Class of 2014

2014 was a good year for undergraduate students in MMG. The class had 17 graduates. 29% were Vermonters. There were six Microbiology majors and eight Molecular Genetics majors, with one Microbiology / Molecular Genetics double major and two other students with double majors, one in our Department and one in another department. Four were Honors College graduates, and 82% did undergraduate research or internships. As of this writing, nine of these students were employed in a variety of positions and one is a PhD candidate at Columbia University. These positions include lab techs at NYU, UVM, CalTech and UPenn, ER technician at Fletcher Allen Health Care, post-bac Fellow and Clinical Research Coordinator at Mass General Hospital and Quality Assurance technician at Long Trail Brewery.

Welcome New Undergraduates!

Microbiology
Paige Beyor★ Albert MacFarlane★
Michael Gialone Andrew McCall
Elia Jostin Adam Moshinsky
Shreya Kontham Alexy Novelli★
Joshua Laffin Gabriela Sarriera
Ethan Loo Nathaniel Schukei★
Alex Lunderville Double Major Microbiology and Animal Science

Molecular Genetics
Daniel Brooks Jenna Morrissey★
Daniel Brown Emily Sola
Shayne Dodge Katelyn Spickerman
Jade Ferguson Jake Tristano
Felix Holdorf Ariana Zamora
Victoria Primavera Double Major Molecular Genetics and Animal Science

★ Vermont Resident

Past Classes
Several MMGers received advanced degrees in 2014, while others were accepted into advanced degree programs. Eight alumni received advanced degrees including Masters Degrees in Nursing, Molecular Pharmaceutical Sciences, Biohazardous Threat Agents and Emerging Infectious Diseases, Public Health and Nurse Practitioner, Doctor of Osteopathic Medicine, MD, and PhD in Molecular Microbiology and Immunology. Eleven more alums were accepted into advanced degree programs.

Awards

Faculty
Sylvie Doublié, Ph.D was elected to the Vermont Academy of Science and Engineering and was selected as a 2013-2014 University of Vermont Scholar. The University Scholars program recognizes distinguished UVM faculty members for sustained excellence in research, creative and scholarly activities. This recognition comes with a grant of $2500 to be used at Sylvie’s discretion to promote her scholarly activities. Induction into the Vermont Academy of Science and Engineering (VASE) represents the highest recognition
for scientists and engineers. Criteria for membership includes established scholarly excellence in Science or Engineering as evidenced by a continuous record of publication in major research journals or awarding of patents, extramural funding, speaking at national and international professional meetings, as well as being a Vermont Resident.

Susan Wallace, Ph.D. is the recipient of the 2013 Hubert W. Vogelmann Award for Excellence in Research and Scholarship. The College of Agriculture and Life Sciences recognizes outstanding effort and achievement in research and scholarship. This annual award is commemorated by Susan's name engraved on a commemorative plaque and an award of $2,500 which can be used to support her research efforts. In addition, Susan will present a seminar to the CALS faculty on October 22, 2014, at 2:00 pm, in 101 Stafford Hall. The award will be presented during the seminar. Please plan to attend.

Dawei Li, Ph.D., was chosen as a UVM Sustainability Faculty Fellow. Supported by the Office of the Provost, this fellowship seeks to develop a learning community—a multidisciplinary faculty cohort engaged in a yearlong exploration of sustainability, the scholarship of teaching, learning, collaboration, and community building.

Ralph Budd, M.D., received a 2014 Lupus Research Institute Award to study a new potential avenue for treating inflammation in lupus. Read more about the Lupus Research Institute Awards here.

Postdocs

Ash Prakash, Ph.D. (Doublié Lab) was awarded a K99-R00. This Pathway to Independence (PI) Award is designed to facilitate a timely transition from a mentored postdoctoral research position to a stable independent research position with independent NIH or other independent research support at an earlier stage than is currently the norm. The PI award provides up to 5 years of support consisting of two phases. The initial phase will provide 1-2 years of mentored support for postdoctoral research scientists. This phase will be followed by up to 3 years of independent support contingent on securing an independent tenure-track or equivalent research position.

Carolyn Marsden, Ph.D. (Wallace Lab) was awarded a prestigious postdoctoral fellowship from the American Cancer Society. This award is given to support the training of researchers who have received a doctoral degree and to provide initial funding leading to an independent career in cancer research.

Undergraduates

Kathleen Bashant (2016) has been named a Goldwater Scholar. The Goldwater is a nationally competitive prestigious scholarship that recognizes sophomores and juniors who have done outstanding work in science, technology, engineering or math, (STEM). The purpose of the Goldwater Foundation is to provide a continuing source of highly qualified scientists, mathematicians, and engineers by awarding scholarships to college students who intend to pursue research careers in these fields. Kathleen's career goal is to pursue a Ph.D. in Immunology and conduct research on immune responses to infectious diseases, particularly Lyme disease.

Audrey Woods (2014) has been elected to membership in Phi Beta Kappa, the oldest and very prestigious honorary society recognizing outstanding performance in the liberal arts and sciences. Audrey is also the recipient of the Lucille P. Markey Outstanding Senior in Molecular Genetics award in recognition of her academic excellence and professional growth. Audrey is presently Clinical Research Coordinator at Mass General Hospital.

Kelly Nguyen (2014) and Audrey Woods (2014) were the recipients of the Microbiology and Molecular Genetics
Undergraduate Teaching Assistant Award. Both Kelly and Audrey exhibited excellence in the classroom as undergraduate teaching assistants.

Krystina Katterman (2015) who majors in Microbiology and minors in Molecular Genetics, received the Nicole J. Ferland Award. This award supports her summer research in the Wallace Lab.

Tom Hilzinger (2014) received the Warren R. Steinbring Outstanding Senior in Microbiology Award, which is given in recognition of academic excellence and professional growth.

MMG had three Distinguished Undergraduate Research Program recipients. The Distinguished Undergraduate Research Program of the College of Agriculture and Life Sciences recognizes students who, in addition to pursuing their regular course of study, conduct original research under the immediate supervision of a faculty member.

Mentor: Susan Wallace, Ph.D.

Mentor: Matt Wargo, Ph.D.

Anna Lidofsky (2014) - Microbiology Program - “Explaining Hospital Length of Stay of Patients Admitted With Seasonal Influenza Infection”.
Mentors: David Kaminsky, MD and Doug Johnson, PhD

Congratulations to all our award winners!

Lab News

Bond Lab

Molecular Bioinformatics Shared Resource News

Our group continues to focus on genomic sequencing and expression services via Massively Parallel Sequencing (MPS), and yes, still lots of Affymetrix GeneChips. Thanks to Bob Devins, Ramiro Barrantes, and Marni Slavik, and support from the COM, we've greatly streamlined our process. Bob and Ramiro have the VACC and our genomics pipeline (lovingly called “VagaBond”) running round-the-clock. Our pipeline is so efficient, the University gave us our own actual pipe in Hills! MBSR has a new website, http://www.uvm.edu/medicine/mbsr/. It's a work-in-progress, but it describes our services and new rate structure. Check it out!

Julie Dragon is now the Director of the MBSR, and lead bioinformatician on Ralph Budd’s VCIID and The Cancer Genome Atlas data analysis projects. Jeff Bond has increased his effort toward the Neuroblastoma & Medulloblastoma Translational Research Consortium as lead bioinformatician on a molecularly guided therapeutic clinical trial for pediatric cancers. Julie and Jeff continue to play a role in a translational collaboration with the Joann Sweasy and Susan Wallace laboratories, and have developed a Human Genome Variant pipeline with MMG’s P01 (Doublé / Morrical / Pederson / Sweasy / Wallace / Warshaw) team, which pulls together variant information from multiple databases. Julie just submitted a paper with Arti Shukla, the first of the VCC pilot awards to go to press. Gerry Bouffard continues to divide his time between NIH’s NISC and UVM. NISC is going
on line with their PacBio sequencer this month.

On personal notes, Gerry recently spent 21 days hiking in New Mexico on a trip lead by eight 15-year-old boys. Jeff’s been enjoying his new kayak (look for the car that looks like it has a banana on top in the Given parking lot), while Bob boats around our great lake, and Marni paddleboards it with her family. Last but not least, Ramiro has taken up Kizomba!

Burke Lab

John Burke, Ph.D. has been happily teaching biochemistry, structural biology, genetics, and genomics to undergraduates, medical students and graduate students. He anticipates retirement sometime in the next year.

Doublié Lab

The Doublié lab has had lots of changes this summer. We have a new lab technician, Vy Cao. She graduated from UVM with a dual degree in Biochemistry and Microbiology this past May. She also has an adorable daughter, Christa. Kedar Moharana joined the lab in August. He recently obtained his Ph.D. in Belgium in Savvas Savvides’ group working on crystallographic and small angle X-ray scattering (SAXS) studies of the leptin receptor. As it turns out, we welcomed another resident SAXS expert, Andrew Malaby, who joined the lab in September. He is a recent Ph.D. graduate from the Lambright group (UMass Worcester). Andrew and his wife Heidi, who will be postdoc’ing with the Stumpff lab in Molecular Physiology and Biophysics, recently moved with their dog and two cats. Marcus Moreno is an undergraduate Biochemistry major in the Honors College who joined our lab last spring. He has been whipping out polymerase structures with expert help from Brian Eckenroth. Along with all of the new folks, our other labmates have a lot going on. Ash Prakash got her NIH K99 grant funded, making the Doublié lab proud. Brian and Amanda got married in September, at Bolton Valley. Congratulations to both! After two years as our technician, safety officer and Åkta master, Brittany Carroll has decided to leave our lab to join the CMB graduate program this August. She is a proud aunt and welcomed a second nephew in August. She also got a new dog, Tucker, who quickly became the lab mascot. Karl Zahn just went to Cambridge (the original one, in the UK) to present his latest results (top secret). He met with former MMG postdocs, Pierre Aller and Stéphanie Duclos, after the conference. Rumor has it that he got a VIP tour of the Diamond synchrotron where he has shipped so many crystals for data collection.

In other alumni news: Sam Hyde (Ph.D. 2012) graduated from Johns Hopkins with an MPH and moved to Anchorage to work for the State of Alaska’s Division of Public Health. She is also an adjunct faculty at the University of Alaska. Qin Yang (Ph.D. 2011), his wife Chunxiao Yu (Ph.D. 2009), and big brother Alex welcomed a new baby boy, Frank.

Sylvie will serve on the NIH Molecular Genetics A study section starting this October, continuing a tradition started by MMG adjuncts Chris Francklyn and Scott Morrical. Finally in these times of budget cuts and reduced federal funding our lab is grateful to the Trunk foundation for making possible the purchase of a new crystallization robot, which will
arrive in October. Now if Formulatrix could come up with a grant writing robot, we'd be all set – oh, wait, that's Sylvie's job!

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**Gilmartin Lab**

Greg Gilmartin is developing a new course on Emerging Human Pathogens for undergraduates. It will cover pathogens such as the Ebola and West Nile viruses that are increasingly threatening humanity, from a biological, cultural and environmental perspective.

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**Johnson Lab**

It has been a great joy and a lot of fun working with the undergraduate researchers in my lab over the last year. Kori Gargano graduated in May and is working as a microbiologist for Ben and Jerry's....still waiting for the free Coffee Heath Bar Crunch ice cream. Samantha Niles also graduated in May and is working as a lab tech in Boston. They are sorely missed. The current undergraduates in the lab, Dan Spitzer, Leah Briscoe, Grace Yasewicz, Paul Christopher, and Devon Weller, are doing wonderful work with our small molecule inhibitors and keeping me on my toes. On the teaching front, the MMG101 class broke the 170 student enrollment barrier for the first time (all thanks to Brenda Tessmann's great lab experiences) and I am really enjoying working with the Honors College students in CALS. Stop by and see me if you are in town....if I'm not in my office, I'll be on the golf course!!

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**Li Lab**

Braeden Hughes, a talented undergraduate from Macalester College worked in our lab over the summer. We are awaiting new members to join our lab in the fall.

The lab has been involved in several exciting projects and collaborations during this year, ranging from genetic studies to development of new computational tools. Some of them led to publications in *Neuropsychopharmacology*, *Human Genetics* and *BMC Genomics*. The computational tool gained immediate attention: accessed over 1400 times from users across 16 countries and 41 cities during the past month. Also, Dawei and Arvis taught a one-day workshop on the genetic analysis of human complex traits and disease during CMB orientation.

Arvis was awarded a scholarship from Rockefeller University to attend the Advanced Gene Mapping course in NYC in January, where he learned a lot from interacting with many fellow graduate students, postdocs and faculty from all over the country for one intense (and fun) week. In other activities, the lab members have been busy not only with fun science but also with swimming during the nice quiet months of summer.

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**Mintz Lab**

The Mintz lab was productive over the last year. Collaborations have been established expanding our research efforts into the domain of innate immunity and proteomics. KP Smith, 5th year graduate student, has published a study of the most complete proteome, to date, of the cell envelope of our favorite organism, *Aggregatibacter actinomycetemcomitans*. Outside of this heroic effort, KP has also significantly
improved and advanced the annotation of the proteins associated with this organism. We have established a collaboration with Dr. Andreas Koenig, Department of Pathology, exploring the interaction of *A. actinomycetemcomitans* with dendritic cells. Yan Xing, second year graduate student, presented this exciting data at his CMB seminar. Most significant is the award of a 5 year R01 from the National Institute of Dental Craniofacial Research (NIDCR), with Dr. Teresa Ruiz (Department of Molecular Physiology and Biophysics) as a dual PI, continuing our joint collaboration on the structure/function relationship of an adhesin discovered in our laboratory. The Mintz lab members have also been keeping themselves busy with some fun and interesting extracurricular activities. Yan Xing has been enjoying his summer in the sunshine with his new barbecue, while Richard Voogt, having completed his Masters in Research Management, has been gallivanting as usual, making trips to perform in dance events in Los Angeles and Montreal as well as taking a cruise in the Bahamas. Back in Burlington, Thomas Freeman, research technician, has been tutoring high school students at the Winooski Teen Center as well as brushing up on his own skill set with some economics classes this summer. With all that being said we have still managed to make the odd lab excursion including a hike up Stowe Pinnacle this summer. Any labs interested in a joint hike this fall let us know!

Over the coming year our lab looks to be even busier with the addition of several wonderful undergraduate students including Samantha Bobowski, Christopher Cummin and Emily Keller not to mention Dr. Mintz’s new horse Jumbo, a 17 hand Danish Warmblood, national & international equestrian dressage champion in his day.

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**Pederson Lab**

David Pederson took time recently to tour St. Petersburg and Moscow, and the waterways that connect the two cities. He found both cities to be big, traffic-laden, and sporting an array of distinct architectural styles, ranging from Baroque, to Stalinist (= Empire-style), to Krushchev/Brezhnev (= ugly/utilitarian), to Putin-era modern. Putin’s broad support seems genuine and due partly to his having ended the rampant violence and economic stagnation that plagued Yeltsin’s rule during the 1990’s. Everywhere it seemed, there are onion-dome churches, some with gilded interiors and others containing only a handful of wood-painted icons. After visiting the palaces of Catherine the Great, one can...
better understand that she and her heirs pushed the country close to bankruptcy, helping to create the impetus for revolution, much as the French nobility did a century earlier.

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**Sarkar Lab**

This has been an eventful year in the Sarkar Lab. Both Ahmed Nabhan (Computer Science) and Vivek Sharma (MMG) successfully defended their PhDs. Undergraduate researcher Joe Romano has started school at Columbia University in New York City (pursuing a PhD in biomedical informatics). Ahmed has taken a position as a senior engineer for Sears Holdings, Inc. in Chicago and Vivek is continuing on as a Post-Doctoral researcher working on the group’s most recent R01 that is focused on developing computational approaches for studying potential medicinal plants. In addition to being elected to the Board of Directors for the American Medical Informatics Association (AMIA; the primary society for professional biomedical informaticians) and serving as a Vice-Chair for AMIA’s Annual Symposium, Neil was recently profiled by AMIA: [http://www.amia.org/about-amia/leadership/spotlight-1/indra-neil-sarkar-phd-mlis](http://www.amia.org/about-amia/leadership/spotlight-1/indra-neil-sarkar-phd-mlis). Neil also was chosen as an IBM 2014 Faculty Fellow in support of his research on pre-term birth. Christina Yu continues her undergraduate research on enabling in silico microbiome analysis and will be returning to work on studying potential medicinal plants this coming year. The lab is looking forward to undergraduates Ian Johnson and William Robinson joining the group and working on other facets of research related to medicinal plants.

On a personal note, Nat (who is now 2 ½) had a wonderful summer of gardening and was delighted to have Augi (short for Augusta, named after Augusta Ada King, known to most as Ada Lovelace, a mathematician and revered as the first computer programmer [http://en.wikipedia.org/wiki/Ada_Lovelace](http://en.wikipedia.org/wiki/Ada_Lovelace)) join our family. Augi (bottom right) has been welcomed with open paws by her cat-sister (Sophie; top right), cat-brother (top left), and dog-brother (Euclid; bottom left).

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**Shen Lab**

The Shen lab had a busy and productive year both scientifically and personally. Kelly Fimlaid was selected to give an oral presentation at the 8th International Conference on the Molecular Biology and Pathogenesis of the Clostridia in Cairns, Australia, and Aimee was an invited speaker at this meeting as well as the 39th Lorne Conference on Protein Structure and Function. Kelly also presented a poster at the

![Image](image-url)
Banff Conference on Infectious Disease in the Canadian Rockies and spent this past summer finishing up experiments for two manuscripts. Keyan Pishdadian, a technician in the lab, submitted his first manuscript that is currently under revision at Molecular Microbiology. The lab also had its first lab retreat at Jay Peak (shown above), where Keyan learned that it is possible to stop in a controlled manner while skiing thanks to the excellent tutelage by Kristin, Kelly, and Owen.

We said farewell to Owen Jensen, a graduating senior in the lab who will be sorely missed. Owen will undoubtedly continue to be an excellent asset to the lab of Jay Zhu at the University of Pennsylvania, where he will be working as a technician studying the pathogenesis of Vibrio species. We wish him all the best!

Dave Shirley, a recent graduate of Drexel University’s Masters in Biostatistics Program, joined the lab. Dave is working for both the Shen and Wargo labs helping out with massively parallel sequencing data analysis and microscopy image analyses. Priyanka Ravichandran and Lauren Donnelly, who are MMG majors and incoming juniors, joined the lab this past winter, worked through the summer, and are continuing research for credit in the fall.

The lab welcomed two newborns, Jim Shirley and Mika (Shen) Aykroyd, this past summer and are eagerly anticipating the birth of Kelly’s future baby in 2015!

Aimee and Mika above. Dave and Jim below.

Thali Lab

The Thali lab is now down to just two full-time members (Markus and Mel), which is a strange coincidence with the Thali family home also now consisting of just two full-time residents, with Markus’s youngest finally starting college this fall. Marie Lambelé wrapped up her work and moved back to France in December 2013, continuing her research in the HIV field in Paris. Also at the end of 2013, Nate Roy successfully defended his dissertation, graduated, and then began his post-doc at the Children’s Hospital of Philadelphia in late May 2014. Jany Chan has also completed her time here, and she is seeking a job in industry while writing up her paper(s) in collaboration with the Wallace lab.

In the midst of all this, I (Mel Symeonides) have been trying my best to absorb as much as I can from each lab member before their departure, and am now the sole surviving researcher tasked with welcoming and training the next generation of Thali lab members. Undergraduates Reed Hausser and Lauren Bellfy are joining (or rejoining) me for the ride, as we face the (very welcome!) onslaught of rotating graduate students this year. Having published my first lead author paper this year, and having given my two first oral presentations at international meetings (one in Israel at the EMBO Cell-Cell Fusion Workshop, and one at the Retroviruses meeting at Cold Spring Harbor Laboratory), I am as motivated as ever to start wrapping up my various projects here and thinking about graduating. Helping me through all this is my new feline companion, Achilles, the hyperactive formerly stray bobtail shorthair I adopted just this July.
Wallace Lab

Dr. Bob Melamede has retired and returned to Burlington from Colorado Springs. After he left the Wallace lab he became the Chair of the Biology Department at the University of Colorado, Colorado Springs. You may see his smiling face as he stops by to visit the department every so often.

Yin Guo, Ph.D. (Ph.D. 2009) is working on her second postdoc in the Center of Vascular and Inflammatory Diseases at the University of Maryland, School of Medicine where her research focuses on stem cell therapy using human cardiac stem cells in myocardial infarction. They are also studying the roles of microRNAs in mediating regenerative capacities of human cardiac stem cells. Her son, Oscar, will be three in January and in addition to his native language he is learning English so he can communicate with the other children in his daycare.

Although Jia Zhou loves living in Vermont, he has decided it’s about time to graduate. He is currently busy writing manuscripts and his doctoral dissertation; he plans to defend in December. Jia is looking for a postdoc position to continue his research after graduation.

Minmin Liu, Ph.D. (Ph.D. 2012) is moving from the University of Southern California, Los Angeles to the Van Andell Research Institute in Grand Rapids, Michigan.

Lindsay Volk joined the Wallace and Sweasy labs recently. She graduated from Castleton State College in 2012 with a B.A. in Biology. After graduation, she worked as a quality assurance technician for 2 years at Perrigo Nutritional in Georgia, VT. At Perrigo, she tested baby formula for microbial contamination, as well as the components involved in making the formula. With future plans of applying to graduate school, she decided to take on a research position at UVM in order to build her resume and take classes.

A collaborative effort between the Wallace Lab (Andrew Dunn, Scott Kathe, Susan Wallace) and the Warshaw Lab (Shane Nelson, David Warshaw) entitled “Two glycosylase families diffusively scan DNA using a wedge residue to probe for and identify oxidatively damaged bases” was published in PNAS on May 20th, 2014 and has been recommended for F100Prime.

Ward Lab

This has been an unusual year in the Ward lab. Gary was on sabbatical for much of the year, spending six months in Scotland at Glasgow’s Wellcome Center for Molecular Parasitology and six weeks as Director of the Biology of Parasitism summer course in Woods Hole. The lab did fine without him, making him think he should perhaps go on sabbatical full-time. There have also been several important comings and goings since the last newsletter. Luke Tilley and Jacqueline Leung completed their PhD work and moved on to postdocs at the Whitehead Institute and Indiana University, respectively; congratulations Luke and Jacqueline! Sam Ashley joined the lab as a technician and has been doing great work.

Gary at Lealt Falls, Isle of Skye
alongside Anne, Shruthi, Jenna and Pramod. We have also had several fun visits from lab alumni over this past year; please stay in touch and drop by whenever you’re in town!

Wargo Lab

During the past year we graduated the Wargo Lab’s first graduate student, Annette LaBauve, who graduated with a Ph.D. in MMG with her thesis entitled "Pseudomonas aeruginosa transcriptional responses to host lipids: impact on virulence determinant production and secretion". She is now a postdoctoral researcher at the Sandia National Laboratory in the lab of Steve Branda. During this past year work from her thesis was published in PLoS Pathogens.

There are currently three graduate students in the lab. Jamie Meadows (MMG) plans to defend later this fall and is busy writing her thesis and working on her second research paper and second review paper regarding her dissection of carnitine catabolism and regulation in bacteria. Adam Nock (MMG) has finished classes and is studying the regulation of choline metabolism in Burkholderia, while raising hissing cockroaches (that may one day be used in an experiment) and helping to mentor the undergrads in the lab.

Graham Willsey (CMB) is entering his third year and is studying sarcosine metabolism in Pseudomonas and also interactions of bacterial species in drinking water biofilm communities.

In concert with the Shen Lab, we have recently hired Dave Shirley as a bioinformaticist/biostatistician and then promptly made him climb a mountain (see lab photo above) as part of our yearly ascent for the summer lab outing.

Undergrad Yuzo Kevorkian (Microbiology) joined the lab and has been studying Pseudomonas response to an abundant osmoprotectant in the ocean, DMSP, a compound that is important for cloud formation and climate. We also welcome MMG undergrads Mary Wilk and Gabriela Sarrier who will be doing undergraduate research in the lab.

Office News

We have been playing musical houses in the office this year. Anne MacLeod moved from Essex Junction to Marshfield. Ask her about her ride to and from work on the Link bus. Barbara Drapelick has had fun selling her home in Dummerston and remodeling her new home in Middlebury all the while living here in Burlington. Between packing and moving among all three locations, working on grants and the infamous Program Project, she has had quite the eventful time! Helen Brunelle is also busy selling property and is in the process of buying a new home in Milton. Although Debbie Stern hasn’t moved, she has welcomed her first grandchild, Daniel. Debbie, her Mom, numerous aunts, sister and son (Daniel’s dad) all graduated from UVM, so get ready Class of 2035!

Alumni News

Cardy Raper, Ph.D. keeps on talking about her memoir. She spoke at the Burlington Book Festival in the fall of 2013, and presented an invited keynote address about ‘mushrooms walking into the bar’... at the Vermont Bar Association’s "Winter Melt" retreat in Montreal, in January this year. The new book -- a Raper family memoir short titled "An American Harvest"-- is in the hands of a literary agent hopefully headed for publication. Between trips, one with Janet Kurjan, Ph.D. to Valencia and Barcelona, and sailing at her new summer place near Basin Harbor, she keeps out of
mischief (somewhat) by writing, playing tennis, singing with the BSO, and tutoring reading at the Lawrence Barnes Sustainable Academy.

Paula Fives-Taylor, Ph.D., has been elected as a Fellow of the Vermont Academy of Arts & Sciences. To quote Paula, “Life doesn’t end when you retire.” Connell B. Gallagher, President of the Academy wrote the following to Paula: “You were chosen because of your life-long work as a microbiologist at the University of Vermont, as a teacher and a scholar with a strong record of publication in major biological journals. Your work studying the organisms implicated in dental diseases, with special emphasis on bacterial colonization of tooth surfaces and resulting dental plaque, was highlighted by the Fellows Committee and the VAAS Board of Trustees. The board also noted the many awards you have received throughout your career, including the Vogelmann Award for Outstanding Research. Colleagues noted the importance of your mentoring of younger faculty and students and your encouragement of young women to choose careers in science. Your election was unanimous.” Congratulations, Paula!

Amanda Ochoa (B.S. 2009) writes, “Exciting news, I took a job with Keurig Green Mountain as their QA Microbiologist and lab manager for their new cold beverage platform. I will be starting up their first production microbiology lab.”

Anya Gushchin (B.S. 2004) writes, “I finished my residency in ophthalmology at UPMC, followed by a fellowship in Opthalmic, Plastic and Reconstructive Orbital surgery at Stanford. Now I am doing an International Ophthalmology Teaching Fellowship at the Moran Eye Center in Salt Lake City Utah and will be working with Dr. Tabin in Asia and Africa as part of the Himalayan Cataract Project to improve Oculoplastics services in Ethiopia and Ghana.”

Cindy Davis, Ph.D. (Postdoc, Johnson Lab) writes, “[here is] a picture of my husband and me at the start of our 25th Anniversary trip this past June. We travelled through our old stomping grounds including passing through Burlington. Dennis is still working as a pharmacist and I am currently beginning my 11th year teaching at Roberts Wesleyan College in Rochester, New York. I am a Professor of Biology, with tenure. I am still doing research with S. cerevisiae with undergrads at RWC (there is no graduate science program currently). Our daughter, Sarah, is majoring in early childhood education at Eastern Nazarene College and is beginning her senior year there. Our son Richard is entering 10th grade in the fall.”

Kristina Kopec (B.S. 2010) recently married her long-time boyfriend Stan Piskorski in June 2014 at a friend’s private home in Holyoke MA on the banks of the Connecticut River. Fellow 2010 alumni Mandy Burton and Chris Deapo were in attendance! The newlyweds spent a week exploring the North Myrtle Beach area for their honeymoon. Kristina continues to lead the Microbiology Lab at an organic, whole foods vitamin company in Brattleboro VT called New Chapter.

Kristin Clark Lombardi (B.S. 2000) is currently a pediatric cardiologist at Hasbro Children’s Hospital/The Warren Alpert Medical School of Brown University. She and husband Mike are very happy to be living back in Rhode Island with their two daughters: Olive, age 2 1/2, and Ruth, age 1. They are having a great summer and hope to visit Burlington this fall!
Warren Schaeffer, Ph.D. sent in the following:

Current scientific thought is not infallible. In 1987 and 1988, my then grad student, Barbara Israel, and I published two papers describing experiments with normal and malignant cell cultures we developed. We produced reconstituted cells by swapping nuclei and cytoplasm between the two. Normal nucleus in tumor cytoplasm = tumorigenic cells; Tumor nucleus in normal cytoplasm = normal cells. Thus, in all cases, it was the cytoplasm, not the nucleus, which was the determinant of tumorigenicity. These results were also part of my NIH renewal and it didn't sit well with the reviewers, because the somatic mutation theory of cancer was the accepted dogma and these data challenged that; the renewal was rejected. That devastated my lab and my research.

Fast forward to 2014. Dr. Thomas Seyfried, a well-known nutritionist and neurologist at Boston College, recently published his new book, “Cancer as a Metabolic Disease”. In it he prominently features our reconstructed cell data and uses it to bolster the nutritional cancer concept, namely, that a disruption of sugar metabolism in the cell (a mitochondrial defect) ultimately leads to cellular, metabolic and genomic instability and, eventually, downstream, cancer. To quote Dr. Seyfried, “....The origin of carcinogenesis resides with the mitochondria in the cytoplasm, not with the genome in the nucleus.” How is it possible that so many in the cancer field seem unaware of the evidence supporting this concept? How is it possible that so many in the cancer field have ignored these findings while embracing the flawed gene theory? Perhaps [Nobel laureate], Payton Rous was correct [in 1959] when he mentioned: 'The somatic mutation theory acts like a tranquilizer on those who believe it.’ I attribute the absence of any real progress in the war on cancer over the last 40 years, to the flawed concepts of the somatic mutation theory, and to the failure in recognizing mitochondrial dysfunction as a credible scientific explanation for the origin of the disease. This failure is an inexcusable tragedy ultimately responsible for the deaths of millions of cancer patients.”

This is a description of how one has to believe in one’s experimental data beyond the personal devastation its rejection can cause. I hope this is a teaching moment for the newer members of the MMG Department.
Microbiology and Molecular Genetics

The Department of Microbiology and Molecular Genetics strives to be competitive in the scientific community. The Department funds many activities that bring researchers, students, postdoctoral associates and technicians together in a collegial manner to share research and ideas. These activities include, but are not limited to, graduate student activities, seminars, a departmental library, monthly departmental gatherings and retreats. Annual gifts from alumni and friends help defray the costs that grant money will not cover, and keep the excitement and drive at a high level among the various laboratories.

Please consider making a contribution in support of the Department of Microbiology and Molecular Genetics. You may make your gift in honor of a UVM colleague or co-worker if you would like.

Enclosed is my donation of $ ______________.
Name: ________________________________________________________________
Mailing Address: ____________________________________________________________________________________________

My gift is in honor of ________________________________________________________________

Please make checks out to The University of Vermont and send to The Department of Microbiology and Molecular Genetics, University of Vermont, 95 Carrigan Drive, Stafford Hall, Burlington, Vermont 05405.

Gifts may also be made by credit card

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Card Number: ____________________________________________________________________________________________
Expiration date: __________________________________________________________________________________________

You may also send your gift via the Internet. Use the following web address, https://alumni.uvm.edu/giving/support.asp Under "Gift Designation" be sure to check "Other" and type in Department of Microbiology and Molecular Genetics.

All gifts are greatly appreciated, no matter how large or small.

Thank you!!!