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Cindy Blodgett's women's basketball uniform number was retired in front of 3,000 fans prior to UMaine's game against St. Bonaventure Nov. 29 at Alfond Sports Arena. The Clinton native, who now plays for the WNBA's Cleveland Rockers, was an Academic All-American who set 20 UMaine and 14 conference records during her four-year college career, which concluded at the end of last season. This is the fourth women's basketball number, and the 12th Black Bear number in all sports, to be retired. Among those on hand to congratulate Blodgett during the ceremony was UMaine President Peter Hoff.

Photo by Michael York

Hoff Reflects on Progress, Future with BearWorks

The University of Maine is nearing the end of the first full semester of the implementation of BearWorks, the University of Maine action plan. UMaine President Peter Hoff responded to questions concerning how BearWorks makes a difference on campus and how it helps to shape the future of the University.

Q: Since the inception of BearWorks, what has been achieved?

A: We have had an extraordinarily good start in advancing the priorities BearWorks proposes. Many things have begun to happen. In the last few months, we established the four-year pledge program, began to remodel Fogler Library, and saw the creation of the University of Maine System's

The next BearWorks Discussion will feature presentations on legislative advocacy by John Diamond and Jeff Mills, and on academic advising by Doug Gelinias. The discussion, open to all members of the University community, will be 2-4 p.m., Dec. 17, Dexter Lounge, Alfond Sports Arena.

Advanced Technology Education Center (ATEC). The number of minority faculty has increased in the past two years, and we are developing mentoring programs for all new faculty. Endowment funds, gifts and donations are ahead of last year's pace. The University of Maine System trustees

changed the funding formula for the campuses and UMaine came out well in the allocation plan.

A fascinating story of change is in the enrollment increase we achieved without additional applications. We had the same number of applications as the previous year and kept our strong admissions standards the same. Yet we took a great leap

forward by increasing the yield rate. The first-year class is up 22 percent over last year and includes 81 Top Scholars. We did it by making sure that students know that the University of Maine is a great value, that we're interested in them personally and as students.

Q: One measure of success was recent passage of the R&D bond issue. How do you characterize bond issue passage in the context of BearWorks?

A: Passage of the bond issue for research and development this November was specifically related to strengthening the fiscal health of UMaine, as called for in BearWorks. The fact that it passed by at least a 58 percent margin in every county in the state – not just in Penobscot and Cumberland counties – indicates strong confidence in the University.

I have been traveling through the state and meeting people on campus. People are recognizing the enormous value of a University education. They notice me visiting high schools and appreciate that students can get a wonderful education from Maine. There is increasing visibility in

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In Perspective

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As a service to the University community, costs of producing Maine Perspective are underwritten by University Printing Services.

UMaine Remote Access Fees Go Into Effect Jan. 1

Beginning Jan. 1, a new remote access billing system begins for members of the University of Maine community who are off-campus when connecting to the Internet via the campus-based modem pool.

Remote access users with UNET logons will have 50 hours of free Internet usage each month and will be charged half a penny (\$.005) per minute thereafter, according to a joint announcement Nov. 24 by UMaine Information Technologies (IT) and University of Maine System University Network for Education and Technology Services (UNET).

For instance, for remote access users spending 100 hours a month dialing into modems at UMaine to reach the Internet next semester, the cost will be \$15 every 30 days.

Remote access user fees, to be paid for via users' MaineCards, will support UNET's maintenance of the modem pool and help pay for telephone line charges incurred by UMaine. Members of the University community also can be pre-authorized to have fees paid by their departments. The Academic Computing and Advisory Committee (ACAC) has established a small fund to support hardship cases. More details are available at: www.ume.maine.edu/~itadmin/ra/

"We are not doing this to make money off students. The purpose is to ensure responsible use of the modem pool," says Jim Patton, who was interim IT director and who helped draw up the new modem pool policy. "Previously, when there was no charge, remote access had no perceived value. People gave their passwords to family and friends. Why not? It was free, after all. We had instances of people using the same logon simultaneously from more than one campus. The point is not to gouge people but

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Study Provides Perspectives on Challenging Student Behavior in Maine Schools

Maine schools are encountering a variety of challenging behaviors by students and are using a number of strategies to address the problems, according to a study tapping the experiences of 33 elementary and high school principals. But while the interventions are effective with most students, the serious needs and behaviors of a small group far exceed schools' abilities and resources, according to researchers in the College of Education and Human Development.

The study, conducted over the past year, also reflects the importance and effectiveness of parental involvement in developing, supporting and evaluating behavioral intervention and prevention strategies. However, the degree to which schools are able to rely on parental support varies. In some incidents, parents are as frustrated and unable as the schools to cope with the behavior of their children.

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MAINE PERSPECTIVE PUBLISHING SCHEDULE

This is the final issue of *Maine Perspective* this semester.

The spring publication schedule is:

Jan. 8 (copy deadline Dec. 30); Jan. 22 (copy deadline Jan. 8);
Feb. 5 (copy deadline Jan. 22); Feb. 19 (copy deadline Feb. 5);
March 12 (copy deadline Feb. 26); March 26 (copy deadline March 12);
April 9 (copy deadline March 26); April 23 (copy deadline April 9).
Monthly summer editions of *Maine Perspective* will begin May 14.



The University of Maine has received its 100th anniversary award from the national honor society of Phi Kappa Phi. Phi Kappa Phi was founded at UMaine in 1897. Today, the nonprofit organization that recognizes and encourages academic excellence in all disciplines has more than 790,000 members and 281 chapters. A plaque in Coburn Hall commemorates where it all began. This year, the officers of UMaine's Phi Kappa Phi chapter are, left to right, Tom Duchesneau, treasurer; Lud Hallman, holding the anniversary award, president; Nancy Lewis, secretary; and Scott Delcourt, vice president.

Allen and Caron to Address December Commencement

More than 300 students, including 10 Ph.D. and one Ed.D. students, are expected to take part in the 193rd University of Maine Commencement on Saturday, Dec. 19 in Alfond Sport Arena.

This December, 439 students have applied for degrees – 295 undergraduates and 144 graduate students.

Commencement begins at 10:30 a.m. A community reception will be held from 9-10 a.m., in Wells Conference Center.

Students and 90 faculty members will march from Wells to Alfond, led by Fred Irons, the 1998 Distinguished Maine Professor, carrying the ceremonial mace.

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MAINE Perspective

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UNIVERSITY OF
MAINE

MAINE Calendar

All events are free and open to the public unless otherwise specified. Any speaker not otherwise identified is a member of the University of Maine faculty, staff or student body. Send notices of upcoming campus events to: *Maine Perspective* Calendar, Public Affairs. Calendar of events listings **MUST** be typewritten and should be sent well in advance of the publication date. For more information, call x3745.

DECEMBER 11 – JANUARY 16

11 Friday

Two holiday fund raisers by the University Credit Union will benefit a local family in need. A Soup Sale will be held 11 a.m.-2 p.m., Dec. 11, at the Credit Union. A variety of soups, stew, chili and beans will be on sale, \$1 per cup.

Credit Union employees also will raise money by offering gift wrapping at the Bangor Wal-Mart, Hogan Road, 8 a.m.-4 p.m., Saturday, Dec. 12.

This is the ninth year that the Credit Union has sponsored a Christmas Family in the area. Since 1989, the Credit Union also has led a Toys for Tots drive.

"Reproductive Biology of Methane-Seep Invertebrates," by Kevin Eckelbarger, part of the Biological Sciences Seminar Series, Dec. 11, 3:10 pm, 102 Murray Hall. x2549.

Performance by A-Train, part of the Jazz TGIF series, 12:15 p.m., Dec. 11, Damn Yankee, Union. x1734.

Classes End, Dec. 11.

Women's Basketball: Maine vs. Rhode Island, 7:30 p.m., Dec. 11. Admission fee. xBEAR.

12 Saturday

4th Annual Maine Indian Basketmakers Sale and Demonstration, featuring Maliseet Micmac, Passamaquoddy and Penobscot basketmakers selling and demonstrating ash splint and sweet grass basketry, traditional foods, storytelling and music, 10 a.m.-3 p.m., Dec. 12, Hudson Museum. Admission fee. x1901.

Men's Basketball: Maine vs. Hartford, noon, Dec. 12. Admission fee. xBEAR.

Men's Ice Hockey: Maine vs. Northeastern, 7 p.m., Dec. 12. Admission fee. xBEAR.

Movie: Titanic, offered by the Union Board, 7:30 p.m., Dec. 12, Devino Auditorium, Corbett Business Building. x1734.

13 Sunday

University of Maine Yuletide Concert, part of the School of Performing Arts season, 2 p.m., Dec. 13, Hutchins Concert Hall. Admission fee. x1755.

Men's Ice Hockey: Maine vs. Northeastern, 4 p.m., Dec. 13. Admission fee. xBEAR.

14 Monday

Final Exams Begin, Dec. 14.

Comprehensive Fee Program Fund Committee Meeting, to accept funding applications for the academic year, 1:15-2:15 p.m., Dec. 14, Ham Room, Union. Deadline for application submission is noon the day of the meeting. Applicants are asked to attend a committee meeting to present their proposals. x1406.

17 Thursday

BearWorks Discussion, featuring presentations on legislative advocacy by John Diamond and Jeff Mills, and on academic advising by Doug Gelinis, 2-4 p.m., Dec. 17, Dexter Lounge, Alford Sports Arena. Open to all members of the University community.

18 Friday

Final Exams End, Dec. 18.

Brown Bag Lunch on "MBTI - Cutting Edge Update on NEW FORM," by Scott Anchors, offered by the Career Center, noon-1:30 p.m., Dec. 18, third floor Chadbourne Hall. To take FORM M in advance, call x1513.

Men's Ice Hockey: Maine vs. Dartmouth, 7 p.m., Dec. 18. Admission fee. xBEAR.

Canadian Brass Holiday Show, part of the Maine Center for the Arts performance season, 8 p.m., Dec. 18, Hutchins Concert Hall. Admission fee. x1755.

19 Saturday

Commencement, 10:30 a.m., Dec. 19, Alford Sports Arena.

30 Wednesday

CEAC Blood Drive, 9 a.m.-2 p.m., Dec. 30, Bangor Lounges, Union. First 50 donors receive American Red Cross Holiday Hero T-shirts. x1317.

January

2 Saturday

Men's Basketball: Maine vs. Drexel, 1 p.m., Jan. 2. Admission fee. xBEAR.

4 Monday

Men's Basketball: Maine vs. Hofstra, 7:30 p.m., Jan. 4. Admission fee. xBEAR.

5 Tuesday

Women's Basketball: Maine vs. Boston University, 7:30 p.m., Jan. 5. Admission fee. xBEAR.

8 Friday

Women's Ice Hockey: Maine vs. Providence, 7 p.m., Jan. 8. xBEAR.

9 Saturday

Women's Ice Hockey: Maine vs. Providence, 7 p.m., Jan. 9. xBEAR.

11 Monday

Classes Begin, Jan. 11.

13 Wednesday

Men's Ice Hockey: Maine vs. Yale, 7 p.m., Jan. 13. Admission fee. xBEAR.

15 Friday

Women's Ice Hockey: Maine vs. Yale, 7 p.m., Jan. 15. xBEAR.

16 Saturday

"Basketmaking," a Hudson Museum Just for Kids Program, 10 a.m., Jan. 16, Maine Center for the Arts. Preregistration. Fee. x1901.

Men's Basketball: Maine vs. New Hampshire, noon, Jan. 16. Admission fee. xBEAR.

Gallery Glimpses



Tornado Debris: Saw and Survivor
woodcut, Ke Francis, Mississippi

Prints and Faxes

The Museum of Art is featuring two concurrent exhibits in Carnegie Hall through Jan. 20.

Colorprint USA 1998, organized annually by Texas Tech University, is an exhibition of original prints created by artists from each of the 50 states. The intention of the exhibition is to encourage printmakers to use color techniques encompassing prints of all types – lithographs, woodcuts, etchings and screen prints. Each artist contributed an edition of 50 prints so the

exhibition can take place simultaneously in one venue per state.

The second show is *Salon de Fax*, an invitational exhibition by the Museum of Art that has already caught the attention of the *New York Times*. *Salon de Fax* is devoted to the FAX machine as a vehicle of expression that has assimilated into our technology-driven lives. *Salon de Fax* is wacky and unpredictable.

Look Who's On Campus

The Canadian Brass Holiday Show begins at 8 p.m., Friday, Dec. 18, in the Hutchins Concert Hall. Canadian Brass, now in its 28th season, features five artists on trumpets, French horn, trombone and tuba. The virtuoso musicians have transformed a previously neglected group of instruments with a limited repertoire into an exciting and versatile ensemble that performs works from Bach and Mozart to Gershwin and Dixieland.

GERSHMAN PHOTO EXHIBIT

A photography exhibit in memory of the late Professor Mel Gershman is on display through the end of the month at the Bangor Public Library.

The exhibit of 22 color photos includes many of Gershman's favorite landscapes and portraits spanning his lifetime. Most are Maine scenes and subjects. The photos, some dating to the 1950s, were taken, processed and mounted by Gershman.

Photography was an avocation of Gershman's since his childhood. He also incorporated photos into his work in microbiology.

This is the second Bangor Public Library exhibit of work by Gershman, who died Sept. 12.

Oral Exams

"Studies on Rearing and Early Weaning of Atlantic Cod Larvae Onto Commercial and Experimental Microparticulate Diets," by Bradd Baskerville-Bridges, candidate for Ph.D. in marine biological resources, 1 p.m., Dec. 11, Rogers Hall.

"A Comparison of Absenteeism and Medical Claims Between Corporate Fitness Center Members and Nonfitness Center Members," by Michelle Lee Dodge, candidate for master's degree in kinesiology and physical education, 2 p.m., Dec. 11, Lengyel Hall.

"Physiological Responses of Red Spruce Seedlings (*Picea rubens* Sarg.) to Acid Fog: Effect on Membrane-Associated Calcium and Thiol Content and Composition," by Mei Jiang, candidate for Ph.D., 9 a.m., Dec. 17, 255 Nutting Hall.

"Influence of *Littorina littorea* on the Distribution of *Polysiphonia lanosa* in the Damariscotta River Estuary, Maine," by Sheri Emerson, candidate for master's degree in botany and plant pathology, 10 a.m., Dec. 17, 101C Deering Hall.

Ongoing Events

Entertainment

"The X-Tra Terrestrial Files," a Planetarium show, 7 p.m., Fridays, through Dec. 18, Wingate Hall. Admission fee. x1341.

"Christmas Around the World," a Planetarium show, 2 p.m., Sundays, through Dec. 20, Wingate Hall. Admission fee. x1341.

Exhibits/Demonstrations/Tours

1998 Fall Student Exhibition, through Dec. 30, Hauck Gallery, Union. x1734.

A Collective Vision: Uncovering Layers of Artistic Energy, through Dec. 30, Hole in the Wall and Graphics Galleries, Union. x1734.

Colorprint USA, a Museum of Art exhibition, through Jan. 20, Carnegie Hall. x3255.

Salon de Fax, a Museum of Art exhibition, through Jan. 20, Carnegie Hall. x3255.

Woodland Tribes of the Northeast: Jud Hartmann Bronzes, a Hudson Museum exhibit, through May 16, Maine Center for the Arts. x1901.

Summer 200: A Portrait of a Small Maine Town, a Hudson Museum exhibit, through May 16, Maine Center for the Arts. x1901.

Maine Forest and Logging Museum - Leonard's Mills open daily 10 a.m.-dark, Bradley. x2871.

University of Maine Museum of Art open Monday-Saturday, 9 a.m.-4:30 p.m. x3255.

Page Farm and Home Museum open Tuesday-Saturday, 9 a.m.-4 p.m. x4100.

Hudson Museum open Tuesday-Friday, 9 a.m.-4 p.m.; Saturday-Sunday, 11 a.m.-4 p.m. x1901.

Meetings of Groups/Organizations

Newman Center, 10 a.m. and 6:15 p.m. Sundays, and 4:45 p.m. Tuesdays and Wednesdays, 83 College Ave. 866-2155.

Maine Bound (581-1794)

Avalanche Awareness and Rescue, Dec. 11-12.

Kayak and Canoe Rolling Pool Session, Dec. 13.

Special Notes

Farmers' Market, 10 a.m.-1 p.m., every Saturday, Page Farm and Home Museum.

Jordan Observatory open any clear Friday or Saturday night. x1348.

School of Performing Arts, Bangor Symphony Launch Operation Harmony

A cooperative venture in education and "great music, live" will be inaugurated in 1999 by the University of Maine's School of Performing Arts and the Bangor Symphony Orchestra (BSO). Joining in "Operation Harmony," the School of Performing Arts and the BSO will sponsor a new graduate program in music. The degree program is designed to attract top student string players to the University.

"The University of Maine is excited and pleased to be working closely with the Bangor Symphony Orchestra in the training of outstanding string instrumentalists," said Rebecca Eilers, dean of the College of Liberal Arts and Sciences. "It is a natural collaboration borne out of shared excellence and a desire to serve the citizens of the state of Maine. We expect this exciting opportunity will attract talented young musicians from all over the U.S."

The partnership between the School of Performing Arts and the Bangor Symphony Orchestra speaks to the broad variety of exciting collaborations that exist between UMaine, the local community and beyond.

Four student musicians, selected in a nationwide search, will receive free tuition and a stipend as the School of Performing Arts Graduate String Quartet and as members of the string section of the Bangor Symphony Orchestra. The quartet will also perform off campus under the banners of both the BSO and the School of Performing Arts, traveling to public schools and rural areas of Maine where live music performances are infrequent. Each outreach performance includes an in-school education component for children, coordinated with the school's music teacher, and a public performance for adults.

Other educational elements make up the joint venture. A paid internship will be established for a UMaine graduate student or senior music major to join the Bangor Symphony Orchestra staff. Though work with the BSO's executive director and board committees, the student will receive experience in arts management, with an emphasis on community education. A representative from the School of Performing Arts music faculty will also serve on the BSO's program committee. As the education program develops, it will address the needs of rural areas, retirement communities and other venues outside the concert hall.

"Much attention has rightly been given recently to the University of Maine's important role in improving the research and development capacity in the state," said Scott Delcourt, director of the University of Maine Graduate School. "However, it is important to note that UMaine offers 22 doctoral degrees and over 50 master's degrees in the arts and sciences, engineering, education, and a variety of professional programs. The partnership between the School of Performing Arts and the Bangor Symphony Orchestra speaks to the broad variety of exciting collaborations that exist between UMaine, the local community and beyond."

Applications for the four graduate positions in Operation Harmony will be reviewed by representatives from the music faculty of the School of Performing Arts and by Christopher Zimmerman, BSO artistic director and conductor. Finalists will come to the University for live auditions in spring 1999. ▲



University of Maine students Jennifer Courtney of Reading, Mass., and Ken Bernier of Garland are prize winners in the recent Bookstore Quiz, sponsored by the University Bookstore. Courtney and Bernier had their names drawn from the 187 quiz respondents who answered a series of questions, designed to poll students about how much they know about the Bookstore and how it operates. As winners, Courtney and Bernier will receive free spring semester textbooks. The Bookstore Quiz was developed by a committee of students, faculty and staff to address student concerns expressed in the Blue Ribbon Panel Report. The correct answers to the questions were published in the Nov. 20 issue of *Maine Campus* and are available at the Bookstore. Courtney is a third-year sociology major who spends an average of \$200 a semester on textbooks. Bernier is a second-year math major and Army ROTC cadet who uses about \$250 a semester in texts. Both students are resident assistants.

Courses Offered Statewide in UMaine's Third Winter Session

The University of Maine's third Winter Session beginning this month features 31 courses offered in the classroom, via ITV and the Internet.

Faculty in 16 academic departments are teaching Winter Session classes, including five graduate courses. Most of the classes meet Dec. 28-31 and Jan. 4-8.

Since the start of Winter Session, enrollment has grown steadily. This year, the number of students enrolled is expected to surpass the 369 attending Winter Session 1997, according to Jim Toner, associate director of continuing education.

"The students are largely degree candidates looking to speed up or make up credit hours," says Toner. "Often students wish to accelerate their programs by taking courses that count toward their hours earned in the spring. Winter Session provides students more flexibility."

Because of their content or pedagogy, not all courses are suitable for offering during Winter Session, says Toner. However, 100-level introductory classes in such subjects as psychology, anthropology and theatre not only are effective during the intensive 2-week format, but are popular with instructors and students.

Students can be far afield in Maine and still take advantage of two ITV courses offered throughout Maine. Capacity on-campus enrollments already have been reached for the ITV classes *Cult Horror Film*, taught by Welch Everman, and *Major British Authors - Blake*, taught by Tony Brinkley, both of the English Department.

And since piloting an Internet course for Winter Session last year, two Web-based classes are now offered: the interdisciplinary *Individual and Community*, led by Toner, and the topics course *Spanish Civilization and Multicultural Spain*, led by Professor of Spanish Kathleen March. The Web courses are two of the 25 currently offered at UMaine. ▲

Send notices of spring campus events to *Maine Perspective*
for the UMaine Calendar.

People in Perspective

Katie Bossé grew up in the shadow of the University of Maine, not realizing how big a role it eventually would play in her life.

"I knew the University of Maine was here, but that it was not a place where I would be going," says Bossé. "I was raised in the Franco-American culture. I was a poor female. I was not encouraged in education. I knew that although there is honor in factory work, as I found out working in shoe shops, it was not where I wanted to spend the rest of my life. I knew there had to be something else."

After graduating from Old Town High School in 1960 at the age of 17, that search for something more led Bossé through a handful of odd jobs. When she did apply to UMaine, it was in much the same way she has undertaken many challenges in her life – on her own and breaking with convention.

"I guess you could say that I'm resourceful," she says. "If you can't get a dream one way, you find other ways to do it."

Initially, Bossé studied math, and eventually changed her major to soci-

ology. She became a familiar figure, seen daily walking the four miles from her home on College Avenue Extension to campus and back again. In 1965, she received a B.A. in sociology and entered VISTA, the domestic Peace Corps.

Working as a VISTA volunteer for two years in New York, Pennsylvania and Connecticut, Bossé did organizing for Head Start, Neighborhood Youth Corps, Community Action programs, and remedial education in a settlement house.

With a VISTA fellowship in 1968-70, she pursued graduate work at the University of Maryland School of Social Work and Community Organization. Bossé worked in Baltimore, specializing in community building. There she organized people "to change their situations rather than to adapt to impossible situations." She advocated for Welfare rights reform, and helped organize tenants of high-rise housing units.

Bossé returned to Maine and lived communally in Old Town for five years. She worked a variety of jobs in the area, including five years as one of the first female construction workers in the state, driving a 10-wheeler and operating a D-6 dozer. After four years of work in construction and seeing "the disparity of the women-to-men ratio" in the construction trades, she spent a winter organizing women and contractors throughout the state.

"Women got better paying jobs and contractors understood why it was to their benefit to have us there," says Bossé of her efforts.

Bossé also returned to study at UMaine, but this time her focus was scientific rather than societal.

"I heard Frank Eggert was working to compare and contrast organic and conventional farming systems, so I asked him for a job," she says. "He mentored me in what I really wanted to do. That's when I went from social to hard-core science."

Bossé received a B.S. in soils with a minor in geology in 1987. She worked for a month in Haiti as a volunteer teaching a soils and natural resources course, then returned to campus to begin a career as a scientific technician.

Today in the Maine State Soil

Testing and Analytical Lab, working with Bruce Hoskins and Bill Cook, Bossé is involved in the physical preparation and analysis for heavy metals and total Kjeldahl nitrogen content, largely in soils and soil amendments.

"I always have had an interest in science," says Bossé, who continues to take classes and hopes one day to again work in soil conservation. "I have a nosy mind. Ever since I was a child, I simply wanted to know everything and that hasn't changed."

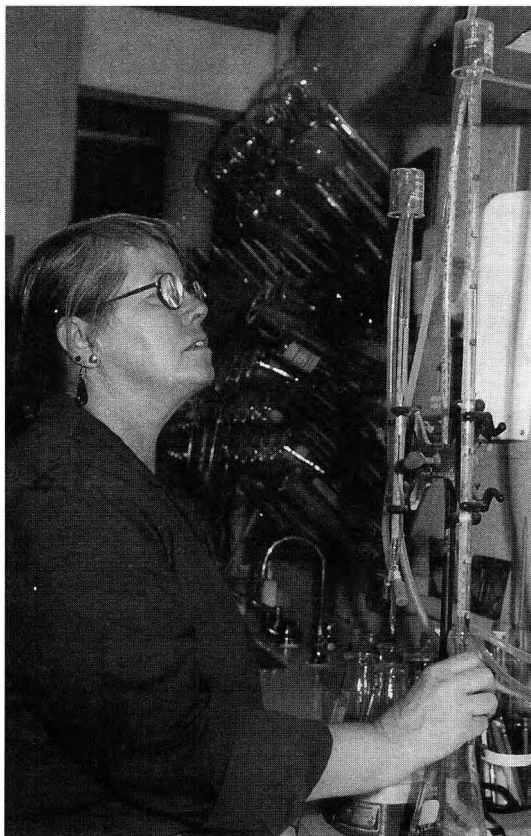
For the past eight years, Bossé has worked full-time as a scientific technician in Deering Hall. For the last seven of those years, she also has pursued her interests in drawing and painting. In her works, art and science meet.

"Galaxies, fractals, centers of flowers and sea shells, everything is connected, whether on a macro or micro level," says Bossé. "In my life, one of the particularly exciting examples of the beauty of science was in images downloaded by the Hubble Space Telescope, particularly from Deep Field and Eagle nebulae. The discovery of Deep Field, a gazillion galaxies, solar systems and questionable masses, is like finding out that the earth is not flat. As far as I'm concerned, it is the latest new, great mystery."

"I don't see a separation between science and art. If I'm painting or sewing, I'm using elements from the earth. If I'm building a house, I'm using trigonometry and wood and structural sciences," says Bossé, who designed and is building her own house in Greenbush on 35 acres.

Bossé's first solo art show was this summer at the Old Town Library. She volunteers to teach drawing to residents of Greenbush.

"To me, knowledge is power," says Bossé, talking about her commitment to lifelong learning that involves insatiable reading and sharing her talents with others. "It's knowledge that makes you and the rest of the world better. For me, the search for knowledge is endless."



Katie Bossé

Economic Modeling Expert Gets Close Look at International Monetary Policy

New economic modeling techniques used by world organizations and the governments of small, open economies were the focus of a year-long sabbatical in New Zealand by Jim Breece.

Breece, associate professor of economics, spent a year at the Reserve Bank of New Zealand (RBNZ) in the Modeling Group of the Economics Department, located in Wellington.

Breece did economic modeling and forecasting based on a new core economic forecasting model for RBNZ, the central government bank responsible for regulating private banks and setting monetary policy.

The Economics Department of the bank is made up of approximately 35 economists. In addition to modeling, they conduct quarterly economic forecasts, monitor global economic events, conduct economic inquiries and make monetary policy recommendations to the governor of the RBNZ, who has a position much like that of Federal Reserve Chair Alan Greenspan in this country, Breece says.

The New Zealand economy recently switched to a free market system. New Zealand was once considered one of the most socialist countries outside Eastern Europe. In 1985, the country implemented reforms that opened the economy, in what is referred to as the New Zealand Experiment.

"As an economist, it was exciting to live in a country where these social experiments were being conducted and watch it from the inside out," Breece says.

While he was there, the Asian financial crisis first appeared, which affected New Zealand, which exports commodities to Asia and Japan. "They immediately felt the economic turmoil and went right into a recession," says Breece. "It was a bit chaotic part of the time I was there, when we were deciding how to appropriately set monetary policy when facing a recession."

Breece says the size of New Zealand, with a population of around 3 million, gave him an opportunity to be close to monetary policymakers, an experience he would not have in this country.

Breece, who specializes in international finance and macroeconomic modeling, similarly spent a sabbatical as a visiting research scholar at the University of Melbourne, Australia, in 1990-91. In Maine, Breece developed the Maine Quarterly Forecasting Model in cooperation with the State Planning Office, and established the New England Electronic Data Center, offered by The Federal Reserve Bank of Boston and UMaine to provide current regional economic information. Currently, Breece is one of six members of the Maine Revenue Forecasting Committee, responsible for forecasting future state revenues that go into determining Maine's biannual budget. ▲

COLT CLEARINGHOUSE

Are you the object of harassment? Is your health being compromised by the quality of the air in your workplace? Does your supervisor refuse to comply with the COLT contract or stated University policy?

Members of the ACSUM Executive Committee have volunteered their time to address these and similar problems with you. Contact Thomas Baker, Gail Belanger, Mary Burton, Mabel Carmichael, Sandra Cayford or Suzanne Moulton to initiate a team to assist you.

The Committee cannot guarantee the solution you may seek. However, members will listen and do their best on your behalf. Confidentiality is a foremost concern.



Irv Kornfield, named the 1998 Maine Professor of the Year by the Carnegie Foundation for the Advancement of Teaching, was honored at a reception last month, sponsored by the General Alumni Association. The Alumni Association nominated Kornfield for the award. Kornfield, professor of zoology and UMaine's 1997 Distinguished Maine Professor, is pictured here with his wife, Tori.

School of Social Work Offers Tribal Health and Human Services Traineeships

Native American undergraduate students with an interest in tribal health and human services are encouraged to apply for one of seven traineeships being offered by the School of Social Work.

The school recently received a \$145,000 grant from the U.S. Department of Health and Human Services Administration for Children, Youth and Families. Students who qualify for the traineeships would be given a yearly stipend of \$7,500 and will receive the University of Maine System Indian Tuition Waiver.

"We're in the process of recruiting students for this program," says Gail Werrbach, School of Social Work director. "We're looking for Native American students who have completed at least 24 credit hours as undergraduates and are interested in social work with Native American children and families."

The focus of the project, says Werrbach, is to provide culturally sensitive, competency-based education for students to gain the knowledge and skills necessary to identify and creatively address the serious challenges confronting the state's tribes.

Werrbach says the students would perform a wide variety of tasks with the Passamaquoddy, Penobscot, Micmac and Maliseet. Students would complete internships at both on- and off-reservation tribal health and human services agencies. The existing Bachelor of Social Work program will be expanded to provide trainees with the knowledge and skills necessary to provide excellence in tribal child welfare services in the state.

Services provided by student participants would include family preservation programs to help keep children with their families on reservations; healthcare work with mentally challenged or substance abuse patients; or educational programs in the Native schools to teach children self-worth and cultural understanding.

"Our primary purpose is to increase the number of Native American social workers. These students have first-hand understanding of Native culture, traditions and often language," says Werrbach. "After graduation, our hope is that students will return to Native communities to work with kids and families."

Traineeships are being offered in collaboration with the Wabanaki Center and the Native American Studies Program.

The School of Social Work began accepting applications Dec. 1 and will accept applications until all seven traineeships have been filled. The program could start as early as January. ▲

Amazing Abilities

When Bill Picard was 11 months old, a pediatrician told his parents to put him in a home for the mentally retarded, forget about him and move on with their lives.

Twenty-eight years later, Picard is about to graduate from the University of Maine. At December Commencement, Picard will receive a bachelor's degree in business administration. His concentrations are in management and disability studies.

Picard has cerebral palsy, a condition caused by a lack of oxygen to his brain during birth. Cerebral palsy affects people in different ways. For Picard, it affected his muscle coordination and his speech.

Picard has never let his disability keep him from the many activities he enjoys: dancing, bowling, cheering for the UMaine women's basketball team, repelling off a 100-foot cliff and traveling.

He uses a device called a Liberator to help him communicate and a walker to dance. In miniature golf, he hits the ball with his foot, rather than a golf club. His father made him a special wooden card holder for playing card games and a ramp to slide a bowling ball down the alley.

"I'd like to be treated like everyone else because I am like everyone else," Picard says. "I can do anything I want to do, I just have to think about the way to do it."

Picard, a North Turner native, transferred to UMaine in 1994 from the University of Edinboro in Pennsylvania, where the campus was largely accessible and services for students with disabilities included van transportation to and from classes, assistants and a wheelchair repair shop.

It is different at UMaine. Picard advertised and hired his personal care attendants, academic aids and van drivers. All new buildings are accessible, and existing structures are being renovated according to an ongoing plan to meet Americans with Disabilities Act requirements.

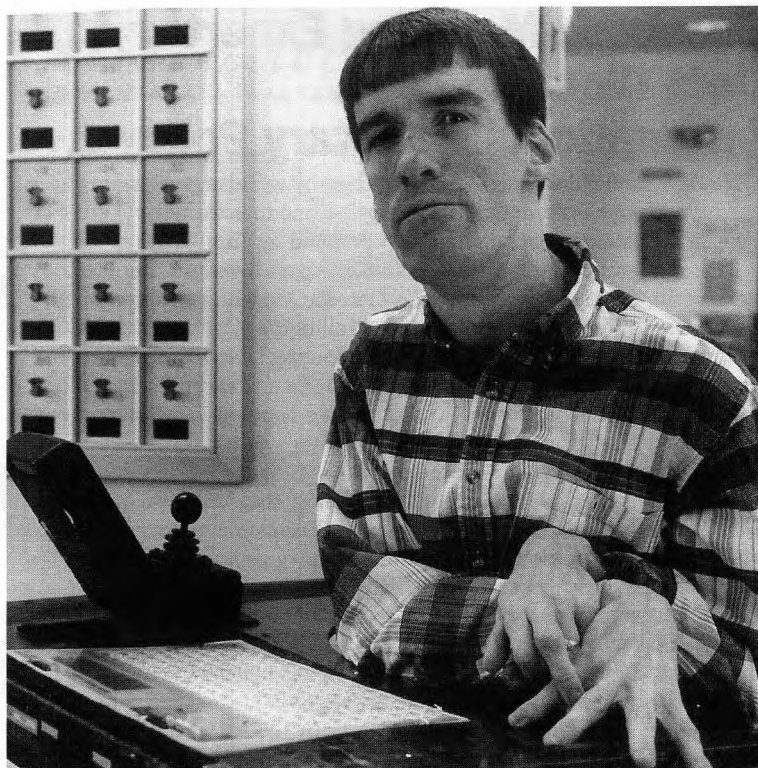
Since being on campus, Picard has made recommendations about how to increase accessibility in the University community. That includes improvements in parking outside his residence hall and in designated seating for persons with disabilities in Alford Sports Arena.

"UMaine was inexperienced in dealing with people with disabilities," Picard says. "I just may be the first one who was stubborn enough to bring up these issues."

Picard's persistence has helped change some physical barriers to accessibility in the same way that he has changed people's attitudes about disabilities, says Ann Smith, UMaine's coordinator of Services for Students with Disabilities.

"When he first arrived, the campus went from a level of discomfort and fear about how to communicate with this individual to a point where Bill is well known on campus and greeted warmly," Smith says.

"I admit, I was a little nervous when I started working for Bill," says Abby Graffam of Saco, a third-year student majoring in nursing. "I didn't know what his disability entailed and I had never really been around someone handicapped before. I've worked for Bill for a year, helping him with computer stuff, getting ready for bed, and helping him with dinner a few nights a



Bill Picard

week. He amazes me with his abilities. Most people in his situation would have seen college as an impossible feat. He has conquered it. He's an inspiration. I wish more people would get to know people with disabilities because they're just like everybody else."

During his time at the University, Picard has hired more than 100 student assistants like Graffam. In giving back to the University community, he has served on the Union Board and spoken to student groups, conferences and classes.

Diane Jackson, a graduate assistant pursuing an Ed.D. in higher education accommodations, asked Picard to speak to her class on Adapting Instruction for Students with Disabilities this semester.

"Bill was invited to speak in my class to share his humor, knowledge and technology. I feel very strongly that person-to-person contact is critical when teaching about disability," says Jackson. "The reality of Bill Picard's day has an impact that text and lecture cannot bring to students. It also helps deal with misconceptions about communication differences.

"Bill gave the students confidence to 'just ask' when it comes to communications issues or assistance for persons with disabilities," says Jackson. "He removed the fear of communicating, which will aid (the students in my class) as future teachers."

In the year that Kathryn Shepherd of Gardiner roomed with Picard, it seemed that "he always was getting prepared to do another speech, or to help out other students who didn't know where to turn for help."

"From Bill, I learned that with enough support and love from the people around you, you can do anything," says the fifth-year music education major. "You have to give people a chance and look beyond the disability, because there's someone in there who can do a lot for people.

"Bill is a teacher who has helped a lot of people look harder and find things within themselves," Shepherd says. "He has accomplished more than have most people without disabilities."

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Animal Bones Offer Clues About Prehistoric People

Heather McNnis has always been interested in history and "what makes us who we are." Today, she studies animal bones for those clues to our prehistoric past.

McNnis, a long-time resident of Blue Hill, first took anthropology courses at Fort Lewis College in Colorado. She completed her bachelor's degree in anthropology at UMaine in 1995.

She applied to graduate school at UMaine and several schools in the Southwest. However, she stayed in Maine when she was offered an opportunity of a lifetime – conducting research at a little-known archaeological site in Peru under the direction of Dan Sandweiss, assistant professor of anthropology and Quaternary studies.

"Dan was looking for a student to go to South America. I have always been interested in animal bones and prehistoric archaeology, and that fit into what he needed. We had mutual interests," says McNnis.

McNnis' first field experience was in 1994 as an undergraduate working on four Pueblo ruins covering a broad range of time periods. Two years later, she was headed to an excavation site in Peru for six weeks.

"What struck me most is that Peru is very culture-oriented. You see it everywhere. But at the same time, there is not the money to investigate and preserve the past found in sites like this," she says of her research trip.

"In contrast, we saw guards armed with machine guns at the office of the National Geographic Society, where we had to get maps of the country. We had to hire a guard to prevent looting of our site.

"But the hardest thing in Peru was no one in the area I worked in knew what a calling card was. I felt a long way away," says McNnis, the mother of two children who are now ages eight and 12.

McNnis' thesis research focuses on animal remains found in Quebrada Jaguay, an archaeological site on the south coast of Peru. The site contains the oldest known evidence of significant use of ocean resources in South America.

McNnis found that almost all of the animal remains at the site were maritime-based. Remains of crab and specific types of fish were unearthed. Also found were stone tool debris.

"We found fish earstones that can be measured to tell how large the fish were," says McNnis. "We were able to pinpoint a range of the size of the fish, most of which were smaller. We also found net cordage



Heather McNnis

Graduate Student Focus

in the site, indicating that people were probably using net technology and focusing on this fish at a particular time of year.

"My data indicates seasonal use of the site by people. The people were not just gathering what was in front of them, but they adapted to living in a maritime environment."

The site, dating to 11,500 radiocarbon years BP (13,000 calendar years BP), is particularly significant because of its age. "It changes our perspective on what was happening in the New World in that time period," says McNnis. "The standard explanation of early population movement associates population movement with hunting of big game animals. Evidence from Quebrada Jaguay indicates that migration into this region may have been associated in some way with the coast."

Quebrada Jaguay was first reported by Frederick Engel, a French archaeologist who traveled to Peru in the 1970s and surveyed the country's coastline. At that time, radiocarbon dating was done on remains taken from a test pit.

Sandweiss was the first to undertake extensive excavation on the site two decades later. It quickly became evident

that Quebrada Jaguay was a landmark site for archaeological research on the Peruvian coast. It will be used as a base from which to look at other sites for comparison, notes McNnis.

Some of the findings on early South American maritime adaptations found at Quebrada Jaguay were reported this fall in *Science* and subsequently made global headlines. In addition to being a co-author on the journal article, McNnis has presented her research at regional and national conferences, including the meeting of the Society for American Archaeology in Seattle.

"Theses are the kind of findings that make me want to keep going in archaeology," says McNnis, who studied the animal bones using the world's leading Peruvian comparative collection housed at the zooarchaeology laboratory at the Florida Museum of Natural History.

"Quebrada Jaguay is a great site and in Peru, findings like this can still happen. It is exciting to be involved in cutting-edge research. It's what every archaeologist hopes for at least one time in his or her career," she says.

McNnis has applied to four schools where she could pursue a Ph.D. in archaeology. Ideally, she says, she would like to have a teaching position at a research institution in order to continue in archaeology.

"As a result of my years at UMaine, I am perfectly prepared to go into a Ph.D. in hard science," says McNnis. "When I returned from Colorado, I never expected to find a program like this at the University of Maine. The education and the science background I've gotten here are excellent. Now the door is open for me to go in any direction." ▲

Campuswide Calendar Available

Maine Perspective keeps an electronic calendar listing on-campus events for the academic year that have been submitted for inclusion.

If you have events already scheduled, send your listings to *Maine Perspective*. If you are planning a future event and want to check for other events scheduled at particular days and times, call 581-3745.

The UMaine Master Calendar is available on FirstClass (in the Campus Activities folder) and on the Web (off the UMaine homepage: www.umaine.edu or the calendar website: www.ume.maine.edu/~paffairs/perspectiveweb/mastercalendar.html).

Oceanographers Propose Gulf of Maine

A species of marine algae that causes paralytic shellfish poisoning in New England and the Canadian Maritimes appears to be more abundant off shore in the Gulf of Maine than scientists had initially believed, according to preliminary information from the first year of a five-year research project.

The species, known as *Alexandrium tamarensis*, may take advantage of a natural pattern of nutrients which develops in the Gulf in mid- and late-summer, according to David Townsend of the School of Marine Sciences.

A new theory to explain the phenomenon has emerged from work by Townsend, Neal Pettigrew, Andrew Thomas and their students, all of UMaine, who are collaborating with scientists from other research institutions, including Woods Hole Oceanographic Institution, the University of New Hampshire and Bigelow Laboratory for Ocean Sciences. They have earned more than \$5 million in grant support from the National Science Foundation and the National Oceanic and Atmospheric Administration.

"We think we're on the verge of understanding what causes red tide outbreaks in the Gulf," says Townsend. "I presented these ideas to a meeting in Boothbay Harbor last summer."

If confirmed by detailed analysis of 1,200 water samples, the new theory could pave the way for predicting red tide outbreaks and reducing their impacts on human health and the region's shellfish industry. More than 2,000 samples were collected during cruises in the Gulf last summer.

Alexandrium-contaminated shellfish have caused deaths among consumers, most recently during a 1988 outbreak in Prince Edward Island. As a precaution, shellfish beds can be closed for weeks at a time when red tide is detected.

The Theory

According to the theory, *Alexandrium* grows in the nutrient-rich water that stays just below the surface in the eastern Gulf of Maine. Strong tides in the Bay of Fundy mobilize nutrients from deeper water layers, and currents carry this plume southwest along the coast of New Brunswick and Maine. At a point near Jonesport, part of this current turns south toward deep water.

Alexandrium is found in abundance in and on the edges of this current. In the microscopic world of marine algae, it is a relatively large organism and has the ability to swim. It turns out that swimming may give the species a competitive advantage over other algae, says Townsend, especially in mid- and late-summer.

As summer wears on, a layer of warm water tends to grow at the surface of all northern hemisphere water bodies. If left undisturbed by strong tides or currents, the warm water is like a wet blanket on a smoldering fire. Lacking in nutrients, it tends to dampen the growth of algae. Moreover, it pushes colder, nutrient-rich water down to depths where there is not enough light for algae to grow.

"It turns out from other studies done in the lab that *Alexandrium* needs high levels of light and nutrients. These two things are usually mutually exclusive in the ocean. In the summertime, other phytoplankton have already used up the nutrients in the surface waters. It's pretty well depleted. The light is highest in the surface waters, and it's dark down deep where there are lots of nutrients. You have to bring the two together, and this tidal mixing in the eastern Gulf of Maine brings them together," Townsend explains.

With nutrient-rich water only a few meters below the surface, the theory goes, *Alexandrium* is able to swim down to absorb the necessary nutrients at night and return to the surface during the day to bask and grow in sunlight. In the western Gulf of Maine, nutrient-rich water is too deep, beyond the reach of the algae.

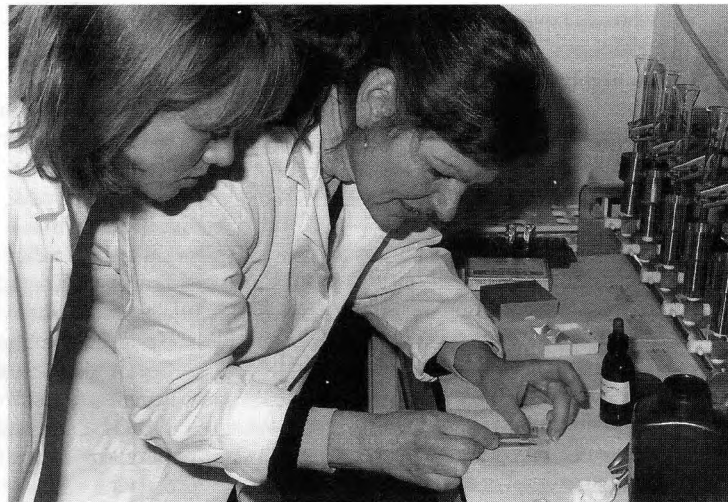
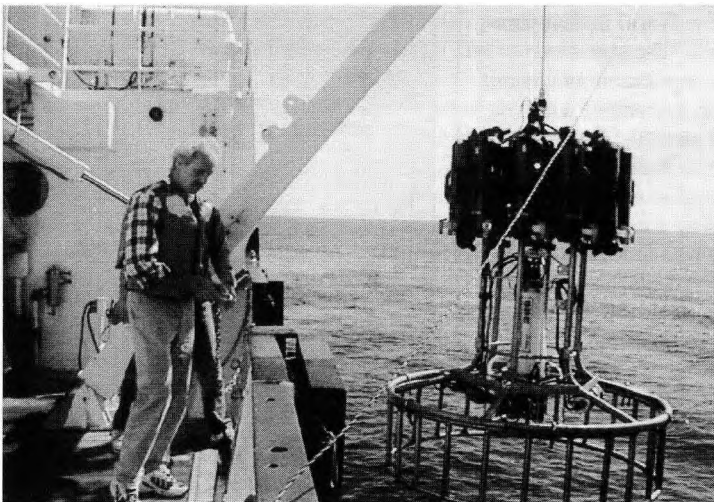
During cruises in June, July and August, the researchers sampled water at 215 different points along the coast up to 70 miles offshore.

"By the time we did the August survey, we could look at the printout of how water temperatures changed with depth and say whether we were or were not going to find *Alexandrium* there. It worked quite well," says Townsend.

Rivers and the Sandwich

The theory also explains other observations that scientists have made about red tide in past years. For example, local pollution sources have been thought to promote red tides. Since freshwater tends to stay on the surface of the Gulf, high levels of nutrients coming out of rivers discharging to the Gulf can indeed give *Alexandrium* a boost.

Monhegan Island also has been a red tide "hot spot," says Townsend, who wrote a scientific paper in 1983 proposing an explanation. "Turns out I was dead wrong. There's always been a lot of toxicity in the mussels out there. It's always the first one to become toxic in the summer. It's the only one we sample on a regular basis that's off shore. Everything else we sample is along the coast. This is the only outer island that's sampled. If you're going to look for it to occur first, you'd naturally look for it out where it lives."



ed Tide Theory

Another mystery involves a stage in the *Alexandrium* life cycle known as a cyst. The algae form cysts when they are under stress. When conditions improve, the cysts respond by developing into active cells.

"The cysts are in the water all the time," says Townsend. "It's like saying where do the diatoms come from in the spring in the middle of the Atlantic Ocean? The answer is, there are always some around."

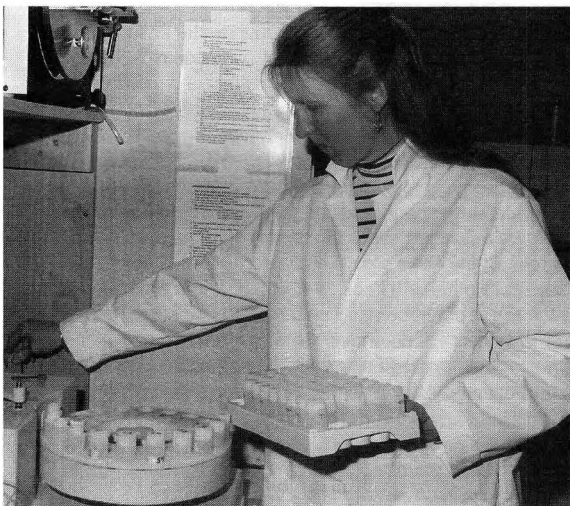
Scientists have also known for many years that red tide algae are rarely seen along a section of the Maine coast from eastern Penobscot Bay to Jonesport. "Either side of that, we see paralytic shellfish poisoning in the mussels that are monitored by the Department of Marine Resources. John Hurst down there refers to this as the sandwich. Nothing in the middle and bread on both sides. Nobody really understood it," says Townsend.

Based on the observation that the nutrient-rich current moves away from the coast at Jonesport, it makes sense that *Alexandrium* would be much less abundant there.

"The theory provides for the first time a foundation that's purely oceanographic in nature, rather than that there's a source of pollution here, and something else there. It clearly shows that it's the oceanography of the region that controls this. Unless we have oceanographers applying themselves to these problems, these things will remain elusive, and that's been the case until now," Townsend says.

The five-year project is part of an international effort to understand the causes of toxic algae outbreaks which have plagued the world's coastal waters in recent years. Further information about the Gulf of Maine project is available on the Internet, crusty.er.usgs.gov/ecohab/ ▲

Photos below, left to right: During a July research cruise on the Gulf of Maine, David Townsend and Ted Loder of the University of New Hampshire (behind Townsend) prepare to lower an electronic data acquisition package off the RV Cape Hatteras, owned by the National Science Foundation. The package includes sensors that measure chemical and biological characteristics in the water and collects samples from specified depths; Abby Deitz of Atkinson, left, and Maura Thomas of Bangor, research associates, will use an immunofluorescent tag to identify and count individual cells of *Alexandrium tamarense*, the organism responsible for red tides in the Gulf of Maine; Annette Brickley of Bangor, research associate, loads water samples for analysis of inorganic constituents in a lab in the School of Marine Sciences, Libby Hall.



Chris Feurt and her daughter, Kelly, collect a water sample from a bridge in Kennebunk.

Extension Volunteers Work to Stem the Tide

A network of trained citizen volunteers is monitoring Maine's coast and looking for invaders from the sea. Every summer, tiny marine algae, a type of phytoplankton also known popularly as red tide, appear in Maine's coastal waters where they can turn shellfish from a valued resource to a potential poison.

"It was generally a low toxin year. Our volunteers try to monitor twice a week near locations where the Department of Marine Resources monitors shellfish for red tide. They gather water samples off docks and bridges and from boats, and conduct their analyses in the field," says

network coordinator Wendy Norden of the Waldoboro office of University of Maine Cooperative Extension.

The volunteers in the Phytoplankton Monitoring Program have just completed their second year of activity. Their mission is to provide an early warning system to detect the plankton which can cause paralytic shellfish poisoning (PSP) and other problems for consumers of shellfish. Red tide is a bit of a misnomer, Norden notes, because most toxic algae do not turn the water red.

"If the volunteers find toxic algae in the water, they inform the Department of Marine Resources," says Norden. Participants from Wells to Eastport are working with Extension and the DMR with financial support from the Maine Outdoor Heritage Fund.

In one case last summer at Eastport, says Norden, volunteers identified *Alexandrium*, a red tide plankton, in the water nine days before evidence of toxins showed up in harvested clams. To ensure food safety, DMR officials harvest a small number of clams, grind the meat and inject mice with an extract. If present, the toxin produced by the algae is strong enough to kill a mouse within 15 minutes of injection.

The volunteers also found possible indications of another toxic algal species, *Dinophysis*. Scientists have been aware of its presence in Maine waters, but until now, they have had little knowledge of its abundance. Further testing revealed that the species was not present. *Dinophysis* causes diarrhetic shellfish poisoning.

A graduate of the University of Rhode Island, Norden conducts training sessions for volunteers and presents data collected by the network to organizations concerned with the quality of Maine's marine environment.

At present, more than 80 volunteers participate through 18 distinct monitoring groups at specific coastal locations. They look for four potentially toxic algae species, as well as non-toxic species.

Norden arranges twice-a-year training workshops in which volunteers receive information on how to collect samples, record data and report the results. In addition to the plankton, the volunteers collect information about salinity, water temperature and wind speed.

"The volunteers have microscopes for examining water samples and identifying different types of plankton," says Norden. "After they collect a water sample, they put it under the microscope and classify the potentially toxic algae as rare, common or abundant."

Scientists and government officials have known for many years that the Gulf of Maine harbors a toxic species, *Alexandrium*, which causes PSP. Researchers from universities in New England, private research labs and government agencies launched a five-year research project last spring to understand what conditions favor the growth and spread of *Alexandrium* plankton. ▲

The CUTTING EDGE

University of Maine Research on the Frontiers of Science

Smooth Moves Down the Line

The Bio-Resource Engineering Program has designed a prototype device that is helping to keep the production line humming at the Stinson Seafood Co., in Prospect Harbor. Using the design developed by Professor John Riley and graduate student David Cole, Alexander Welding and Machine in Greenfield built the industrial version for Stinson.

Riley and Cole developed the prototype late last winter in the department's machine shop. Their device takes sardine cans from a conveyor belt and uses an electronic sensor, a valve and a pneumatic cylinder to give them a 90-degree shove at a rate of five cans per second.

The simple device replaces a more complicated machine that was designed to do the same thing but kept jamming.

"We needed a machine to reduce the down time on the production line," says Peter Colson, manager of Stinson. "Our line is automated, and the cans have to flow smoothly to the ovens. We had purchased some new equipment which would be jammed for five minutes at a time. At the end of the day, we were losing 200 to 300 cases of production per day."

Al West, an employee at Stinson, is a UMaine graduate who knew of Riley's work and suggested that the company contact him. Riley visited the plant and developed the prototype last March.

Riley and Cole worked under the sponsorship of the Maine Agricultural and Forest Experiment Station.

Lice on the High Seas

Just as veterinarians work side-by-side with farmers, specialists in fish diseases serve Maine's aquaculture industry by monitoring and treating parasites, viruses and other animal health problems. If left untreated, diseases such as infectious salmon anemia, vibriosis and sea lice could be the marine equivalent of a plague of locusts by wiping out schools of farmed fish and aquaculture jobs.

Mike Opitz works with farmers both on the land and at sea. As a Cooperative Extension veterinarian and a fish pathologist in the School of Marine Sciences, he tends to the health of chickens as well as salmon. His expertise has already saved money for Maine's aquaculture industry.

Sea lice is a salmon parasite that has caused severe losses on fish farms in the Canadian Maritimes. In 1996, with cooperation from salmon pen owners, government agencies and Chris Bartlett, a Sea Grant Extension colleague based in Eastport, Opitz pioneered the use of cypermethrin, a chemical that kills the lice but leaves the salmon unharmed.

"It's still the chemical of choice for treating sea lice," says Opitz, "but we are studying alternatives and other control measures to reduce the potential for any impact on the marine environment."

As a co-chair of the sea lice task force, Opitz coordinates a control program for the aquaculture industry. It includes constant monitoring, training of personnel who apply cypermethrin treatments and research on alternatives.

Opitz and his colleagues have also focused their attention on infectious salmon anemia (ISA), which has caused losses in the Maritimes but is still rare in Maine. Work by Opitz, Microtechnologies Inc. of Richmond, Maine, and researchers in the UMaine Department of Biochemistry, Microbiology and Molecular Biology identified the virus which causes ISA. They are now looking for treatments.

The setting for much of this work is a new fish isolation unit in Hitchner Hall. The facility consists of three recirculating water systems that can be precisely controlled for temperature, salinity and other conditions.

"When we study emerging diseases in fish, it's important that we keep these fish isolated," Opitz says. "We are already using the unit for work on ISA. It's an exotic disease in Maine."

Students who work with Opitz are taking advantage of another improved facility in which water and air temperatures can be carefully set from zero to 50 degrees Centigrade. "We call it the 'cool room.' We can control temperatures to mimic the range of conditions in the Gulf of Maine. Students use it for their experiments," Opitz explains.

Ultimately, preventive measures may be the least expensive and most effective means for aquaculture firms to avoid disease problems. To promote their use, Opitz coordinates a program of "bio-security" audits. Participating firms review all aspects of their operations to make sure that they aren't inadvertently creating conditions that promote disease.



Increasing the quality of silage through the use of organic enzymes without increasing effluent, a source of groundwater contamination, is the goal of ongoing research by Martin Stokes, professor of biosystems science and engineering. Stokes has been studying enzyme silage additives since 1984. His research looks at the effects of carbohydrase silage additive enzymes on silage quality, effluent production from wet silages, and the interaction of nutrient loss and enzyme treatment. A concern in agriculture is the liquid flowing out of wet silage in bunkers or tower silos. The effluent is not only a loss of nutrients from the silage, but is a source of groundwater pollution. This fall with a \$3,000 grant from Agri-Science Inc., of Liverpool, N.Y., two concurrent experiments are being conducted using small-scale pipe silos, each containing more than 26 pounds of compressed grass or corn silage treated with enzymes. The laboratory-size silos of PVC pipe are sealed systems topped with fermentation locks to allow carbon dioxide to escape during the fermentation process. Throughout the 90-day experiment, silo surface and outside temperatures are measured daily, and effluent volume, pH and nutrient losses are measured every 10 days. Half of the silos are in cold storage at 3 degrees C; the other silos are heated to 40 degrees C to study temperature sensitivity of the enzymes. The results of the two experiments will compare the effect of temperature on fermentation, acidity and fiber content. Key to the research is determining the right amount and combination of enzymes to add to silage. Enzymes aid fermentation by breaking down fiber in silage, producing a higher quality silage and improving animals' intake. The goal is to find the correct balance of enzymes for different crops to improve fermentation, reduce fiber and decrease effluent. Pictured compressing silage into the pipe silos at the Witter Farm are Martin Stokes, center, with students Simon Alexander and Chris Hallman.

BearWorks *continued from page 1*

Augusta. Legislators and the public are really noticing that we are cooperating with other campuses in the System, and are more inclined to support us. They tell me they are hearing good things about the University of Maine. Their sense is that it is moving in the right direction.

The public wants to know that we have a plan for the future. It is important to them that we are systematically and intentionally creating an action plan. The contents of that plan are important confidence-builders as we work to reposition UMaine as the university of choice for students. BearWorks emphasizes our role as a land-grant with human scale and a Maine focus, as well as a collegial community of learners. Efforts to make a strong and dynamic university also have to do with resources, including bond issues and enrollment gains.

A bond issue like this puts us in the public eye and recognizes the role the University plays in helping the state. In a way, it was a referendum on the University.

Q: You took an active and direct role in responding to the Blue Ribbon Panel report. To what extent do you anticipate taking a similar approach to the process and outcome of other BearWorks initiatives?

A: In many ways, the Report by the Blue Ribbon Panel to Review the Student Experience is the most controversial aspect of BearWorks to date. It also is quintessential. Some of the Blue Ribbon Panel recommendations we implemented immediately, including investing \$700,000 in upgrading residence halls and installing secured access. Other recommendations were good ideas in which details still have to be worked out and more planning is necessary, like the transfer of the University Bookstore to the supervision of the chief financial officer. And there are recommendations we will not pursue, like changing the vice president for Student Affairs to a vice provost position.

The Blue Ribbon Report accomplished the triage that was necessary. Now Mark Anderson, interim vice president for Student Affairs, is working on the tertiary level, creating continuous quality-improvement units made up of members of the Blue Ribbon Panel, students, and representatives of Academic Affairs and Student Affairs. This process has resulted in partnership and continued action – our biggest success story.

Three new vice presidents (Academic Affairs, Student Affairs and University Advancement) who are not here yet will be responsible for many of the recommendations of BearWorks and advancing the University to another level. While I cannot be actively involved in all the tasks of BearWorks, it is important for me to pick three to be vocal about. I have assigned myself to the areas addressing academic quality, diversity and athletics.

Q: What are the most-asked questions and misconceptions about BearWorks?

A: In many ways, I have been given too much credit – and blame – for BearWorks. It is seen as “the president’s plan.” But BearWorks was developed by overall agreement across campus about what needed to be done. One of the most interesting and unexpected surprises in developing Bearworks was the extent of the FirstClass dialogue that went into it.

BearWorks, with its tasks and objectives, was intentionally written to be measurable. Progress is being tracked every inch of the way. As a result, we have created high expectations that account for some criticism. In particular, students have asked why they’re not seeing some changes right away. It does not have to do with disinterest or delay tactics but with generating understanding and patience to bring about changes in an orderly way.

Q: What is your biggest challenge in developing, implementing and measuring BearWorks?

A: We have such a long distance to go that sometimes it’s hard to see how all of this will snap into focus. What concerns me is word hasn’t gotten out across campus about all the BearWorks initiatives under way, and that many would not have happened without this action plan.

Some of the initiatives are tangible, like establishing a new home for SHAC (Student Heritage Alliance Center) in the ALANA Student Center. Others are not. But all are individually important. The whole idea is not to have a great BearWorks but a great University.

Q: If we put BearWorks on a timeline, where are we and what remains to be done?

A: We are just beginning and we are on schedule. However, all that needs to be done to complete BearWorks will take years.

Actions that we could undertake immediately, we did. To see progress in other areas, people will need patience. Some actions call for more planning to do things right.

Some of the biggest changes are occurring in Academic Affairs, where we are realigning academic programs to ensure that the ways we teach and learn are the best possible.

Q: As we look ahead to the next semester, what can we expect from BearWorks?

A: Under BearWorks, I look forward to more activity on the academic side. We will look at academic programs, pedagogy, advising and ways to define and strengthen academic quality. All of this is a parallel effort to the reaccreditation process by the Commission on Institutions of Higher Education of the New England Association of Schools and Colleges (NEASC), which has a campus visit in April.

It is useful for every employee and student to be familiar with BearWorks; there are enormous opportunities for people to step in and help. Everyone could adopt a particular task and get involved without waiting to be asked. For some, that’s already happening. So many people have stepped forward and volunteered. There is great awareness of what the University is trying to do.

BearWorks is a living document. It will continue to change, especially when the new cabinet is in place. I expect by the end of the academic year, we will look at what we’ve achieved, engage the campus community for input, and see what we need to do to update BearWorks for the future.

Q: In five years, what will the University of Maine look like as a result of BearWorks?

A: Five years out, we will see a physical difference in the University of Maine, with new and renovated buildings. There should be discernible enhancement in faculty, and programs and resources available to faculty, staff and students. We will see more new faculty and more diversity in the new faculty. There will be measurable outcomes – educational, research, economic. In five years, we will see statewide support and pride in the flagship university. The resources will be coming in to help us do our work.

What I hope most people understand is that many things have happened at UMaine that wouldn’t have without BearWorks. And BearWorks is successful because it is a consensus document, an expression of our shared vision and hopes for this University.

BearWorks is a tool to move the University forward. In 10 years, people will be saying that the University of Maine has come a long way. ▲

Remote Access *continued from page 2*

to promote responsible use of the modem pool. With a charge plan, people will modify their behavior, including not being as eager to divulge their passwords."

UMaine is the last campus in the University of Maine System to fall under the new modem management policy. A remote access user fee program was piloted at USM for more than a year. In October, USM was followed by System campuses in Augusta, Presque Isle, Fort Kent and Lewiston. University of Maine at Machias started remote access billing in November and University of Maine at Farmington Dec. 1.

On each campus, UNET offered 30 free hours of Internet access each month per user; as of Dec. 1, all other System campuses went to 50 free hours a month. Under the 30-hour plan, a 100-hour remote access user paid \$42 a month; now under the 50-hour plan, the same user pays \$15 a month.

"At USM, the parameter was 30 hours a month of free usage and it worked well for them," says John Grover, UNET Operations Manager. "But USM does not have the same situation as UMaine. The biggest difference is UMaine's wider deployment of Web-based instruction and instructional resources."

At UMaine, usage times per person range from minutes a month to nearly continuous, 24-hour access by some people. On average, 90 percent of users remote accessed the UMaine modem pool less than 30 hours a month in February of last year.

IT first offered free remote access to members of the University community in the early 1990s; UNET since the mid 1980s. In recent years, the "obvious manifestation" of an inadequate remote access system was the number of times users got busy signals.

"There were people who were getting more than their fair share of modem time," says Grover. "The effect of that was denying other people access. We looked at what would be a fair share of remote access and how to provide incentives so everyone has opportunities."

This summer, IT and UNET consolidated their modem pools at UMaine. The benefits, says Patton, include access via one phone number (990-0737), as well as increased diversity of usage. Now, instead of two pools containing a mix of slow and fast modems, the University has 168 high-speed modems, including 120 newly purchased by UNET, all running at 56 kbs per second.

BearWorks, the University of Maine action plan, calls for increased remote access and more reliability, says Patton. "By consolidating the modem pool, we already have improvements in service, and based on the experiences with charging plans on other campuses, we don't anticipate many busy signals for a while."

IT announced it was considering establishing a remote access fee structure in August. "The initial reaction in the University community was unfavorable," says Patton. "But in talking with people, we made it clear this was not a knee-jerk reaction; a lot of issues prompted the need for this. Once people hear those needs, they begin to understand."

Off-campus students argue that they should have the same easy Internet access from home that residential students have paying \$100 annually for connectivity in their rooms, or by taking a short walk to a computer cluster. When off-campus students come to campus for free access, they encounter waiting lines for the clusters. However, free or low-cost connectivity, like cable and phone, remains an advantage of being on campus.

Nationwide, colleges and universities are increasingly outsourcing remote access service. In Maine, remote access grew out of an academic service only the University was providing. "An analogy is if cable television, a consumer service, had its roots in academia. Surely, it must be obvious the University should not be in the cable TV business now," says Patton.

"Internet connectivity is quickly becoming a consumer service, and we will one day conclude that the University should not be in the consumer-oriented Internet business either. And the University is not the only Internet service provider in town any more. I can understand UNET's role, because there is no single statewide ISP that can provide for the System's needs. However, that situation may change in the near future," Patton says.

The University doesn't pay for textbooks or the gas for students and employees to get to campus. People don't get phone service for free, says Patton. Yet with remote access, people have grown up with the concept that data is free.

"That image has to change," he says. "It used to be that the major telecommunications companies invested in voice services and the data came along for the ride. Now, the major investment is in data services, and voice services are becoming less significant. The same trend is seen at the University level."

With the modem pool consolidation, UMaine no longer directly supports remote access. However, IT will work with UNET to provide support for Orono users through its Help Center. By combining remote user support efforts, IT will be able to better focus on other on-campus technology and computer user support.

As of Dec. 1, IT is directed by John Gregory, who joins UMaine from Slippery Rock University of Pennsylvania, where he was assistant vice president of information and instructional technologies. ▲

Abilities *continued from page 8*

During his years at the University, Picard has been one of the most loyal fans of UMaine women's basketball. He spent the past three spring breaks on the road supporting the Black Bears. He has missed only two home games in the three years that he has been at UMaine.

Picard works at the Center for Community Inclusion, Maine's University-Affiliated Program, updating a project of the center's Website (www.ume.maine.edu/~cci/odis/) with information for students with disabilities who are seeking opportunities for post-secondary education, responding to e-mail, and guest speaking in UMaine classes and at area schools and businesses. Picard is hoping to continue working at the center after graduation. He would also like to design Websites like the one he made for himself (www.umcs.maine.edu/~captainp/). He plans to keep developing his own website about services for people with disabilities and his motivational speeches, which he hopes to do all over the country.

Two summers ago, Picard completed a 150-hour practicum with UNUM Corp., as part of his concentration in disability studies. He was the first business major to undertake the practicum.

Picard's future is bright, but like any college student, there were times when he thought he wouldn't make it to graduation.

"If I didn't have the support from my family and teachers, I wouldn't have gotten where I am today," Picard says.

Among those Picard looks to for inspiration are his sister Aimee, who next year will be a student in the College of Education and Human Development, and his aunt Kathy, who battled cancer for 10 years and whose strength continues to serve as a model for Picard's life.

Picard says graduation will be a joyful time for him. He will be surrounded by the family that has supported him since birth.

"My parents did go on with their lives [after I was born], but they took me with them." ▲

Positions Available

The qualifications within the listings below are greatly abbreviated. In order to assess your background relative to the job and to submit the most effective application, contact the hiring department for more complete information. Guidelines for filling professional positions are available by contacting the Office of Equal Opportunity, x1226. A Request to Fill form must be approved before posting in Maine Perspective.

Assistant/Associate Professor, Department of Chemistry. Tenure-track position in analytical or organic chemistry. Teaching duties will include introductory offerings through graduate level courses in specialty. Qualifications: Required: Earned Ph.D. in chemistry by time of appointment; demonstrated teaching and research abilities; demonstrated ability to establish a vigorous well-funded research program. All areas of analytical and organic chemistry will be considered, but applications from individuals whose research is focused on materials chemistry and is complementary to existing campus-wide programs in surface and interface science, biotechnology, and polymer science are especially encouraged. Highly Desirable: Post-doctoral experience. Review of Applications: Will begin 1/2/99 and continue until position has been filled. Contact: Send C.V., description of research accomplishments and research plan, statement of teaching philosophy, and have three letters of reference sent to: Chair, Search Committee, Department of Chemistry, University of Maine, 5706 Aubert Hall, Orono, ME 04469-5706.

Assistant or Associate Professors (2) (in solid mechanics area), Department of Mechanical Engineering. Tenure-track positions. Qualifications: Ph.D. or equivalent degree in mechanical engineering or a closely related field; demonstrated commitment to excellence in undergraduate and graduate teaching and to development of a research program. Primary consideration will be given to candidates with an interest in research in composite materials. Review of Applications: Will begin immediately and continue until positions are filled. Start Dates: 9/1/99. Contact: Send curriculum vitae, along with a clear statement of teaching interests and plans for developing research program, and names, addresses and phone numbers of at least three references to: Professor Richard Messier, Recruitment Committee Chair, University of Maine, 5711 Boardman Hall, Orono, ME 04469-5711.

Assistant to Associate Professors (3), Department of Computer Science. Tenure-track positions. These positions are part of a planned expansion of the faculty over the next two years. Qualifications: Ph.D. in computer science or related discipline. Preference given to candidates with strong background in database management, digital communications/networking, distributed and parallel systems, graphics, operating systems, or programming languages. Actively seeking individuals whose research has interdisciplinary components/potential. Candidates who have demonstrated exceptional abilities in other areas of research, including multi-disciplinary applications, are encouraged to apply. Review of Applications: Will begin 1/5/99 and continue until the positions are filled. Start Date: 9/99. Contact: Send letter of application, statement of research interests, resume, and three letters of reference to: Professor Thomas Byther, University of Maine, 5752 Neville Hall, Orono, ME 04469-5752.

Assistant/Associate Professor (2), School of Nursing. Full-time, tenure-track positions. Rank will be determined at time of appointment, dependent upon qualifications and experience. Qualifications: Completed doctorate (preferably in nursing), master's degree in nursing, previous teaching experience preferred. One position's primary assignment is in undergraduate acute adult health nursing, including, but not limited to, teaching and clinical supervision of students. The other position's primary responsibility is as RN Studies Coordinator. Review of Applications: Will begin 12/1/98 and continue until positions are filled. Positions Available: 9/1/99. Contact: Send current vitae and names of three references to: Elizabeth Bicknell, Chair, Search Committee, School of Nursing, University of Maine, Room 217, 5724 Dunn Hall, Orono, ME 04469-5724.

SNOW LINE AVAILABLE

Information about the University's class schedule during inclement weather can now be obtained by calling 581-SNOW. A toll-free line is available by adding the 1-800 prefix. The recorded message will provide general information about postponements or cancellations due to a storm.

Assistant/Associate Professor (social/cultural anthropology), Department of Anthropology. Tenure-track academic year position, which includes the directorship of the Maine Folklife Center. Rank will be dependent on qualifications and experience. Qualifications: Required: Earned Ph.D. in social/cultural anthropology or folklore by the time of appointment and qualified to teach courses in both areas and excellence in teaching and research. Preferred: Experience in administration and grant-writing as well as research interests in Native American culture and northeastern North America. Review of Applications: Will begin 2/15/99. Contact: Send letter of application that includes a statement of teaching philosophy and description of research, C.V., names and addresses of three references to: Chair, Search Committee, Department of Anthropology, University of Maine, Room 106A, 5773 South Stevens Hall, Orono, ME 04469-5773. For further information, check website at <http://www.ume.maine.edu/~anthrop/>

News Writers (2), Department of Public Affairs. (Position 1) nine-month (September-May) appointment and (position 2) full-time fiscal-year appointment. Qualifications (for both): Required: Bachelor's or higher degree from an accredited college or university, with demonstrated major coursework or continuing education in journalism or English and emphasis on writing. Substantial news writing with a daily newspaper or major weekly (or similar) experience, including coverage of arts and humanities and education, with demonstrated interview/news writing skills; ability to communicate concisely and clearly both orally and in writing (critical); ability to work constructively and collaboratively with co-workers and news subjects; initiative, discretion, understanding of and working relationships with the news media; ability to relate to the people and programs of a diverse academic community; knowledge of word processing. Preferred: Experience with local, state, national and international media through professional contacts, as well as familiarity with the research, teaching and public service mission of land-grant universities. Strongly Desired: Professional experience in a university or college media relations office. Desired: Familiarity with Macintosh environment and strong arts and humanities background. Salary Range: (Position 1) \$19,500-\$22,125; (Position 2) \$26,000-\$29,500. Review of Applications (for both): Will begin 12/28/98 and continue until a suitable candidate is found. Contact (for both): Send cover letter, resume, names of three references, and writing samples to: John Diamond, Director of Public Affairs, University of Maine, 5761 Keyo Public Affairs Building, Orono, ME 04469-5761.

Vice President for Academic Affairs and Provost, Office of the President. Ongoing, full-time position. The Vice President for Academic Affairs and Provost is the chief academic officer of the University. Reporting to the President, the Vice President/Provost provides leadership and supervision for all academic programs, administers the academic budget, participates in institutional planning, and advises the President on all matters relating to the academic functions of the University. Qualifications: An earned doctorate or other appropriate terminal degree; successful academic administration experience and achievement, preferably at a land-grant or research-oriented comprehensive university; an awareness of the essential balance among teaching, research, and public service at a land- and sea-grant university; successful experience in positions of increasing responsibility typically at the level of dean or higher; a keen understanding of the role and respect for the character of the University's many constituencies, and a demonstrated capacity to communicate clearly and effectively with these groups; demonstrated skills in cultivating excellence in scholarship, teaching, and public service; a record of distinction in teaching and scholarship or creative activity; and a strong record of achievement in advancing cultural diversity and gender equity. Salary: Negotiable and commensurate with experience. Review of Applications: Will begin 2/01/99 and will continue until the position is filled. Contact: Send letter of application, curriculum vitae, and the names, addresses and telephone numbers of five references to: Bruce Wiersma, Office of the President, 5703 Alumni Hall, Room 200, University of Maine, Orono, ME 04473-5703.

The University of Maine does not discriminate on the basis of race, color, religion, sex, sexual orientation, national origin or citizenship status, age, disability or veteran status, and promotes affirmative action for women, minorities, persons with disabilities and veterans. Unless otherwise specified, the jobs are full-time and the address for the application information is: contact person, department, University of Maine, Orono, ME 04469.

Maureen Henry, R.N.C Respiratory Clinic, Cutler Health Center, presented Nov. 3 to Professor **Nellie Orr's** kinesiology class on "Prevention of Diseases," focusing on cardio-pulmonary diseases and risk factors, as well as preventative measures and new medications. Also presenting was **Jane Jagels**, R.N., Women's Health Area, Cutler Health Center,

on "Cancer STD's, Osteoporosis, Cardio-Pulmonary Diseases." In addition, Henry presented Nov. 7 to the Maine School Age Care Alliance, Samoset Resort, Rockland, on asthma. Nov. 9, Orono Middle School, Henry presented to a 7th grade guidance class on smoking and smoking cessation, and performed several pulmonary function tests. Henry facilitated observation of the Great American Smokeout Nov 19 at Cutler Health Center, distributing information on smoking and smoking cessation, and offering pulmonary function testing. Henry also is presenting to the UMaine baseball team on chewing tobacco.

Dale Violette, hazardous materials assistant, Department of Environmental Health and Safety, was one of more than 30,000 athletes who participated in the New York City Marathon, Nov. 1. Violette finished in four plus hours. This was Violette's first New York City Marathon and his third overall in the 20 years he's been running on and off.

Stephen Marks, professor of sociology, attended the annual meetings of the National Council on Family Relations, Nov. 11-16, Milwaukee.

At the CEAC Development Days Nov. 19, Memorial Union, **Andi Phelan**, M.L.T., and **Sally McKinnon**, R.N., represented Cutler Health Center in providing blood glucose, cholesterol, blood pressure and pulse screenings.

Professor **Dennis Cox**, Music, conducted the University Singers in a concert at Cony High School, Augusta, Nov. 13. The concert was sponsored by the Kennebec Valley Alumni Association. Nov. 17, Cox spoke to four classes for Career Day at Ellsworth High School. Nov. 19, Cox conducted the Hampden Academy Chamber Singers in a workshop on the Mozart *Regina Coeli*.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE HONORS UMAINE BIOLOGIST

Bruce Sidell, the director of the School of Marine Sciences, has been awarded the distinction of AAAS Fellow by the American Association for the Advancement of Science for his contributions to science. Sidell is the only scientist from Maine honored among the 283 award recipients this year.

A ceremony will be held at the organization's annual meeting in Anaheim in February. According to a AAAS letter announcing the award, Sidell is being honored "for pathbreaking studies on cold water adaptations of fishes."

"Of course, I am personally gratified by my selection," says Sidell. "My election to Fellowship reflects directly upon the work of many of my graduate students and postdoctoral fellows over the years. Perhaps more importantly, however, I hope that this honor is seen as a broader indication of the quality of many of our research programs at the University of Maine."

Research in Sidell's lab currently focuses on the physiology and biochemistry of Antarctic icefishes which provide a model for understanding how animals adapt to stress. The icefish family is one of a group of fishes which have evolved to dominate the fish populations of the southern ocean surrounding Antarctica. Icefish have unique characteristics including large hearts and a lack of oxygen-carrying hemoglobin in their blood.

Other UMaine faculty who have received the AAAS Fellow distinction in the past include Robert Steneck, also of the School of Marine Sciences, and Malcolm Shick and Ronald Davis of the Department of Biological Sciences.

Fellows are nominated by a steering group of scientists within their disciplines, or by three Fellows, or the AAAS Executive Officer. Approval comes from the AAAS Council. Founded in 1848, AAAS has more than 144,000 members and publishes the weekly journal *Science*.

The following papers were presented at the annual American Society of Agronomy meeting in Baltimore, Oct. 18-22: "Allelopathic Potential of Red Clover Residue," **Tsutomu Ohno**, associate professor of soil chemistry; **Kristan Doolan**, former graduate student in Plant, Soil & Environmental Sciences; Larry Zibilske, USDA-ARS, Weslaco, Texas; Matt Liebman, Iowa State University; Eric Gallandt, Washington State University; **Christi Berube**, science technician; and **M. Susan Erich**, associate professor of plant & soil chemistry. Also "Disease Incidence and Growth of Wild Mustard Seedlings Grown in Red Clover and Clover Amended Soils," **Anne Conklin**, PSE graduate student; Erich; Liebman; and **David Lambert**, associate professor of plant pathology.

Paul Grosswiler, associate professor of journalism and mass communication, presented an invited research paper, "The Marriage of McLuhan and Marx: Hold the Wedding, or the Odd Couple?" to the "Many Dimensions: Extensions of Marshall McLuhan" conference at the McLuhan Program in Culture and Technology, University of Toronto, Ontario, Oct. 23-25. The conference was part of the two-week Coach House Festival, celebrating the 30th anniversary of the establishment of Marshall McLuhan's research and teaching facility at Toronto.

College of Education and Human Development faculty presenting at the annual fall conference of the Maine Principals' Association in Portland, Nov. 18-20 were: **Edward Brazee**, "As Maine Goes, So Goes the Nation: A Study of Maine's Middle Level Schools"; **Gordon Donaldson**, "Leading Secondary School Improvement: Challenges and Opportunities"; **Jim Artesani** and **Walter Harris**, "Challenging Behaviors in Schools: Perspectives from Maine Principals"; and **Lorie Lindyberg**, director of the Sports, Schools and Learning Results Project, "Aligning Athletic Program Goals with Learning Results."

Steve Sader, professor of forest resources, participated in a press conference in Guatemala City, Nov. 20, with Conservation International and Consejo Nacional De Areas Protegidas (CONAP). The event, "La Biosfera Maya Desde El Espacio: Una Vision Actual," held at the Marriot Hotel, highlighted research being conducted at the Maine Image Analysis Laboratory in the Department of Forest Management, in cooperation with NASA-Marshall Space Flight Center and Conservation International, ProPeten program in Flores, Guatemala. The event was reported by the major television, radio and newspapers in Guatemala.

Merrill Elias, professor of psychology, along with Penelope Elias, Ralph D-Agostino Jr., Hait Silbershatz and Philip Wolf, Boston University, presented a paper at the American Heart Association Convention, Dallas, Nov. 8-11. The presentation was "Cardiovascular Risk Impacts Negatively on Cognitive Ability: More Risks, More Deficit: The Framingham Study." In addition, Merrill Elias, along with **Michael Robbins**, University of Maine; Penelope Elias, Boston University; and David Streeten, SUNY HSC, Syracuse, presented a poster at the American Heart Association Convention: "Cognitive Ability Declines as a Function of Blood Pressure Level."

Sergey Lvin, lecturer of mathematics, presented a talk, "Resonance in an Exotic Oscillator," at Bowdoin College Nov. 19. He repeated the talk at the University of Southern Maine Dec. 3.

Steve Kahl, director of the Water Research Institute, attended the Board of Directors meeting of the National Institutes for Water Resources in Washington, D.C., Nov. 24. Kahl is the New England representative to the Board.

Michael Howard, associate professor of philosophy, delivered a paper on "Economic Democracy: Problems and Prospects" at the Third International Conference of the Radical Philosophy Association, San Francisco State University, Nov. 5-8.

Pianist **Patricia Stowell** of Orono was a guest performer Nov. 2 for "American Music Week in Bulgaria," presented by the Fine Arts Program at American University, Blagoevgrad. Under the coordination of Fine Arts Director and cellist Geoffrey Dean, Stowell presented several master classes to AUBG students Oct. 29. She also presented at the National Music School and State Music Academy in Sofia Oct. 31. The performance in Sofia's Bulgaria Hall was American music, celebrating the anniversaries of four American composers: Elliott Carter, George Rochberg, Roy Harris and George Gershwin. Angel Stankov, violinist and concert master of the Sofia Philharmonic, joined Stowell and Dean in two works, broadcast over Bulgarian national radio and television. The week-long festival is the first of its kind in Bulgaria, where the arts continue to thrive despite economic constraints. Stowell, who is an active performer and instructor in New England, contributed her artistry as an independent musician and board member of the Maine Center for the Arts.

Marisue Pickering, professor of communication sciences and disorders, was the recipient of a 1998 Dean Arthur Herbert Wilde Society Award, a Boston University School of Education Alumni Award honoring outstanding alumni.

Several members of the Department of Communication Sciences and Disorders presented at the Annual Convention of the American Speech-Language-Hearing Association (ASHA): **Marisue Pickering**, professor of communication sciences and disorders, two poster presentations, "Think Global: Reciprocal Certification Agreements in Audiology and Speech-Language Pathology," with members of ASHA and the Canadian Association of Speech-Language Pathologists and Audiologists; and "The International Affairs Association: Networking Around the Globe," with T. Whitehill (University of Hong Kong), N. Hedberg (University of Colorado), C. Westby (Wichita State University), and L.L. Cheng (California State University). **D. Kimbrough Oller**, professor of communication sciences and disorders, presented as part of the "NIDCD-Sponsored Research Symposium: Infant-Toddler Development," with E. Bates (University of California, SD), P. Jusczyk (Johns Hopkins University), R. Paul (Southern Connecticut State University), A. Meltzoff (University of Washington), E. Thelen (Indiana University), and C. Bolick (University of Arizona). Also, with C. Stoel-Gammon (University of Washington) and D. Ertmer (Purdue University), a session, "Prelinguistic Vocal Development: Typical and Atypical Patterns." With former graduate students **Susan Burgess** and **Jennifer Haley**, and **Susan Riley**, lecturer and staff speech-language pathologist, a poster presentation, "A Systemic Approach to Service Delivery in a Mental Health Setting." With Burgess, **Nancy Hall**, assistant professor of communication sciences and disorders, a poster presentation, "Relationship Between Language and Fluency in Preschool Children."

Polly Moutevelis Karris, director of the Employee Assistance Program, gave two presentations, "Diversity in the Workplace" and "Workplace Violence and Fitness for Duty," at the International Association of Employee Assistance Professionals in Education's 1998 Annual Conference, Las Vegas, Nov. 8-9.

Judy Walker, assistant professor of communication sciences and disorders, attended the Academy of Aphasia Conference in Santa Fe, Oct. 31-Nov. 4.

Marc Baranowski, associate professor of human development, and Gary Schillmoeller, associate professor of child development and family relations, presented a paper, "Intergenerational Support in Families with Disabilities: Grandparents' Perceptions," at the National Council on Family Relations Annual Conference, Milwaukee, Nov. 14-17.

Amyl Ghanem, assistant professor of chemical engineering, presented a paper, "Application of a Novel Packed Bed Cell Culture Analog Bioreactor and a Corresponding Pharmacokinetic Model to Naphthalene Toxicology," at the annual meeting of the American Institute of Chemical Engineers, Nov. 15-20, Miami Beach. Co-author was Mike Shuler, Samuel B. Eckert Professor of Engineering, Cornell University.

Steven Cohn and **Kyriacos Markides**: "Religion and Spiritual Experience: Revisiting Key Assumptions in Sociology," *The Maine Scholar, a Journal of Ideas and Public Affairs*, 11:25-35 (Autumn 1998).

Howard Patterson, professor of chemistry, with **Mohammad Omary**, former Ph.D. student in chemistry and presently an instructor at Colby College: "Luminescent Homoatomic Exciplexes in Dicyanoargentate (I) Ions Doped in Alkali Halide Crystals. 1. 'Exciplex Tuning' by Site-Selective Excitation," *Journal of the American Chemical Society*, 121:7696-705 (1998).

Feng Fang, former graduate student in ecology and environmental science, and **Sofian Kanan**, graduate student in chemistry, with **Howard Patterson**, professor of chemistry, and **Christopher Cronan**, professor of the graduate program in ecology and environmental science: "A Spectrofluorimetric Study of the Binding of Carbofuran, Carbaryl and Aldicarb with Dissolved Organic Matter," *Analytica Chimica Acta*, 373: 139-51 (1998).

Kristin Langellier, professor, communication and journalism: "Voiceless Bodies, Bodiless Voices: The Future of Personal Narrative Performance," in S. J. Dailey (Ed.), *The Future of Performance Studies: Visions and Revisions* (pp. 207-13), Annandale, Vir.: National Communication Association (1998).

Behaviors *continued from page 2*

The report, "Principals' Perspectives on Challenging Behaviors in Maine Schools," sponsored by the UMaine-Maine Principals' Association Research Partnership, was presented and discussed Nov. 20 at a seminar on challenging behaviors, held in conjunction with the Maine Principals' Association's annual fall conference in Portland.

"We now have an idea of the major behavioral issues being exhibited in Maine schools," says lead author Jim Artesani, assistant professor of special education. The report documents that there is a group of students – 2-5 percent in any given school – that seems impervious to all efforts and with needs so complex that any effective intervention requires the involvement of communities and service agencies, according to Artesani. "It's common with what we see in the national literature," he says.

Principals described behaviors that fall into three major categories: defiant, which includes non-compliance with rules, insubordination, disrespect, resistance and refusal; aggressive, which physically hurts another individual, such as fighting, throwing objects, kicking, assaulting and ripping things off walls; and harassment, such as name calling, verbal and physical intimidation and bullying. The principals noted that fighting is often a result of verbal and physical harassment that took place earlier.

The report documents that most schools are trying to manage problem behavior with existing personnel, with teachers as the first line of defense, particularly those trained in crisis intervention or behavioral programming. Schools are also drawing upon a wide array of resources, including other in-house personnel such as special education and guidance staff, educational technicians and social workers, as well as outside specialists, parents and peers to help develop appropriate interventions and support services.

Encouraging the development of pro-social skills has always been a natural, informal part of what schools do, according to Professor Walter Harris, a specialist in behavioral disorders who also worked on the report. "Principals and teachers are beginning to realize that this previously hidden curriculum needs to become an explicit, visible, well-planned part of a school's overall mission and expectations that represent community values," Harris says. "Some schools are beginning to address this task, but many are reluctant to do so, believing that values and social behaviors are the exclusive province of home and family."

Teaching pro-social behaviors based on community values is not a complex matter, according to Harris, but it requires community support and sustained attention and commitment from teachers and administrators.

Artesani emphasizes that communities need to know what schools are coping with in terms of student behavior. "Kids should not have to be shot to grab the headlines," he says. "The fact that they are getting into fights, being defiant and harassing one another and teachers should be enough to get public attention and helpful response."

Researchers' recommendations for schools include:

- ▼ Conducting a systematic evaluation of challenging behaviors in individual schools
- ▼ Clarifying school and parental expectations around behavior
- ▼ Developing a set of schoolwide values concerning student behavior and principles upon which rules can be developed
- ▼ Developing a schoolwide discipline plan in conjunction with community agencies
- ▼ Developing a statewide Web page on the issue, with links to other related pages and a bulletin board for posting information and posing questions
- ▼ Developing working relationships with parents prior to the advent of behavioral problems. ▲

Maine Perspective classified ads are free to faculty, staff and students at the University of Maine. Ads must be typewritten and include a telephone number. They will be published one week only unless otherwise specified. Send ads to: Maine Perspective Classifieds, Public Affairs.

FOR SALE

AUTOMOBILE: 1989 Chevy S10 Blazer. 2-DR, AT, 4x4, V6, 5-spd., AC, cruise. One owner. New

battery. 89k miles. \$3,700. Call 827-2859.

BABY ITEMS: Toddler car seat, \$10; cloth diapers and covers, \$20 for everything you need; warm air vaporizer, used once, \$5. Call 379-2459.

CHRISTMAS WREATHS: Double-sided, 22-24" Balsam fir wreaths. Tastefully decorated with pine cones, holly berries and large red velvet bow. \$23.95 - shipped anywhere in the continental U.S.; \$19.95 campus-delivered. Call 374-9958 after 5 p.m., weekdays or anytime weekends. Leave message.

HARVEST IS IN AT ROGERS FARM

Potatoes, 50-pound bags, Shepardy or Red Norland - \$7
Dry beans, Jacob's Cattle, Soldier, Yellow Eye or Marifax - \$1.25/lb.
For more information, call 827-4695.

FOR RENT

APARTMENT: Orono. Large, sunny, 2-BR apartment with river views. Quiet, private location for responsible adults or a family. Convenient to UMaine. A must-see. \$550

plus utilities. No pets. Call 348-6764 or leave message, 348-5243.

APARTMENT: Starting Jan. 1. Orono, walking distance to campus. Sunny 1-BR, very quiet. Great neighborhood, a must-see apartment. \$400 + pay small electric bill. Small cat OK. Call 866-3872.

HOUSE: Available mid-December-June 1. 566 College Ave., Old Town, by University Dairy Road and fields. Eat-in kitchen, porch, nice yard, oil heat. Unfurnished. \$765/mo., not including utilities (oil, electricity, water, gas, sewer). Call Scott, 866-5509, for more information.

ROOM: Share lovely 2-BR, quiet Bangor home with owner. Cost negotiable in exchange for help with household responsibilities. Ideal for faculty, staff, graduate student. Call 942-9846.

SERVICES

FINANCIAL SERVICES AND RETIREMENT PLANNING: Jane Campbell Brann, VALIC Retirement Plan specialist, is available for individual or group assistance at the University every Tuesday or by appointment. Call 732-4955 or leave voice mail at 800-448-2542, x89272. Visit us at www.valic.com.

TREE REMOVAL SERVICE: Free estimates, many references. Seasoned firewood \$70 per 1/2 cord or \$130/cord, delivered. Commercial woodsplitter rental, 4-way wedge, free delivery, \$65/day or \$100/2 days. Call Gordon, 866-7034.

WANTED

CARPPOOL: Transportation needed week-ends from Old Town to EMMC. Arrival 6:40 a.m. for 8-hour shift. Call 827-5379.

Book Ends

New & Noteworthy at the University Bookstore

▼ Books make the perfect holiday gift. Hopefully you've received one of our holiday gift book catalogs in campus mail or with the *Bangor Daily News*. They are teeming with great ideas for book giving. The Bookstore is well stocked with those selections, as well as holiday books for Christmas, Hanukkah and Kwanzaa. Through Dec. 24, great bargains are offered on general books, clothing and UMaine gift items.

▼ For the Beanie Baby enthusiast, the bookstore now has a wide assortment of the plush creatures, as well as other Ty collectibles. Books on Beanies abound! The Winter 1999 edition of *The Collector's Guide to Ty Beanie Babies* is now available. Other titles include *The Complete Idiot's Guide to Beanie Babies*, *The Pocket Idiot's Guide to Beanie Babies*, *Beanie Mania: The Complete Collector's Guide*, and *The Beanie Family Album and Collector's Guide*.

▼ *Magnetic Poetry* is a great gift idea for young and old on your shopping list. The Bookstore has stocked up on *Magnetic Poetry's* great new line of kits and products just in time for the holidays. Specialty kits make the perfect gift for the budding refrigerator poet on your list. There's the *Holiday Kit* containing green words and icons; colorful *Magnetic Shapes*; *Magnetic Coffee Mug* with words; the *Yiddish Kit*; new black & natural *Magnetic Frames* with words; the *Magnetic Lunch Box* with words; *Portrait Shapes*; and *Magnetic Paint* for creating your own poetry-making space (magnetize a chalk board, a closet door, a canvas - anything) So, as the *Magnetic Poetry* people say, "Deck the fridge with yuletide banter, fa-la-la-la-la-la-la-la."

▼ Extended Holiday Hours: Through Dec. 18 - Monday-Thursday, 8 a.m.-6 p.m.; Friday, 8 a.m.-4:30 p.m.; and Saturday, 10 a.m.-4 p.m.
Dec. 19 - 9 a.m.-4 p.m.
Dec. 21-Dec. 24 - 8 a.m.-5 p.m.

HOLIDAY CD MADE WITH MINSKY'S HIGH-TECH EQUIPMENT

Just in time for the holidays, the choral group Impromptu!, which includes four members of the University community, has released its first compact disc. The CD was recorded with the University of Maine's new state-of-the-art digital recording equipment in Minsky Recital Hall.

The CD, *Above All the Bustle*, is a collection of classical, traditional and contemporary Christmas songs performed *a cappella*.

The group, which evolved out of the pre-show entertainment for the Penobscot Theatre's summer Shakespeare Festival on the Bangor riverfront, includes UMaine student Luke Hedge; Francis Vogt, a voice instructor in the School of Performing Arts; and alumni Todd Lake and Jon Hawley.

Minsky Recital Hall in Class of 1944 Hall contains a 16-track digital recording system, comparable to that used by million-selling recording artists. The system, installed last spring, gives students hands-on experience and training in recording technology.

SUMMER FACULTY RESEARCH FUND AWARD DEADLINE

REMINDER: The deadline for receipt of proposals for the Summer Faculty Research Fund Award is Dec. 16.

The Summer Faculty Research Fund Award provides \$5,000 awards for faculty summer salaries for a minimum 1.5-month research effort.

The purpose of these funds is to stimulate and assist individual members of the faculty to initiate or redirect research or studies of a scholarly nature. Eligibility is limited to full-time faculty. This includes tenured, tenure-eligible, and soft-money faculty for whom research is an expected component of their appointment. Faculty are eligible to receive this award every three years. Proposals will not be considered from individuals with delinquent reports from any previous Faculty Research Funds Awards.

The Faculty Research Funds Committee represents a broad range of disciplines from the entire University of Maine faculty. Consequently, proposals should be written for a general audience (except the Methods and Materials section, where discipline-specific details are necessary). Applicants may contact Gayle Anderson, x1498, to review successful applications kept on file in Research and Sponsored Programs.

Approximately \$70,000 is budgeted for the Summer Faculty Research Fund Award (14 awards are expected to be made).

Application packages are available in the Offices of the Deans and in the Office of Research and Sponsored Programs, 424 Corbett Hall, x1498. Applicants should make sure they use this year's packages.



**The Combined Charitable Appeal
for University Employees
total as of Dec. 1:
\$53,000.**

EMPLOYEE ASSISTANCE PROGRAM SERVICES AVAILABLE

The Employee Assistance Program (EAP) provides free, short-term counseling and professional consultation services for all active and retired faculty and staff, and their immediate family members who have personal or work-related concerns. This confidential resource assists employees with a range of issues, such as occupational or personal stress; conflict resolution; anxiety disorders, such as phobias and panic attacks; marital and family issues; single parenting; legal referrals; relationship conflict, personal or at work; alcohol and drug misuse and dependency; burnout; depression; career decisions; divorce; financial concerns; and eldercare.

When a referral is needed, links are made with carefully screened community resources (therapists, psychiatrists, lawyers, physicians, financial consultants, etc.). Confidentiality is EAP's most critical component. All contacts are strictly confidential. No information, including participation in EAP, is disclosed without written client authorization. EAP office hours are Monday-Friday, 8 a.m.-4:40 p.m., including the noon hour. Accommodations for appointments can be made. Call 581-4014.

Viewpoints is the opinion page of *Maine Perspective*, offered in an effort to enhance and spark dialogue on campus on issues related to the University and the state, written by experts in their academic/professional areas.

Obstacles to Peace

Living as we are in a time of disintegration of civil society in many parts of the world, with "dirty wars" becoming more prevalent (or more obvious), it is an important exercise to focus on peace: the meaning of peace, and the obstacles which prevent peace. If war is armed conflict between opposing factions, is peace the absence of the same? Or is peace a far more subtle and encompassing idea, a measure of inter-human value measurable by other means?

I do not believe that war and peace are necessarily mutually exclusive. Peace does not exist, for instance, where fear and social unease exist despite stable governments. Peace is not present where women must be safeguarded, or where parents fear for their children. Peace is missing not only in Somalia and Yugoslavia, but also in inner cities, crowded schools and many fundamentalist and/or patriarchal governments, societies and structures.

The question, then, is this: What are the obstacles to true peace – those destructive beliefs and perceptions whose recognition and mending would play across the spectrum of war and that which is not armed conflict, yet far from peace? What appear to be many answers may in fact be reduced to a common factor.

At first glance, the terms cynicism and hedonism, or perhaps greed, come to mind. Cynicism, as truth is manipulated for gain by those in power, plays well with the hedonistic belief of powerful people that they deserve all they can get – power, prestige, pleasure and wealth. Ideologies, however, do not always fit this definition; they are sure that their way is the only right way and must be imposed on others, often at great cost to themselves. The dominance/dependence cycle of inequality fits both of the above propositions and has been recorded many times by history. Its fostering and perpetuating of unrest often ends in wars, civil and otherwise, as communities form around the injustices imposed upon them.

It seems to me that the common denominator of these various structures, and the most basic obstacle to peace, is the construct of self/other. The failure to recognize our common humanity, and



Leslie Nesin

to respect and value that humanity, is the most powerful divisor between and among peoples; to recognize "other" as one's brother or sister is to immediately lower the possibility of hatred, of the perception of evil or threat, and of the need to eliminate that threat. Sadly, that perception of human brotherhood is continually battered by propaganda aimed at demonization, dehumanization and ultimately reification of those whom we fear or do not understand. Heads of world powers use such language about each other's countries as "the great whore" or "the evil empire." Where are our brothers' and sisters' faces in those crowds? The same sort of language is found in schoolyards, where "nigger" or "fag" or "bitch" are used thoughtlessly, hurtfully and often violently, and find their way into the ordinary way of thinking of children. This sort of deep belief lies in the Hutu/Tutsi problem, in apartheid countries, or in the Middle East on a larger scale but (is) one that is no more harmful to society than those schoolyard, coffeehouse or workplace name-calls.

There are examples of overcoming the reification of others, of coming to terms with and dismissing violence. One of these is found in the story of Mozambique's civil war. As the Frelimo's stable Marxist government was engaged in a very dirty war with the Remanos, funded and armed from the outside, the population knitted together a framework of survival and healing that reached across differing languages and tribal groups to conspire, not against one side or the other, but against the war itself. In an amazing act of humanity, these people took back the men who had been used in and by the war, removed the violence from them in healing ceremonies and reintegrated them into society. A parallel case is that of Nelson Mandela's South Africa, where Desmond Tutu works to enable the truth and reconciliation hearings, where terrible stories are heard and validated, and attempts are made to heal the fractured population.

Only when we put human faces, emotions and longings in the blank spaces of our knowledge of those "others" whom we fear or denigrate, when world leaders drop their posturing attitudes to seek accommodations with "others" through respect and recognition, when "others" are not allowed to be stamped out like vermin, will peace come. We need to know and understand others in the richness of their diversity in order to feel our common humanity. Real peace will come only when, to paraphrase Walt Kelly's "Pogo," we have seen the enemy, and (s)he is us.

Leslie Nesin of Howland is the winner of the Dorothy Clarke Wilson Peace Writing Award, coordinated by the Wilson Protestant Student Center. This year's topic was "Obstacle(s) to Peace." Nesin is a senior graduating this month with a degree in University Studies. Honorable Mention was awarded to Richard Ronco of Orono, a senior majoring in philosophy.

Commencement *continued from page 2*

A Celebration of Academia Address will be presented by Sandy Caron, this year's recipient of the Presidential Outstanding Teaching Award.

The Commencement Address will be delivered by Doug Allen, the 1998 recipient of the Presidential Research and Creative Achievement Award.

Students will receive their degrees on stage from the respective deans of their colleges, and will shake hands with UMaine President Peter Hoff.

University Marshals are Bill Small and Janice Kristo.

Music for the event will be provided by the UMaine Symphonic Brass Ensemble, under the direction of Josh Whitehouse, and the Maine Steiners.

In recent years, December Commencement has been scheduled prior to the start of finals week. The event is later this year, based on a 1996 Faculty Senate recommendation that December Commencement be scheduled on the Saturday preceding Dec. 20, to prevent the event from being held too close to Christmas.

The evening prior to Commencement, two Army ROTC cadets will be commissioned in a ceremony beginning at 6 p.m., 100 Corbett Business Building. A highlight of the Dec. 18 ceremony will be an address by Ralph Leonard, civilian aide to the secretary of the Army for Maine. ▲

Sponsored Programs

U.S. Department of Education's National Institutes of Education will offer Field-Initiated Studies Educational Research Grants in FY99. Estimate average award: \$150,000. Deadline: Feb. 1.

National Aeronautics and Space Administration seeks proposals for research and development of biology-inspired technologies. The solicitation focuses on two topical areas: Smart Materials and Structures, and Human-Centered Systems. Deadline: Feb. 3.

National Science Foundation's Mid-Career Methodological Opportunities Fellowships further the development of methods and models for understanding social and behavioral phenomena by facilitating interactions among statisticians and social, behavioral, or economic scientists. Deadline: March 1.

National Endowment for the Humanities invites humanities scholars to direct residential Institutes or Seminars for School

Teachers in Summer 2000. Seminars engage 15 participants in reading, discussion, reflection, and writing about an important period, event, topic, or text under the direction of a single faculty member. Institutes, team-taught by core faculty and visiting scholars and directly relevant to K-12 humanities curricula, engage 25-35 teachers in developing improved teaching plans and materials. Deadline: March 1.

National Geographic Society makes grants for field research and exploration. Sponsored projects must have both a geographical dimension and relevance to other scientific fields. Current emphasis is on multidisciplinary projects addressing environmental issues. Most awards are \$15,000 - \$20,000.

U.S. Department of Health and Human Services has revised PHS 398 and PHY 2590, the application materials for most new and continuing grants from the NIH and other agencies of the Public Health Service. For a copy, or for more information, call Research & Sponsored Programs, x1476, or visit our website at www.ume.maine.edu/~spd/index.html.

COMPREHENSIVE FEE PROGRAM FUND APPLICATIONS

The Comprehensive Fee Program Fund Committee is accepting funding applications for this academic year. The committee administers the disbursement of program funds set aside to facilitate recognized student organizations sponsoring events that meet the diverse social and cultural needs of our student body. Applications are available at the offices of Student Government, Association of Graduate Students, the Union Board, and the Dean of Students and Community Life. Proposals must be received and reviewed by the committee prior to the event taking place. The next committee meeting is Dec. 14.

UMAINE - UNIVERSITY OF NEW BRUNSWICK EXCHANGE PROGRAM

Proposals are now requested for the exchange program established between the University of Maine and the University of New Brunswick. Each university contributes \$5,000 annually to support this program with the expectation that closer institutional ties will develop among those who share common interests in this international region.

Funds are available to support exchanges between faculty members, professional employees and student groups for collaborative research, seminars, symposia and cooperative instruction.

Faculty and Professional Employees - Proposals for funding are invited. Those wishing support for activities during the fall/spring/summer semesters (1998/1999) should submit a brief proposal describing the nature of the exchange activity, personnel involved, duration, budget and anticipated benefits. Call to request an application.

For further information and submission of proposals, contact Raymond Pelletier, Canadian-American Center, 581-4220.

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