“Woods Hole CEO ‘Followed His Passion’

“We all need jobs. That’s just the reality,” said former President and CEO of Woods Hole Research Center William Y. Brown at a Graduate Career Center event this past fall.

“I had no clear career path. I didn’t spend long in any one place. I took chances and tried many different things.” He taught high school and college, served as a science consultant to public and private entities, and ran two different museums before joining Woods Hole last February. In January 2011, he moved back to Washington to rejoin his wife, who has been a legal advisor at the Department of Labor.

“I don’t plan to retire, so I am already poking around for options in Washington,” Brown says. “I’ve been a CEO for three organizations in a row now. I could do that again, but could do something different, too. I’m sure interesting prospects will arise.”

Speaking to a crowd of graduate students, including his daughter Julia (Ecology & Evolutionary Biology), who is currently studying for her Ph.D. at Yale, he advised, “Follow your passion, and if you don’t have a passion, at least follow your interest—you’ll do better. You won’t excel unless you like what you’re doing. And you’ll be much happier if you like what you’re doing.”

Science caught Brown’s interest in childhood, and he was a serious bird-watcher by the age of 13. He earned his bachelor’s degree in biology from the University of Virginia in 1969 and, a year later, his master’s from Johns Hopkins. He taught in inner-city Baltimore before enrolling in a Ph.D. program in zoology at the University of Hawaii. While studying the ecology of seabirds for his dissertation, he lived on an uninhabited island that had no shower, electricity, radio, or phone. “I was outdoors all the time. I would raft back and forth to Oahu.” Despite those challenges, he completed his Ph.D. in three years in 1973.

At that point, Brown wasn’t sure what he wanted to do next. He considered becoming “a postdoc, drifting around the Pacific in a boat, studying birds,” but chose instead to accept a position as assistant professor of biological sciences at Mount Holyoke College.
As an environmentalist, I thought: Why not try the corporate sector? I talked myself into it as an adventure, and it lasted nine years,” he said. WMI was then and remains the world’s largest waste management company. At that time it had approximately 65,000 employees and annual revenues of $6 billion. He set up a philanthropic program for WMI that gave away up to $1 million a year in grants to environmental groups and developed an environmental policy, adopted by the board, that “made corporate policy to take responsibility for any environmental harm we did.” He established measures for pollution prevention and management, legal compliance, and a groundbreaking program that achieved net-loss of biological diversity on company properties. He also served on the boards of several non-governmental organizations, including the Ocean Conservancy, Environmental Law Institute, Environmental and Energy Study Institute, and U.S. Environmental Training Institute.

Although Brown enjoyed the dynamism of corporate life, he was not happy with the oversight direction the company was taking. “Corporations aren’t your family. There’s a lesson here,” he said, and he moved on. His next job was with Hagley Bailly Consulting, Inc., where he directed international environmental programs and supervised projects undertaken by the firm for USAID, the Asian Development Bank, the World Bank, and private sector clients. Then, after a brief stint with the World Wildlife Fund, he was appointed Science Advisor to the Secretary of the Interior Bruce Babbitt, a position he held through the Clinton Administration.

sink in clear water containers as a vivid demonstration of the threat of rising sea levels. “The students (ages 8–17) showed enthusiasm and curiosity over the issue that caused swarms of negotiators to descend upon their hometown,” she wrote in an entry contributed to http://environment.yale.edu/blog. Participation in “La Isla Hundida” was not limited to students in Cancun. Other schools and children from all over the world (including Spain, the Maldives, the U.S., and Germany) continue to participate. Photos and videos of the islands that students have created are posted at www.laislahundida.org and on the La Isla Hundida Facebook page. “They’re quite moving,” Kristin says. AKPORT is hoping to assemble them in a large display for COP17 in South Africa next year.

Aside from the workshops, Kristin said one of the highlights for her of attending COP16 was an event that the Yale Climate and Energy Institute (YCEI) organized concerning new directions and priorities for energy use in the building sector. Before the start of classes in January, Kristin and four other FES students went to Grenada to work with the Grenada Education and Development Programme (GRENED) (www.grend.org), helping set up a curriculum for its summer program for middle school students. They also visited an organic farm that was severely damaged by a hurricane in 2004 so to see how the farm might be rehabilitated and incorporated into the educational program.

Her dissertation research focuses on making waves (”The Drowned Island”). The project, inspired by the work of Spanish artist Javier Velasco, aims to heighten children’s awareness of the island nation to climate-change-induced sea-level rise in what she calls “a creative and empowering way.” After teaching about how thermal expansion and deglaciation are driving the rise in sea level, Kristin helped the young people craft miniature paper islands which they then
This year’s AYA Assembly and Leadership Convention was titled “Pathways to Health in the 21st Century: Medicine at Yale.” Graduate School delegates interacted with and learned from delegates representing other schools and associations of the AYA, and attended informative sessions on medical education at Yale, the human genome, aging, cancer, autism, vision, and much more. The AYA strategic plan was presented and alumni leaders were honored.

One highlight of the meeting was a review of the creative volunteer activities that alumni around the world took part in during last spring’s Day of Service. Inspired by these examples, the GSAA Executive Committee then held its own meeting. Associate Dean Pamela Schirmeister, representing Dean Tom Pollard, spoke about the Graduate School’s current programs and initiatives. She reported that the school is expanding its many exchange programs. The Writing Center continues to be an excellent resource for graduate students, with 800 students taking advantage of its offerings. Next summer the intensive English language course, previously held in China, will move onto campus, and Yale will offer more “in-house” foreign language courses. Finally, under the guidance of Dean Pollard, the Graduate School hopes to extend “sub meetings” to programs in the humanities and social sciences.

Following Dean Schirmeister’s report, Graduate Student Assembly Chair Paul Pearlman spoke of current student concerns. The GSA has worked with the administration to make 24-hour work/study space available to more students and is starting a Unified rating service to help students choose off-campus housing. In addition, they hope to work with the GSA to help students make contacts with potential alumni mentors, especially in non-academic fields.

The Executive Committee then broke into sub-committees. The Day of Service/Global Outreach Committee discussed tactics for increasing GSA presence in local clubs and proposed that GSA members adopt the common theme of “intellectual stimulation” for the next Day of Service. The Best Practices Committee continued to examine the way Yale’s GSA compares to similar associations at other Ivy Plus schools, and the Communication Committee discussed new ways to reach alumni effectively. The Student Initiatives Committee aims to link alumni with current students and hopes to host a symposium this spring that will enable students to learn about the many careers available to them and network with alumni working in those areas.

Greening the Graduate School

The Graduate School of Arts and Sciences has assembled a “Green Team” to embrace the goals and objectives set forth in the Yale Sustainability Strategic Plan. “Thus far we have completed the Yale Green Workplace Certification to identify our current strengths as well as areas in need of improvement,” says Assistant Dean Michelle Nearon, who serves on the team. The certification addresses waste management and recycling, education, energy, purchasing, transportation, food services, and common meeting rooms.

“Through teamwork and close collaboration with the Yale Office of Sustainability, we hope to create a whole some GSA environment that is greener, healthier, financially sound, and above all, deeply inspiring to our academic community,” Nearon says. So far, the staff has virtually eliminated the use of paper cups in the common eating area by encouraging people to use their own coffee mugs. New recycling bins for toner and print cartridges, defunct writing implements, and batteries have been set up in the front office, in addition to those already in use for recycling paper, bottles, and cans.

Associates in Teaching Applications

Due March 1

Graduate students seeking an in-depth, creative teaching experience are invited to apply for the Associates in Teaching (AT) program for 2011–2012. Through this program, Ph.D. students who have advanced to candidacy may work with a cooperating faculty member to conceptualize a new course or redesign, plan, and deliver an existing undergraduate course. ATS are expected to play significant roles in both planning and teaching a course. Proposals must be submitted to the Graduate School by Tuesday, March 1. A committee of faculty and Graduate School deans will review proposals, select those that will be funded, and notify applicants during the first week in April.

For the 2011–2012 academic year, the Graduate School seeks to fund at least 12 new courses in the humanities, sciences, and social sciences. Undergraduate courses of all types and formats may be proposed for the AT program. Appointment as an AT will constitute a term of teaching fellowship as specified in the student’s letter of admission. If the student has completed his or her teaching fellowship, the AT appointment will provide a stipend at the level of GTA for that term. At the conclusion of the course, the notation “Associate in Teaching” and the title of the course will be recorded on the student’s transcript.

Each department may propose one applicant. Nominations should be submitted via email to Bill Rando, assistant dean and director, Graduate Teaching Center at william.rando@yale.edu.
The research involves engineering biological processes while exploring and making new molecules. In addition to its value as basic science, synthetic biology has the potential to yield practical applications such as bacteria that can produce biofuels or pharmaceuticals, including drugs that interact with specific target cells.

In one project, Elissa Hobert (Chemistry) focuses on rewiring signaling pathways between cells in order to artificially activate a protein that suppresses the growth of tumors. She has constructed a synthetic protein adaptor that physically holds together two other proteins—Hck and hdm2. The enzyme Hck serves as a "kinase" that transmits signals and controls complex processes in cells. When it is brought into proximity with hdm2 by Elissa's synthetic adaptor, the hdm2 functions as a switch that releases p53, a tumor-suppressor gene, from the cytoplasm of the cell. By engineering this interaction between Hck and hdm2, she has demonstrated that hdm2 can be deliberately activated in order to cause cancer cells to undergo programmed cell death.

During Eduardo’s first semester at Yale, he traced the pre-history of his project in Alexander Nemerov’s course, “The American Civil War: A Visual and Literary History.” “I wrote a paper on the first school for freed slaves and explored how education played a role in both the Civil War and the Reconstruction. It was an amazing course, filled with extraordinary people, and it encouraged me to look at excellent material in different archives such as the Beinecke. The Pratt papers, for instance, deal with the education and assimilation of captured Native Americans after the Civil War. I ended up focusing on what it meant for a child to attend school during the war and after the Emancipation Declaration.”

As a participant this semester in Ned Cooke’s “Material Culture” colloquium, Eduardo will present his research on “Schools are the first public buildings children get to know and the ones they will always remember.”

In another project, Jacob Appelbaum (B.S.E./Ph.D.) is studying short sequences of amino acids, also known as peptides, which can be used to block the interactions of certain proteins inside cells with potentially therapeutic results. Jacob is working to identify peptides that are able to enter cells naturally and can thus be used in pharmaceuticals. By chemically linking fluorescent dyes to these peptides, Jacob has been able to observe how they interact with cells and the paths they follow once they have entered a cell. When he varies the sequence, he has found some peptides that enter cells much more readily than other previously studied sequences. Using video microscopy, he has observed that the peptides that do enter the cells almost always become enclosed in small, membrane-bound vesicles. Finally, he has observed that shining light on the cells has the effect of releasing the peptides from some of these vesicles into the cell cytoplasm. How this happens and why some vesicles release peptide but not others remains to be understood, but this may prove to be a useful technique for doctors to deliver a drug to specific places in the body or even specific cells with the accuracy of a laser.

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Education, Democracy, and Design

One of the Graduate School’s newest offerings is the Ph.D. degree in Architecture. One of the first students to enroll in this program is Eduardo Vivanco.

He is a practicing architect with a master’s degree in Modern and Contemporary Art History, Theory, and Criticism from the School of the Art Institute of Chicago. Eduardo earned his B. Arch. in Spain, where he worked for Juan Navarro Baldeweg, opened his own firm, and became an assistant professor at the Escuela Técnica Superior de Arquitectura of Madrid. His work as an architect, artist, and scholar has been published and exhibited in Europe and the United States. He came to Yale this past September to earn his Ph.D.

Eduardo’s dissertation, advised by Kurt W. Forster, will focus on the design of progressive schools in the United States and Europe from 1840 to 1933. During this period, “Two international networks on education and democracy were working at the same time on different ‘fronts’—pedagogues and school architects. The interaction and scope of these two networks inform my research proposal,” he explains. His approach is interdisciplinary, and he will analyze elementary school architecture, educational theory, psychology, history, interior design, furniture, toys, primers, and children’s literature.

It all started with my interest in the relation of architecture to democracy. Since the Enlightenment, education has been seen as a way to enable citizens to become active in the public sphere,” he says. “Schools are the first public buildings children get to know and the ones they will always remember.”

Architects are linguists. As architects, we are trained to interpret and draw out meaning from the people and places around them. And this interpreting and drawing out meaning is what I think makes architecture so relevant to education, the public sphere, and democracy.”

“Many of our day-to-day work involves making and purifying the materials we study and rigorously characterizing their chemical structure,” Elissa says. She spends the bulk of her time doing experiments to prove that her adaptor protein interacts with the target proteins and assessing the level of activation of hdm2 to prove that her adaptor protein is causing the effect. Jacob spends most of his time at the microscope characterizing the vesicles containing the fluorescent peptides he has made. It is through such precise and narrowly focused activity, however, that broad advances in the understanding of cellular activity and treatment of cellular malfunction are made possible.

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Biblical Poetry in the Middle Ages

Andrew Kraebel (English) was a visiting research fellow at the Institute for Advanced Studies in Jerusalem during January, where he presented an invited lecture and was part of a research group on the study of the Bible in medieval Christian, Jewish, and Muslim settings.

His talk, “The Legacy of the School of Rheims,” focused on Latin and Middle English commentaries on the Psalms produced in Rheims late in the eleventh century. Andrew has found that tracing the manuscript history and the influence of these texts on later commentaries reveals the important role Rheims played in the intellectual history of Europe in the Middle Ages.

The findings, reported in the December 9 issue of the journal Neurones, may help uncover ways to improve memory and could lead to new therapies to correct neurological disorders.

Graduate student Elissa Robbins (Neuroscience) is first author of the article.

The junctions between brain cells over which nerve pulses pass — called synapses — are crucial for regulating learning and memory. Aberrations in the structure and function of synapses have been linked to mental retardation and autism, while synapses are lost in the aging brains of Alzheimer’s patients.

However, the mechanisms that organize synapses in the living brain remain a puzzle. Working in Thomas Biedeuer’s lab, Elissa and colleagues have identified one critical piece of this puzzle, a molecule called SynCAM1 that helps to hold synaptic junctions together. They found that when the SynCAM1 gene was activated in mice, more synaptic connections formed. Mice without the molecule produced fewer synapses.

Learning typically causes the formation of new synapses. The strength of synaptic connections also changes during learning, based on the amount of stimuli received — a quality scientists call “plasticity.” Collaborating with a group in Germany led by Valentin Stein, the team was surprised to find that SynCAM1 controls an important form of synaptic plasticity.

Unexpectedly, they also found that mice with high amounts of SynCAM1 are unable to learn, while mice lacking SynCAM1 — and thus having fewer synapses — learn better, which suggests that an excess of the molecule can be damaging. This builds on recent theories suggesting that having too many neural connections isn’t always better and that it is a balance of synaptic activity that is crucial for proper learning and memory.

Because the molecule is almost identical in mice and man, it may perform the same roles in the human brain.

Elissa earned her B.S. in Materials Science and Engineering at MIT before coming to Yale.

English

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Biological & Biomedical Sciences

Synapses and Learning

Yale researchers have found that a single molecule not only connects brain cells, but also changes how we learn.

“A careful reading of these commentaries demonstrates that in the 1060s, the masters of Rheims developed a particular style of interpretation, focused on recovering the intention of the Old Testament poet, David. They read the Psalter as poetry,” he says. “From Rheims, this style of literary criticism spread to other intellectual centers, especially Paris.”


Andrew received his A.B., summa cum laude, in Religion and Latin from Dartmouth College in 2006. In 2008 he graduated first in his class from the Yale Divinity School and enrolled in the Department of English. In 2010 he earned an M.Phil. from Yale’s Medieval Studies Program. His first book, a Latin edition of The Sermons of William of Nieuwerth, was published in 2010 by the Pontifical Institute of Mediaeval Studies, Toronto.

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Outstanding Alumni

Roy Herbst

Roy Herbst (M.S. 1984, M.D. 1988) has been named chief of medical oncology and associate director for translational research at the Yale Cancer Center. Beginning in March, Herbst will join the Smilow Cancer Hospital at Yale-New Haven to integrate clinical, laboratory, and research programs. Herbst earned his undergraduate and master’s degrees from Yale, his medical degree from Cornell University Medical College, and his Ph.D. in molecular cell biology from the Rockefeller University. He also received a master’s degree from Harvard in its clinical investigator training program. Currently, Herbst serves as a professor of medicine, chief of the Section of Thoracic Medical Oncology, and the Barnhart Family Distinguished Professor in Targeted Therapies at the University of Texas M.D. Anderson Cancer Center. He is a member of the American Association of Cancer Research (AACR), where he chairs the Tobacco Task Force, as well as the American Society of Clinical Oncology and the Institute of Medicine’s National Cancer Policy Forum. He is a fellow of the American College of Physicians.

“Dr. Herbst is nationally recognized for his leadership and expertise in lung cancer treatment and research,” said Dr. Thomas J. Lynch, Jr., director of Yale Cancer Center and physician-in-chief of Smilow Cancer Hospital at Yale-New Haven. “He is best known for his work in development of therapeutics and the personalized therapy of non-small cell lung cancer.”

El-Hang Lee


“This book is the first of its kind,” he says. “As the world is facing increasing problems in energy, environment, weather, food, resources, health, transportation, and outer-world explorations, this book is intended to demonstrate that the power of light can provide some fundamental solutions for the problems of the 21st century.”

After graduating from Seoul National University, South Korea, in 1970, Lee earned his graduate degrees at Yale in Applied Physics under the guidance of John B. Frenz (Nobel Laureate, Chemistry, 2002) and Richard K. Chang. His work on micro/nano-particle-based optics has become a classic. After teaching and conducting research at Yale, Princeton, AT&T, Korea’s Electronics and Telecommunications Research Institute, and the Korea Advanced Institute of Science and Technology, he joined the faculty of Inha University in Incheon City, South Korea, where he concentrates on semiconductor physics, materials, optics, photonics, and optical communication. He is currently a Distinguished Endowed University Professor and the director of a national research center, the Optics and Photonics Elite Research Academy.

Known in Korea as the “Scientist of Light,” Lee has published more than 130 international journal papers and holds over 130 international patents. He is a Fellow of the American Physical Society, Optical Society of America, IEEE, IEE (UK), the Society of Photo-Optical Instrumentation Engineers (SPIE), Korean Physical Society, and a Life Fellow of the Korean Academy of Science and Technology. His many honors include the IEEE Third Millennium Medal and the Korean Grand Science Award. He serves as the editor-in-chief of IEEE’s Photonics Technology Letters.

Franzis Pitch

Franzis Pitch (Ph.D. 1971, International Relations), professor of political science at the U.S. Air Force Academy in Colorado and Division Chief for International Relations and National Security Studies, was named a “Professor of the Year” by the Council for Advancement and Support of Education (CASE) and the Carnegie Foundation for the Advancement of Teaching. Pitch was chosen from more than 300 outstanding educators who were nominated for the honor. A native of West Point, N.Y., she earned her bachelor’s in political science at the University of Connecticut and graduate degrees from Yale. She has taught at the Academy since 1980 and currently serves as deputy head of the Political Science Department. Her most recent book is Solar and Space Policy ( Routledge 2008), co-edited with Damon Coletta.

The first work of the program featured workshops on topics such as “Ethical Leadership,” “Mentoring Others,” and “University Governance, Management, and Administration.” One full day was spent on “Team Building” and another on “Research Leadership.” During the second week, students developed projects to encourage innovative doctoral training. Paul and Neils Valdemar Vinding of Copenhagen University collaborated on an examination of the challenges of interdisciplinarity study. Paul’s own dissertation research combines electrical engineering and medical diagnosis. He studies the development and evaluation of computer-aided diagnosis and treatment-planning techniques and is specifically focused on non-invasive imaging, such as ultrasound. Neils studies Islam and its connection to the established churches and governments in Britain, Denmark, and Germany. Both work across several academic disciplines.

“There are common risks and rewards to working on the boundaries of our fields,” Paul says. “We’re looking into the effect on the PhD student of jumping into a new field which may or may not become well-established.”

Although their work is still preliminary, they already see that well-structured qualifying exams and consistent, rigorous interaction with a student’s dissertation advisors are likely to ensure that the cross-disciplinary work meets the standards of all the involved fields.

Feeding the Hungry

Thanks to the generosity of students and staff, the Graduate School donated 177 pounds of non-perishable food and $548.82 to the Connecticut Food Bank before Winter Break. Donations were collected at the McDougall Center and at special events such as the Pie Baking Competition, the GSA Thanksgiving dinner, and the Dean’s Holiday Reception. Founded in 1982, Connecticut Food Bank is an affiliate of Feeding America, a national network of food banks. Connecticut Food Bank supplies more than 650 soup kitchens, shelters, food pantries, and child and adult day programs across the state.

Instead of spending Thanksgiving with his family this year, GSA Chairman Paul Pearlman flew to Canberra, Australia, to represent Yale at a meeting of graduate students from the International Alliance of Research Universities (IARU).

The IARU is a collaboration involving ten of the world’s leading research universities that share a commitment to the education of future leaders. Established in 2005, the Alliance includes the Australian National University (ANU); ETH Zurich; National University of Singapore; Peking University; University of California, Berkeley; University of Cambridge; University of Copenhagen; University of Oxford; the University of Tokyo, and Yale.

Paul attended “UniLead 2010: A Leadership Program for PhD Students,” along with eleven other student participants.

“The purpose of the program was to discuss university governance and leadership from a multinational perspective; to outline current research trends; to understand the role of the university in policy-making, guiding research practice, evaluating the efficacy of research, and to consider lobbying and acquisition of capital,” he explains.