

Keeping In Touch

Roger Caplin



Dan Koenemann

SCHOLARSHIPS KEY TO DEBT-FREE SUCCESS

While the oversized raised box gardens surrounding UVM's Jeffords Hall were white with the season's first hard frost on a recent November morning, the Rancho Santa Ana Botanic Garden in Claremont, California warmed to 99 degrees in the sun.

The former is where Dan Koenemann spent the summer researching holly fern (*Polystichum*). The latter is where Koenemann spent his first semester researching *Sanchezia* (*Acanthaceae*) as part of his five-year Ph.D. program and from where he spoke to writer Cheryl Dorschner about the ingredients of a UVM education that brought him thus far.

Rancho Santa Ana Botanic Garden is the largest botanic garden dedicated to California's native plants; the 10th largest herbarium in the United States; a renowned seed conservation program; and a research and education program in systematic and evolutionary botany with degrees granted from Claremont Graduate University.

Dan Koenemann has come a long way.

The Montpelier native graduated with a bachelor's degree in biology in December '09. At UVM he was a runner, a skier, soccer player and devout Catholic. But mostly he hit the books and the lab.

In 2008, Koenemann's DNA analysis of fiddlehead ferns, along with an essay on the significance of the larger project on *Polystichum* in David Barrington's lab,

earned him a prestigious national fellowship: the Goldwater Scholarship, awarded annually to 300 science, math and engineering scholars from a pool of about 1,500. That summer he interned at New York Botanical Gardens to continue his evolutionary biology research – this time on cycads.

In 2009 he received the Thomas Sproston Undergraduate Research Award from the plant biology department and was inducted into Phi Beta Kappa and UVM's Boulder Society for leadership, scholarship and service. He also received his first of two UVM HELiX awards totaling \$5,500 to study fiddleheads. And he was one of 10 finalists for the internationally renowned Rhodes Scholarship.

Scholarships, mentors and a supportive community form the foundations for students' success. Their impact is so much more than the dollar value – often propelling them to the next and the next accomplishments. That's Dan Koenemann's story, in his own words.

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RESEARCH SHEDS LIGHT ON CANCER ORIGINS, TREATMENTS

When Susan Wallace was a girl, she collected newts, tadpoles, frogs and other creatures with a friend of her father's who was a high school biology teacher. "I decided that I wanted to be a scientist from that time on, and everything I ever did was based on that," she says.

Today, Wallace is known worldwide for her contributions to the study of DNA damage and repair—and for discoveries



Susan Wallace

that produced greater understanding of the molecular processes that can ultimately lead to cancer. She is chair of microbiology and molecular genetics, program leader of the Vermont

Cancer Center's Genome Stability and Expression Research Program and one of the prominent researchers in her field.

Her work centers on the battle going on in our bodies, at the microscopic level. We sustain 10,000 to 20,000 "hits," or assaults, per cell per day—simply because we breathe, says Wallace. A certain percentage of our oxygen becomes toxic, creating free radicals that cause oxidation and damage DNA. If this damage isn't repaired, it can lead to cell mutation.

Luckily, enzymes, known as glycosylases, function as a repair team, patrolling the twisted DNA strands, looking for lesions. Wallace and colleagues were the first to discover the enzymes that recognize oxidatively damaged DNA bases in *E. coli* bacteria.

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Morrill Hall was a temporary home of a nearly life-sized fiberglass Green Mountain Cow painted by Vermont Woody Jackson. On Sept. 2, the cow strolled to its permanent display stall in Terrill Hall.

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MESSAGE FROM THE DEAN

GROWTH AND CHANGE SPUR OPPORTUNITIES

Reflecting upon the many recent energizing events in the College of Agriculture and

Life Sciences, it's no surprise that this year has passed so quickly.

For starters, on a sunny June 4, we enjoyed the exhilarating dedication of UVM's new teaching and research facility, Jeffords Hall – a spacious home to CALS' plant biology and plant and soil science. Today three floors of classrooms, offices, meeting space and seven teaching labs buzz with the work of the life sciences. Outside, even in winter, the gardens are alive with promise. Jeffords Hall has transformed the eastern boundary of campus into a hub of activity. It is a gateway to numerous programs of study at UVM and a substantial investment in the university's future as a premier small research university.

This fall, we set yet another record for college enrollment – over 1,100 undergraduates distributed across all of CALS' departments – speaking to the relevance and high quality of our academic programs.

To serve this burgeoning student population during tough economic times and mark CALS' centennial in 2011, I initiated a campaign to raise \$1 million in endowed scholarships. Two stories in this issue speak to how scholarships can transform students' lives.

Moving on to research, even though outside funding is increasingly competitive at the national level, our faculty reached an all-time high for grants and contracts – about \$8.1 million at year's end.

This substantial achievement parallels the UVM's plan to identify key "Spire of Excellence" among existing and emerging research concentrations across all of UVM's schools and colleges. I'm pleased to report that Food Systems was identified as one of these spires – targeted to become a UVM center for learning and discovery. Our College is perfectly positioned for this marvelous opportunity to work with allied faculty. UVM already led the emerging Food Systems field with its 2003 CALS-led Aiken Lecture "Who Chooses the Food

You Eat?" its three-university collaboration called the Food Systems Leadership Institute launched in 2006 and CALS

Food Systems Collaborative of nearly 20 organizations gathered in 2008. On Nov. 1, nearly 250 faculty, staff, leaders and stakeholders met at UVM's Food System Symposium discuss ressearch opportunities and avenues of funding. CALS' Jane Kolodinsky chairs UVM's Food Systems steering committee.

Finally, we launched the Dairy Center of Excellence in October, announcing that we are partnering with Vermont farms to do a portion of our research on site. This initiative caught the attention of the national press, because it is a compelling model that expands the research opportunities of CALS faculty, and it puts researchers in closer contact with potential beneficiaries of that research. Through the Dairy Center of Excellence we will work with local farms, using science to solve practical problems.

Meanwhile, we are in the early planning stages to design the next generation facilities needed for teaching and small-scale research at UVM Farms. Moving to the Dairy Center of Excellence model not only expands the amount of research possible on Vermont Farms, it also allows us to expand our teaching activities at the UVM Farms. Stay tuned as plans unfold.

Overall, it's been an amazing year. As always I welcome your comments and support for CALS. Please contact me: calsdean@uvm.edu ~ Tom Vogelmann



Tom Vogelmann

MORE NEWS MORE OFTEN ONLINE

Join the many "Keeping in Touch" online subscribers who opted for regular paperless postings. The paper edition is now annual.

Send your strictly confidential email address to: calsdean@uvm.edu

GRADUATING DEBT FREE < continued from page 1

“You are only truly educated when you can see the connections among the disciplines and view knowledge as a collective, as a whole.”

CD: How important were scholarships, work-study and on-campus jobs to your UVM years?

DK: Scholarships were really the key for me. I did do some work-study with Dave Barrington, but mostly I didn't have to, because my bills were paid by the scholarships from various organizations... high school, Elks National Foundation and Montpelier Rotary Club (based on need). UVM treated me reasonably well. The Goldwater scholarship was essential in keeping me in the black from year to year. I graduated a semester early to save on tuition and fees. As it turned out, I did graduate debt-free! Thank God!

CD: Students often don't realize how much help is available. In 2007, UVM's Honors College launched an effort to encourage, support and mentor students

to compete for national and international awards.

DK: Yes, for example, I met with Lisa Schnell and Britt Chase for about six months preceding the Rhodes application. I cannot even count the number of drafts, changes, shifts in direction, etc. They were just as invested in the endeavor as I was. They even wrangled up faculty panels for mock-interviews. It was awesome.

CD: They really mounted a charge for success. Mentors also seem to introduce their students, not just to the science, but also to the community of scientists. You told the crowd gathered at the Jeffords Hall dedication on June 4, “undergraduate students of the plant sciences and beyond, are part of a UVM community: a community that is defined by common interests, a community that provides a

critical intellectual mass for fully exploring and solving problems, and a community that fuels the passions of each and every one of its members.” Tell me about that.

DK: In order to really understand something, to really learn, you need to be around others who, while approaching similar problems, approach them, by the necessity of their difference in personhood, from slightly different angles. This is the critical intellectual mass. Only then, can a system, an intellectual framework if you will, be fully comprehended. This group of individuals need not be colleagues in the strict sense.

Additionally, the community must extend, beyond just the sciences. One of the wonderful things about the Honors College is that they force you to pursue a liberal arts education. You gain specialization through years of study, not via an undergraduate degree. You are only truly educated when you can see the connections among the disciplines and view knowledge as a collective, as a whole.

DNA RESEARCH INFORMS CANCER ORIGINS AND TREATMENT < continued from page 1

More recently, her laboratory cloned, expressed and characterized three human versions of one of these enzymes, which perform the same reparative function in humans.

“We started out like all other molecular biologists doing things in *E. coli* because we could do them, and progressed to asking the same questions in human cells,” Wallace says. “Interestingly, this particular repair system is highly conserved from bacteria to humans.... These systems were selected for, somewhere in the ‘primordial soup’ and have been preserved up through us.”

Wallace's work has an important connection to the study of environmental causes of cancer, says Nicholas Heintz, interim director of basic science cancer research and UVM professor of pathology.

In September Wallace received more than \$9 million from the National Cancer Institute for a grant through 2015 to study individual human variants of the enzymes that repair DNA. These variants, or proteins, may be present in a certain percentage of the population, and in some cases, have a greater likelihood of becoming pre-

cancerous cells. The project will also look at variants of DNA repair enzymes in tumor cells—which could shed light on whether certain cancers will respond to radiation therapy or chemotherapy.

Throughout her career, Wallace has also been dedicated to mentoring and teaching. She teaches post-doctoral fellows as well as graduate, medical and undergraduate students. Her colleagues praise her many contributions to science, leadership and teaching. “She is an outstanding research scientist and one of the international leaders in the fields of radiation biology and DNA repair,” says her colleague Philip Hanawalt, a professor at Stanford University specializing in DNA repair. “In recent years, she has been an invited plenary speaker and/or session chair at essentially all of the major conferences in the field.

Hanawalt also credits Wallace for being an exemplary role model for women scientists because she was one of the first women scientists in her field.

Wallace recalls a site visit at her lab when she applied for her first NIH grant. “They said they'd never given a grant to a woman

with children before, and they weren't sure they should.” She got that grant—and she still has it. In fact, it has been honored twice by the prestigious NIH MERIT award.

Lynn Harrison, associate professor in the Louisiana State University's department of molecular and cellular physiology, says Wallace has been instrumental in supporting her career over the years. “To a young female graduate student, she set an extremely powerful and shining example as to what was possible for female scientists in what seemed to be a man's world,” says Harrison, who later worked with Wallace as a post-doc.

As she teaches students, mentors new researchers and conducts hands-on science, she appears to have carried through that enthusiasm and passion for science that she first developed as a young girl. When asked what she enjoys most, she says, “I think getting the answer to a long-standing question is the most fun. But asking the questions is pretty exciting, too.”

~Sona Iyengar

This story first appeared in the Vermont Cancer Center's newsletter “Innovations.”
www.vermontcancer.org/index.php?id=646

HERD SALE IS ONE STEP TOWARD NEW ON-FARM RESEARCH

The University of Vermont sold its dairy research herd of 255 cattle to Nordic Holsteins of Charlotte on Oct. 1.

The sale, along with upgrading the Paul Miller Research Farms Complex are steps toward a new initiative called the Dairy Center of Excellence, rolled out at the Vermont Feed Dealers and Vermont Dairy Industry Association annual conference Sept. 23. These also dovetail with university-wide “spires” directive from trustees to concentrate on areas of academic and research strength.

“All revenue from the herd sale was invested in research funded through UVM’s Dairy Center of Excellence,” Dean Tom Vogelmann announced.

“This sale will have no effect on UVM’s already solid and popular education programs,” Vogelmann stressed. “UVM Farms are a focal point for our teaching and a central part of our educational mission. The 65-cow student-run CREAM herd (Cooperative for Real Education in Agricultural Management) will continue to reside at the farm on Spear Street. What’s more, plans are on the table to build the next generation of state-of-the-art classroom and lab facilities to prepare students for the agriculture of the future.

Nordic already boarded 120 UVM cows as part of an arrangement struck in 2009, and moved 135 more in mid-October. Owner Clark Hinsdale III said this brought his herd to about 300 – full capacity. His goal is to “make the UVM herd the core of our operation. Eventually we’ll have all registered Holsteins that will continue the UVM genetics for research.”

The Miller Complex ran a deficit until 2009 when it boarded half of the herd at Nordic. Estimates say CALS could save more than \$200,000.

NOT SUSTAINABLE

While CALS is seeing increases in enrollment, its farm and research costs and milk prices are not keeping pace. Plus state and federal support of land-grant colleges has been steadily dropping for the past 20 years.

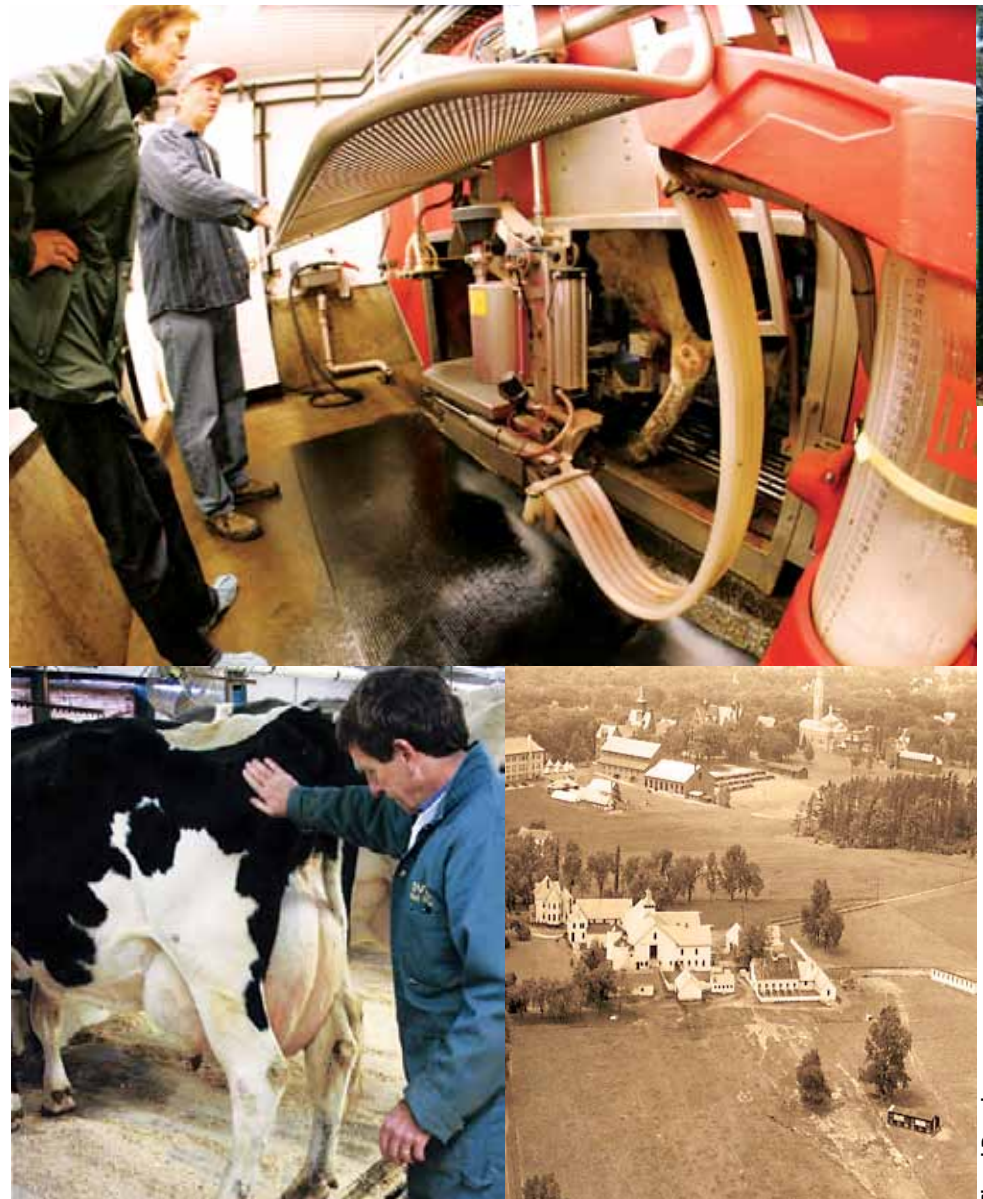
Other land-grant universities are taking more drastic measures. In mid July, Lisa Rathke of the Associated Press reported that the Universities of Minnesota and Michigan State each sold one of three herds. The University of Kentucky hoped to reduce its herd by about 40 animals. Rutgers opted to combine its herd with one at the University of Delaware, about two hours away, about eight years ago.

“Our size advantage as a small, land-grant, research university is that we can change more quickly, try new methods and shift our research emphasis as new information and needs arise, as the population demographics shift, as the economy and money from state budgets

changes,” said Vogelmann.

That’s where the Dairy Center of Excellence comes in. By forming partnerships among UVM research scientists, Vermont farms, industry and government CALS leverages funds and significantly strengthens the College’s dairy research.

“Before we were limited to 255 animals for research trials, but within an hour’s driving radius, that number is multiplied many times, and we can expand research into topics as diverse as the farms themselves,” Vogelmann noted. “UVM would be the first public institution in the country to shift its dairy research to an on-farm model with private partners.”



"This is not just about the selling of the herd, what you're seeing is the unfolding of our larger plan," said Vogelmann, counting key accomplishments on his fingers:

1. "Modernizing the animal science research facility at Terrill Hall in 2007,
2. Reorganizing the UVM Miller Farm Complex beginning in 2007,
3. Boarding UVM's research herd,
4. Launching the Dairy Center of Excellence in September.
5. Partnering with farmers and other food-related providers to increase the economic viability of Vermont farms,
6. Completing Jeffords Hall state-of-the-art life sciences building,



7. And taking up our role in the food systems "spire" with new grant-funded initiatives and strategic hiring." And this is only the beginning.

WHAT WILL BE

Last May UVM's board of trustees approved a scaled-back \$4 million renovation that includes a new dairy for the CREAM herd; conversion of barns for about 25 research animals and possibly other small livestock; a large-animal viewing area; two lecture rooms; computer study; conference room; and offices. Blueprints are being drawn and one building is slated for removal.

UVM Farms, left, undergoes renovation after UVM sold one herd to Nordic Farms. Counterclockwise, owner Clark Hinsdale III and CALS Associate Dean Josie Davis inspect the robotic milkers. David Kerr plans to expand his mastitis research to Nordic and other Vermont farms. UVM farms has a long history of change: a farm on upper Main Street served the university for 75 years but is now the site of Jeffords Hall.

Josie Davis, who has worked at the UVM farms more than 25 years, pointed out that most of the barns are pole structures with no running water that were built in the 1960s. Davis is an associate dean and animal science faculty member.

The Miller Farms are hemmed by the interstate highway and neighborhoods, and experts say that the 68 acres and adjoining fields are too small for a larger herd. So the idea of tapping the diverse farms statewide opens a whole gamut of research possibilities. The added bonus, said Vogelmann: students and researchers will work side-by-side with farmers and connect science more directly to Vermonters themselves.

Five farms have already signed on to be part of the Dairy Center of Excellence and its advisory board – among them state government appointees, dairy leaders and farmers. One of those advisors, John Bramley, told CALS leaders recently that selling "is absolutely the right thing to do with this herd. The facility is not capable of doing the kind of research we need to be doing. I think you can build stronger relationships with the Vermont dairy community in moving this forward."

~Cheryl Dorschner

UVM FARM RESEARCH LEADS IN SEVERAL AREAS

The focus of the new Dairy Center of Excellence is on dairy, but related research areas include: animal health, forage, development of value-added products, energy (methane digesters, biofuels), and nutrient management. For example:

- Molecular biologist and Associate Professor David Kerr produced the gene that enabled the USDA, in 2005, to produce a break-through, mastitis-resistant, genetically modified cow. But many species of *Staphylococcus* cause mastitis; now Kerr pursues other ways via traditional breeding to prevent this widespread bacterial infection that is painful to cattle and expensive to farmers due to treatment costs, lower milk production, discarded milk and lost income. He monitors the inflammatory response at the cellular level to understand the relationship between the host defense mechanism and the disease.

By identifying the critical points during an infection, he hopes to also identify resistant enzymes. Kerr's studies followed the UVM herd, and he will expand his work to include other Vermont farms.

- Assistant Professor John Barlow studies mastitis too, but from a different angle altogether. Barlow explores the diversity of bacterial strains within cattle herds and how specific strains respond to control practices such as antibiotics. "Most of my work already occurs at commercial dairies in the state," says Barlow, a veterinarian and faculty adviser for UVM's CREAM program. Barlow is interested in how antibiotic use for mastitis control influences resistance to antibiotics, and how specific species and strains of bacteria may survive in the mammary gland.
- In March, veterinarian and animal nutritionist Julie Smith received \$471,000 from the USDA to build on her earlier on-farm safety research. Her study runs through 2014. See related story on the back page.

- The UVM Farm reorganization fits with the food systems "spire of excellence" initiative, one of three top areas of academic and research strength identified by UVM and into which the university will concentrate its resources. This fall CALS filled three faculty positions with people whose expertise strengthens UVM's role as a pioneer in food systems research and teaching. In addition to John Barlow, above, they are:

- David Conner, a food systems economist who specialized in guiding small and medium sized farms in marketing and pricing decisions at Michigan State University, returns to UVM to do research "from farm to fork."

- Trevor Alexander, coming from the University of Alberta in Edmonton, a specialist in researching the microbial ecology of ruminants' digestive and respiratory tracts as they respond to altering feed.

CALS KUDOS



Sarah Goodrich Trevor Alexander Jana Kraft David Conner Mark Starrett Susan Marston Kathleen Liang

ANIMAL SCIENCE

Trevor Alexander arrived from Agriculture and Agri-Food Canada where he was a research fellow. A specialist in researching the microbial ecology of ruminants, he joined UVM as an assistant professor. **Alexander** received his Ph.D. in nutrition and metabolism from the University of Alberta in Edmonton, Canada.

John Barlow and UVM CREAM students received the Vermont Agency of Agriculture's 2010 Dairy of Distinction award in September.

Steve Davis went to Lexington, KY in February to pick up the American Morgan Horse Association Professional Horseman Award.

Betsy Greene was this year's winner of the Joseph E. Carrigan Award for Excellence in Undergraduate Teaching presented during the College's Honors Day ceremonies in April. She also received the 2010 National Institute of Food and Agriculture Partnership Award.

Jana Kraft became a research assistant professor after doing post doctoral work here and at the University of Jena-Germany, where she received her B.S. and Ph.D. Her research is at the interface between animal and human nutrition.

Susan Marston is a new lecturer teaching physiology of reproduction and animal welfare. In January she will advise the CREAM program. Her B.S. and Ph.D. are from the University of New Hampshire. Her research expertise is in nutrition aimed at increasing small dairy farm profitability.

COMMUNITY DEVELOPMENT AND APPLIED ECONOMICS

The **Center for Rural Studies** (CRS) launched the Local Growers Guide web site that links consumers with food, farms and sales outlets in central Vermont www.vermontgrowersguide.com. Also: in its role as the Vermont State Data Center, CRS was a key player in conducting the 2010 U.S. Census in Vermont.

David Conner returned to his alma mater as assistant professor specializing in food systems from "farm to fork." He is expanding research he brought from Michigan State University's C.S. Mott Group for Sustainable Food Systems. Conner received his master's from UVM and Ph.D. from Cornell University.

Chris Koliba and **Asim Zia's** book "Governance Networks in Public Administration and Public Policy" was published in July.

Jane Kolodinsky traveled to Germany to present research on "time use and obesity" at a conference on food economics.

Kathleen Liang's "Dollar Enterprise – From Theory to Reality, An Experiential Learning Exercise Applying Community Entrepreneurship to Plan and Operate a Small Venture on Campus," was published, and proceeds are being donated to UVM's Entrepreneurship Education Fund.

Anna Masozera was honored at the public communication capstone social, for her work as communications coordinator and lecturer. Masozera and family returned to Kigali, Rwanda.

MICROBIOLOGY AND MOLECULAR GENETICS

Sylvie Doublé, Gregory Gilmartin and grad. student **Qin Yang** published recent work in the May 17 Proceedings of the National Academy of Science.

Markus Thali was speaker and session chair at the EMBO World Lecturer Conference entitled "Virus-Host: Partners in Pathogenicity" in San Jose, Costa Rica.

Gary Ward is chair of the Pub Med Central National Advisory Board for the National Library of Medicine.

Seventy-seven members from 21 labs gathered for a day-long retreat in Grand Isle. Presentations and 27 posters updated everyone on ongoing work.

NUTRITION AND FOOD SCIENCES

Rachel Johnson's expertise was tapped for the Aug. 23 "Los Angeles Times" debate on flavored milk as part of school lunches. **Johnson's** research and work with the American Heart Association has also been widely published in international media including in "The New York Times" on Oct. 26.

Jean Harvey-Berino's recent NIH-funded research concluding that dieters tracking their weight loss via the Internet maintain their weight loss better, was widely published in the media including the September issue of "Science News." And in a Nov. 6 "New York Times" article on a USDA's simultaneous promotion of cheese and warnings about saturated fat, **Harvey-Berino** spoke against research claiming that people who ate three servings of dairy foods lost more weight than those who just cut calories. Also, her courses were featured in a September issue of the "Chronicle for Higher Education."

PLANT AND SOIL SCIENCE

Jae Su Kim, post doctoral research associate in the entomology lab, with his mentors **Margaret Skinner** and **Bruce Parker**, published data on increasing the thermo-tolerance of insect-killing fungi for biological control – research that speaks to managing insects in light of climate change. Publications include "Journal of Microbiology and Biotechnology." **Parker** and **Skinner** also began a \$196,000 SARE-funded study of using thermal curtains and tiny soap bubbles to insulate greenhouses in Northern New England.

Leonard Perry led a tour of Montreal Botanical Garden and its Chinese lanterns exhibit in September. **Perry** again judged communities nationwide for the America in Bloom program. Winners were announced at an annual symposium in September in St. Louis, MO.

"**Dr. Mark Starrett Day**," July 20, was proclaimed by Burlington Mayor Bob Kiss in recognition of Starrett's decade of garden design and creation. Organized by the Burlington Garden Club, the day included a proclamation signing and wine and cheese reception.

PLANT BIOLOGY

Laura Hill Bermingham, lecturer, received a three-year USDA Forest Service grant to study habitat in the of the rare Appalachian Jacob's ladder in the Green Mountain and Finger Lakes National Forests.

Sarah Goodrich, communications coordinator, was the sixth annual recipient of CALS Outstanding Staff Award at the April 16 Honors Day.

Abby van den Berg, research associate at UVM's Proctor Maple Research Center, was awarded a Northeastern States Research Cooperative grant to develop modern, sustainable tapping guidelines for maple syrup production.

COLLEGE-WIDE KUDOS

Henry Atherton and **Leonard Mercia** were awarded the Sinclair Cup; **Jennifer Armen-Bolen**, **Jonathan Rooney** and **Robert Willey** were named Outstanding Alumni; while **Kevin Kouri** and **Helen Labun Jordan** received New Achiever Awards at the College's annual Alumni and Friends Dinner on May 8. **Simmone Fuge** received the annual Forcier Outstanding Senior Award.

Shelley Jurkiewicz, a senior academic services professional in biochemistry became CALS' representative on the Staff Council on July 1. She is serving a one-year term.

SCHOLARSHIP FUND TO HELP STUDENTS FOR CENTURY TO COME

Aiming to raise \$1 million in endowed funds for student scholarships, Dean Tom

Vogelmann recently launched

the Centennial Scholarship Fund Drive as the focus the College's centennial in 2011.

"I can think of no better way to celebrate the College's first 100 years, than to prepare for its next century," said Vogelmann announcing the goal. "And what better way than to put in place several new endowed scholarship funds for our students."

Leading what Vogelmann hopes will be 10 new endowed scholarship fund commitments of \$100,000 or more, the Alexander McMahon Kende Memorial Scholarship Fund reached the \$100,000 level in July, thanks to a generous, anonymous donation from the parents of a current CALS student. Also, several new gifts are expected to push that endowment's principal even higher.

"It's wonderful to see the Alex Kende Memorial Fund reach this important milestone. This is a tribute to Alex and recognition of the outstanding students who are chosen to receive this award," remarked Vogelmann.

Another good example of a scholarship that makes a \$5,000 difference for a CALS student every year is the Cornelia Wheeler Irish Memorial Fund established in 1988. Its namesake, dedicated to community church and family, taught in a one-room schoolhouse in Plainfield after she graduated in UVM's Class of 1918. Hannah

Joerg, a senior majoring in dietetics, received the Irish scholarship this fall for her last semester here – she is graduated in December, will apply for the highly competitive dietetics internships in fall, prepare for the dietetic registration exam and work in the field until she can enroll in a master's program, she says.

"The gift of scholarship has given me the opportunity to achieve my goals, so that one day I can pass on this kindness to others" said Joerg.

Joerg received funding from UVM when she transferred here from Pace University in 2007. She supplements that with various grants and jobs. Over the years, she has done work-study, RA stints, tended bar and waitressed. As a senior, she worked two jobs while going to school full time.

"Unfortunately, I will not be graduating debt free," she says, adding loans from her two universities, she will owe \$70,000.

"I have been working since the day I became legally allowed," Joerg says, "I love working, and I'm excited to become a professional in the 'working world'. I am confident that even if it takes me a few years to accomplish my goals of becoming a registered dietitian, I will succeed. I plan to take advantage of every opportunity that comes my way and learn from each and every experience."

Ever since UVM's College of Agriculture was established in 1911, enrollment has steadily increased – from that first 200 students enrolled when the "agricultural and scientific department" was reconfigured as the College of Agriculture through the



Sally McCay

As recipient of the 2010 Cornelia Wheeler Irish Memorial Fund Scholarship, Hannah Joerg, standing, thanks Wilmot Irish '50 at the Scholarship Luncheon on campus Oct. 1.

the College's history there has been a shortage of scholarships, which has required many students and their families to borrow money for their CALS educations. In a struggling national economy, currently, two thirds of the College's students take out loans and, on average, by graduation face a debt of about \$26,900.

Whether students receive a one-time award or a scholarship that covers their full CALS academic program, the benefit is timeless and enduring.

Named scholarship funds may be established to assist students at the undergraduate or graduate level and may be restricted to a particular department or left unrestricted to serve deserving students enrolled in any part of the college.

Please contact Associate Dean Josie Davis at josie.davis@uvm.edu or (802) 656-0137.

~Howard Lincoln

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RESEARCH HELPS PREPARE COMMUNITIES FOR DISASTER

And the plans are not just the bailiwick of farmers. "All people need to know about this, because, if it happens, it will affect everybody," says Smith. "An agricultural disease outbreak would take a huge amount of cooperation."

At stake is health and safety, but also the food supply and rural economy.

Butterwick Farm, which Roberts owns and operates with his wife, Lisa Roberts, had a small dose of an outbreak in 2008 when mycoplasma bacteria struck. Experts are still not sure how it started. Mycoplasma is spread by animal-to-animal contact.

Due to the disease's variety of symptoms,

it took five weeks for a correct diagnosis and a full three months before the disease was eradicated. By then, "I lost 25 percent of my herd and about \$30,000, a month's income," reports Roberts.

This event, recollections of the foot-and-mouth-disease outbreak in the UK and the Roberts' diligence in running the best operation they can, combine well with Smith's expertise to create a nationwide model for best practices.

"My goal is this," says Roberts, "I want to raise awareness; I want to have a plan and I want to never have to use it."

~Cheryl Dorschner

NOMINATE ALUMS BY FEB. 1 SAVE THE DATE: MAY 14

CALS seeks nominations for the 2011 alumni awards to be presented at the 18th annual CALS Alumni and Friends Dinner on Saturday, May 14 from 5:30-7:30 p.m. at the Davis Center's Grand Maple Ballroom.

Categories include: New Achiever Alumni Awards for graduates from 1996-2010 and Outstanding Alumni Awards for graduates in 1995 or earlier. Details at: www.uvm.edu/cals. Click on "Alumni and Friends" then "Scholarships and Awards." Scroll down. Or call 802-656-0321.



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Permit No. 143

EXPECT THE BEST, PREPARE FOR THE WORST, SAYS VT FARMER

John Roberts is at a crossroad in more ways than one. His Butterwick Farm stands at the intersection of Cutting Hill, South Bingham and Barnes Roads in West Cornwall. Whether sipping tea on the front porch, strolling past his 200 Brown Swiss cattle or meeting the milk truck at the milk house door, he's rarely more than 25 feet from the middle of a road.

And while they are narrow dirt roads, low on traffic, experience tells him to be concerned. He wonders how he could quarantine his farm in the event of an agricultural emergency.

Growing up in England's Lake District, Roberts spent summers on another Butterwick Farm learning from David Bousfield, who became his mentor. He studied agriculture at University of Newcastle-Upon-Tyne. That's why he well knows people who suffered the 2001 outbreak of foot-and-mouth disease, in which 2,000 cases resulted in more than 10 million animals being killed and untold economic, social and psychological losses.

"Many of my friends were affected. One committed suicide. I know how contagious

and how devastating this disease can be," Roberts says.

That's one reason he agreed to be a test farm for Julie Smith's four-year research project to study the challenges of developing community-wide agricultural biosecurity plans in Vermont. Smith, a veterinarian and UVM Extension assistant professor, received a \$471,000 USDA Agriculture and Food Research Initiative Grant.

Smith chose Butterwick Farm as one of four farms where she and a team of researchers and outreach workers will give farmers, their goods and service providers and town leaders tools and strategies to create their own plans to handle widespread agricultural disease outbreaks. And in the long run, these formulas will be shared online as models for others.

Some aspects of this biosecurity research project that will evolve in the coming years are: meetings to develop on-farm plans; meetings of diverse parties to clarify their



Farmer John Roberts talks with UVM's Julie Smith about the vulnerability of Vermont farms to easily spread disease outbreaks.

roles; workshops to improve and coordinate local and state plans; and drills, videos, websites and the like to educate the public.

Dealing with biosecurity issues such as these cannot be reactionary, stresses Smith. "It needs to be a proactive and protective plan rather than waiting for the disease to be found locally before responding."

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