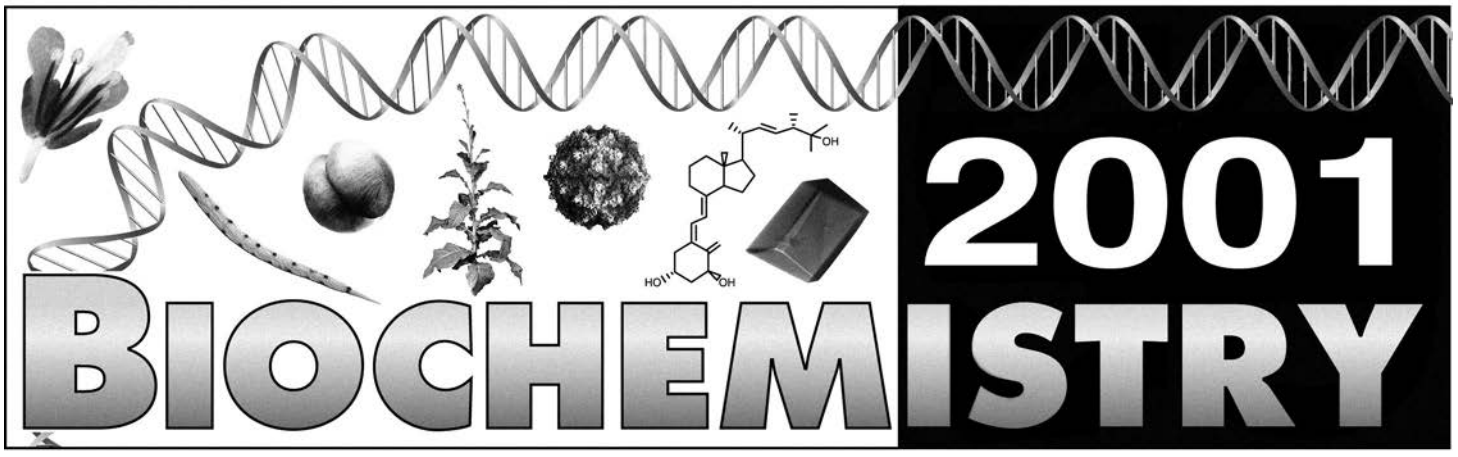


Produced for present and former students, postdocs, faculty, staff and friends of the Department of Biochemistry at the University of Wisconsin–Madison

FROM THE CHAIRMAN:

H.F. DeLuca

Yes, it is that time once again when we try to communicate with all of our former students and associates. In general this has been a wonderful year for the Department of Biochemistry. We are now well entrenched in our new building and have become very used to many of its great features. A very noticeable addition has been a presentation of new artwork in the foyer and atria of the department by regional artists. This was brought about by the efforts of Alan Attie, who has a great interest in Biochemistry appreciating the art around us. It really does add a new flavor and a new twist to the Department to see the different kinds of art that are being produced by these really great artists. We are grateful that they are willing to display their work for our Biochemistry community. Physically, not a great deal of change has taken place in the Department. The 1985 wing is currently under remodeling construction because the Jack Gorski floor (i.e., 3rd floor) and the old DeLuca laboratory on the second floor are being completely gutted and redone to meet the needs of our x-ray crystallographers, Ivan Rayment, Hazel Holden, and our new faculty addition, George Phillips.

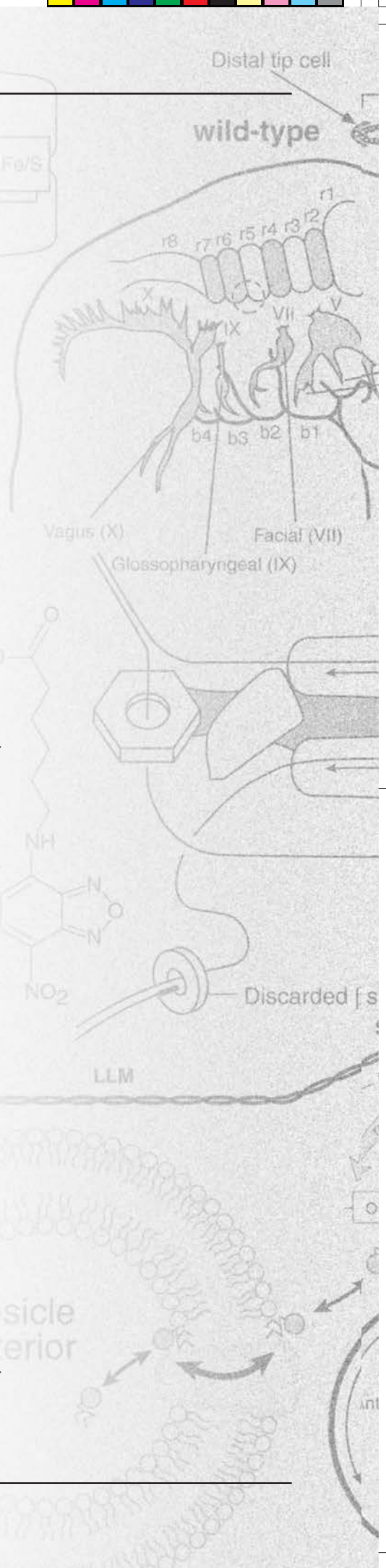
As usual, parking lot 30 is full of construction trucks, no parking spaces, and numerous people with A-type stickers. However, we are living with it because it will improve the Biochemistry Department by providing outstanding physical space for the structural biologists. Our next plan is to develop the empty laboratory on the first floor in the new Biochemistry building so that Brian Fox can move over from the Enzyme Institute, and our new NMR faculty member (i.e., Sam Butcher) can fill out that area in the new building.

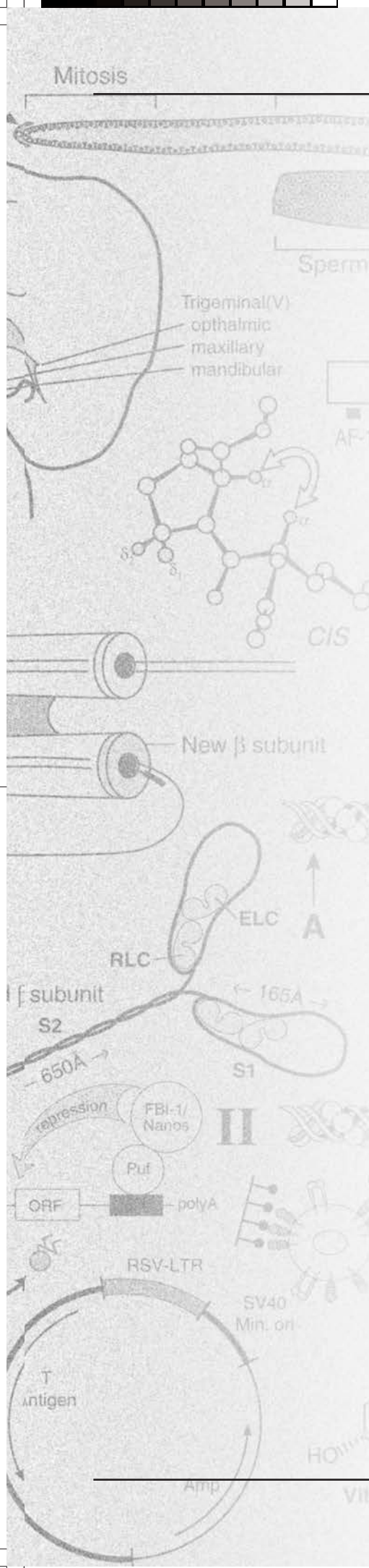
Sam Butcher is an outstanding young faculty member that we were able to attract from UCLA to the Department to work in the area of nuclear magnetic resonance of RNA molecules. He was part of the University's interdepartmental cluster hires program in structural biology. George Phillips was also hired as part of the cluster hires program as a structural biologist to work on x-ray crystallography and computational biochemistry. These two excellent additions have greatly increased our capability in physical biochemistry, and in particular, structural biology. Fortunately, we have had no retirements or faculty members leaving this year, although we were very sad to lose Max Nibert from our joint program between Molecular Virology and Biochemistry. No one has been selected to fill that position, but we are in the process of filling a position in the area of Vitamin D biochemistry and an assistant professor in the area of physiological biochemistry. By the time this is written, I believe we will be very pleased to announce that Professor J. Wesley Pike will join us from the University of Cincinnati and will continue to work on the role of estrogen and vitamin D on bone. His wife, Rupa, who is an outstanding bone biologist in her own right, will join him in the laboratory. We are very near the end of the vice-Gorski search for a biochemist working in the area of animal physiology and eukaryotic biology. Hopefully, by the time we write our next newsletter we will be able to announce that faculty addition as well. We still have an open senior position

in any area of biochemistry for a professor with outstanding credentials who would like to join us in Madison. Virtually all fields are being considered, but so far that senior position remains unfilled.

As always, our other faculty members are functioning in their usual superlative way. John Markley is in his office nearly every day of the year and hardly attends national and international meetings. Mo Cleland is an expert only on half the subjects now, not all of them, and Ivan Rayment is our most mild-mannered faculty member with virtually no opinions about anything but crystallography. Paul Ludden no longer wins the walking sprint championship, and Bob Burris drives his car to work every day. Julius Adler has changed his bedtime from 9 o'clock to midnight, and Heinrich Schnoes rarely loses his cool. Bill Reznikoff has developed an uncontrollable temper, and Mike Cox dislikes considering space matters and the architecture of science buildings. Hazel Holden is the Mary Poppins of Biochemistry, and Judith Kimble isn't accepting any more awards. Marv Wickens is in early in the morning, and gets his NIH reports in on time. Perry Frey has written a new book of humor, and Hector DeLuca has rejected his caricature as the Little General. Rick Amasino is taking a course in money conservation, and Sebastian Bednarek is teaching a class on how to relax. Because of the source, no comment will be made on Margaret Clagett-Dame, while Alan Attie has given up wine tasting, joining Becky Montgomery, who has given up beer tasting. Colleen Hayes does not believe in immunology anymore, while John Suttie has refused to function at the national level in science administration. Suttie has also built his winter home in Nome, Alaska, where he has founded the new game of snow golf. Over in the virology labs, Paul Friesen has become an extremely aggressive faculty member, occupying all space in sight, and Ross Inman has agreed to take three new students in his laboratory. Ann Palmenberg has given up the idea of using computers to teach, but is applying computer technology to making cherry jam. The above are facetious comments about our illustrious faculty, and it is enjoyable to kibitz each other about various characteristics. Faculty meetings are actually a lot of fun, and really bring out the best in our faculty.

The office and support staff of this department is truly excellent and continues to improve. We have had some unfortunate losses of great personnel, but so far we have been fortunate in being able to attract outstanding new members in our office staff. My pride and joy is Cheryl Adams, who serves not only as departmental secretary but also as personnel officer and has recently received a major promotion because of her dedicated and effective work. Carol Marth is always the main support for the department in running our graduate program together with Colleen Clary, Carolyn Kunen, and our new great addition, Angela Trentadue. Colleen Clary does a great job of recruiting our graduate students; she works endless hours, is very enthusiastic, and loves her job. She is truly an outstanding member of our office staff. Carolyn Kunen has been with us a long time and still is a right hand to Carol Marth in handling a variety of subjects, although she certainly is a tough one to make bargains with on stamps. Marcia Bubrick is our chief receptionist who does a very conscientious job; she is joined by Sara Hunter and Shirley Bredlau at the front desk, who both contribute a great deal to keeping the office running smoothly. Carol Peterson, who did all of our undergraduate work, has now moved into a personnel/payroll position in the office, and we have been fortunate to hire Dan Barnish as our undergraduate teaching coordinator. Dan is already doing a great job of handling our undergraduate programs, while Carol Peterson is terrific all around. Kay Fitzgerald keeps our student paychecks coming. Kelly Young directs our financial group and is now beginning to get her stride in this area. Supervising other staff members is not her first choice, but she is gradually getting used to the idea. In the financial group, all of you will remember Jule Pauls who always has a smile while she works hard on the purchasing program. Polly Esselman, who adds another dimension of fun to the office staff, joins her. We have just added a wonderful new woman, Barb Prigge, in the area of reconciliation of grants, and she has really taken hold and is very easy to work with. Alan Rudrud holds the other grant reconciler position and does a fantastic job. Of course, we can't forget the person who handles





all of the travel reimbursements and other matters, namely Janice Carberry. Charlene Entwistle has the unenviable job of having to deal with all chargeback accounts. She really works very hard at it, and actually tries to be nice. We are sorry that we lost Sharon Foster to a higher paying and better job after many years of being with us. Finally, Jim Shurts has been a mainstay in keeping the department running as its Executive Officer. He certainly handles a wide variety of tasks and personnel matters, allowing me to spend much more time at my research efforts.

We have hired an animal room supervisor, Wayne Nehls, who's been doing just a wonderful job. Many of you remember Jim Lennon who has now gone part-time in the animal facility, and for many years kept it going through all kinds of difficulties. Ken Kalbfleisch manages all of the buildings and does a wonderful job of keeping this place running. The library is under the direction of Jean DeMuzio, who is making great strides in improving that operation. Of course, I have to state that Gary "Frenchy" Cloutier still runs our machine shop, and Alan Jones does just about everything we ask of him, ranging from substituting in the animal facility to setting up tables, etc. for Biochemistry functions in the atrium. One of our outstanding units is the Media Lab, in which three people (Robin Davies, Adam Steinberg, and Laura Vanderploeg) keep us in the forefront of illustrations and other kinds of communications needs. They are truly a fine group of people. The Pilot Plant is still run by Phil Johnson, who plans to retire this year, and at which time the Pilot Plant will probably cease to function. It has been Phil Johnson who has kept it operating, together with very close scrutiny and advice from Brian Fox, whose work involves an occasional need of a fermentation facility. Our computer group is under the direction of John Richards, and also includes Heather O'Brien, who keep our computer systems running in the department. We are fortunate to have Jean Prahl's son, Eric, work part-time to help them in this endeavor. We still have Bambi Wilson as the teaching lab technician, when she isn't putting up signs to keep people from smoking in front of the ventilators and causing her all kinds of difficulties. Paul Willadsen is a very quiet operator, but has our storeroom really up-to-date and running very well. Rowland Randall has retired as our mass spectrometer operator. However, he does work part-time to keep the MS-50 operating, which helps my research program quite a lot. We were shocked when Mike Chapman died of a heart attack and left John Markley's NMR facility without an operating officer. Thanks to the huge amount of red tape at the University's Personnel Office, it has been three quarters of a year and we have not been able to replace him. We were saddened by the shocking news of his death.

Finally, it's important to point out that the Enzyme Institute is officially a part of Biochemistry, and their staff operates under the direction of Jim Shurts, who is our Executive Officer. The Enzyme Institute continues to operate as before, except that administratively they are under Biochemistry. Eventually, when we get Biochemistry Phase II built on the site of the 1939 and 1956 wings, the Enzyme Institute staff will physically move over to the Biochemistry building.

To all of you who've contributed so generously to the Biochemistry Leadership Fund, you will be pleased to note that these funds are being used primarily to support graduate student efforts, including travel to meetings, scholarships, and other valuable adjuncts to our graduate program. In addition, there are two named Chairs of Biochemistry being developed, one through the generosity of James Mao, who is in the process of creating a fellowship, and a Chair of Biochemistry to be named after Laurens Anderson. In addition, the Wasson family of San Francisco has provided a substantial sum of money to endow the better part of a Chair. Together with the Department's own efforts, and the Wisconsin Alumni Research Foundation, within the next few years we will have two new endowed chairs of Biochemistry. Again, it is our alums who continue to raise our department above the ordinary by your wonderful and continued support. On behalf of the Department, I want to thank you all and hope that you will feel free to contact us on any matter concerning the Department.

FROM THE FRONT OFFICE:

Cheryl Adams

Another year has passed and it seems like it has been a relatively quiet one, although once I started writing down all the changes I realized that it's been a very busy and productive year for the front office. Hector is still making his daily appearance in the office as Chairman of the department. We all enjoy our interaction and conversations with him about many various topics, both work related and of personal interest.

Jim Shurts handles many of the day-to-day activities in the department, especially in regard to the building and various facilities. This allows Hector more time to devote to his research activities. As you know, there is always a building or remodeling project going on in the department! Discussion is continuing in regard to Biochemistry Phase II when the old building (1912, 1937, and 1956 wings) is gutted and we reconstruct the building to house the remainder of our faculty from the Enzyme Institute, faculty from Biomolecular Chemistry, and new facilities for the shops, teaching lab and storeroom. Construction is tentatively planned to begin in the 2005-07 biennium.

The graduate program has flourished under the direction of Carol Marth and the hard work of Colleen Clary in the recruiting area. Colleen dedicates many long hours to ensure a good crop of graduate students each fall. They have really gone beyond the call of duty to make sure that all details are taken care of and the students have all their questions answered. In addition, many other departments on campus look to our program for advice and leadership in this area. Carol's group also takes care of the faculty recruitment duties. We were sorry to see Julie Gray leave in June of 2000 after she received a promotion to another department. However, we have now filled that position with Angela Trentadue, who started in January 2001. She has quickly learned many of her new duties, and has been a great help with all of the recruitment that has been going on in the department. We currently have three searches going on, and we are hoping to fill two of these positions in the near future. Thus, with all of the faculty candidates and prospective graduate students visiting, there has not been a dull moment! Finally, Carolyn Kunen rounds out the group and continues to offer her valuable assistance to the faculty with typing and mail services. Shirley Bredlau continues to come in once a week after her winter hiatus in sunny Florida.

The accounting group has also seen its share of changes this year. Kelly Young continues as the supervisor for this capable group. We lost two of our reconcilers, Sharon Foster and Mark Castillo during 2000. It was hard to see them go, but it seems that transition has become a normal part of state service employment. Alan Rudrud stepped in and learned many of the new duties and earned a promotion to Financial Specialist. We then hired Polly Esselman in October 2000 to fill the position that Alan vacated. Polly helps out Jule Pauls with all the purchasing duties, and they have really done a great job in this area. They deal with many different people on a daily basis, and they both do it with a smile! Recently, Barb Prigge was hired to fill the other vacant reconciler position. Barb is a welcome addition to the office, and it has been nice having her on board. Charlene Entwistle continues her diligent work with the chargeback accounts. We also have three dedicated students (Sarah, Jenny, and Jan) who graciously assist with many of the important tasks in the office. Things seem to be rolling right along.

My group (payroll/front office) has also had some changes. Most of you are familiar with Carol Peterson who had been managing the undergraduate program for many years and did an excellent job of keeping it running smoothly. After nearly 20 years, Carol Peterson decided to take on a different role in the front office. She is now helping me with payroll and personnel issues after Lisa Ebert left in July 2000. Carol has really done a wonderful job on her new tasks to date. We then had to find a replacement for the undergraduate position. Dan Barnish started in January 2001 and he has done a great job so far. He has a background in counseling and should be a good fit for helping out our undergraduates with school, job, and work choices. He relates well with the students and attended UW-Madison, so he is familiar with the environment. We look forward to many years of

service from Dan! Other members continuing in my group include Marcia Bubrick, Janice Carberry, and Kay Fitzgerald who help keep the office running smoothly. I am truly lucky to be working with such a talented group of people! Also joining us at the front desk area is Sara Hunter. Sara was hired to help out some of the faculty with administrative work but she is housed in the front office, and she is always willing to help out when asked.

Well, so much for not having anything to report! I'll get back to work now, but we are always willing to take a break when an old friend or alumni stops by the office, so please feel free to contact us and give us an update.

HONORS & AWARDS:

2000

Amasino, R. M.
2000-2001 Industrial & Economic Development Program Award, CALS, UW-Madison

Attie, A. D.
Vilas Associates Award, Division of Biological Sciences, UW-Madison - 2000-02

Cox, M. M.
WARF Kellett Mid-Career Faculty Research Award - 2000-05

Fox, B. G.
M. J. Johnson Professorship in Fermentation Biochemistry, UW-Madison - 2000-2010

Frey, P. A.
2000 Repligen Award, Division of Biological Chemistry, American Chemical Society

Holden, H. M.
Vilas Associates Award, Division of Physical Sciences, UW-Madison - 2000-02

Kimble, J.
President, Genetics Society of America

Kiessling, L.
Horace S. Isbell Award, Division of Carbohydrate Chemistry, American Chemical Society

Ludden, P. W.
Merit Award, Department of Health and Human Services, NIH - 2004-08

Martin, T. F. J.
Merit Award, Department of Health and Human Services, NIH - 2004-07

Menon, A.
H. I. Romnes Faculty Fellowship, UW-Madison - 2000-05

Suttie, J. W.
Fellow, American Society for Nutritional Sciences - 2000
Katherine Berns Van Donk Steenbock Professor in Nutrition - 2000-2010

2001

Belshaw, P.
Research Innovation Award, Research Corporation - 2001-2004
2001 Burroughs Wellcome Fund New Investigator Award in the Basic Pharmacological Sciences

Cleland, W. W.
Hilldale Award, Physical Sciences Division, UW-Madison - 2000-01

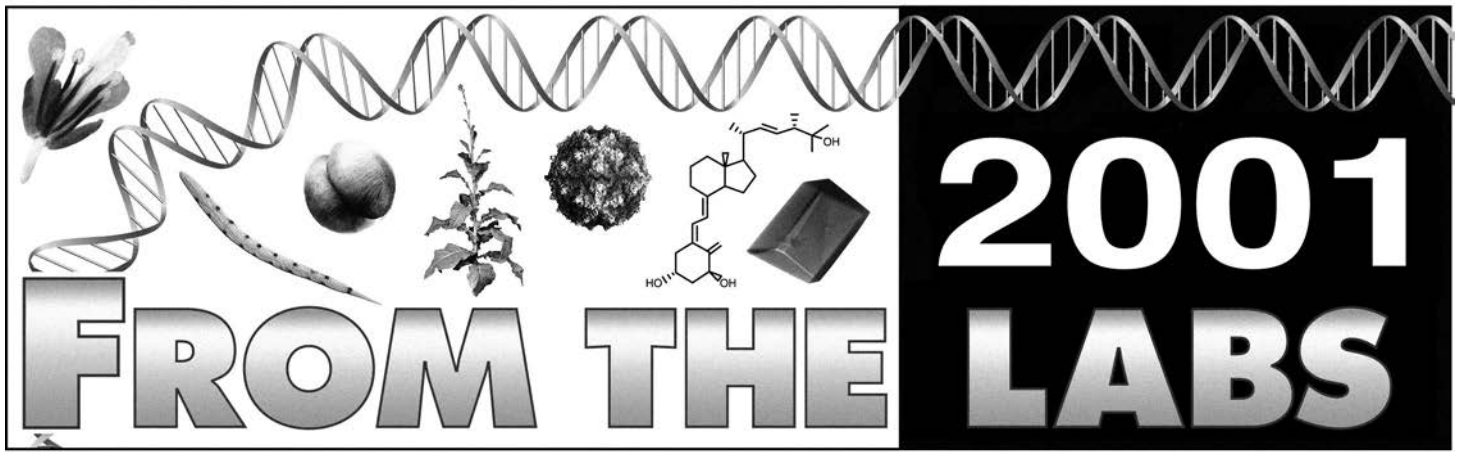
Gorski, J.
Thirtieth Distinguished Alumni Award, Washington State University - 2001

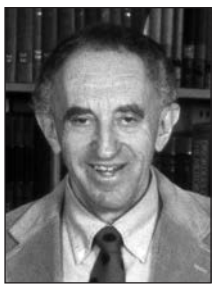
Kiessling, L.
H. I. Romnes Faculty Fellowship, UW-Madison - 2001-06

Kimble, J.
Vilas Professor, University of Wisconsin - 2001

Raines, R. T.
Guggenheim Fellowship - 2001

Record, M. T.
2001 Founders Award, Biophysical Society





Julius Adler
Lab 457

Greetings from the Adler laboratory!

My greatest delight of the year was a visit from one of my earliest graduate students, Bob Mesibov, whom some of you will remember well. I hadn't seen Bob for thirty years! Bob is married to Trina, another biologist. He does research in Tasmania on arthropods and lower animals, which has always been a great interest for him. You will remember his beautiful, gigantic drawing of a centipede above our door. (Bob's original interest was pseudoscorpions, but when he learned that I knew all about pseudoscorpions because they were on my mother's night table, he switched to centipedes. Bob denies this story, but it's true.) He was in Madison on the way to consulting with museums in Chicago and New York, where he now serves a valuable function related to the genetic code of simple creatures.

It has been wonderful for me to keep up with Steve Kleene, both personally and scientifically. Steve got married this year to Nancy Koster. He works on olfaction at the University of Cincinnati, so he has become my consultant on "chemotaxis" in animals. Steve wrote a paper, "Bacterial chemotaxis and vertebrate olfaction," and he says that I may be the only one to ever quote this article.

Michael Eisenbach, at Rehovot, has started an exciting program on chemotaxis of sperm to egg in animals, in addition to continuing his research on chemotaxis in bacteria.

Jerry Hazelbauer and wife Linda Randall have moved from Washington State University to the University of Missouri, where Jerry has been promoted to Chair of the Biochemistry Department. Jerry continues to do great research on chemotaxis of bacteria.

Sandy Parkinson, at the University of Utah, remains the world's outstanding geneticist of bacterial chemotaxis. I had the good fortune to visit with him and his wife Alice at a meeting in Mexico this January.

Howard Berg has won a Guggenheim fellowship for a year's sabbatical from Harvard to King's College London to study eukaryotic motor molecules, and he continues to do research on bacterial motility.

We are proud that Jason Gestwicki, a graduate student of Laura Kiessling and my collaborator in the study of bacterial chemotaxis, has been chosen to receive this year's Sigrid Leirmo Memorial Award in Biochemistry. The award is given to a postdoctoral or graduate student who displays clear promise as a research scientist.

As for me and my group, we are doing research on bacterial chemotaxis and other aspects of behavioral biology.

Rick Amasino
Lab 207

The more we learn about how flowering time is regulated the more we recognize all that remains to be answered, and the number of projects continues to grow. As discussed in the last issue, Scott Michaels molecularly cloned the gene *FLOWERING LOCUS C* (*FLC*) which is a central regulator of flowering. Specifically, expression of *FLC* in the meristem blocks flowering. The regulation of *FLC* expression is a fascinating (at least to me) area: after a plant is exposed to prolonged cold (e.g., winter) *FLC* expression is epigenetically switched off for the remainder of that plant's life cycle, but the *FLC* "switch" is reset to be on again in the next generation. This resetting of *FLC* expression is reminiscent of the phenomenon of gene imprinting in animals, but one interesting distinction is that the "off switch" is the end result of the plant sensing a change in the environment (whereas the "back on" switch is transmission to the next generation as it is in animal imprinting). The reason for this epigenetic regulatory system is the evolution of the biennial habit. Biennials

flower in the second growing season because they require exposure to winter to alleviate a block to flowering. We now know of course that *FLC* expression is, at least in part, this block that is removed by cold.

How *FLC* is regulated continues to be a focus. Scott, Ed Himelblau, Isabel Bezzera, and Si-Bum Sung are making much progress on various aspects of this area. Si-Bum is identifying several genes that are required for cold-induced flowering. Scott, Ed, and Isabel are identifying genes that when mutated cause the plant to behave as if it has been exposed to cold.

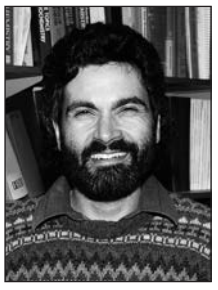
Scott continues to help our projects move forward at a rapid pace by encouraging the use of the latest high-tech equipment. His most recent acquisitions are a hedge trimmer (which is incredibly useful for trimming unwanted plants to find mutants) and a paint shaker (which is used to extract DNA from leaf pieces in a 96-well format).

FLC is a particular type of transcription factor called a MADS-domain protein and the sequencing of the Arabidopsis genome has revealed a family of genes related to *FLC*. Katia Scortecci has recently shown that another member of this family does in fact regulate flowering time, but it is active in a pathway that is separate from *FLC*.

Fritz Schomburg continues to explore the role of *FPA* in flowering time. His first paper was just accepted and more should be forthcoming. Fritz and Colleen Bizzell also continue to work on some dwarfing genes. Due to a successful collaboration with Jan Zeevart at Michigan State University, we now know that the proteins encoded by these genes break down the hormone gibberellin.

As discussed in the last newsletter, Mark Doyle's rapid progress in the characterization of a novel gene involved in the circadian regulation of flowering time has forced me to begin to learn about this topic. So far I have come to understand more about my own circadian dysfunctions than those of Mark's mutant, and have relinquished the hope that some day I will be able to sleep at night and stay awake during seminars. I will continue to learn about plant circadian rhythms not only because of Mark's work but also because Yoo-Sun Noh has assembled a large collection of mutants that flower earlier than wild type, and we already know that several of these have altered rhythms.

This year Betania Quirino received her Ph.D. and she has joined Andrew Bent's lab to study plant pathology. In alumni news, Michael Weaver was married, Milo Aukerman began a new position at DuPont, Karin Lohman left DuPont to become a Congressional Fellow, Ilha Lee is thriving as a faculty member at Seoul National University, and Becky and Tim Strabala had another son, Zach, who will join Sam in an effort to keep their parents' lives busy and rewarding.



Alan Attie
Lab 407

This has been a year of growth and development in the Attie lab. We have made a foothold in the diabetes field with the publication of our first papers in this area and the news of a great priority score on an NIH grant proposal. This is due entirely to the phenomenal talent and hard work of Sam Nadler, Jonathan Stoehr, Kathy Schueler, Mary Rabaglia, and Trine Ranheim. Trine spent a half-year with us again this year and will come back from Norway to spend the summer with us. She will complete some islet cell work with Mary. Sam is graduating this year and will be sorely missed. He returns to medical school to complete the MD portion of his MD/PhD degree. Jonathan will be marrying Danielle Somes this June at Acadia Park in Bar Harbor, Maine (appropriately close to mouse country—The Jackson Laboratory). Our ABC1 project is developing nicely and was joined by Torey Browning, who came from the Jackson Lab. We now have a critical mass, together with Angie Tebon, Mark Gray-Keller, Matt Flowers, and Jake Mulligan. Paul Bates and Don Gillian-Daniel have extended our apoB project into a nice gene therapy method. This was recently licensed by Amsterdam Molecular Therapeutics. We are excited about the prospect of providing desperately needed therapy for children with the homozygous form of familial hypercholesterolemia. Markus Rozer spent a year with us on leave from the University of Freiburg. He worked with Pete Leland on a protein kinase pathway. Pete's big news is the birth of his child this past February.

Angie Tebon, a long-time member of the lab: For those of you who have not read about it in the paper, she is one of the first people at the University of Wisconsin – Madison to exceed the yearly allotted amount of exposure to radiation. Why, you wonder? Well, it is a long and complicated story. Suffice it to say that Angie was trekking through Europe with Mike, her traveling companion, and some combination of events

caused a disc in her back to snap. Three weeks and 100 Vicadin later, Angie began recovery from her surgery to remove 85% of the injured disc (by the way, she now thinks she is 1 full inch shorter than she was, a mere 5' 7"). The injury to her back also affected several nerves running to the side of her left leg and bottom of her left foot, and unlike the man portrayed by Daniel Day Lewis in the Academy Award Winner of 1990, her foot basically hangs limp from her ankle. Speaking of ankles, Angie broke hers while chasing after a UW hockey player in a parking lot with slightly uneven ground. Despite a rather dire prognosis from the back surgeon ("You'll never walk again"), Angie has adjusted well to the lack of feeling in her foot and leg. Recently, she acquired a peg-leg that she wears occasionally (but not with dress shoes) that lends stability to her otherwise messed-up gait. It is believed by all that this peg-leg will allow Angie to excel in her favorite sports, such as bowling and badminton, and perhaps she will even take up curling. In her free time, which is pretty sparse, Angie has taken up swimming, and it is her hope that soon she can graduate from the medium lane to the fast lane. Somehow, swimming regularly has increased Angie's need for sodium, and she is thinking of installing a salt lick on the wall near her desk. Keep in mind that this in addition to the Ramen Noodles (1 package is 1800 mg of sodium) she eats for lunch every day. Finally, Angie has been working, with the help of a few members of the lab and a Far Side calendar, to develop a sense of humor that allows her to occasionally find things funny.

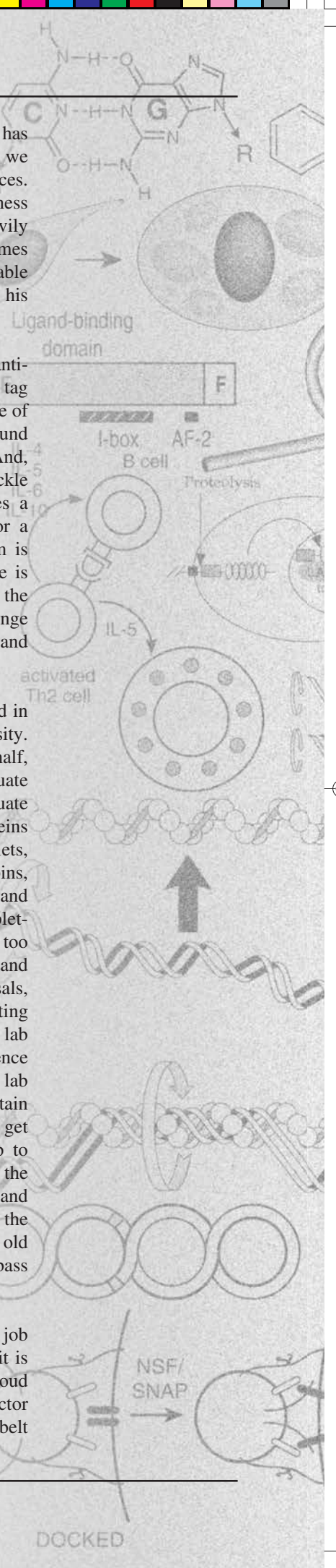
Torey (a.k.a. Victoria Leslie Browning), has decided to join the ever popular and exponentially growing Attie Lab. In doing so, she has joined with Angie, to band against the male influence on the Cholesterol project. She has added to the lab quite a sense of humor, and can always be counted on to embellish anyone's story. In her other life, she masquerades as a professional clarinet player in the Edgewood College Community Band. She also enjoys going to concerts, as long as she does not have to sit directly below the balcony (an unfortunate incident, just leave it at that). We are very happy that she decided to join the lab, even if she does not want to play on our softball team, and we know that the lab will be a better place with her here.

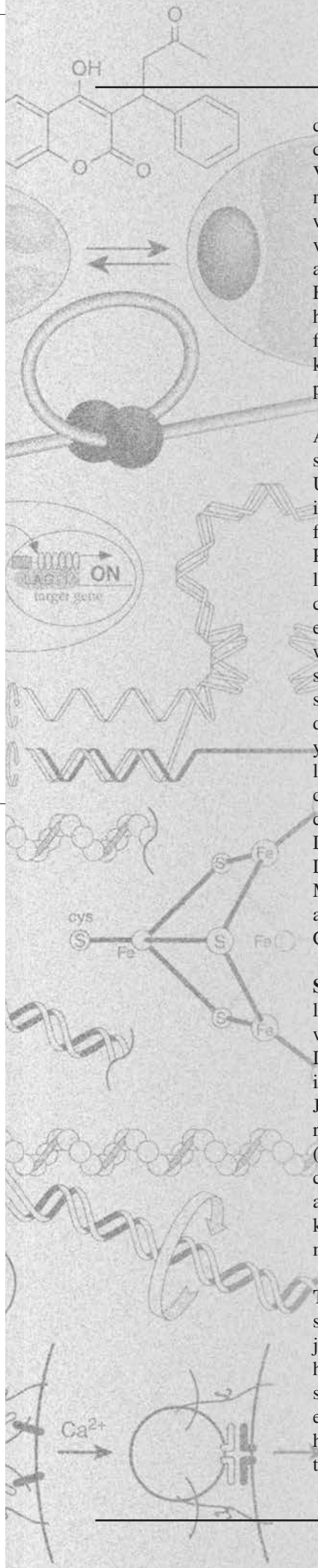
Early in 2000, **Jake Mulligan** passed his prelims with flying colors (mushrooms anyone). Therefore, he has been officially initiated into the ranks and can now be seen transporting live chickens to and from the Poultry Research Lab; just look for the man in pants with the clucking box. Since he has been spending so much time with the chickens, we fear he may soon start pecking at his own feces. He keeps the lab entertained with his willingness to do a little jig whenever enticed with a heavily salted pretzel. Jake's gentle and cuddly side comes out when he oohs and aahs over the adorable kittens in the Cat-a-day Calendar, a gift from his friend Whitey's godmother.

Matthew Flowers (a.k.a. Mateo Flores), is frantically preparing for his prelims this spring, while tag teaming with Jake to TA Alan's course. Because of Matt's undying love for chickens, his background research for his prelims is quite extensive. And, if you can put up with chickens, you can tackle anything. His contribution to the lab includes a never-ending desire to do almost anything for a small monetary reward, even if physical harm is the result. In his not so frequent free time, he is training for 2 marathons this year (apparently the one he ran last year was not enough of a challenge for him). Just look for the guy with the ankle and knee icepacks.

Dawn Brasaemle is now thoroughly ensconced in her Assistant Professorship at Rutgers University. Her lab has grown over the past year and a half, and is now an international cast of 7 graduate students, postdocs, technicians, and undergraduate honors students. She continues to study proteins that are associated with lipid storage droplets, including structure/function studies of perilipins, investigations of structurally related proteins, and proteomic approaches to identify new droplet-associated proteins. She now spends entirely too much time in her office preparing papers and lectures, reviewing papers and grant proposals, organizing seminars and symposia, completing work for various committees, and balancing the lab budget; most of the time, she has to get her science thrills vicariously through the discoveries of the lab personnel. Nonetheless, she still lives for mountain biking and contra-dancing, and managed to get away in December/January for a 3 week trip to Ecuador for 15 days of intense biking through the Andes, an ice climb of the volcano Cotopaxi, and a 5 day cruise in the Galapagos. Amazingly, on the last evening of the trip, she bumped into her old pal from Madison days, Jeff Eckels, playing bass in a jazz bar in Quito!

Bill Checovich still has his phoney baloney job as Director of Manufacturing at PanVera, but it is just a front for his real jobs of home repair (proud owner of a new money pit) and fundraising director for the kids' Irish dance school ('What rust-belt





city can we drive to this weekend for a dance competition?'). Despite the ongoing antics at Pan-Vera, the company was acquired by pharmaceutical newcomer Aurora Biosciences. Unfortunately, Bill will not be able to retire any time soon. Bill did visit with Bob Aiello in November and talked smart about the old days, when the pigs were very afraid. Funny, Bob's staff knew all of the old stories by heart. Coco is eleven years old and still suffering from anxiety separation, buts does a heck of a job keeping the airspace above Bill's house bird & plane free up to 37,000 feet.

At the turn of the century, **Lin Wang** got a real sense of changes. She finished her post-doc at UCSD and co-founded "Allele," a biotech startup in San Diego, developing innnovative technology for drug discovery and beyond. Being the Vice President and CEO (please don't laugh out too loudly, my dear labmates!) of this infant-stage company, she not only had a great opportunity to exercise what she learned in her previous labs--writing grants, leading projects and maintaining a small lab from scratch--but also start to learn what she always wanted to do: raising funds, negotiating deals and running a business. It is very challenging, yet very rewarding (not moneywise though). She looks forward to collaborating with her former colleagues and turning to them for advice and consultation. Her husband Bin Xia has taken the Director's position of a brand new National NMR Lab to be set up at Peking University, their Alma Mater in Beijing, China. This will make life quite an experience for their two-year old daughter, Candra.

Scott Lowe continues to run a cancer research laboratory at Cold Spring Harbor. Last June, he was promoted to Professor and, this January, to Deputy Director of the Cancer Center. His family is well, and keeps him nearly as busy as his work. James (now almost 4), has enormous energy and routinely runs both his parents into the ground. Kira (15 months), has become a world-class furniture climber and, in doing so, has gained a rather painful appreciation of Newton's Laws. Mila keeps the kids under control - a skill she attributes to her many years with Scott....

Trine Ranheim has returned to Norway after her second stay as a scientist in the Attie lab. Trine joined the lab again because she missed the lab, her friends, the weather, the lakes and all the social events. She was just in the middle of many exciting experiments when she had to leave, but hopefully she can go back for a couple of months this summer.

Darren Fast continues to work at Viventia Biotech and has recently been promoted to Manager, Product Planning and Development. Reporting to the President, Darren is responsible for the development and management of all product plans and timelines. Despite the full work load, Darren has found some time for his hobbies and has taken a renewed interest in woodwork. The projects so far include several picture frames and a coffee table. Darren's wife, Lin, has switched jobs once again and is back the pediatric intensive care unit at the Children's Hospital in Winnipeg. Noah (6) is currently in grade 1 and has learned to read exceptionally well during the past year. Noah has also started to play the guitar and has quickly moved beyond his father's musical ability. Katryna (5) is excited about starting kindergarten in the fall and is a real bundle of energy. Katryna is interested in taking up the drums, her reason, because they are loud!

Meei-Huey Jeng's family has been busy in 2000 due to the relocation to Indianapolis, Indiana. Meei-Huey is currently Associate Professor of Medicine, and her husband Chinghai Kao is Associate Professor of Urology at Indiana University School of Medicine. She continues to work on hormonal control of breast cancer with the focus on steroid receptor coactivators. Chinghai focuses on mechanisms of reflectory prostate cancer and targeted gene therapy. Her two kids, 8 years old Lee-Wei and 7 years old Lee-Sien, missed their friends at Charlottesville, Virginia very much. Now they are closer to Madison, Wisconsin, and visiting friends at Madison has been an enjoyable experience to them.

The **Grunwalds** have had an eventful year. Alex is about to turn five (as hard as that is to believe) and he has plans to build a spaceship soon. He has agreed to take Dad along with him to the moon. He is a total sponge right now. He has memorized most of the Dinosuars from A to F and knows about the planets and gravity; Dad is so proud. Of course he also knows all about Digimon and the Power Rangers, much to his Mom's dismay. Andrea has just turned one, and is extremely opinionated. It is really quite interesting seeing all the developmental milestones a second time around. Sandy just got promoted to Associate Professor. Another exciting milestone. Kurt is applying for a student supplemental REU grant to do physics research this summer on quantum crystals. He is still working towards a degree in both Physics and Math with Sandy still wondering what he will do with such a lucrative field. She still is trying halfheartedly to get him to go into

computers. The computer programing class he is taking hasn't convinced him yet.

Scott Cooper was granted tenure this year, and his first Masters student graduated and was accepted to the genetics Ph.D. program at Madison. He will be working with Jeff Hardin. Scott's wife, Amy, qualified for the international sled dog championships in Fairbanks, Alaska (the dog sledding equivalent to the Olympics). The latest news is that Amy is officially the 10th fastest 4-dog dogsled racer in the world. Translated, she took 10th in the International Championships in Fairbanks, Alaska just recently. She was very excited and pleased with her finish, and the pups are all fine.

Robert Burris
Lab 237E

Having been retired now for 17 years, research has tapered off to essentially zero. I did have two book chapters and a journal paper published in 2000 and a book chapter in 2001. As you may guess, these contributions were pretty retrospective. So I mostly read rather than write journal papers. With over 40,000 pages in JBC last year, it is even a challenge to keep up with the journals. Now I am happy to see that my past students are effectively grinding out the research and publications. Our children and grandchildren are doing well. Katherine and I had a very pleasant trip through Finland and the Norwegian fjord country last fall. Our best wishes go to our past students and colleagues.

Mo Cleland
Labs 304 & 308
Enzyme Institute

One more Ph.D. student graduated this year. Mark Rishavy graduated in April. He has been working as a postdoc here since then, but will start a new postdoc with Dr. Kathleen Berkner on April 1st at the Cleveland Clinic in Ohio. Lac Lee, who graduated in 1999, now has a postdoctoral position at Scripps Research Institute in San Diego with Chi-huey Wang. Barbara Gerratana, a graduate student, is currently finishing her last experiments and has almost completed writing her thesis. She plans to defend later this spring semester. Last August she married Vincenzo Franco. The others members of the group are Mark Anderson, Kirk Wright, and Laurie Reinhardt.

Lac, Barbara, Laurie, and Mo went last April to the 219th ACS National Meeting March 26-30, 2000 in San Francisco. Lac, Barbara, and Laurie, and Oli, a graduate student in Perry Frey's lab, went on a sightseeing trip while there. They found a fantastic close-up view of the Golden Gate bridge from the beach, but after they climbed the large hill leading to the road, they found themselves on the wrong side of a "keep out" posted area which was fenced in on three sides. The shortest route out was up.

Mark, Barbara, Kirk, Laurie and Mo also went to the 17th Enzyme Mechanisms Conference. Marco Island, Florida January 3-6, 2001. One night, the whole group had an enjoyable dinner with Al Hengge, a previous postdoc of Mo's who is now a tenured professor of Utah State University at Logan. Disappointingly, the only alligator seen was from the window of the group's speeding minivan on the way to the airport.

Our NIH grant was renewed for four years, so we will be in business for at least that long. We are still located in the Enzyme Institute and will remain here until Biochemistry builds yet another building. It is very peaceful being far from the madding crowd!

Mike Cox
Lab 341

The Cox lab has been busy as usual during the year 2000. There are many goings and comings and events of note.

The new edition of the Lehninger text made its appearance in February, and is doing very well. The emails from students around the world are especially fun and gratifying.

Awards. Kevin Rice won the 8th annual Sigrid Leirmo Memorial award in Biochemistry during the departmental poster session in April. Kevin was recognized for his efforts in helping with graduate student recruiting and in orchestrating the departmental move into the new building. Kevin also became quite an accomplished building tour guide. Shelley Lusetti received the Biochemistry Scholar/Wharton Departmental fellowship.

Research. Some of you may remember the heroic effort of Lisa Iype to determine the structure of the Flp recombinase. Using protein generated by Lisa,

and information from her thesis, Phoebe Rice finally solved the structure and described it in a paper published in *Molecular Cell* (2000) 6, 885. We also seem to know now why bacteria have recombination systems, as described in an article in *Nature* (2000) 404, 37. The year has been a productive one, and look for lots of progress in 2001.

Comings. Jong-Il Kim came back to the lab to do a sabbatical. He will be with us until late summer of 2001. Everyone appreciates having his experience around. Michael Hobbs joined the group as a new Biochem grad student in December, and we welcome him. Michael accompanied us to a national meeting in Santa Fe in February. We discovered that he is not only interactive, but also has some interesting moves on the dance floor.

Goings. Kevin Rice graduated (in less than 4 years), and is now a postdoc in the lab of Alanna Shepartz at Yale. Erik Mikkelson finished his undergraduate work and left for Med School in Milwaukee. Paul Sims decided to transfer to the lab of George Reed in the Enzyme Institute. We miss them all and wish them success.

Notes about past lab members. Wendy Bedale is now at Third Wave Technologies in Madison, and has purchased her own home. Now if we can just get her to stop by the lab now and then. Xiao-hong Qian has become an entrepreneur, working on his own start-up company, GenePharm, Inc., in Sunnyvale, CA. He has also purchased a home in San Jose. Li-chun Huang made a key career decision while on safari in Kenya and Tanzania in November. She now works at Bayer in Berkeley. Brian Webb is now employed by Corning in New York. Sarita Jain has left the Biotech industry temporarily to pursue a graduate degree in Business at UC Berkeley.

Babies. The past year featured one of our periodic baby booms. Mara and Vali Robu's first child, Andrei, was born in April. Brian and Julie Webb had their fourth child, Tyler, in July. Jong-Moon and Myoung-Sun Kim had their first child, Alex, in August. Congratulations to all.

That's it for now. We wish you a happy and productive 2001, and look forward to hearing from you.

Ross Inman, Mike Cox, Jong-Il Kim, Jong Moon Kim, Sergei Saveliev, Liz Wood, Mike Modica, Michael Hobbs, Dave Dwyer, Shelley Lusetti, Steve Abbott, Aimee Eggler, Mara Robu

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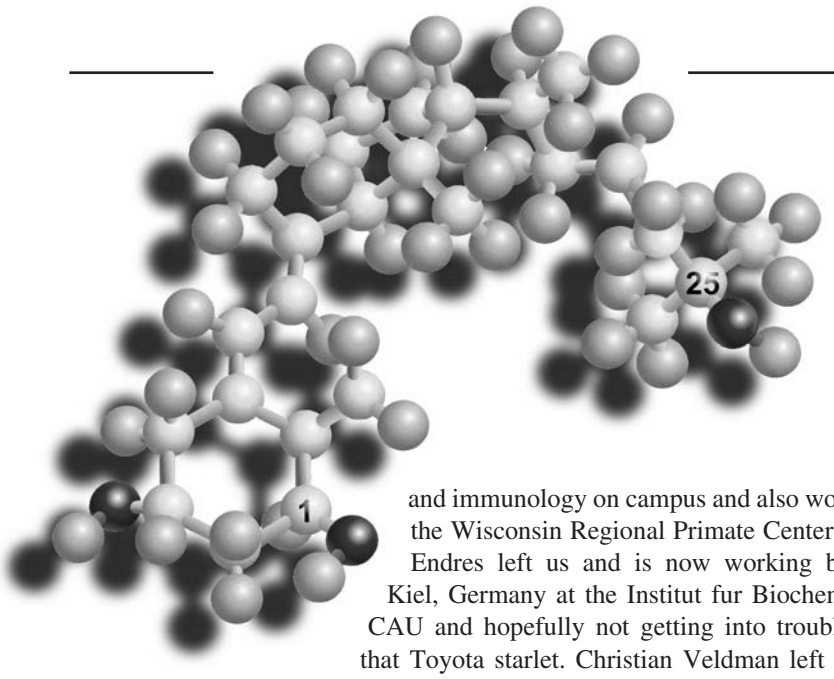
Hector DeLuca
Lab 259, 265
& 275

Well, this year Hector asked me to write the newsletter. And I said I'd love to. After all… have you heard the saying: "Do you want to talk to the man-in-charge or the woman who knows what's going on."

A happy, healthy 2001 to you all. As always, these years slip away too fast. We lose dear friends/colleagues but luckily gain new ones! Our first addition into the laboratory in January was Christoph Rieder, who received his Ph.D. from the Technical University of Munich in Germany (born though in Madison, WI). He is working on the regulation of the vitamin D receptor gene. This past July, Pawel Grzywarz, a postdoc, joined our group. He was trained by Dr. Jerzy Wicha at the Institute of Organic Chemistry in Warsaw, Poland. We were sure of his excellent background because Professor Wicha spent a sabbatical year in our group. We enjoyed him and his great knowledge of vitamin D chemistry. Pawel is working on a series of new analogs with target organ specific activity. Andrea James, our mouse geneticist and immunologist, left in July for a position at Oak Ridge Institute for Science and Education in Georgia. We were lucky to find Jeff Larsen who had previous experience working with animals at the Harlan Sprague-Dawley Company. He and his wife, Inna, just recently had their first child, a girl ("Karianna" 1/28/01). Jeff is an extraordinary find and is working on autoimmune diseases. Jean Humpal-Winter received her Master's Degree in Nutritional Sciences, and is now working at Promega. Holly Brenza received her Ph.D. in May, and she and Steve Zoog (Graduate of Paul Friesen's Lab) were married in August. Holly took a slight career change (in her words). She is Science Editor at Grolier Education in Bethel, CT. Dr. Mai Li, another postdoctorate, joined our organic synthesis group in September. He received his Ph.D, from the Shanghai Institute of Materia Medica, and is married. Nikhil Shastri is a new research specialist working with Janeen Vanhooke on the 3-D structure of the vitamin D receptor. Nikhil is a recent graduate of medical microbiology



and immunology on campus and also worked at the Wisconsin Regional Primate Center. Birgit Endres left us and is now working back in Kiel, Germany at the Institut fur Biochemie der CAU and hopefully not getting into trouble with that Toyota starlet. Christian Veldman left in July to take a position at the University of Erlangen in Germany. Our favorite Polish couple Rafal Sicinski and Wanda Sicinska, went back to Poland in August but will return. Rafal is always good for a surprise compound, while Wanda has done a lot for us on the structure of the vitamin D receptor. Our "tiniest" (all 4'11") graduate, Margaret Moore, left for the east to get into medical school. She received a couple of great offers, and the last I heard it was the Philadelphia College of Osteopathic Medicine! Cathy Smith has moved on and is now working in the College of Vet Medicine. Cathy had a second child, Ian, and I'm sure is busier than ever! Chiara was non-stop when she visited with Mom. Jamie Mings is certainly enjoying her work with Claudia Zierold. We've decided to have our DNA sequencing done in the Biotech Center, giving Jamie a better chance to do research. Claudia and Colin are expecting their second child in June. Colin is in his last year of law school, and will be pcticing intellectual property law in Madison. Kevin Healy was married in August. His wife, Maggie, is going to school here for her MBA, and they are expecting their first child August 13. Kevin has been working on the vitamin D receptor gene expression. Jon Goldstein has had some luck in research but not such good luck otherwise. I thought I could tell you that Jon has stayed healthy and nothing broken, but I CANNOT. He is walking around with a black eye and a broken nose. He got in the way of some "sticks" while playing hockey. Terry Meehan has taken time from making and drinking Stout to teaching and continuing his research on mouse model of EAE . Laurie Schubert, our nutritional sciences student, has become a dissertator and is progressing on understanding muscle weakness that results from vitamin D deficiency. Our yellow lab is still rocking and rolling with Beth Werner and Janeen VanHooke. During the football season, all you heard was Beth mumbling in the halls … something about those #%@ Packers. She is trying to finish up by the end of summer. Beth is working on a new pathway of vitamin A metabolism. Connie Smith is also in that lab, and is doing some very interesting animal work on breast cancer. Connie is part time and is enjoying some wonderful trips with husband, Hall. Mary Phelps is with us part time, working on the possible conversion of large doses of retinoic acid to retinol *in vivo*. She and Bob spend most of the Wisconsin winters down in Florida. Wendy is doing a great job keeping the lab in supplies and running smoothly, and is still our source for fresh eggs. I probably see the biggest smile on her face when she's on a trip to see her granddaughter, Amy. Julia Zella is presenting at this year's Experimental Biology meeting in Orlando, FL with her work on type I diabetes. Laura Johnson, believe it or not, is writing her thesis! She will be finishing up by the end of the semester. Cindy Rohde is also busily trying to finish up which will probably be at the end of this summer. Jean Prahl is staying busy. She and her family took a trip to Alaska this summer; her oldest, Eric, is working in the department with our computer "gurus."

We have a wonderful group of undergraduates: Betsy Manor who is President of our newly formed "Undergraduate Biochemistry Student Organization"; Ehren Rudolph, David Ruttum, Mauro Calabrese, and Leslie Santos.

We had visits from Drs. Suda and Yamada this past summer. Hector so enjoys these two former students of his. They have been very good friends and collaborators for many years. Kato Perlman visits every once in a awhile when she's not traveling! Her last visit, in fact, was Valentine's Day and she brought in some of her delicious sweets! Thanks Kato! I try to keep in touch with Helen Frank who does volunteer time and still visits relatives in California, usually during the coldest winter month here in Wisconsin (February). As for me, I'm off to Florida again this year, down to the Keys. I can't say these Wisconsin winters are getting any easier, especially this one!

As for reducing the size of the lab… well NOT YET!

And Hector, …he's still doing it all! Two wonderful kids (Martin-3 and Adriana-18 months) he adores spending time with, plus a department of staff and faculty and a full-time laboratory who demand his time! He still cooks up a storm when he has the time and dabbles in making wine and champagne.

Please keep in touch; it's always great to hear from you. Pat and Hector

Perry Frey
Lab 546B
Enzyme Institute

The Frey lab has seen its usually share of changes over the past year. Our newest graduate student, Phil Schwartz, joined the group last spring. In December Jane Beebe was hired by Panvera Corp. An undergraduate, Christy Stark, joined the lab and has been working diligently with Ab Arabshahi.

Dawei Chen, Yaoming Wei and Jeff Gross continue as postdocs. Glen Hinckley and Phil are going through the preliminary examination process this semester. Kuo-Hsiang Tang passed his preliminary exams last year and is making terrific progress. We continue to be blessed by the patient and wise guidance of Ab Arabshahi and Frank Ruzicka.

Sandy Geeganage left Madison in the fall to start his career at Eli Lilly in Indianapolis. Beth Berger and family also left town for Columbus, Ohio where husband Kurt has assumed a postdoctoral position in math at OSU. Jennifer Miller began working with Deloitte & Touche in Washington, DC.

Several Frey lab members/alumni either have had or are expecting to expand their families this year. Andreas and Petra Abendt gave birth to baby boy Alexander in early February. Oli Magnusson and Selma Karadottir are expecting this spring. Sandy Geeganage and Kristin Johnson are expecting twins, a boy and a girl, in May.

A number of folks will be moving on shortly. Oli Magnusson, Barbara Gerratana and Adrian Hegeman are expecting to defend this spring. Oli was awarded a Miller postdoctoral fellowship by UC Berkeley and will begin working in Judith Klinman's lab come summer. Barbara will be moving to Washington, DC in May when she will begin her postdoctoral work in Craig Townsend's lab at Johns Hopkins. All of the continuing lab members look forward to another productive year and eagerly await the re-opening of Babcock dairy in July.

Brian Fox
Lab 146
Enzyme Institute

Hello from 146 Enzyme. It has been a couple of years since I have written one of these entries to the departmental newsletter. Since that time, we have seen the first round of people that joined my lab move on to bigger and better things. Fortunately, new people have moved in to take their place, so our group has continued to grow (15 now) and the free bench space has long since disappeared.

Our lab alumni now include Brian Hoffman (Abbott Labs), Eric Eberhardt (Vassar College Professor of Chemistry), Jeremie Pikus (somewhere between Seattle, Alaska, and Nirvana), John Broadwater (rumored to be moving to the hockey-friendly climate of Minneapolis/St. Paul), and Joe Studts (Washington University, St. Louis). Missy Frederick (Mary Shine Peterson Fellowship) is now at Abbott Labs, Daisy Johnson has completed Nursing school with an eye on moving to western Wisconsin or southeastern Minnesota, Bryan Laundre (Hilldale Fellowship) is in medical school here in Madison, and Mary Jo Matzke is bound for the Physician's Assistant program in Chicago. Ron Smith is now happily and healthily working at Panvera.

We have four research projects in the lab with various stages of activity (mostly lots of activity). Jeff Haas, Karen Lyle, Bob White, Enrique Gomez, and Cory Rogge are working on desaturases. Cory is a postdoc that joined us from John Caradonna's lab last April. She has just finished the "hello world" part of her molecular biological training and in the process revealed that she knows quite a bit about machine tooling. All cheers for a diverse education. Jeff is now in the final sprint to the finish of the Ph.D. race. He is motivated by having obtained a postdoctoral position at a biotechnology company in the most desirable spot on the planet, Davis, CA. Karen and Brandon were married in the Allen Centennial Garden on a beautiful warm day last August. Later in the year Karen made a trip to Stanford to collect EXAFS data and have a visitation with Ed Solomon. She has yet not shown us her souvenir "I ❤ MCD" t-shirt. Bob and Mindy are proud owners of a house near Olbrich Gardens. Bob is now reconsidering a career in "Stars on Ice" after a fortunate recovery from his encounter with frozen water this winter. Enrique just entered the back curve of the Ph.D. race and is preparing to begin his own sprint to the finish. Mice now fear his approach more than they fear a hungry house cat.

Kevin Mitchell, Luke Moe, Cory Rogge, Marie Wiater, Todd Gierahn, and Lisa Ooi have been working on moonooxygenases. Kevin completed his Biotechnology Training Grant internship last spring at Dupont and is now back in Madison managing to keep ahead of all manner of things related to protein engineering. Every so often a beautiful framed photograph from Kevin's favorite relaxation circulates around the lab. Luke has finished revisions of his written preliminary examination, and if the faculty would only stay home once in a while he could go for on for the oral exam.

Marie joined the lab just in time to save our HPLC from a tragic death at the hands of undisciplined rotators. She also helps to override our well-established lab tradition of picking the wrong teams to win the NCAA tournament. Todd and Lisa are performing research projects on various aspects of monooxygenase chemistry. They will both be Hilldale Fellows next year. Except for the fact they are just back from exotic spring break trips, I usually forget that they are undergraduates because of the quality and scope of their contributions.

Amanda Schnapp-Barry is the first Bacteriology Ph.D. candidate to join our lab. Thanks to her, I am now a trainer in the Microbiology Degree Program. She is working on the extreme acid tolerant bacterium *Ferroplasma acidmoranus*. Amanda seems to believe that all things come from PCR, and so far in her hands this belief seems to be true.

Now that Dave Blehert and M.J. Rosovitz have moved on to NIH postdoctoral careers, Glenn Chambliss, Dan Noguera, Jeong Pak, Allen Orville, and I continue work on nitroreductase enzymes with the help of undergraduates Thomas Malone and Kristine Clough. Thomas is a transfer student from Fort Lewis College, CO who will be a Ph.D. candidate in the Environmental Toxicology Program starting Fall 2001, while Kristine has an eye on veterinary school.

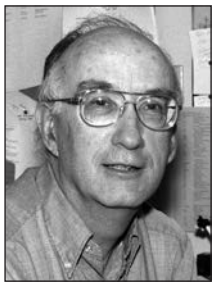
Luis Grimm joined our group just after New Year. He is working on a Master's thesis supported by an Alexander von Humboldt fellowship. His topic has been fermentation studies. Undergraduates Andy Chung and Nick Ketchum also work in the lab performing various attendant activities.

Of note on the miscellaneous end of things, we are now sporting laptop computers running over an Airport network. This has proven to be a satisfactory solution to the ongoing problem of how to provide enough access to high-end computing activities like surfing the web, email messaging, joke retrieval, and other productivity enhancements. After all, we must keep ahead of Dave Hruby and Ken Johnson on the humor (sic) of national politics. As of this writing, plans for our lab space renovation in New Biochemistry have returned from the bid process, with reconciliation between various parties required before the final budget is submitted to the state for approval. Up to this point, every desire and concern we have mentioned has been accomodated in a grand fashion.

In my home life, Karen was promoted to Associate Director of the Babcock Institute last year. As is often the case, this title change reflected responsibilities previously assumed, but was nevertheless greatly appreciated. Her position continues to grow, and now there are many more conferences, webpage development, publication activities, employee hiring and supervision, and meetings with state and federal government officials. Currently, they are keeping a close eye on the evolving problems associated with excess manure, mad cows, and foot and mouth disease, which qualify as dairy herd management problems if such problems have ever been identified. Ian is now a five year old articulate expert in many things, particularly K-Nex, golf, and marbles. Nightly, I am humiliated in a checkers match, and often suffer the indignity of being quadruple jumped.

Last Summer through Fall was a period of (too) intense travel for us. In July, Karen was in Beijing to make a presentation at an international conference, I was in New Hampshire for a Gordon Conference, Karen was in Baltimore for a conference, and to end the month and start the next, Karen, Ian, and I spent several beautiful days in the English countryside with John Broadwater, James Ntambi, and other fat researchers, I mean researchers studying fat, before travelling on to Dover Castle and Victoria Station London. We went to the Salvador Dali museum and saw for ourselves the evidence that Dali was a true 3 sigma outlier in many, many ways. I spent a week in Halle (former East Germany) in September, gave a seminar in Chicago, recruited for a week in Washington, DC on behalf of the UW Graduate school, and ended up with a seminar visit to St. Louis in early December. While there, I got a wonderful tour and dinner with Joe and his new advisor.

We are now anticipating the arrival of Ian's little brother, which have should have occurred before you read this. In closing, I hope this letter finds you all in good health, good cheer, and fortunate circumstances. Please come back to Madison whenever possible to tell us what you have been up to.



Jack Gorski
Lab 3306

The lab in the Biochemistry building is no more. It was completely cleared out, including all the walls, pipes, fixtures and even the restroom. The space is being remodeled to house the department crystallographers, Rayment and Holden. The DeLuca labs on the second floor have met a similar fate. We did manage to distribute much of our equipment to various other groups on the campus. I still have my office and do some committee work, review manuscripts and attend seminars which keeps me busy for a few hours each day. This still leaves plenty of time for hiking, skiing, my small herd of Jersey cows, etc.

The Endocrine meetings in Toronto provided some nice times with many of you as well as others in the Society who I have known for a long time. I am already looking forward to the meetings in Denver and hope to see many of you at that time. I also have enjoyed some visits with a number of you who attended the SSR meetings here in Madison this past summer as well as several others who came through Madison at other times.

The last person to work in the group turned out to be Jane Walent, who returned from New Mexico this past summer and worked for a few months on a couple of DNA sequence projects. She just started a new position as a scientist in the laboratory of the Director of the Clinical Cancer Center. Welcome additions to the faculty at the University have been Mike Fritsch, Assistant Professor in Pathology and Fern Murdoch, Scientist in Pathology. Mike and Fern moved here last fall and are putting together their lab. They have already joined forces with Reese Alarid's and Linda Schuler's groups to hold a joint research conference. Jyoti Watters and Mary Ozers also are attending. Mike and Fern even let me attend, which I truly enjoyed.

Laura Bergs Baranowski has taken a full time position with Third Wave, a local biotech firm. Iain Anderson has moved to Chicago where he is working with a biotech firm. Tammy Greco, Todd Winters and Jeff Hansen received tenure at Eastern Michigan University, Southern Illinois University, and the University of Texas – San Antonio, respectively. Wes Gray spent some time on this campus the past summer working with Colin Jeffcoate in Pharmacology. Qunfang Hou has completed her MBA, had a baby and is working for a biotech firm in the Boston area. I had the opportunity to visit Dave and Tammy Gregg and their children in River Falls, WI, where they have a lovely place in the country with horses, dogs and chickens for entertainment.

I hope all of you have had a good year too, and if you are in Madison drop by to say hello.

Laura Kiessling
Lab 471

This marks Laura's fourth year with a joint appointment in Chemistry and Biochemistry. As always, the only constants in the Kiessling lab are progress and change. In addition to our research, we have made significant party progress – celebrating Laura's 40th Birthday last September. The ebb and flow of students in the lab over the past year has miraculously resulted in a slight decrease in the lab's population from 32 to 28. Sue Genske continues to assist in nearly every aspect of the Kiessling operation. We are amazed Laura doesn't have Sue working in the lab in addition to her other responsibilities.

Who's In:

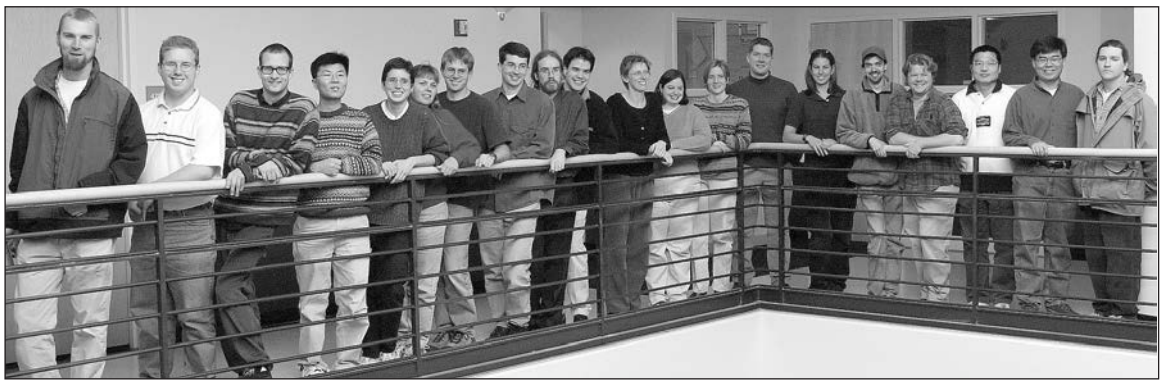
Here in Biochemistry our numbers are still growing. We now have two resident chemists, graduate students Chris Cairo and Byron Griffith. Biochemistry graduates students include Jason Gestwicki, Patricia Mowery, Michelle Soltero, Allison Lamanna (complete with her own, personal greenhouse), and first-year Erik Puffer "Daddy". The lab is also home to Dave Peal, a member of the CMB program, and ring master of a well trained population of *C. elegans*. Biochemistry undergraduates now total four: Steve Darnell, Leisha Cook, Kary Oetjen (who joined the lab this past summer), and our most recent addition, Ekokobe Fonkem.

In Chemistry, we currently have three post-docs, including Allison Marlow, (who will soon be leaving us), Mike Shultz (defensive star of the one-win-wonders, Worthogs Chemistry Hockey Team), and Daniel Weicherding, who arrived from Germany this past November. Brendan Orner is our current "ghost doc," rumored to be arriving soon from Andrew Hamilton's lab at Yale. Chemistry graduate students now total 13. Those housed in Chemistry include: Travis Young (but not for long), Andrew Tseng, Ron Hinklin (at the door, with job offer in hand), Zhi Qiang Yang, Bill Thomas, Robert Owen (a fine Pharmacia-Upjohn Fellow), John Phillips (has settled on a hair style, but is still in search of the perfect shirt), Jason Pontrello, Yi He, Carina Poulsen (a visiting graduate student from Denmark who arrived in January), and first-year Erin Carlson (a.k.a. fresh blood). Undergraduates working over in Chemistry include Julie Greschuk, who joined us in October, and "the 24-7 polymer machine" (who sometimes goes by Fred Boehm).

Who's Out:
As testimony that people do actually leave the lab, two chemists graduated with Ph.D.s this past year. In May, Laura Strong gave her defense and has joined the team as Vice President at Quintessence Biosciences. Then in September, Michael Schuster (a MD-Ph.D. student) defended and is now completing M.D. work for his degree. Three post-docs also left the lab this year. Elisabetta Fasella accepted a visiting professorship at Beloit College, Chris Sherrill is now working at EraGen Biosciences, and Jinwang Xu left for Boston in January to work at Vertex Pharmaceuticals.

Other departures include Laura Boddington, Tonia Buchholz, and Sara Borchardt. Laura graduated with a master's degree in Chemistry and is now working at Seattle Genetics. Tonia also graduated with a master's degree (in Biochemistry) and accepted a position just down the street at Panvera. Also, our long-time Biochemistry undergraduate, Sara Borchardt, graduated in May with a B.S. and is working for Sigma in St. Louis, MO.

What's New:
After lengthy delay, the Chemists were happy to finally move into the fifth floor of the new Chemistry building this past July. The lab space on the fifth floor of the old Chemistry building will house The Keck Center for Chemical Genomics. Laura, principle investigator on the project, along with Chemistry and Biochemistry professor Peter Belshaw, received a $1.5 million grant from the W.M. Keck Foundation to establish the center. Jason Gestwicki returned from his summer Biotechnology Training Program internship at Becton-Dickinson and was thrilled to announce that he made more money over the summer at BD than he did all year at the UW. Another addition to the lab occurred last March when Jacob Samuel Thomas was born to Bill and his wife Lorena. Apparently, Bill kept some of the contaminated water from 1998 when there were three births in the lab.



Judith Kimble
Lab 341

The past year has been a good one in the Kimble lab. Working in the Biochemistry Addition is a real pleasure. Hard to remember our old life in less luxurious quarters.

So what has been going on? In science, we have made real progress in a number of areas. One is how germline stem cells are controlled. Andrei Petcherski made a big breakthrough in the general area of signal transduction by the Notch pathway. He identified the LAG-3 protein in a modified two-hybrid screen and went on to discover that it has a key function in signaling. The bottom line is that LAG-3 functions in a ternary complex together with the LAG-1 DNA binding protein and the intracellular domain of the GLP-1 receptor. The ankyrin repeats of the receptor are critical to ternary complex formation, which finally gives us a biochemical handle on the function of these repeats in Notch signaling. Andrei also found that mastermind plays an analogous role in Drosophila and mammals. Very satisfying set of results.

Other areas of the lab have also seen important progress. One big project that has touched nearly all corners of the lab was spearheaded by Laura Mathies, a postdoc in the lab. She organized a cross-lab effort to isolate deletion mutants and has had really fantastic success with the heroic help of Peggy Kroll-Conner. Although we have classically gotten our mutants by more traditional methods, the lab has recently identified lots of genes by two-hybrid screens followed by RNA-mediated interference. But there is nothing like a deletion mutant to give you confidence in a mutant phenotype and to give you a reagent for doing further studies. This project has been a true gold mine. It has also been great for bringing people in lab together in a big joint effort. What else is going on? Well there are lots of things, but perhaps it is better to save some of them for next year and move on to people-news in the lab.

The lab has lost some valued members over the past year. Lisa Friedman received her Ph. D. and

moved on to Harvard to return to her first love of microbial genetics for her postdoctoral studies (although rumor has it that she still thinks some about developmental regulation from time to time). Bobbi Guenthner left with an M.S after deciding that genetic counseling was her real passion. It was a pleasure to see her work through difficult life decisions and find what she really wants to do, but sad that she did not opt for research since she showed terrific promise. Finn-Hugo Markussen returned to Norway after three years of postdoctoral research in the lab, and Craig Newman left his postdoctoral post here after a short two years to try his hand at teaching. The lab wishes the best of luck to all these people in their new lives.

We have been lucky to have three new graduate students join the lab over the past year. Jen Bachorik transferred into the lab during her second year in graduate school and is already well ensconced in genetic analyses of translational regulators of germline development. In addition, Liana Lamont, a first-year Biochemistry student, and Beth Thompson, a first-year student in the Cell and Molecular Biology Program, have joined the lab and started to think about what they will be working on. While figuring that out, they are busy learning to shoot worms with DNA and make complicated reporter constructs.

Henry Lardy
Lab 303
Enzyme Institute

Greetings from Hank Lardy and the Steroid Lab Group!

That group still consists of Nancy Kneer, Padma Marwah, and Ashok Marwah; all skilled in their respective work areas, scheduled for presentations at the ACS meeting and with four papers in press. We are supported by a small company in San Diego whose agreement with the Graduate School gives them right to patent our findings. We have synthesized and assayed more than 150 steroids and derivatives–many had been described before but were not available from any source. We have established the pathway and sequence by which DHEA is converted to more active compounds on the way to forming a new steroid hormone.

This has been a winter of big snows in Wisconsin which makes for great cross-country skiing–on weekends and at night under the lights—great for keeping in touch with grandchildren.

The University has a new Chancellor –John Wiley– and the emphasis has moved to building Wisconsin Industry. The University of Wisconsin was for many years the top Social Science school in the nation. We were famous for the basic Sciences, Humanities, and Arts-but no more. We also have a new Governor now that Tommy Thompson has moved to Washington to head up Health and Human Services. Former Chancellor David Ward negotiated very effectively with Tommy Thompson to get 5% salary increases for the staff and faculty plus several new appointments in the biological sciences, but the new Governor is clamping down on educational funding across the board. What really counts is that the University of Wisconsin managed (with a cool $1 x 10^6) to keep the football coach from going to the University of Miami.

While the University of Wisconsin outlook may be bleak, we have much to be joyous about elsewhere. Secretary Norton will get rid of all those old trees in the National Parks, George W. has already decreed that population can burgeon in 3rd world countries, we will get some God-fearing, properly oriented judges in the Supreme Court, and there will be some properly educated poor kids when they get vouchers that will pay for six weeks in schools newly created to take advantage of faith-based funding. Oh yes! All of you grads in the upper 1% of the financial brackets, who pay 21% of the US income taxes, will get 43% of George W.'s tax relief. That's equitable. Unfortunately, Bill Clinton has not recently raised the reputation of the Democrats as an alternate to the GOP.

If you haven't read Colin Powell's autobiography, I recommend it. It is very well written. Among other revelations you will hear from a sympathetic insider what a complete blank President Reagan was on policy matters. We have always suspected as much.

Best wishes.

Paul Ludden
Lab 241

The Ludden lab continues to be a place where interesting people study oxygen-labile enzymes (or is it the other way around??)

We held a double Ph.D. party this year, in which both Priya Rangaraj and Cale Halbleib were honored. Of course, that meant a double plaque presentation (and preparation) too. It was a fun evening, and Priya's mother was visiting from her home in Australia; in fact, Jayshree stayed for about 8 months to help with Siddarth, Priya and Babu's son.

New folks in the lab include Marcus Wolfe, a new grad student. We refer to Marcus as the Sorcerer's Apprentice because he has been working with Yun to learn as much as he can about CODH. Rajdevi Ponnuraj joins us as a postdoc to work on the ADPR project. Raj had written to me at about the time that Priya and Babu Antharavally were in India. I asked them to interview Raj, and they were quite positive. Raj even worked in one of the labs in which Priya had worked before coming to the US. Dave Dyer joins us as a technician to work on a host of projects. Dave's wife, Que Lan, is a new Assistant Professor in Entomology.

Old jobs, New jobs. Roy Kanemoto reports that he has stayed in the same spot, but that his section of HP has morphed to become "Agilent Technologies." Sandra Grunwald was promoted to Associate Professor at UW-La Crosse, and Richard Watt has begun as an Assistant Professor at the University of New Mexico. Yan Ma was delighted to begin as a scientist at Incyte Genomics this summer. Cale Halbleib joins Nathan Spangler and Bob Lowery at PanVera, as does Yaoping Zhang's wife, Lin Rao. Diana Woehle's company, Connetics, seems to be doing great if the annual goody box sent by Diana is any indication. Diana, the students love you. I often see Eric Triplett on campus as well. Eric continues to do ground-breaking work in a variety of areas, and he provides a critical point of view for the College administration.

The Ludden lab, past and present, has been fortunate to have a few reunion opportunities this year. October brought Ronda and Jeff Allen to town with new baby Jake for a wedding in Jeff's family, and at the same time brought Scott Ensign for his dad's retirement party. Nathan Spangler and Cale Halbleib came in from PanVera, Vinod Shah stopped in, the current lab joined us all and we had an excellent Chinese food lunch at this special edition of Journal Club. We took an updated photo of "Team CODH" that included Scott, Nate, Yun Heo, Chris Staples and new addition Marcus Wolfe (still missing the eldest brother of the team, Duane Bonam).

Some of us also caught up at the ASM meetings in LA this past May. Scott Ensign gave a great talk on his recent work. Ranjini Chatterjee was there, and we had lunch and heard about all the things she and Keith are up to. Diana Downs and Jorge Escalante were also seen roaming around the LA convention center with their two children. The LA convention center was excellent, and the floor of the main foyer was terrazzo style, similar to that in the new Biochem building. In the case of the convention center, the floor was a map of the world, so you could tell someone to meet you at Madison, WI on the convention floor.

This was the year for the Nitrogen Fixation Gordon Conference, which Lance Seefeldt and I had the opportunity to organize. Lots of former Madison folks were there, including Stefan Nordlund. Priya Rangaraj, Luis Rubio, and YaoPing Zhang came from our labs. It was a good week, and among other things, resulted in formation of a group to pursue the *Azotobacter* genome.

I visited Tim Hoover and others at the University of Georgia this August to participate in the Metalloenzyme workshop. Tim and LuVerne and girls had me over for dinner one night, and it was a fun evening. From Georgia I flew to Berlin for the Hydrogenase meetings, where I caught up with Yun and Chris from the lab. Juan Imperial was also attending, and his group has made spectacular progress on the regulation of *hup* genes.

Of course, for me the biggest reunion came on Nov 7^{th}, my 50^{th} birthday. While I suspected there was a party planned, I was surprised by some of the attendees. When Bob Lowery walked in with his guitar, I thought, "Hey, Bob is going to do a solo act." But no! Right behind Bob was Len Saari with his banjo. Just a few minutes after Len arrived, in walked Stefan Nordlund (taking advantage of extra frequent flyer miles to spend the week in Madison). At the party, Bob and Len entertained and Bob read from Scott Ensign's letter of quotes attributed to me (??) including the "classics," "So, (insert name of student) what have you got?" and "What's a ten thousand dollar rotor doing on a 25 cent block of wood?" (Did I really say those things? Maybe for the second half century, I'll freshen my material.) My daughter Lindsey put together a book of your

letters and notes, and these mean so much to me. One highlight of the book is a "manuscript" by Stefan describing our history. Also included is the poem from the lab that wishes "May your columns never run dry, and may your protein yields always be high." Now that's poetry!!!! Thanks to everyone who sent memories and wishes.

Bob and Katherine Burris are great. Their son, John, was recently named the president of Beloit College and he is enjoying that challenge. Bob and Katherine took a several week tour of Scandinavian countries this fall. Vinod Shah stops in occasionally to check on things, and if necessary to help out. Carmen and Priya "invited" him in this fall for a major FeMo-co prep.

In place of the canoe trip this year, Babu organized a lab tennis tournament. The tennis world is safe from us for now. Stop in to say hello if you get a chance. You will find me in one office or the other (or in between).

James Ntambi
Lab 419

Hey battah, battah, battah, swiiiinnnngggg battttaahhhh. As spring approaches, we in the Ntambi lab have our hands on research and minds on baseball. Our "starting pitcher," Dr. Ntambi himself, is currently very busy coordinating the activities in the lab as well as teaching Biochemistry 501 this semester. Post-doctoral fellow Makoto Miyazaki, the catcher, is currently characterizing the stearoyl-coA desaturase 1 (SCD1) gene knockout mouse. He has found very interesting phenotypes in this mouse that he is not ready to disclose at this time. He has begun to search for SCD1 inhibitors and has recently developed a very elegant SCD1 assay while working with Dr. Mark Gray-Keller in the Attie Lab. Hyounju Kim was picked up in a trade late last year and fills in at second base. She led the Korean league with 45 stolen bases last year, and she is currently studying SREBP regulation on the development of obesity and insulin resistance.

Who's on first? None other than Enrique Gomez. The slugging grad student, a perennial All-Star in the Mexican League, shuttling between the Ntambi and the Fox labs continues his success of the past 2 years on the Ntambi team. Besides driving in 125 runs last season, Enrique investigates the regulation, expression, and activity of SCD in differentiating 3T3-L1 adipocytes.

Youngjin Choi, our gold-glove winning shortstop and leadoff batter, led the department "highlight reel plays" last season and is working on the effect of CLA in breast cancer cells. Second year grad student Weng Chi Man rounds out the infield at third base. In addition to batting .300 with 30 home runs last season, she is currently investigating the role of SCD in the synthesis of steroid hormones. When she is not scooping up grounders at the hot corner, she enjoys cooking with her friends on the weekends.

Undergraduate Dave Lasky returns for the final year of his contract to play centerfield. He is hoping for a career year and a potential publication to maximize his contract value when he tests the free agent market this coming off-season. Dave is currently investigating the regulation of lipogenic gene expression in breast cancer cell lines in response to various polyunsaturated fatty acids and cholesterol. Mike Cullen, a junior undergraduate, is starting in left field. Though he struggled at the plate last season, Mike was consistent in the field and is looking to improve his numbers this year. Fellow undergrad Angela See completes the starting lineup in right field. When she is not playing baseball, she examines the ketone levels in mice deprived of food.

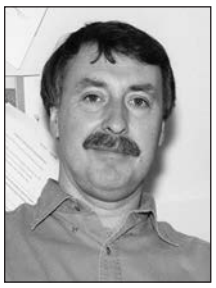
Postdoc Young-Cheul Kim provides a powerful presence off of the bench. He spends the majority of his time working in Nutritional Sciences, but he "graces" us with his presence once a week. He is trying to figure out why the SCD1 knockout mice lose hair. Undergraduate Andrew Ma backs up Weng Chi at third and serves as our utility infielder while Nick Ansay, a junior undergraduate, was recently brought up from the minors and is looking for playing time in the everyday lineup. Finally, some of you may recall Hank Bene from last season. He was released in the off-season and currently plays for a team in the Genetics Building. Given our lineup, we are hoping for a very successful 2001 season. As they say in baseball, "It's all about the pitching." We feel that with pitcher Dr. Ntambi leading the way, we're definitely in for a great year. Good luck to the rest of you!!

George Phillips
Lab 6607

The structural biology contigent in the department is growing! As I (gradually) move my laboratory operations from Rice University in Houston to UW-Madison I know I made the right decision to move here. The faculy are collegial, the students are bright, and the air is clean (if a little chilly). Wonderful things called 'gloves' and 'hats' that are not found in Houston are really nice inventions.

As for the research, I plan to continue to mix biochemistry and computer science in my activities (I have a joint appointment in Computer Sciences at UW). More and more of biology is being shown to benefit from analysis that computers can bring to the research table, including analysis of gene expression, bioinformatics, NMR, crystallography, and so on. Prof. John Markley and I are also trying to bring UW into the modern era of structural genomics (if NIH is willing to support us). These new ventures, along with my studies on muscle contraction, oxygen storage and transport, calcium binding, and thermophilic enzymology keep me busy. A new graduate student, Mr. Eiuyoung Bae has just started in the lab here, joining Wil Radding who moved with me from Houston to become a Senior Scientist at UW, Sibsankar Kundu, a new postdoc from India, and three wonderful UW undergrads, Michael Christie, Kaz Yoshino, and Chad Jolly.

I am looking forward to learning more about UW-Madison, and am really glad to be here!



Ivan Rayment
Lab 202
Enzyme Institute

More than two years have passed since Hazel and I decided to transfer from the Enzyme Institute into Biochemistry. The major news this year is that we are actually going to move this year! Our new laboratories on the second and third floor of the 1985 wing of Biochemistry are nearing completion. The construction deadline is listed as April 27th. If the labs are finished on that date, it will be the best birthday present (and most expensive–Thanks, Hector) in many years! I anticipate that we will in our new space by the end of May. The labs will be spectacular and should provide for a much needed expansion in our ability to prepare proteins and solve structures. We are looking forward to being closer to our colleagues in the department, though the thought of moving the X-ray equipment is somewhat unpleasant.

Over the last year there has been a substantial turnover in personnel associated with the laboratory. Tom Thompson and Doug Davies graduated in May, Cary Bauer left to join the X-ray Division of Bruker and Matt Schroeder left to join the Army. To counter balance these departures David Smith, Scott Lovell, Kirsten Dennison, Cathy Grutzmacher and Eric Wise joined the lab. In addition, several undergraduates (Jessica Kayhart and Ryan King) are participating in undergraduate research, so that the lab is very crowded. Everyone is looking forward to getting some bench space and a new desk in May.

The scientific direction of the lab has also continued to expand. We are still actively cloning myosin from anything that moves (and some things that do not: plants!). We are also making good progress on our structural studies of actin. This is part of our long term effort to understand the molecular basis of motility. Even though the basic structure of actin was determined almost ten years ago, there is still much to be learned about this fascinating molecule. Our studies on the enzymes involved in cobalamin biosynthesis have also proceeded really well, as have our investigations of members of the enolase superfamily of enzymes. The most exciting discovery (in collaboration with Jorge Escalante in Bacteriology) in our studies of the cobalamin biosynthetic enzymes was that the enzyme responsible for forming the Co-Carbon bond (CobA) utilizes a P-loop backwards from that observed in any other nucleotide dependent enzyme. This was a complete surprise. In addition our collaboration with Bill Reznikoff and Igor Goryshin on Tn*5* transposase resulted in a cover article in Science (Doug Davies did most of the work). This latter effort was a lot of fun and should provide the basis for many more structural studies over the next few years. On the basis of these ongoing projects and our continued interest in myosin I expect this forthcoming year will be very exciting.

Group photo in the new space!

Ron Raines
Lab 371

As always, the Raines lab has enjoyed an exciting year. Several familiar faces have left, and although they can never be replaced, their desks have been filled. Pete Leland received his Ph.D. in May and made the short move upstairs to begin his post-doc in Alan Attie's lab. Tony Klink graduated in August and, after traveling the world, has settled back in Madison to work at PanVera Corp. Chiwook Park was the lab's third Ph.D. recipient of the year. Chiwook defended his thesis in December and moved on to a post-doctoral position in Susan Marqusee's lab at Berkeley. Jessica Pope received her M.S. in Chemistry and moved to Boston. Finally, the lab had to bid farewell to another lab manager who left to attend graduate school. Roz Sweeney is attending the University of Texas at Austin, the alma mater of her Raines lab mentor, Brad Kelemen. Originally Roz moved into the same nudey co-op that Brad inhabited as an undergrad, but she survived there for only a few months.

Three new biochemistry graduate students and one new chemistry graduate student joined us this year. Eugene Lee (Seoul National University), Scott Lefurgy (University of Michigan at Ann Arbor), and Bryan Smith (University of Nebraska at Lincoln) have found a home in "the big lab," while Matthew Soellner (Oberlin College) is waiting for a free bench in the chemistry lab. One should open up soon, once Ken Woycechowsky leaves, that is. Jonathan Hodges, who completed his graduate work in Bob McMahon's lab here at UW, traveled several blocks from the chemistry department to become our first new post-doc this year. Recently, a second post-doc, Sunil Chandran, also joined the Raines lab. Sunil received his Ph.D. in Chemistry from Michigan State University, where he worked in John Frost's lab. Parit Plainkum, an M.D./Ph.D. student from Mahidol University in Bangkok, Thailand, is also with us for the year. Following in Roz's footsteps, Kris Staniszewski, another former Raines lab undergrad has taken over as the lab manager. She too will be leaving after only a year of service to attend graduate school. The final addition to the Raines lab family this year is Sara Hunter, who has earned the unofficial title of Ron's cool secretary.

It is not just the lab that is growing…our families are as well. We are happy to announce that Brad and Trista Nilsson welcomed a second child, Liam Andrew, into their family on September 13, 2000. Matt Hinderaker became engaged to Shelley Christopherson in March, and they are planning a Summer 2002 wedding. Bill Watkins, of the Menon lab, proposed to Richele Abel last October, and their wedding is planned for September 29th of this year.

Of course, a report must be given on the athletic feats of our lab members. Josh Higgin, Brad Nilsson, Matt Hinderaker, and Steve Fuchs were members of the championship men's intramural softball team this Summer. Matt and Steve, along with Jonathan Hodges, have branched out into another sport, joining others in the department to form an intramural basketball team. The fate of that team is yet to be determined. For those of us who enjoy the competition of sports, but do not feel up to the exertion, a Raines lab fantasy football league was formed. Unfortunately, Matt allowed his Dad to have a team in our league, and his "Hotdogs" went on to win the championship. Then, there are those of us who want to compete, but do not even want to put the energy into managing a fantasy team. Hence, a Survivor pool was formed. Are any of us really tough enough to survive sixteen weeks of torturing suspense?

As always, we are happy to welcome any lab alumni to drop in for a visit and update us on life beyond the Raines lab. Otherwise, please send us an e-mail or visit our lab website: www.biochem.wisc.edu/raines.

Quote: "For now, 'Frog Fugue' hangs in Raines's office. 'I hope to enjoy it in my office for a while,' Raines says, because the frog inspires the group that's working on Onconase. 'But if we solve that problem and move on, I will need a new inspiration.'" (*Chemical & Engineering News*, May 22, 2000)

Bill Reznikoff
Lab 319

Greetings from the REZ lab! Greetings from Bill, Barb Schriver, Igor Goryshin, Todd Naumann, Mindy Steiniger-White, Brandon Ason, Greg Peterson, Kelly Winterberg, Danielle Vokal, Jeremy Metzner and Amanda Bruegl. Archna Bhasin has left us for her assignment with the Peace Corps in the Philippines. We will miss Archie a lot - she was a great colleague and friend for all of us, and a super scientist. Another important event was Brandon's wedding to Karen Lyle last summer - a wonderful celebration in the Allen Gardens.

The lab has three missions that overlap considerably. Most people study the basic mechanism of transposition most of the time (this is what NIH wants us to do). For this, having the structure of the transposition complex has been an invaluable asset. In this work we are revisiting some old questions (what is the real explanation for the cis active nature of Tn5 transposition) and some new questions (how does the transposition complex bind its target), and lots of other questions. Of course our continuing collaboration with Ivan Rayment's lab

is critical for this work. Some of the lab is using Tn5 transposition as a tool for genomics research (this is what NSF wants us to do). For instance, we can use Tn5 to determine essential genes or to delete non-essential genes. Finally, there is always a temptation to make new toys (or tools) based upon Tn5 transposition. Some university funds support this work, and it also involves a very fun collaboration with Epicentre Technologies.

Stop by if you are in town. We are in 319 of the new building.

Marv Wickens
Lab 307

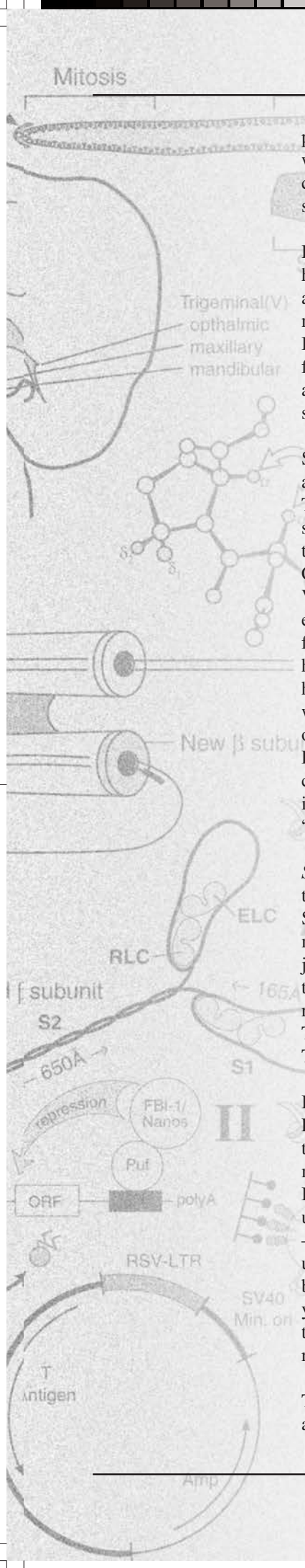
As the snow drifts down aimlessly this late afternoon, glistening from invisible heavens, I think of you all. I look out my immense window and see the quiet peace of the snow, and capture in my mind's eye those of you who used to be here but now are off in the blistering nauseating relentless heat and sunshine of the West Coast or Southwest. How sad the sameness. Here, where men are men and women and women and we all get cold, we are at the beating heart of the seasons, feeling mortality's breath on our cheeks, and getting — I admit it — antsy for the coming of bulbs and the rising of the sap. But the cold shower for that rising spring saplust is T.S. Eliot: "April is the cruelest month, breeding lilacs out of the dead land, mixing memory and desire, stirring dull roots with spring rain." But then you who have already succumbed to the mindless temptation of spring, you who are already tying flies and compost and getting out your shorts, say: "What does this four-eyed nerdy Eliot guy know? He lived in England and we all know they are manically depressed as a nation." To which I say: "More than you'd think: he also wrote 'In the end is the beginning, in the beginning is the end,' and anyone who has read any review we have written about the regulation of mRNAs can see that Eliot knew his molecular genetics, and only disguised his knowledge of 3'UTRs and polyadenylation with spiritual hocus pocus and existential angst." End of discussion. Spring has its down side, April is cruel.

The lab continues toward a receding horizon of infinite questions and delightful folks. A quick walk through the rose garden to visit with those who now inhabit our digs. *Brad Hook* and *Craig Stumpf* are new babes in the woods — inocula in the scientific L-broth. It is hard to tell with so newly inoculated a culture, but we're hoping they're in mid-log next week. Brad's over-expressing proteins and Craig's killing RNAs — between them, they make one mean Lecter, over-expressive and homicidal. May I plate you out, Clarisse? It is great to watch their exponential growth, particularly from the vantage point of stationary phase.

Natascha Buter has joined the lab as a specialist and is going great guns. Little did she know she would be doing genomic screens, finding mutants in *C. elegans*, pinning arrays, and making plates, all before lunch. The question is: can she keep everything straight and not go crazy? So far so good. She has not yet asked me whether she should spheroplast the worms, RNAi the yeast, plate Dave, or just pack the whole thing in.

Daniel Seay has taken on the frightening bent of looking for commitments outside the lab that threaten his life. Most recently, he has become deeply enamored of rock climbing. While he may see this and other suicidal enterprises (e.g., sleeping on the ice of Lake Mendota) as having some metaphorical linkage with the trials of his thesis project, Prozac may be a necessary alternative. I fear my nightmare of Daniel lying on the ice, blue in the face, endlessly whispering "Prelim, prelim….genomic screen, genomic screen." But I know he would get instant relief just by stroking the REI tag on his jacket.

Several folks got their PhD's this last year, and now should have reached their eagerly anticipated Nirvana-state, that garden of delights that transcends the long graduate-student darkness to which they had been confined. We have *Brian Kraem*er, now in Seattle, working on Alzheimer's. I received not long ago a questionnaire from the Feds asking whether Brian showed any signs of mental imbalance, moral ambiguity, or questionable behavior. I lied... I wanted him to get the fellowship. One expects that Brian is catching fish out the wazoo and reveling in Seattle's mists, deep in the rainforest, making a sportscar out of pine needles and fish bones. *Kris Dickson's* perhaps gone even mistier, though not in the Olympic range: she's just left for Edinburgh, to do her post-doc in neurobiology. A furious concluding group of experiments, spilling over even after she left, being done in *Niki Gray's* own lab. Which, by all accounts, seems to be thriving, getting things done, moving ahead, acquiring funds, playing on the forehead of science. *Cameron Luitjens* too has received the big PhD, but has stayed on for a while, reaping new profits from his past work, and feeling the weight of the burden lifted from his shoulders. *Jeff Coller* has headed to Arizona, where he tells me there has been a lot of



precipitation. Twit! Weren't you looking out the window up here? Precipitation, you say? He has child; perhaps that explains his slightly fatigued state of mind.

He is not alone in his childfulness: other Alumni have rather recent kids, including *Dave Zarkower* and *Vivian Bardwell, Aaron Barkoff, Pete Wigley.* And no doubt there are untold other children to whom I am not privy, or who, in this instant, I am forgetting: forgive me. And Mazel Tov to you all, and to all, some ATP and an energy generating system.

Speaking of bambini, Zach, our son, just turned 13 and is doing well. Girls loom. Loom, not dominate. Their images peek around the corners, but don't yet stand in the middle of the hall with their hands on their hips, staring enigmatically at his testosterone. Computer games, our new kitten, his project on Vikings, mystery films — these are at the leading edge. Zach manages to remain simply enthusiastic for most aspects of life. A good trait, eh what? But he sure can argue a cogent argument: We recently had a protracted conversation about swearing, in which he argued that "swearing was OK since it was only words, and what could be wrong with words. Dad, aren't you irrational not liking swearing, and couldn't a nation be made that spoke Ebonics intelligently, and what was my problem anyway?" "Plastics" to the Graduate; "Law" to Zach.

Scott Ballantyne has put his toes into the waters of the job market, and we'll see who bites at them. Somehow, whenever I write about Scott, piscatorial metaphors rise to the surface. (See?) In fact, his job seminar has more than its fair share of these — two-hybrid screens as fishing, getting keepers and rejects. Will the audience of faculty take the bait? Thrash breathless on the floor of the auditorium? Throw him in the frying pan? Are they hooked?

I soon go to give a seminar at Haverford, where Lina Dahlberg (Jim and Elsebet's delightful daughter who I knew as a mere bambino) and I have made a deal. We exchange words before I go, and I have to use hers in my seminar and she has to use mine in a question after the seminar. I gave her — kindly — a mere "atavistic" — a word I expect us all to use on our next papers. She gave me — a brief pause for effect here — "lugnuts." Now I ask you. Lugnuts? Next week, the relation of lugnuts to yeast, C. elegans and 3'UTR control will be revealed to all, including me.

This reminds me of a challenge that *Pete Wigley* and I set many years ago, on which the lab and I have not delivered, but on which we must, as of this moment. Henceforward, every paper the lab writes should incorporate a new Latinate phrase, *viz*: "The Discussion Section of Bozo *et al.* is one long *ipse dixit.*" Look out those who dare write with me. It will appear subtly, invisibly, in some hidden corner of the text. Heed this *ominatio*. When thou least expectest it, then shall twisted bizarre amalgams of letters rise on your pages, filled with seemingly illuminating obscurity.

Dave Bernstein, following in recent tradition, has accepted responsibility in the department's socio-scientific matters, while at the same time, mating incorrigibly and interacting 'til he's blue in the colony. Yeast I mean, o thou vile of mind. Seeking optimal vectors and screens, following in the great tradition of *Beilin Zhang,* fantasizing a screen in which only one positive emerges and he says "Thou shalt have no other positive, for I am YHWH." (Your Hoped-for White HIS3-positive)

Carol Pfeffer continues to keep my ducks in a row, my fish on a line, my faculties in a dubious state of dependence on her own memory. Were it not for her, Lord only knows when or who would write the letters of recommendation, see that the manuscripts are reviewed, the meeting lists organized, my professional life ordered. And *Liz Barlow* helps keep the larger us organized, sequenced and competent. *Nicky Benkers*, once deeply engrossed in that same enterprise as an undergrad, has moved on to — now where would you guess? — the West Coast — quelle surprise! — thereby joining everyone else who has sought the Pacific Rim and Soutwest, land of the nouvelle Cal-Mex vege-soy-arugula pizza! (Seattle actually.) We have not heard from her and so wait to see whether the other UW has survived so much energy in one human package. In our long term commitment to the fight against entropy, Carol, Liz, Nicky, and Natascha too — have taken the lead as Commandos, guiding us through the forest of disorder. It reminds me of the prospective graduate student who visited last week, and noted as we drove past a tree farm, "How unusual that all the trees in Wisconsin grow in what look like such nice rows. Why is that?" He will not be joining the program.

There are many of you who, sadly, can not be mentioned here. Folks in small towns, in large cities, in Madison itself; with children, with dogs, with worms, with yeast, with pigs, with birds; with Aussies, with New Englanders, with Swedes; all of you I hope with great enthusiasm for life's confusion. With eagerness for what my thesis advisor, paraphrasing Henry Miller, called the joy of "life

lifting its petticoats." (Take no offense: "life tossing its sportsjacket over its shoulder" hasn't the same ring, unless, I suppose, they're Clark Gable's. No, my point, and I *will* make it, is that I can not mention all of you in this little note. Take this paragraph then as an affectionate kiss on the cheek, oh longer-gones.

But, for a greater measure of our well wishes, see our new lab website, **www.biochem.wisc.edu/wickens,** on which lies "Clipboard/Quote Board," and "Clipboard/Lab Photos." You will there find some proof that you are remembered properly. You who have gone on to other things will find pictures of yourselves, often slightly deranged, and of your colleagues as young pups, and quotations you thought were long forgotten, let alone entered into the public domain. 32P, human refuse, letters of recommendation, abuses of Marv — they are all there. These photos help me enjoy those of you who are gone, in absentia, they ease April's cruelty. *If you have pictures that belong on this site, please send them to me: I'd be glad to add them to the collection.* It would of course be even better to see the real you, but a photo of a lab friend in some ridiculous compromised unprofessional state would also be welcome.

Let me put this another way, remembering an appropriate adage Zach and I found emblazoned on the entrance wall of an ancient Palazzo in Italy. It's apparently come from the mouth of Terence, a Roman playwright:

HUMANI NIL A ME ALIENUM PUTO.

Does this mean "There are no human aliens on Pluto." Or "I am not an alien hooker." (Our two guesses….) No. It means "Nothing human is alien to me," or, paraphrased, "Life is good and you are missed, alien or not." And that ain't just whistling *ipse dixit*.

STAFF PROFILE:
Dan Barnish

Since joining the Department of Biochemistry in January, 2001 Dan has gone through an extreme learning curve with understanding all of the course requirements. Dan has resided in Madison since 1992, but has always been a native of Wisconsin. He attended undergraduate school at the UW from 1992 to 1996 and then worked as a social worker in Green County. Dan sharpened his counseling skills at Green County and then decided to return to the UW as a graduate student to gain further knowledge of counseling techniques.

During his graduate studies Dan worked at the Public Defenders Office and at Madison West High School. At Madison West High School, Dan discovered his passion for advising students. Graduating in December 2000 with his Masters in Social Work he found himself unable to leave the campus area. So, Dan returned after a month break and found himself using his counseling skills with the undergraduate biochemistry students. Dan will strive to help our students with academic, career, and internship choices.

Dan has also been married to his college sweet heart for the past two years and is expecting a child in September. When Dan is able to find the time, he likes to participate in many outdoor activities, but he especially enjoys football. Dan coached sophomore level football last fall at Madison West High School and is hoping he can return in the fall 2001. Dan is also committed to the youth in the community and participates in a youth group that does numerous volunteering projects around Dane County.

STAFF PROFILE:
Paul Willadsen

Paul has been with the State for over twenty years. Prior to coming to the Biochemistry storeroom in July 1999, he worked for the University at UW Housing and for the Department of Administration at the State Records Center. He is a 1987 graduate of the University of Wisconsin with a BA degree in History.

Paul is married and has three children and two dogs. He is interested in most sports although his first love is hockey. He plays hockey twice a week year-round and coaches his son in the Sun Prairie Youth Hockey Association. His daughter says he is obsessed with hockey as he is at the rink at least five days a week. His other love is reading mysteries, historical novels, and anything to do with Stephen King or Harry Potter.

I *have* to fake my data...with all these ethics seminars I don't have time to do experiments!

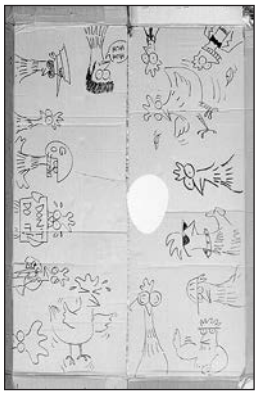
BIOCHEMISTRY DEGREE LISTING:
2000

Degree	Name (Major Professor)	Thesis Title
PhD	**Barkoff, Aaron Franklin** (Wickens)	Translational control during meiotic maturation in *Xenopus*
PhD	**Bhasin, Archna** (Reznikoff)	Identification and characterization of two key intermediates in Tn*5* transposition: The DNA hairpin and the synaptic complex
MS	**Bittinger, Kristin Lee** (Montgomery)	Mutational analysis of herpes virus entry mediator (HVEM) and purification from mammalian expression system
MS	**Buchholz, Tonia Jane** (Kiessling)	Inhibitors of C-type lectins: Screening a library based on shikimic acid
PhD	**Davies, Douglas Ryan** (Rayment)	Structural studies of Tn*5* transposase
PhD	**Dickson, Kirsten Sue** (Wickens)	Zen and the art of poly(A) lengthening
PhD	**Friedman, Lisa Cheryl** (Kimble)	Two studies in the nematode *Caenorhabditis elegans*. Part I: GON-4-An organ specific cell-cycle regulator. Part II: Prolyly-4-hydroxylase: A critical role in morphology and viability
PhD	**Hrafnsdottir, Sigrun** (Menon)	Transbilayer movement of phospholipids in the cytoplasmic membrane of bacillus
PhD	**Klink, Tony Anthony** (Raines)	Ribonuclease A: Disulfide bonds, conformational stability, and cytotoxicity
PhD	**Kraemer, Brian Curtis** (Wickens)	Identification and characterization of RNA binding proteins involved in post-transcriptional control of *Caenorhabditis elegans* germline development
PhD	**Leland, Peter Andrew** (Raines)	Molecular studies of the biological and catalytic activities of ribonucleases
PhD	**Loyet, Kelly Michele** (Martin)	Localization and binding studies of phosphatidylinositol-4,5-bisphosphate (PIP_2) in regulated exocytosis as it pertains to calcium-dependent activator protein in secretion (CAPS)
PhD	**Manji, Gulam Abbas** (Friesen)	Virus and host factors involved in baculovirus-induced apoptosis: Mechanistic clues on baculovirus Op-IAP antiapoptotic function
PhD	**Park, Chiwook** (Raines)	Effects of salt and pH on binding and catalysis by ribonuclease A
PhD	**Rancour, David Michael** (Menon)	Nucleotide photoaffinity probes for glycosyltransferases
PhD	**Rice, Kevin Peter** (Cox)	Homologous DNA pairing mechanisms of the *E. coli* RecA and *S. cerevisiae* Rad51 proteins

Degree	Name (Major Professor)	Thesis Title (continued)
PhD	**Rishavy, Mark Alan** (Cleland)	Use of isotope effects to determine enzymatic and nonenzymatic mechanisms
PhD	**Studts, Joey Martin** (Fox)	A study of protein-protein interactions in the multicomponent toluene-4-monooxygenase complex
PhD	**Thompson, Thomas Bernard** (Rayment)	X-ray crystallographic analysis of adenosylcobinamide kinase/ adenosylcobinamide phosphate guanylyltransferase (COBU) and *O*-succinyl benzoate synthase (OSBS)
PhD	**Zoog, Stephen James** (Friesen)	Molecular mechanisms of baculovirus anti-apoptotic genes P35 and P49

EGG DROP:
Ed Himelblau

The Putty Island Skanook is a remarkable bird. The Skanook is supremely adapted for nesting atop the once-towering cliffs of South Putty Island. However, recent tectonic shifts have caused South Putty to sink gradually into the ocean. Interestingly, the Putty Island Skanooks have not adapted to nesting at lower altitudes. Rather, they continue to lay their eggs at the original altitude of the cliffs. The result of this behavior is that their eggs must survive incrementally greater falls each year. Selection has favored those birds whose eggs are better able to withstand these falls. This has resulted in a proliferation of complex and beautiful egg shapes including parachutes, shock absorbers and propellers that actually rotate.



Dinner plate size target (white spot in center).

In the spirit of the Skanook, members of the Biochemistry department gathered in the west atrium early last summer for the annual Biochemistry Egg Drop. Participating labs were given identical sets of materials and asked to devise a contraption that would allow an egg to survive the fall to the atrium floor. While virtually every lab survived the fall from the second floor the casualties began to mount as the competition moved to the third and fourth floors. Yolk-spattered observers on the atrium floor announced the status of each egg to the cheers or moans of the watching lab members. As numerous eggs survived the fall from the forth floor, a test of accuracy would decide the winner. One by one the participants dropped their eggs attempting to hit a dinner-plate sized spot on the floor bellow. It was no contest...the entry by the Biochemistry Media Lab, both strong and aesthetically pleasing, also proved deadly accurate. In the end Adam, Robin and Laura were left to bask in the glory that only an Egg Drop Champion could know.

Contestants drop some of their "chickeny" contraptions over the railing.

IN MEMORIAM:
2000

Chapman, Michael Ray
(Sr Admin Spec w/Markley, 1/91-8/00)
Aug 29, 2000

Coots, Macie Collins
(MS 1957 Elvehjem)
Aug 1, 2000

Colombo Mognoni, Maria Giovanna
(PhD 1978 Lardy)
Date Unknown

Elvehjem, Constance
(Mrs Conrad A Elvehjem)
May 23, 1999

Harrower, R J
(MS 1936 Link)
Dec 15, 1997

Kendrick, Kathleen Ellyn
(Postdoc w/Reznikoff, 11/81-12/83)
Date Unknown

Lapidus, Milton
(MS 1953 Strong; PhD 1956 Strong)
Oct 13, 2000

Lohse, Jan Karlotta
(Grad Stu w/Gorski, 1/79-7/82)
Nov 10, 2000

Luchini, David William
(Grad Stu w/Cleland, 8/91-8/92)
Mar 1999

Mickelsen, Olaf
(MS 1937 Elvehjem; PhD 1939 Elvehjem)
Aug 8, 1999

Rao, Koppaka Viswesara
(PhD 1952 Peterson/Johnson)
Date Unknown

Riggs, Noel V
(Postdoc w/Strong, 1965-66)
Date Unknown

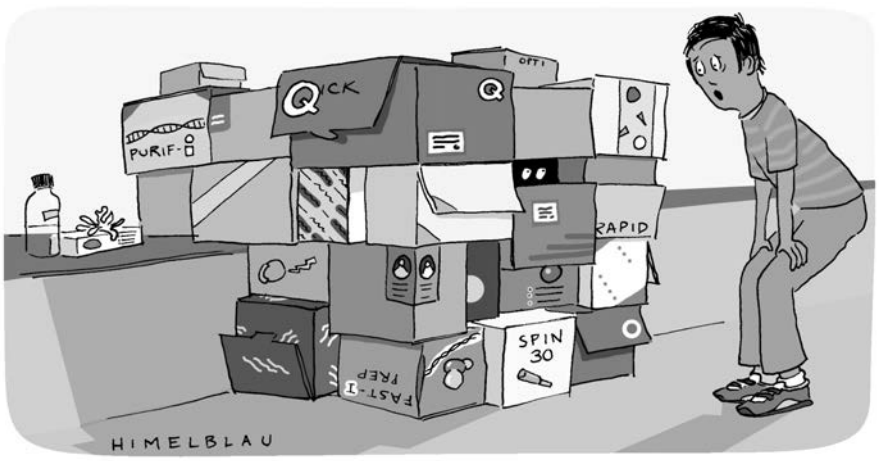
Schneider, Howard Albert
(MS 1936 Steenbock; PhD 1938 Steenbock)
Date Unknown

Sherman, William Cyrus
(MS 1934 Elvehjem; PhD 1935 Elvehjem)
Apr 10, 2000

Stahmann, Mark Arnold
(PhD 1941 Link)
Aug 12, 2000

Waibel, Paul Edward
(MS 1951 Baumann; PhD 1953 Baumann/
Bird, Jt Poultry Sci)
Aug 17, 2000

Wormeli, Benjamin Cholse
(MS 1933 Hart, Jt Poultry Sci)
Dec 26, 2000



**I'm sorry to mess up your fort, Don,
but I need to use the Wizard Prep kit.**

**Cartoon courtesy of
Ed Himelblau Copyright 2001**

IMPORTANT ADDRESSES & TELEPHONE NUMBERS
BIOCHEMISTRY FACULTY 2000-2001

BIOCHEMISTRY

Richard M. Amasino	amasino@biochem.wisc.edu	608/262-4704
Alan D. Attie	attie@biochem.wisc.edu	608/262-1372
Sebastian Bednarek	bednarek@biochem.wisc.edu	608/263-0309
Sam Butcher	butcher@biochem.wisc.edu	608/263-3890
Margaret Clagett-Dame	dame@biochem.wisc.edu	608/262-3450
William W. Cleland	cleland@enzyme.wisc.edu	608/262-1373
Michael M. Cox	cox@biochem.wisc.edu	608/262-1181
Hector F. DeLuca	deluca@biochem.wisc.edu	608/262-1620
Brian G. Fox	bgfox@biochem.wisc.edu	608/262-9708
Perry A. Frey	frey@biochem.wisc.edu	608/262-0055
Colleen E. Hayes	hayes@biochem.wisc.edu	608/263-6387
Hazel M. Holden	holden@biochem.wisc.edu	608/262-4988
Laura L. Kiessling	kiessling@chem.wisc.edu	608/262-0541
Judith E. Kimble	jekimble@facstaff.wisc.edu	608/262-6188
Paul W. Ludden	ludden@biochem.wisc.edu	608/262-6859
John L. Markley	markley@nmrfam.wisc.edu	608/263-9349
Thomas F.J. Martin	tfmartin@facstaff.wisc.edu	608/263-2427
Anant K. Menon	menon@biochem.wisc.edu	608/262-2913
David L. Nelson	nelson@biochem.wisc.edu	608/263-6879
James M. Ntambi	ntambi@biochem.wisc.edu	608/265-3700
Ann C. Palmenberg	acpalmen@facstaff.wisc.edu	608/262-7519
George Phillips	phillips@biochem.wisc.edu	608/263-6142
Ronald T. Raines	raines@biochem.wisc.edu	608/262-8588
Ivan Rayment	ivan_rayment@biochem.wisc.edu	608/262-0437
M. Thomas Record	record@chem.wisc.edu	608/262-5332
George H. Reed	reed@biochem.wisc.edu	608/262-0509
William S. Reznikoff	reznikoff@biochem.wisc.edu	608/262-3608
Heinrich K. Schnoes		608/262-0650
John W. Suttie	suttie@biochem.wisc.edu	608/262-2247
Marvin P. Wickens	wickens@biochem.wisc.edu	608/262-8007

MOLECULAR BIOLOGY/MOLECULAR VIROLOGY

Paul D. Friesen	pfriesen@facstaff.wisc.edu	608/262-7774
Ross B. Inman	rinman@macc.wisc.edu	608/262-9881
Rebecca Montgomery	rimontgomery@facstaff.wisc.edu	608/262-6773

CHEMISTRY

Peter J. Belshaw	belshaw@chem.wisc.edu	608/262-2996

EMERITUS

Julius Adler	adler@biochem.wisc.edu	608/262-3693
Laurens Anderson	landers2@facstaff.wisc.edu	608/262-3041
Helmut Beinert	hbeinert@facstaff.wisc.edu	608/263-6357
Robert Burris	burris@biochem.wisc.edu	608/262-3042
Jack Gorski	gorski@biochem.wisc.edu	608/263-4441
Henry Lardy	halardy@facstaff.wisc.edu	608/262-3372

If you have questions or information for us, please call or write to the individuals listed below.

University of Wisconsin-Madison,
Department of Biochemistry
433 Babcock Drive
Madison, WI 53706-1544

FAX # (608) 262-3453

Change of Address, Information, and General Inquiries:

Marcia Bubrick (608) 262-3040
E-mail: mbubrick@biochem.wisc.edu

Graduate Studies (Information and Applications):

Carol Marth (608) 262-9832
E-mail: marth@biochem.wisc.edu
Colleen Clary (608) 262-3899
E-mail: cclary@biochem.wisc.edu

Undergraduate Program/Internships

Dan Barnish (608) 265-9846
E-mail: barnish@biochem.wisc.edu

Steenbock Symposium

Janice Carberry (608) 262-7129
E-mail: carberry@biochem.wisc.edu

Gifts/Donations

Please contact the Chairman
Hector DeLuca 608/262-1620
Email: deluca@biochem.wisc.edu
Or contact
The Department of Biochemistry
(608) 262-3040
E-mail: donations@biochem.wisc.edu

Department of Biochemistry
University of Wisconsin–Madison
433 Babcock Drive
Madison, WI 53706-1544 USA

Address correction requested

FIRST CLASS