that also helps to explain why more women want to enter scientific and technical fields.

Her husband is a computer scientist. "He's in a field where he can get a job anywhere. And he follows me." —jk
Women in science discuss careers
Seminar promote chances to consider scientific jobs

By Rebecca Mugler
Lantern staff writer

About 750 junior high and high school girls met Friday at the Ohio Union to hear women scientists speak about the different career opportunities in their fields.

This was the ninth year the Association for Women in Science of Central Ohio (AWISCO) and Ohio State have co-sponsored such an event.

Association President Gia Randall said the purpose of the conference was to get young women interested in science and to give them information about the different science career choices available.

"I know when I was in high school, all you knew about was being a nurse or a doctor; you didn't know about all the other science careers that were available," Randall said.

Each student picked two workshops out of 26 different science areas offered. The workshops were located throughout the campus and included areas in math, engineering and the physical sciences.

"It made us more aware of all the careers available in science," said Amy Dutte, a junior at Watkins Memorial in Pataskala.

More than 35 women scientists participated in giving the 40-minute workshops.

Randall said it was difficult finding the speakers because there are so few women with science-related careers.

"We feel it's really important for girls to have mentors, but then it's the old Catch-22: How are we going to have mentors if there aren't women in those positions?" she said.

Amy Reynolds, a senior from Dublin, and Kara Biachowski, a junior from Toledo, were two OSU student scientists who conducted a workshop on chemical engineering.

"I think engineering prepares you for any field because it teaches you to solve problems and how to deal with people," Reynolds said. "These skills can help you in my job."

Selma Mohammed, AWISCO member and research assistant in physiological chemistry, said, "I think this is a really nice program because a lot of young women don't grow up with a good background in the sciences."

Mohammed said she hopes in the future there will be an equal number of women and men in the sciences.

"There's a shortage of women in all sciences," Randall said. "especially at the PhD and graduate levels."

Randall said she expects growth in science and technology to be phenomenal, reflecting the progress that has been made in the last ten years.

"If a girl has an interest in science, she should pursue it no matter what," Randall said.

She said because more women are in the workforce and involved with careers in science, men are going to be more accepting of them.

"I think things will change," Randall said. "There aren't going to be quite the same barriers that existed 20 years ago."

Melanie Kennedy, vice president of AWISCO, said she thought the day was quite successful.

"We had a lot of comments from parents and teachers about how pleased they were that we were having it because they think it's such a good experience for students," she said.
Course addresses lack of women scientists

By Marshall K. Cahlander
Lantern staff writer

A new course at Ohio State, "Women in Science," will address the lack of women in the fields of science and engineering.

Judith B. Moody, who teaches the course, has a doctorate in geology and has published articles on this issue.

"We need women in science because they have brains, intelligence and creativity, and science needs new ideas and new ways of viewing basic scientific work," said Moody.

A U.S. Senate report in 1984 on the Education for Economic and Security Act said that while women represent more than 61 percent of the U.S. population and 43.2 percent of the work force, they represent only 3 percent of the nation's engineers.

The report said most of these differences could be traced to cultural problems. These problems include teachers, parents and peers discouraging women from enrolling in advanced classes, and the lack of appropriate female role models.

When Moody received her doctorate in 1974, women's participation in the earth sciences was less than 4 percent. The figure has increased by only 2 percent in the last 15 years, with current involvement at 6 percent.

"The representation of women in this field is certainly super-token, in a sense that we are less than 10 percent of the total work force," Moody said.

Moody said the zoology department is one of many examples of this situation at Ohio State. Out of about 30 professors in the faculty, only two are women.

Although there has been an increase in the number of women obtaining degrees, there has not been a corresponding increase of their numbers in the work force, Moody said.

LAST YEAR, the Task Force on Women, Minorities and the Handicapped in Science and Technology issued an interim report to the government with their recommendations and goals concerning these and other related problems.

The report said decisions on child-bearing and more difficult work conditions often lead to discouragement and lack of self-confidence in women.

The report also said 11 percent of all employed scientists and engineers are women, even though they earn 30 percent of all the bachelor's degrees in these fields.

The National Science Foundation reported that men received 93 percent of all dollars awarded by the government in 1987 for research and development.

Lynn Edward Elfner, executive officer for the Ohio Academy of Science, said the inadequate number of women in science is viewed as a major problem. To help with the situation, funding was sought for the publication, "Exemplars."

"EXEMPLARS" IS a free publication which introduces young women in grades 7-12 to career mentors in the scientific community. The publication, which includes Moody and other women scientists, gives profiles of the women and advice to would-be women scientists.

Elfner said Ohio State is also getting involved with a regional program which informs young women about careers in science.

"Every Spring (the program) attracts about 750 high school students to OSU," Elfner said. "It is funded by registration fees and several departments at Ohio State."

Elfner said the program consists of a series of workshops from 40 different fields of study. Each field gives seminars explaining its work and studies to the students.
Your Penultimate Opportunity
To Participate In:
WOMEN⇔SCIENCE

"Women in Biological Sciences:
Bridging the Gap to a Successful Career"

WORKSHOP

MEET AND TALK WITH:
Dr. Jane Brockman
Professor, University of Florida
President-Elect, Animal Behavior Society

Faculty Club - Club Room, Thursday, May 3
Mixer Begins 7:30 pm
Open Discussion with Dr. Brockman from 8:00 - 9:30 pm

****Refreshments Served - All Welcome****

Seminar: "Sex Ratios in a Solitary Wasp"
Thursday, May 3, 4:00pm, Room 34, Lazenby

And REMEMBER May 17: Dr. Beryl B. Simpson, Professor, University of Texas
"Patterns and Processes in the Development of the High Andean Flora"
Seminar 4pm, Room 100 B&Z - Evening Workshop Same Time and Place as Above

Eighth in a Series of Programs
Sponsored by a Grant from the Office of Human Relations to Dr. Edith L. Taylor and
Dr. Dana L. Wrensch, Departments of Botany and Entomology
OSU hosts conference for women

By Samantha G. Haney
Lantern staff writer

Ohio State will host a conference this weekend to address the obstacles and rewards for women choosing careers in cognitive science.

The conference, "Women in Cognitive Science: Career Opportunities and Recent Research," is organized by Lindley Darden, a visiting professor from the University of Maryland. Darden works in the computer and information science department at Ohio State experimentally with artificial intelligence.

The conference is not only an outreach to undergraduate women interested in cognitive science, but also an "enriching experience for researchers," said Chris Putnam, research associate for computer information and Osurf projects.

Barbara Becker, a graduate student in the laboratory for artificial intelligence, will moderate five panels in a morning discussion. The discussion will later be open to the audience.

Becker said the questions will be about problems women face, such as leading a career and a family, and about the benefits of interdisciplinary study. She said women are often the people expected "to find a way to juggle both her career and the family."

In the afternoon, researchers from Ohio State and other universities and research centers will make presentations about their research.

Putnam said the discussions will give the researchers a chance to share their experiences with peers and undergraduates. She said the conference should stimulate some interest in undergraduate women to explore cognitive science.

Mary Darr, administrative assistant at the Center for Cognitive Science, said cognitive science involves looking for the physical property that creates active thought and stimulates behavior. Artificial intelligence is one application of cognitive science.

Darr said the Center for Cognitive Science, which was established last fall, involves about 15 departments across campus.
Women urged to follow science path

By Lori Lowe
Lantern staff writer

Women interested in pursuing education and careers in science and engineering can attend an event on Oct. 11-12 called “Upward Bound,” which will emphasize the opportunities available for women to pursue advanced degrees.

Approximately 100 women are expected to attend the event, which will be held at the Ohio Ramada University Hotel and Conference Center, 3110 Olentangy River Road, said Maureen Gonzalez, a coordinator of the event.

The event will include an information fair on the graduate engineering programs of Case Western Reserve University, Cleveland State University, Ohio State University, University of Akron, University of Cincinnati, University of Dayton, University of Toledo and Wright State University, Gonzalez said.

In addition, Gonzalez said seminars will be held on choosing an educational program, financial options for graduate students, graduate research opportunities and careers in information and science.

The event will also include a variety of lectures for women interested in pursuing graduate engineering studies, said Gonzalez.

The keynote speaker for the event will be Mary Good, vice president of technology at Allied Signal Inc. and the chairwoman of the National Science Board. Good will speak on “Global Perspectives on Women in Graduate Engineering Studies.”
Group encourages women to be scientists

By Gretchen Herman
Lantern staff writer

The Association for Women in Science in Central Ohio held a workshop at Ohio State last weekend to encourage women to become involved in the field of science.

The program included panel discussions led by women and minority scientists from OSU. They discussed the importance of science teachers mentoring prospective students and ways to dispel the stereotype that science is for white males.

"We want to promote discussion of ways to reach and develop the scientific interests of students who have been historically discouraged from science studies," said Raquel Diaz-Sprague, executive director of the association. "The one-day workshop addressed issues of inclusion on science education," Diaz-Sprague said.

"We believe that if teachers meet nontraditional scientists, they will gain a better understanding of the diversity of the scientific community and take that understanding into their classrooms," Diaz-Sprague said.

The association is a local chapter of the Association for Women in Science, a national nonprofit organization with chapters in all 50 states. It was founded 24 years ago and promotes educational and employment opportunities for girls and women.

Mary Atwater, of the University of Georgia, gave the keynote address on multicultural science teaching.

"It is important for teachers to be risk takers," Atwater said. "Beginning teachers focus on their own self control, they don't focus on the students. "Middle school is where tracking begins, this is when math and science become difficult," Atwater said.

Atwater said it is important for teachers to understand that they have to build on their knowledge of the students. She said students have a hard time learning science because it is not a part of their lives.

"Teachers need to visit the world of their students in order to relate to them," Atwater said. "This is the way teachers can try and relate science to their everyday lives.

Atwater said teachers must learn how to and be prepared to teach in various environments from urban to rural.

Chris Furbee, a graduate student in molecular genetics at OSU, said she became encouraged in science by participating in science fairs.

"Coming from an all-female high school, I didn't have any discouragements," Furbee said. "I was always interested in science classes because I did well."

"The professors I work with in graduate school are encouraging because they know how hard becoming a scientist is," Furbee said.
Ohio State News

MEDIA ADVISORY
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FOR IMMEDIATE RELEASE
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Ohio State hosts 18th annual Women in Science Day.
Approximately 300 female students will take part in event

Approximately 300 seventh through 10th grade female students from more than 20 Central Ohio schools will be attending science workshops at the Association for Women in Science of Central Ohio's Women in Science Day program. The event runs from 8:15 a.m. to 4 p.m. on Friday (4/2) on Ohio State's campus.

Concurrent workshops run at 9:30 a.m. and 1:30 p.m. For media, the best visual opportunity is a Medical Technology workshop at 1:30 p.m. In the workshop, students will have the chance to explore laboratory medicine by doing blood analysis and gaining experience in detecting anemia, leukemia and infectious mononucleosis.
The program will also feature a keynote address by Joan M. Herbers, professor and dean of the College of Biological Sciences, at noon in the East Ballroom of the Ohio Union, 1739 N. High St. She will discuss "Amazing Ants."

This year, President Karen Holbrook and Mayor Michael Coleman have proclaimed April 2 Women in Science Day. The program marks the 18th annual Women in Science Day hosted by Ohio State.

For more information, see http://www.awisco.ohio-state.edu/

WHAT: Approximately 300 seventh through 10th grade female students from more than 20 Central Ohio schools will be attending science workshops at the Association for Women in Science of Central Ohio's Women in Science Day program.

WHEN: Women in Science Day: 8:15 a.m. to 4 p.m. on Friday (4/2)
Medical Technology workshop: 1:30 p.m.

WHERE: Various locations on campus

WHY: To give female students from Central Ohio an opportunity to learn more about fields of science

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FOR IMMEDIATE RELEASE:

Columbus Youth Participate in State-of-the-Art Media Production on John Lennon Educational Tour Bus

Columbus, Ohio, 4/15/2009 – The John Lennon Educational Tour Bus makes a two-day stop at Ohio State’s Columbus campus on April 22 and 23 and will be parked next to the Wexner Center for the Arts. The Lennon Bus travels the country staffed with recording and multimedia engineers who demonstrate cutting-edge technologies and techniques for music and multimedia production.

On Wednesday, April 22, Lennon staff and Ohio State volunteers will coach students from the university-area Gidget program, an initiative to engage girls and young women in science and technology. In a single day, the students will write music and lyrics for an original song, record and mix it, and produce a music video.

On Thursday, April 23, the Bus opens for walk-through tours from 1 to 3 p.m. in the Wexner Center’s outdoor plaza. At 4:30 p.m. the Gidget student video will premiere in the Wexner Center’s Performance Space as part of a program about engaging students with technology. Admission to the Wexner Center exhibitions is also free on Thursdays from 4 to 8 p.m.

"I had a chance to tour the Lennon Bus a year ago and saw this as an exciting opportunity to bring new media to the Ohio State community," said Victoria Getis, director of the Digital Union, a campus-based multimedia center dedicated to exploring new and emerging technologies. "I think the students, faculty, and staff who visit will be amazed by the range of technology aboard the Bus."

Since 1998, the Lennon Bus has been coordinating with local partners to provide free programs about songwriting and multimedia production to students from middle school to college. Ohio State’s Women in Technology group, Wexner Center for the Arts, and Digital Union partnered with the University Area Enrichment Association (UAEA) to bring the Bus to the campus area and make its visit a community event.

"With the Lennon Bus, the Gidget program has again found a way for young women in the Weinland Park neighborhood to engage with technology and view themselves as leaders and creators," said UAEA’s Catherine Girves. "We are delighted to sponsor this event for the university and the community."

For additional information about this event, contact Liv Gjestvang or Catherine Girves, or visit http://digitalunion.osu.edu/lennonbus.

About the John Lennon Educational Tour Bus (www.lennonbus.org):
The John Lennon Educational Tour Bus is a non-profit state-of-the-art mobile Pro Audio and HD video recording facility that provides hands-on experiences for students of all ages. In its 12th year of touring, the venture is proud of its brand new bus and its studios, which boast the latest audio and video technology, gear and products. The Bus travels across the U.S. and Canada year-round, providing free tours and workshops at schools, retailers, festivals, on tours with headlining artists, and at major industry conferences. The Bus, a 501(c)(3) venture, is made possible through the generosity of sponsors including Maxell Corporation, Apple, NAMM, Roland, Sony, Godin Guitars, Ecirol by Roland, Ableton, Sibelius, Mackie, Crate, Ampeg, Audio-Technica, Apogee, Sonicbids, Digidesign, Aphex Systems, Musician’s Friend, Neutrik, Glyph Technologies, Noise Industries, Disc Makers, Smart Technologies, Bogen Imaging, IK Multimedia, McDSP, Music Player Network, Propellerhead, Boss, Aballat, OurStage, Gretsch Drums and Boss. The John Lennon Educational Tour Bus is made possible by an agreement with Yoko Ono Lennon.

There are opportunities for tours on the 23rd and you can find out more about the event at the Digital Union’s website: http://digitalunion.osu.edu/lennonbus
Rock Stars
A Life of Firsts: Florence Bascom

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Geologists know Florence Bascom (1862-1945) as “the first woman geologist in this country.” Though Bascom was the second woman to earn a Ph.D. in geology in the United States (Mary Holmes earned a Ph.D. in geology from the University of Michigan in 1888), the moniker is appropriate. Bascom was the first woman hired by the U.S. Geological Survey (1896), the first woman to present a paper before the Geological Society of Washington (1901), the first woman elected to the Council of the Geological Society of America (elected in 1924; no other woman was elected until after 1945), and the first woman officer of the GSA (vice president in 1930). She was an associate editor of the American Geologist (1896-1903) and a four-starred geologist in the first edition of American Men of Science (1906), which meant that her colleagues regarded her as among the country’s hundred leading geologists. After joining the Bryn Mawr College faculty, Bascom founded the college’s geology department. This site became the locus of training for the most accomplished female geologists of the early 20th century.

Bascom was an expert in crystallography, mineralogy, and petrography. Trained by leaders in metamorphism and crystallography including Roland Irving and Charles Van Hise (University of Wisconsin), George Huntington Williams (Johns Hopkins), and Victor Goldschmidt (Heidelberg, Germany), she worked in these fields during their infancy. Her earliest contribution was her dissertation, in which she showed petrographically that rocks previously considered sediments were metamorphosed lava flows (Aldrich, 1900; Bascom, 1893). An expert on crystalline rocks of the Appalachian Piedmont, she published more than 40 research papers, including USGS Bulletins and Foliols. Additionally, she published research on Piedmont geomorphology, particularly the provenance of surficial deposits.

Born in Williamstown, Massachusetts, in 1862, Florence was the youngest of six children of Emma Curtis Bascom, suffragist and schoolteacher, and John Bascom, professor of oratory and rhetoric at Williams College. Her father supported the women’s suffrage and temperance movements and advocated coeducation. In 1874, he became president of the University of Wisconsin. In 1875, the university admitted women, and in 1877 Florence enrolled. Like other women students, she had limited access to the library and gymnasium, and was prohibited access to classrooms already filled with men. She earned Bachelor’s degrees in Arts and Letters (1882) and a Bachelor’s degree in Science (1884).

Florence Bascom’s early interest in geology is attributed to a driving tour with her father and his friend Edward Orton, a geology professor at Ohio State. Margaret Rossiter (1981) perceives Orton as a key individual in providing women access to the study of geology. Shortly thereafter, Florence studied geology at Wisconsin and earned a Master’s degree in 1887. As Isabel Smith observed, it must certainly have been an exciting time to be a geology student: John Wesley Powell navigated the Colorado River, and Clarence King surveyed the 40th parallel and became the first director of the USGS (Smith, 1981).

In 1889, Bascom was permitted to take graduate school classes at Johns Hopkins University. Sitting behind a screen during classes so as not to “disrupt” male students, Florence must have been sustained by her research advisor, G. H. Williams, and by her father. In a letter dated September 1891, John Bascom wrote “…you better put a stone or two in your pockets to throw at those heads that are thrust out of windows” (Arnold, 1983). In 1893 she was granted the Ph.D.
Though known for her contributions to understanding mountain-building processes, Bascom was also an educator. En route to her Ph.D., she taught at the newly founded Hampton Institute for Negroes and American Indians, now Hampton University (1884–1885), Rockford College (1887–1889) and Ohio State University (1893–1895). Recruited in 1895 to teach at Bryn Mawr, where geology was considered adjunct to other natural sciences, she worked in storage space in a building newly constructed for biology, chemistry, and physics. Over two years, she developed a substantial mineral, rock, and fossil collection. She then proceeded to train a generation of young women who would ultimately succeed as professionals. Louise Kingsley, Katherine Fowler Billings, petrologists Anna Jonas Stose and Eleanor Hills Knopf, crystallographer Mary Porter, paleontologist Julia Gardner (all at the USGS), petroleum geologist Maria Stadnichenko, Barnard’s glacial geomorphologist Ida Ogilvie, Scripps College’s Isabel Forthergill Smith, Bryn Mawr’s Dorothy Wyckoff, and Anna Helton—these women studied and worked with Florence Bascom as a prelude to their careers.

Former students employed the words rigorous, incisive, and consistent to describe Bascom. With great expectations of her students, she was proud of their successes. In a 1931 letter to Professor Herman Fairchild, she wrote, "I have always claimed that there was no merit in being the only one of a kind.... I have considerable pride in the fact that some of the best work done in geology today by women, ranking with that done by men, has been done by my students.... these are all notable young women who will be a credit to the science of geology."

Heeding her father’s suggestion that she “make work an immediate joy,” geology, education, and Bryn Mawr were her life. Contemplative, she wrote, “The fascination of any search after truth lies not in the attainment, which at best is found to be very relative, but in the pursuit, where all the powers of the mind and character are brought into play and are absorbed in the task. One feels oneself in contact with something that is infinite and one finds a joy that is beyond expression in 'sounding the abyss of science' and the secrets of the infinite mind” (Smith, 1981).

Perhaps such thoughts brought quietude, for as Ida Ogilvie (1945) commented, “Probably no one will ever know all the difficulties that she encountered, but little by little she achieved her purpose of making her department one of the best in the country.”

Bascom’s contributions to Piedmont geology are still valued and utilized by geologists working in that area. Furthermore, as women struggle today to even the num-

bors in geology, whether in academia, government, or industry, we recall with admiration Florence Bascom’s pioneer status.

REFERENCES CITED


ADDITIONAL READING
