

ALUMNI & DEVELOPMENT

UNIVERSITY OF OREGON
COLLEGE OF ARTS & SCIENCES

CAS NEWS

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CAS NEWS

Letter from the Dean

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Welcome to this special issue of *Cascade*, the newsletter for the College of Arts and Sciences (CAS) at the University of Oregon. This format in *Oregon Quarterly* is a bit of an experiment both of the medium and for the readership. Typically, we send *Cascade* separately in the fall and spring to people who majored in some area of the liberal arts and sciences, or who have previously expressed interest in CAS. With this issue, we hope to reach out to a broader set of readers who may also have an interest

in our programs.

In addition to being the largest academic unit, the origins of CAS date to the founding of the UO more than 120 years ago. When the UO opened its doors in 1876, it was an institution formed around the principle of a liberal arts education. In those early years, students applying for entrance were required to choose one of two tracks -- the Classical Course or the Scientific Course. At the turn of the 19th century, the College of Literature, Sciences and the Arts was formed as a collection of discrete departments under a single administrative umbrella. Twice more during this century the liberal arts college changed its name, becoming CAS in the late 1950s.

Throughout that time, the notion that change is the only constant has guided CAS. As we look to the future and to what a new century might bring, we know that a liberal arts education must evolve continuously to keep pace with the needs of its students. Our mission is to equip tomorrow's leaders with the skills to respond to tomorrow's challenges.

Nowhere does the institution do this for more of its students than in its liberal arts and science programs. People whose intellectual development has been fostered with this framework will do more than master technical skills. They will learn to analyze closely, think critically, and communicate effectively. Not surprisingly, we find that liberal arts graduates are distinguished by high lifetime earnings, as well as profound satisfaction with the enrichment the liberal arts added to their lives. In the pages ahead, we offer you a glimpse of some of what arts and sciences education looks like today. I welcome your questions and comments, and hope you will offer both through the e-mail address for Cascade, as well as through regular mail.

I do want to ask you to do two things. First, if you believe as I do, please help us by directing potential students to the UO. We have great educational opportunities to offer young people. (The 1999 *Fiske Guide to Colleges* lists the UO as a top 50 "Best Buy" among public and private universities, one of only three on the West Coast.) Second, please let us know what you are doing these days. Your successes only help illuminate the importance of a liberal arts education.

Finally, I want to thank once again the thousands of alumni and friends who contributed to CAS during The Oregon Campaign. The inspired philanthropy from all of you has had a huge impact on faculty support, student aid and program activity. I cannot overstate the importance of your gifts and your good wishes for us, and I want you to know how grateful we all are for this generosity.

Joe Stone
Dean of Arts and Sciences



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Natural Sciences

Bridging the gap between real life and education

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Shawn Lockery with his "worm-programmed" robot

During the last half of the 20th century, America's research universities have been the engines of scientific discovery -- engaging in wide-open investigation of the physical universe. Through their research, scientists have contributed to vast improvements in health care and disease control, the exploration of space, and the development of a worldwide communications network that has connected all corners of the globe.

Some of the amazing discoveries that have benefited humanity have come from working with and understanding creatures far less complex than people. For example, it's hard to figure how worms can offer insight into the human condition.

But **Shawn Lockery's** research on worms at the University of Oregon eventually may have some very interesting implications for human beings. Lockery, an assistant professor of biology and a member of the Institute of Neuroscience, studies *Caenorhabditis elegans*, a species of nematode or roundworm. Scientists know a lot about this creature, including how many

neurons its brain has (302) and the number of connections between the neurons (5000). To compare, humans have one trillion neurons making 1000 trillion connections. "There are more connections in your brain than stars in the Milky Way Galaxy," Lockery says.

The limited number of neurons in *C. elegans* allowed Lockery's colleagues to map a wiring diagram of the worm's entire brain. Lockery then hooked up an automated tracking system to take measurements and discovered how the worm's brain controls its behavior. He determined how the worm finds food through its sense of smell, a process called chemotaxis. Next, Lockery created computer models based on this information and constructed a robot to track light using the same mechanism the worm uses to find food.

How will this worm research benefit humans? Lockery's research may have long-range implications for the fields of mental health and genetics. "If we understand the neuronal basis of normal behavior, we can identify the causes of abnormal behavior," Lockery explains.

Research like Lockery's worm robot is not only helping the average human being, but also the average UO student. Students in the sciences are finding that innovative research extends from the laboratory into their classrooms. While the professor's research may be as abstract as a worm robot, many students find the knowledge they gain is applicable in whatever field they've chosen as a major.

Dean Livelybrooks holds the dual role of laboratory instructor and undergraduate advisor for the UO physics department. He sees an emerging trend in the discipline that connects class material and real world examples. "Professors can use their experience with research to talk about a subject with a fresh perspective," he says. "The students can see the professor's passion for the topic."

This passion translates into energy currently being directed toward some of the country's most visible research:

- **Helen Neville**, professor of psychology and head of the Brain Development Lab, uses functional magnetic resonance imaging (fMRI) to study how the brain organizes itself under normal conditions and in the face of the loss of sight or hearing.
- **Dave Tyler**, professor of chemistry, studies aqueous or "green" chemistry: the use of water-soluble chemicals, as opposed to long-standard solvents that are environmentally toxic.

• **Sarah Douglas**, professor of computer and information science, investigates human-computer interaction including command, query and programming languages; display and control technologies; on-line help systems; and natural language interfaces.

• **Marjorie Woollacott**, head of the exercise and movement sciences department, explores the development of balance control in normal children and in children with motor problems, and factors leading to loss of balance function in the older adult.

Sharing their excitement with students is something students can expect from the faculty. **Adam Farley**, a senior in mathematics, gained new focus after taking math classes taught by **Dick Koch** and **Kathy Trigueiro**. As a result, he wants to attend graduate school and pursue a career as a mathematician in either academia or industry. He can trace this decision back to the involvement of his professors in the math department. "I felt like this is a department where people are interested in you," he explains.

Interest in students is a theme throughout the UO's science programs. **Dana Johnston**, head of the geology department, and his students use laboratory experimentation to simulate the extreme temperatures of the Earth's interior. In doing so they hope to gain a better understanding of the forces that continue to shape our planet. According to Johnston, "Our students represent the next generation of scientists, teachers, and informed members of society. This is one of the most important investments we can make in our future -- not only for our academic discipline, but for making the world a better place to live."



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CAS NEWS

Social Sciences

Helping Students Adapt in a Changing World

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After the Berlin Wall came down and the Soviet Union collapsed in the early 1990s, **Marcia Youel Smith** was able to quickly position her high-technology consulting company to help U.S. businesses increase trade with former Soviet satellites.

For example, remembers Smith, president of Columbia Cascade in Reston, Virginia, "We were working with the U.S. division of Lufthansa Airlines and other small businesses, helping them build computer systems to expedite their overseas cargo shipments. We were able to show them new and different trading options they perhaps had not been preparing for when the wall came down."

Smith says it wasn't her knowledge of business or technology that gave her an edge in capitalizing on the quickly changing world economy. It was, to a significant degree, her liberal arts education, particularly in the social sciences, at the University of Oregon.

A 1968 general social sciences graduate with a minor in history, Smith says her UO classes in history, sociology and economics "gave me a very strong understanding of how to do business internationally."

"Most of my history courses concentrated on post-World War II -- it was pretty contemporary," she recalls. "So I understood what was going on in China and Russia with the Cold War. My sociology classes gave me an understanding of the culture and demographics of populations, and economics taught me about market fluctuations, values of currencies, and the importance of international trade."

Smith considers a liberal arts education so valuable that she

insists on it when she hires employees. "With the exception of people I hire as computer experts or others who have very special, unique skills, I will not even look at a résumé that does not show me a good broad liberal arts background -- that's how important it is to this company," she says.

Several UO faculty members and students agree that an education in the social sciences offers excellent preparation for careers in business and other occupations.

"Many people who do well in business, including business leaders, have backgrounds not in narrowly tailored professional courses, but from the sciences, social sciences or the humanities," says **George Evans**, holder of the Hamacher Chair in Economics. Evans believes there is good reason for this: "A great advantage of the American liberal arts degree is that it allows you to pursue the study of something you feel passionately about, and around which you can hone your intellectual skills." Combining this with the opportunity to acquire a range of knowledge and ideas, perspectives, and technical skills gives students a great springboard for future careers. Some of the qualities most important in a business context stem from a broad-based understanding of where we are as a society, the ideas that have shaped our world over time, and how that world is structured and organized.

That kind of understanding, plus broadly applicable skills in communication, problem solving, and data analysis, often come from a social sciences education.



UO junior **Kathleen Anne Wiberg-Rozaklis** didn't realize that until she had almost given up on the idea of finding her career through a college education. After short stints at two other colleges, she was teaching pre-school in Eugene when her boyfriend's comments about his geography courses piqued her interest. "I had been misinformed about geography," says Wiberg-Rozaklis. "I thought it was just about naming the states and their capitals or the geography questions in Trivial Pursuit."

After deciding to seek a degree in geography, she learned the field is much more than that. As she puts it, "It's the study of why things are the way they are because of where they are."

At the UO, the social sciences, all within the College of Arts and Sciences, include some of the university's oldest disciplines and some of its newest. History was one of the original majors available when the university was founded in 1876.

Environmental studies became an official major in 1995, ethnic studies in 1997, and women's studies in 1998. The social sciences at the UO today also include anthropology, Asian studies, economics, geography, international studies, political science, and sociology.

According to 1999 winter term enrollment figures compiled by the UO registrar's office, the social sciences currently attract more than a third of the students with declared majors in the College of Arts and Sciences and claim four of the college's top ten majors: sociology (4th), political science (6th), environmental studies (7th), and economics (9th).

Students like Wiberg-Rozaklis can see that career opportunities for social sciences majors are expanding, partly as a result of new electronic data analysis and display tools such as Geographic Information Systems (GIS). **Cathleen Leué**, assistant professor of economics and director of the Social Science Instructional Lab (SSIL), says the new tools make it much easier for social sciences students to learn by doing.

The lab, located in Prince Lucien Campbell Hall and financed partly with private gifts, provides instruction and computer access to students and faculty members for statistical analyses, research projects, and course material delivered over the Internet.

Leué says that undergraduate students have been able to easily and quickly complete complex research projects in the lab, from creating a Lane County atlas for an advanced cartography class to analyzing diets from different cultures for an anthropology class. Leué says the UO's electronic equipment and instruction for the social sciences are among the best in the nation.

Training in use of the new tools, along with the broad skills and knowledge base traditional to social sciences instruction, provide excellent preparation for students who will be working in the rapidly changing, increasingly international, job market of the Twenty-First Century.

"Some of today's students will go through six or seven career changes in their lives," says Leué. "If they're being trained in a specific skill, what happens if that particular skill is no longer needed? Liberal arts students in the social sciences will do better in the long run -- they're more 'big picture' people than 'small picture' people."

Marcia Smith, who won a College of Arts and Sciences Alumni Fellow Award in 1998, agrees, saying the "big picture" education she received at the UO helped her company capture

a unique niche in international consulting.



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CAS NEWS

The Humanities

Preparing UO's Students for the Future

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Gina Psaki teaches an Italian class

For centuries, the humanities have guided the world's people through the complexities of life by helping us understand ourselves and others. As the new millennium approaches, the disciplines that comprise the humanities at the UO College of Arts and Sciences -- classics, creative writing, languages, linguistics, literature, Judaic Studies, philosophy, religious studies, and theatre arts -- are undergoing a substantial resurgence of vitality to prepare students for life after graduation.

"It's a frequently held misconception that a liberal arts degree limits graduates entering the work force," says **Russ Tomlin**, associate dean for the humanities. "But, in fact, research shows that a liberal arts background often represents the best opportunity for long-term professional success. The humanities contribute to the development of decision-making skills, critical thinking abilities and breadth of knowledge that are required in any profession."

Helping students develop the ability to communicate effectively is essential to professional success. Toward this end, virtually

all humanities courses at the university include an increasing component of writing.

The Center for the Teaching of Writing, which was established with a gift from **Don and Willie Tykeson**, exists to help the entire campus and the community improve writing skills. The center provides resources for both students and teachers, including a Computers and Writing Classroom (CWC) that is designed to enhance collaborative skills throughout the writing process. Students engage in e-mail discussion groups, on-line editing and research, and web-page construction. According to CWC's web page, "The classroom's technology is not an end in itself, but a different means by which to accomplish the goal of the university's composition program: to produce intelligent, articulate writers."

In addition, classes on "community literacy" and "youth literature and service learning" offer English students real-life opportunities to view the value of their degree. "These classes give students hands-on opportunities to apply their talents and energies while working on behalf of the community," says English Professor **Suzanne Clark**. Students spend three to nine hours a week volunteering as tutors and working with people on community issues at shelters, alternative programs, schools, and other community sites.

While acquiring solid communication skills is essential, it is also important that students are able to apply those skills in a global environment. Romance Languages Department Head **Evlyn Gould** says, "Training in foreign languages and in the array of cultures shaped by Spanish, Italian and French is a passport to the future of a peaceful global community."

The romance languages department's small class settings and foreign language conversation events, cultural activities, and foreign internship options help prepare students for opportunities abroad. This exposure can lead to a variety of careers. Gould says students who complete a bachelor's degree in French, Italian, Spanish or romance languages -- especially when combined with a second major or minor in another discipline -- find positions in communication media, environmental task forces, government, foreign service, international business and law, publishing, teaching, and travel and tourist-related industries, to name only a few.

Departments such as East Asian Languages and Literatures and Germanic Languages and Literature offer similar learning opportunities. **Steve Durrant**, a professor in the East Asian Languages and Literatures department, notes that as Asia continues to play a critical role in the global century that

knowledge of Asia and its rich traditions will be essential for good world and good national citizenship.

Ling Chan, an UO graduate in English and former magazine editor, says she has observed that a humanities education is an asset in the working world, especially with its emphasis on respect for other cultures and customs.

"Take away the humanities and we would be very poor creatures indeed, seeking basic survival and dominance, without reflecting on who we are and how we ought to conduct our lives," says **Mark Johnson**, philosophy department head. Disciplines such as philosophy also offer one of the best areas of study for developing critical thinking.

English Department Head **John Gage** says literature is another area that can teach students about the richness of human experience. "Thinking, speaking and writing about literature develops an understanding and appreciation of that richness, which leads to greater tolerance and expansiveness of outlook."

Valerie Wills, a senior English major from Eugene, asserts the value of this philosophy. "I see English majors and other humanities majors as making up the conscience and sense of perspective of the university community as well as the world," she says. "The world needs more people who have a sense of the big picture; people who see that connections between the disciplines must be emphasized in the future if we want to continue to progress as a society."



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Deep Impact

Campaign Donors Invest in Students, Faculty, Programs

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Geography Professor **Alexander Murphy** is especially qualified to appreciate the rewards of The Oregon Campaign -- the six-year private-giving bonanza that raised more than \$255 million for the University of Oregon, including \$36.4 million for the College of Arts and Sciences (CAS). Murphy is the current holder of the Rippey Chair, a \$1.2 million endowment recognizing a CAS professor distinguished in both teaching and scholarship. Also, as head of the geography department, he has taken great pleasure in seeing other gifts nourish the work of his colleagues, support bright and deserving students, and improve the learning environment.

Murphy reports that Campaign dollars will transform a 1960s-era classroom into a modern, computer-enhanced cartography lab. But Murphy says the most important -- if intangible -- impact of The Oregon Campaign is the optimism it brought to the geography department and to the university as a whole. "The success of the Campaign shows that there is some widespread support for what we're doing," he says. "It provides some hope that not everything we do will be nickel-and-dimed to death."

CAS Dean **Joe Stone** agrees that private donors have endorsed the value of a liberal arts education, and that message is reassuring at a time when the state budget for higher education has dropped drastically from pre-1990 levels. Faculty salaries at the University of Oregon lie at the bottom of the pay scale compared to other top-notch research universities. But Stone says with \$15.8 million from the Campaign going to support Arts and Sciences faculty -- tripling the number of endowed chairs in the college -- CAS is able to invest in high-caliber professors across campus such as **Alec Murphy** in geography, **George Evans** in economics, and **Geraldine Richmond** in chemistry. "The gift of a chair is truly

enlightened philanthropy," says Stone. "I am gratified that a good number of people have chosen to make investments in our faculty. They understand that the very best faculty will attract the very best students."

Campaign philanthropists also helped CAS forge new programs and expand existing ones. A \$1.5 million gift by the **Schnitzer family** is building Oregon's first Judaic Studies program. And Campaign dollars spurred several certificate, minor, major, and doctoral programs, including new majors in environmental studies, women's studies, ethnic studies, and biochemistry.

Daniel Udovic, professor of biology and director of the Environmental Studies Program, says the existence of the undergraduate major has improved the quality of the graduate program, and vice versa. Support from the Barker Foundation for graduate fellowships has led to greater-than-usual graduate student involvement in the undergraduate program. "Our graduate students are very community oriented," Udovic says. "They have given a lot of valuable input to the environmental studies major, as well as the new environmental science major coming on-line this fall."

Of course, the ultimate beneficiaries of The Oregon Campaign are students. Along with reaping the rewards of innovative teaching, high-caliber professors, and more curriculum choices, the Campaign is bringing concrete changes to classrooms and labs. The Campaign also raised \$4.5 million for direct student support, swelling the CAS scholarship endowment. The dean's office alone will award \$17,500 next year; specific CAS departments and programs will award more.

During The Oregon Campaign, thousands of CAS alumni and friends made unrestricted gifts to the CAS "Dean's Fund." This fund, which received a crucial \$3.6 million from such gifts, helps sustain core activities in CAS. Again, Dean Stone says the impact of these gifts is great. "Several programs and projects have benefited from an infusion of cash, and many, if not most of these, have only limited funding. Gifts to the Dean's Fund have the highest utility."

Arts and Sciences comprises the heart of most UO students' educational experience -- close to 90 percent of undergraduates take at least half of their classes in the college. Pressure on CAS is increasing as students return to liberal arts in increasing numbers. The University is giving twice as many degrees in liberal arts as ten years ago, even though the campus has fewer students. Research indicates that, several years after graduation, liberal arts majors tend to out-earn graduates from professional schools and that in terms of personal satisfaction, liberal arts majors are among the happiest people. The

Campaign is helping CAS to continue to provide students with a well-rounded, inspiring education, a foundation that will serve them throughout their lives, no matter which careers they choose.



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