We take the BS out of BBS.

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Winter may be upon us, but count on B to really heat things up. In this issue we have a controversial editorial, an interview with a rock star (sort of), and a how-to guide to enjoying the City that Never Sleeps. So curl up next to the fireplace, the 37° incubator, or whatever else is handy, and read another exciting and informative issue of B magazine.

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Finding a Mentor
An Investigative Report
By M. Akins

Perhaps the biggest decision that we make as graduate students is choosing a mentor. The mentor sets the tone for the lab and is one of the most important personal relationships you will have in your career. But how do you choose the appropriate mentor? Clearly, there is no one right answer, but after surveying senior BBS students, I was able to identify several key considerations.

As with any other volunteer survey, the results below are anything but scientific. Students who responded seem to be happy with the quality of mentoring they’ve been receiving. On a scale of 1-5, with 1 being unacceptable and 5 being the ideal mentor, respondents rated the quality of mentoring at 4.4, with a range from 3 to 5. While the survey design prevents strong conclusions, at the least it means that the advice of these people should be taken seriously, as they have managed to find mentors that mesh well with their expectations.

I have organized quotes into several broad categories. Where appropriate, I have added my own commentary, mostly to sum up other quotes that I haven’t included.

Mesh Personalities Most of the advice falls loosely into this category, and it seems to be the most important factor, above even the science.

"You need to get along well enough with your advisor to be able to work with, and learn from, him/her. You need to know your own strengths - do you need a lot of guidance or do you want to be left alone?"

"Most importantly, the student should feel comfortable enough talking with the advisor to raise issues over time. These issues might be related to the project or to some other problem like a conflict with someone in the lab or concerns over the future. If the mentor and the student are receptive to one another, they will be able to work well together."

"Also remember that its not just your advisor's personality but the personalities of everyone in the lab that you may have to consider, particularly people you may have to work with closely."

"Look for just enough intellectual freedom to hang yourself with-- DON'T be treated as a technician, but DON'T be left to flounder for years and years."

"Commitment to intellectual development of students, with the understanding that mentors and students will sometimes part ways."

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EDITOrial

My life as a Taxpayer-funded Corporate Lackey
By N. Sherer

Ah, my fellow BBSers, educate yourselves well, for we are inheriting a world of increasing responsibility and complication - where academically-driven biomedical breakthroughs mean big money and bigger controversy.

For those of you not keeping score, 2001 was an important year for patent protection and the control of life-saving medicines around the globe.

One need look no further than down your hallway, where a request from Doctors Without Borders accompanied by a collective effort from undergrads, students of the law school, and GESO prompted extensive discussion and an eventual agreement between Bristol-Myers-Squibb and South African-based Aspen Pharmaceuticals. The agreement provided for the production of a generic version of BMS’s Zerit (d4T, a compound developed at and patented by Yale, licensed to BMS), for eventual use in alleviating the acute AIDS crisis in South Africa.

Here’s the controversy: peruse Yale’s patent policy (www.cis.yale.edu/grants/patent.html) and you’d think the issue a snap. The objective is "...to achieve broad access to the results of its research", favoring "non-exclusive licenses to insure the broadest availability to the public". Yale, after all, pushes “Light and Truth”.

But “broad access”, like most patent terminology, is a HIGHLY relative concept. Yale licensed the rights to d4T exclusively to BMS. BMS developed and marketed the drug, in turn sending millions in royalty dollars back to Yale (much thrown at that glorious research temple on Congress Avenue).

As such, Yale was easily seduced by Big Pharma (corporations of the Pharmaceutical Researchers and Manufacturers of America). In everybody’s favor, Big Pharma’s got the capital, lobbying, and litigators necessary to get drugs to market ASAP. In Big Pharma’s favor, they’ve also got the capital, lobbying and litigators necessary to ensure controls over the exorbitant prices and limited distribution of their products, monopolies that have turned the pharmaceutical sector into one of the most profitable in the world.

Big Pharma laments that its cruelty and disregard for supply and demand is justified because drug development is such a costly enterprise - that much of their revenue is invested in R&D with many projects capping out at ~$500 million/drug. Critics say this sum is highly inflated - a more reasonable cost being ~$100 million/drug (see www.citizen.org for compelling reading). Dirty and dishonest, but granted, it’s still a lot of money.

But wait! The R&D on d4T wasn’t done by BMS, but at Yale using public funds! Such a scenario brings about important questions. Is academic science turning into a federally-funded R&D service ripe for the picking by corporations? Does this relationship threaten basic science? Is it ethical to use taxpayers’ dollars to develop life-saving products that many can’t afford in this country, let alone in the developing nations we embrace so awkwardly in our dreams of globalization?

Tough questions, but progress is being made one step at a time on the backs of student activists, most notably Amy Kapczynski (LAW, ’03) and GESO organizer Fran Balamuth (MD/PhD, Immunology ’04) who have led the development of student initiatives regarding these issues. They call on Yale and its inventors to retain certain rights related to their discoveries, maintain licensing agreements as transparent, and ensure that patents are not enforced in countries where cost is prohibitive to access.

Biomedical researchers in academia (if not elsewhere) must join Amy and Fran in voicing their views on these issues. With genomes laid out at our feet like intricately woven red carpets, the rhetoric is that of a coming century of miracles - the development of drugs and treatments applicable to any malady imaginable. These advances could either represent our salvation or become increasingly powerful tools of global economic oppression. May our decisions be made wisely.

B magazine publishes editorials by staff members and guest writers in the BBS community. The views expressed herein are those of the writer.
"There's a lot of trust involved in the PI-grad student relationship, trust involving the graduate student's interpretation of data and ability to do things correctly, and trust that the grad student will be a good representative of that lab."

"It's important to choose a lab and a mentor with a work ethic similar to your own. You don't want to end up feeling overworked or undermotivated because of the lab atmosphere you end up choosing."

**Type of Science** This is the second biggest concern that people have.

"You have to be interested in the research--you're going to spend a heck of a lot of time working on it."

"But you won't enjoy yourself if the work environment is bad."

"You need to weigh your interest in the research with any potential obstacles with the advisor."

"The projects are somewhat irrelevant."

"You can learn to find an interesting component in almost any project, but you can't always find something likeable about a person, even if you really try."

**Look out for Yourself** Keep in mind that you're responsible for getting the most out of your relationship with your mentor. In particular, you should be learning from him/her how to advance your career.

"You should also observe whether your (potential) mentor teaches you, aside from the science, skills that help you become successful--i.e., how to manage your work, how to present yourself, how to publish, etc."

"I think it's also important to know your advisor's attitude toward publications and credits."

"How broad will your training be? Will you learn several techniques that are applicable to several systems? How well will it train you for future study in another area of research?"

"If you're not sure about staying in academia, have a mentor who is open to alternative careers."

"If you're passionate about serving on a committee or teaching or playing an instrument with a local ensemble or if you have a family, you need to be sure that your advisor is accepting of the time that you will dedicate to these activities."

**Don't Be Afraid to Switch** Don't be afraid of leaving a mentor/student relationship that isn't working. If you find that you and your PI are incompatible, ask for advice from senior faculty and your DGS. Don't consider yourself a failure or quitter if you switch labs.

Some lab switches arise from direct personality conflicts. "There was a general feeling of mistrust and dislike which made it impossible for me to continue working in the lab. The lab was more like a dysfunctional family, with constant criticisms and reprimands from the PI, and no real conflict resolution. These conflicts were also reflected in the scientific work, as I did not feel very confident about the project I had been given."

Other lab switches, however, arise from a lack of mentoring. "I chose my first lab because I had been successful on a project during my rotation. By the time I actually joined the lab, the group had gotten larger. I didn't have much contact with my advisor but worked instead with senior scientist. I realized too late that this senior scientist had little interest in teaching and was too busy to act as a mentor. After getting the advice of my DGS and others, I finally chose to look for a new advisor."

**The Feel of the Place** A lot of the decision for a lab will be based on an intangible feel about the lab. In large part, this stems from the personality of the PI. How available is s/he for discussion? How collaborative is s/he?

"I liked the other people in the lab and the general feeling about the place."

"Be very certain that the size of the lab is one that you want."

Keep in mind that personnel in a lab will change. "Don't base any decisions on the other members currently in the lab, but, the size of the lab may matter. If you have a strong desire to be in a large lab with lots of expertise or in a small lab with lots of direct attention, you might ask the PI about future plans for the group size."

I am "able to just walk into his office and discuss research with him."

My PI showed a "willingness to allow students/post-docs to try new things and collaborate with other labs."

My PI is "very helpful and hands-on, even when busy with other things."

"It also helped that the lab had a long-standing collaboration with another lab, which increased the opportunities, facilities and support for me as a graduate student."

**Funding/Seniority** Students are definitely concerned about the funding level of a potential lab, but don't really speak with one voice on the overall issue. Tenured professors tend to have more stable labs and are better connected in their fields, while younger professors tend to offer a more cutting edge lab with more hands-on oversight. Preference is really a matter of personal taste.

"The research and the PI's ability to support the research with funds, a carefully designed research program, and a group of capable lab members are critically important. "But, you shouldn't "worry about the money too much, unless you see that this particular PI has had a string of rejected grants or seems to have an unclear focus for the lab."

**Ask Around** Be proactive in making your decision. Talk to people in the lab to find out how they enjoy working with the PI. Ask other students who rotated through the lab why they didn't stay. Always remember, though, that what might have been a personality clash for another student might be the perfect fit for you.

"Talk with the other grad. students and postdocs about your potential mentor. Has she or he given them the support and time that they need when they needed it?"

"Most importantly, make the most of your rotation--get to know your potential mentor, and let her or him get to know you."

Choosing a mentor is an important, yet somewhat arbitrary, decision. One of the best sources of advice in this process are the more senior students in your program. While it's true that no two students will have the same relationship with a given mentor, the experiences of others can serve as a useful guide in forming your own decisions. In the end, your decision will be based on a combination of labwork, lab dynamics, personalities, advice from others, and, for lack of a better term, your gut. From the results of this survey, this system appears to function fairly well."
And the award goes to...

It was a slow semester as far as winning big fellowships is concerned. We may have missed somebody, so let us know if you or a classmate won a prestigious award recently. We did hear about the great news a classmate won a prestigious award for which we are pleased. We may have submitted your applications to the NSF, HHMI, DoD, and other fellowship competitions. These agencies usually announce their winners in March or April. Good luck!

If you’re searching for additional funding opportunities, here are a few helpful web sites:

GrantsNet
http://www.grantsnet.net/

NIH Postbaccalaureate Programs
http://grants.nih.gov/training/careerd ev/pbopportindex.html

Stipend Bonus!

Aside from the prestige of having an external award on your resume, there’s also a financial incentive to winning a fellowship. Yale provides a $4,000 stipend bonus to anyone who wins an outside competitive fellowship. (As for next year’s standard BBS stipend, see page 12.)

B Book Review


An independent B poll was conducted (ok, it was 6 people, and they were all on the B staff, but they were both male and female). The task: name 10 famous scientists, alive or dead, any area of science, no time limit. There was much cheating and misspelling and when the votes were tallied, the winners were: Charles Darwin, Galileo, Albert Einstein, and the team of Watson and Crick. A prestigious list, no doubt, but sorely lacking in estrogen. Where are the women in the group? Where are the women scientists throughout history?

The relative dearth of women historically and currently in science and the question of “Why?” prompted Elga Wasserman to write The Door in the Dream: Conversations with Eminent Women in Science. Wasserman, herself a PhD in organic chemistry, now works in university administration and is an example of a woman who trained as a scientist, but then moved into another career, a phenomenon not uncommon for female PhD’s. Wasserman’s book seeks to understand the formula for women who were able to become successful scientists. It examines environmental factors, individual personalities, and family dynamics of the women interviewed.

Wasserman identified women scientists as eminent if they were members of the National Academy of Sciences (women make up only 5% of the Academy’s membership). The book is written with a brief introduction and then follows with anecdotal interviews with women scientists. The concluding chapters of the book summarize the common qualities, influences, circumstances, and themes that emerged from Wasserman’s discussions with these women. It also includes a section of reflection about how being a woman scientist has changed and what still stands in need of changing. All 66 of the interviews conducted are not included in the book, but rather testimony from 26 of the participants, along with selected quotes and examples from others, are highlighted. The women’s interviews are grouped chronological-ly into four categories: women born before 1920, women born in the 1920’s, women born after 1930, and, women born after 1940. Yale readers will be excited to note that P.S. Goldman-Rakic, a neuroscientist who came to Yale in 1979 to develop the program in neuroscience, and Joan Steitz, a structural biologist and professor in biophysics and biochemistry, are highlighted in the book.

In general the tone of the book and of the women interviewed is optimistic. It is clear that there are differences in the quality of the opportunities afforded to the women of the 1920’s and prior compared to their later-born colleagues. The era of feminism had a strong and largely positive effect on women who wanted to pursue careers in the sciences. Besides the role of political and social environment, the extraordinary spirit of these women is examined. Outstanding examples of strength and tenacity resonate repeatedly in their stories: women who stood up to family members, fellow scientists, male mentors (one of whom said he would let a woman work for him if she agreed not to cry a lot), and academic institutions that did not accept their presence or abilities. That these women endured and succeeded is both impressive and overwhelming.

The book is available on Amazon.com for $19.96. Check www.half.com for copies ranging from $8.99 to $19.96, both new and used.

If you are reading a book about any aspect of science that you think our readers would enjoy, please contact us about submitting a review. B

We’re not eminent women scientists, but we make good filler for dead space on this page. Drs. Sartorelli and Ritchie at the Pharmacology holiday party. Photo courtesy of Jessica Hawes, Helen Seow.

We're not eminent women scientists, but we make good filler for dead space on this page. Drs. Sartorelli and Ritchie at the Pharmacology holiday party. Photo courtesy of Jessica Hawes, Helen Seow.
OUTTA HERE!

Congratulations to everyone who defended his or her thesis this fall. Each issue, this page is proof positive that people really do graduate from this place!

**Cell Biology**
Anita Reddy (Norma Andrews)
Plasma Membrane Repair is Mediated by Ca\(^{2+}\)-Regulated Exocytosis of Lysosomes

Keith Choate (Rick Lifton)
Molecular Determinants of Paracellular Permeability

**Cellular & Molecular Physiology**
Qiu-Xing Jiang (Fred Sigworth)
Spherical Reconstruction: a Novel Method for Structure Determination from Cryo-EM Images of Membrane Proteins in Small Vesicles

**Genetics**
Matthew State (David Ward)
Evaluation of a Chromosome 18 Locus Associated with Tourette Syndrome
Phenotypes: Breakpoint Characterization, Transcript Assessment, and Candidate Gene Analysis

Lynn Boyden (Rick Lifton)
Genetic Investigations of Three Complex Diseases: Hypertension, Lupus, and Bone Density Abnormality

**Immunobiology**
Uyen Phan (Peter Cresswell)
Mechanism and Structural Requirements for Disulfide Bond Reduction by Gamma-interferon-inducible Lysosomal Thiol Reductase (GILT)

Elizabeth Ramsburg (Adrian Hayday)
AlphaBeta and GammaDelta Cells Make Unique Non-redundant Contributions to Immune Protection in Young Animals: Disjunction of Primary Protection and Development of Immunity

**INP**
Evelyn Lambe (George Aghajanian)
Glutamate Release from Thalamocortical Terminals in Frontal Cortex: Differential Mechanisms of Modulation by Nicotine and Serotonin.

Michael Tang (Len Kaczmarek)
Cloning and Characterization of the EEKE Ion Channel

**MB&B**
Werner Krebs (Mark Gerstein)
The Database of Macromolecular Motions: A Standardized System for Analyzing and Visualizing Macromolecular Motions in a Database Framework

Alessandro Senes (Don Engelman)
Helix Association and Dynamic Motifs in Membrane Protein Folding

Benjamin Berkowitz (the late Paul Sigler)
Structural Studies of NF-κB

Matthew Curtis Franklin (Tom Steitz)
Structure of an RB69 DNA Polymerase Ternary Complex

**MCDB**
Nicholas Sokol (Lynn Cooley)
Cloning and Characterization of Drosophila Filamin

David Young (L. Nicholas Ornston)
Biological and Genetic Characterization of a Natural Transformable Actinetobacter Strain

**Neurobiology**
Christopher Quinn (Susan Hockfield)
TUC-4b and Intersectin Regulate Neurite Outgrowth

**Pharmacology**
Kathleen Ehrhard (Henrik Dohlman)
Use of G-protein Fusions to Monitor Integral Membrane Protein-Protein Interactions in Yeast

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**Working At Teaching**
**Learning Styles**

BY ANN MILLER

You have probably noticed that you have certain preferences about learning new information. Maybe you prefer to learn by hearing a lecture or talking through ideas with someone. Perhaps you prefer to read from a textbook or articles, or maybe you need to see a demonstration or actively carry out an application to fully understand an idea. These preferences for learning in different ways are called learning styles. It is beneficial to know what your own learning style is so that you can most effectively learn new material. It is also beneficial to know about your students’ learning styles so that you may best reach the members of a class you TA.

There are many models and terms for defining learning styles. The goal of this article is not to familiarize you with each of these models and terms. More importantly, the goal is to recognize that our students have differences in learning styles, and that just because you learn best by hearing a lecture doesn’t mean that all of your students do, too. We are likely to teach to students in the manner that we prefer as learners. While there is no single “right way” to learn or to teach, perhaps the best approach to reach many students with diverse learning preferences is to use a variety of strategies to convey the information. In fact, much research has suggested that when information is presented in many forms, it is more successfully retained.

Whether you are TAing a lab course, a discussion section, or a weekly review session, you can actively take steps to reach students with varied learning styles. First, take the time to assess students’ learning styles. While it may not be practical to administer a learning style inventory in class, perhaps you could include a few questions about learning style on a “get to know you” card you ask each student to fill out. For example, “Do you prefer a teacher who likes to use: a). flow charts, diagrams, slides, b). lecture, discussion, guest speakers, c). textbook, handouts, readings, d). labs, demonstrations, practical sessions?”. Second, don’t get in a rut where you use exactly the same format for each session. For example, in a discussion session, one week you can go around the circle and have

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The GSA: What Has It Done For Me Lately?

By Stacey Thompson

Most students in the BBS have only a vague notion of what their representatives to the Graduate Student Assembly (GSA) do for them, and there’s a reason for that. There isn’t a lot to do. We lab grunts tend to be pretty content with our lot here at Yale. Unlike our counterparts in the social sciences and humanities, we don’t have to sweat issues like where our summer stipend will come from, or who will pay for our internet access. We have a passing interest, at best, in expanded weekend hours at Sterling Library. But rest assured, fellow bench slaves, your GSA reps work hard to look after any interests which you may have. Twice a month we meet over pizza and beer to discuss graduate student issues. Our steering committee then presents the fruits of these discussions to Dean Hockfield, working with the administration in an advisory capacity to try to improve graduate student life at Yale.

These issues have been brought to our attention, in part, at the meetings that GSA representatives are supposed to hold with their constituencies once a semester. In my department, Genetics, we recently took care of this by convening a "town meeting" with the students, the DGS, and several professors whose administrative roles have a particular impact on students. Our steering committee then presents the fruits of these discussions to Dean Hockfield, working with the administration in an advisory capacity to try to improve graduate student life at Yale.

Dear B

Got a problem? Got questions? Just ask B. (Advice is for entertainment purposes only, and you have only yourself to blame if you follow any of the stupid suggestions.)

Dear B,

My lab has gotten into some rather heated arguments about who’s the greatest fantasy character of all time. Some say Harry Potter, and others say Frodo. What do you think?

--Fantasy Boy

Dear Fantasy,

I think everyone in your lab needs to get a life... besides, as if anyone can hold a candle to Xena, Warrior Princess.

Dear B,

If Yale undergrads are supposed to be so smart, how come they don’t know how to cross the street without bringing traffic to a complete halt?

--Roadrage in New Haven

Dear Roadrage,

You are witnessing a manifestation of Lightbulb’s Disease (LD). Don’t know what LD is? Sure you do! Just answer this simple question: How many undergrads does it take to screw in a lightbulb? Answer: 1. He holds the bulb and waits for the world to revolve around him.

There is no cure for LD, and it is highly contagious. The entire undergrad student body has it. Med students have also been infected. Luckily, BBS students are immune. That’s why we hit the accelerator when we drive down Elm.

Dear B,

People in my lab never replace things when they use them up -- Qiagen kits, Taq, Polaroid film, etc. This is driving me crazy! What should I do?

--Out of Patience on Science Hill

Dear Out,

It amazes me how some people escape childhood without learning the basics of sharing. Well, now that we’re all mature adults, let’s look at some grown-up ways to solve your problem:

1) If your adviser has more money than God, then simply buy ALL of your own reagents. To ward off scavengers, just label everything in secret code. Be creative. The next time someone rummages through the freezer to use your enzymes, he’ll have no idea your Taq is now called “Mustang Sally”.

2) If your adviser raises money for the lab by recycling bottles and cans from other people’s happy hours, then the above advice won’t fly. However, a padlock can be yours for only $3.99 at Wal-Mart. Don’t lock up the reagents. Lock the bathroom. Deny access to anyone who doesn’t replace what he uses up in the lab. You’ll get instant compliance.

Just be glad no one tried this when we were kids.

Pharmacology Have More Fun

Pharmacology students at their holiday party. Photo courtesy of Jessica Hawes, Helen Seow.
Students in Press
September 2001 through December 2001

Just look at all of these publications! There’s some serious science going on here.

Cell Biology & Molecular Physiology Track


Cell Biology


Genetics


INP


Bonilla IE, Tanabe K, Strittmatter SM. SPRR1A is expressed by axotomized neurons and promotes axonal outgrowth. Soc Neurosci Abst 27: 258.5


Lambe EK, Aghajanian GK (2001) Nicotinic and serotonin2a receptors enhance glutamate release from an overlapping population of thalamocortical terminals in medial prefrontal cortex. Soc Neurosci Abst 27: 265.6

Hung CP, Ramsden BM, Roe AW (2001) Interactions between contrast borders and surfaces in cat areas 17 and 18 during processing of real and cornsweet brightness stimuli. Soc Neurosci Abst 27: 286.1


continued on page 8
IN PRESS continued from page 7


Students in 3-D

Hard to believe, but some grad students have lives outside the lab. Tell us about a friend who has an unusual or exciting background, hobby, or accomplishment. We'll spotlight him/her in a future issue.

So, You Wanna be a Rock Star?

Exclusive Interview with Drummer Extraordinaire Raymond Pagliarini

BY D. GRIMM

I’m sitting in a dusty bar with my old friend Raymond. His band, rocket west, has just finished its set and Ray’s hands are still red from the pounding he gave his drum kit just minutes earlier. The smoke of the evening’s three dozen cigarettes has begun to permeate my clothing and I can make out the not-so-faint scent of Jack Daniels emanating from Ray’s direction as he speaks. For the past year, rocket west has been touring New Haven and surrounding cities in an attempt to gain some, if any, recognition. As promoter, musician, and full-time graduate student, Ray has been pulling triple duty to combine the best of his academic and social lives. The strain has begun to get to him, as well as to his fellow bandmates. They have started to question the wisdom of their decision, and are beginning to wonder if their quest to become rock stars has been a futile one. And thus, I am here to cover a man and a band at a crossroads. It’s make it or break it time in the city that never sweeps (unless you count street sweeping).

D: So Ray, what got you into drumming in the first place?
R: Well, I figure if you’re playing drums you’re just sitting down on your bum - you don’t really have to do anything. I figure that’s easier than having to stand up for an entire show.

D: Inspiring words. How long have you been playing?
R: Since I was 14 or so. I just started learning on my own. I played in a couple bands in high school. At Tufts, I was in a punk band called Slave1 - we mostly played frat houses, but we had some small shows, and even opened for Ween at one point. It wasn’t too serious - mostly just drinking and debauchery.

D: Well, it’s nice to know some things haven’t changed. What can you tell us about your current band, rocket west?
R: Basically, I responded to a “drummer wanted” ad at one of the local music stores. The guys I hooked up with were thankfully quite serious about playing music. We’re a 3-piece band - a little punk, a little pop. The music’s fairly progressive structurally - trying to get away from verse/chorus/verse song structure as much as possible.

D: How did you guys come up with the name, “rocket west”?
R: It’s actually a line from a song from a band called Jets to Brazil. It took us a while to find a good name. Naming a band is a lot like naming your kid. It wasn’t too serious - mostly just drinking and debauchery.

D: Well, it’s nice to know some things haven’t changed. What can you tell us about your current band, rocket west?
R: Basically, I responded to a “drummer wanted” ad at one of the local music stores. The guys I hooked up with were thankfully quite serious about playing music. We’re a 3-piece band - a little punk, a little pop. The music’s fairly progressive structurally - trying to get away from verse/chorus/verse song structure as much as possible.

D: How did you guys come up with the name, “rocket west”?
R: It’s actually a line from a song from a band called Jets to Brazil. It took us a while to find a good name. Naming a band is a lot like naming your kid.

D: How’s that?
R: Well, it’s a name that you’re going to have to keep for a long time. The more successful you get, the harder it is to change names. Also, you have to be cognizant of the fact that people are
going to try to permute your band name to make fun of you. I knew a band called "Underpass." People were constantly calling them "Underpants." Not so easy with our name.

D: Tell me a bit about the music scene in New Haven.
R: The critical mass is definitely here, but people often look to New York or Boston for the next big thing, and I think a lot of bands out here tend to get overlooked. Many of them burn out before they get the chance to make it big. If your goal is to be seen, you really need to spread yourself out - and that takes a lot of work. When you're in a band that's just starting out, you need to be more of a sales person than anything else. And that's been tough for me with my other responsibilities.

D: Speaking of which, how hard has it been to balance your graduate school career with your music career?
R: Well, I'm mostly in grad school for the groupies [laughs]. But really, it's not so bad because you spend a certain amount of time doing experiments and school work, but there's this vast untapped ocean of time out there that's the devil's playground.

D: I'm sure your PI would be happy to hear you say that.
R: Ummm... I mean I'm totally booked. It's all I can do to get a few beats in between pipetting. But seriously, once I set things like the band's website up, they start to run themselves. The biggest time commitment is practicing and trying to get show dates.

D: How supportive have your friends here been?
R: Everyone's been really great about coming to shows. But when it comes down to it, you really need to build a solid fan base outside your circle of friends, and so far it's been hard to get the word out to a large number of people.

D: What would you say to anyone out there who's thinking about doing something substantial outside of their daily grad school lives?
R: I think school is the best time to do something like that. You're still at the point where you're trying to figure out what to do with your life - isn't that what education's all about?
D: How seriously do you see yourself taking your music post grad school?
R: I might reconsider my career choice if our band gets a multimillion dollar deal—otherwise, I think I'll stick to biology. On the other hand, I don't see myself incorporating genetics into music...I won't be writing reggae songs about cell division anytime soon.

D: Yes, new subject. Ever been to Michael Jackson's Neverland Ranch?
R: No, but I've heard rumors about his nose falling off during a show. If anyone knows of a webpage where I could get more info about that, let me know.

D: Sex, Drugs, and Rock and Roll. Your opinion?
R: Hey, I thought this was a family magazine!
D: Okay, back to some serious stuff. What's wrong with music today?
R: There's nothing wrong with it. You just have to put effort into finding something you're interested in. There's plenty of music out there. If you don't like what's on the radio, then there's other places you can look.
D: Any recommendations?
R: People should give the new Tomahawk album a spin. Also look into Burning Airlines, Tortoise, Melt Banana, Outkast, and Quannum. Most disappointing album—Oysterhead. If you're looking for something really esoteric try Britney Spears - PepsiCo told me she rocks the house.
D: Any final thoughts?
R: Yeah, stick with Biochemistry - that's the only way you're going to get a job.

Well, thanks Ray for that intoxicating interview. We hope to find you and your band on TRL in the coming months. If you want more information on Ray's band, log onto their website at http://rocket_west.tripod.com. You can also check them out at their next gig at the Tune Inn on December 20th. Remember to bring clean underwear, and tell them the hairy one sent you. B
ensured. In the next week, you could have groups of students orally argue the cases for two articles with contrarian conclusions. Third, the best way to drive home a point is to teach the same information in more than one way. For example, in a lab course, explain the idea in a lab lecture, draw a flowchart on the board in the lab, and perform a demonstration of the tricky parts of the procedure.

Learning styles will be the topic of the Spring Teaching Forum, brought to you by Working at Teaching and The Office of Teacher Fellow Preparation and Development. Look out for more information on the Forum in the next issue of BI.

The faculty profiled in this delivery of Fresh Fish highlight two areas of research gaining momentum at Yale.

Karin Reinisch
Assistant Professor of Cell Biology
Ph.D. Harvard University

Karin Reinisch is a serious x-ray crystallographer. Her previous work included determining the structure of the reovirus core particle, which she notes is only 52 million Daltons. Papers with ribbon models of protein structures are spread across her desk. Even her screen saver resembles an x-ray crystal structure. "That's why I chose it," she admits with a sheepish smile.

After undergraduate, graduate, and post-doc work at Harvard, she came to Yale this past July—or, at least, "that's when I started to spend money." The other person in her lab is a technician, and a post-doc arrives in January. Rotation students are possible soon after that. Currently, her main priorities are to finish setting up the lab and start solving structures. It seems that Reinisch is succeeding at these goals. There are several proteins that she studies independently. Plus, she already has collaborations with a number of Yale labs in various departments to crystallize RNA-binding proteins.

In fact, the ability to collaborate with lots of labs was one of her major reasons for coming to Yale. Others included the strength of the department and its students, and, perhaps surprising to some, the location—her husband works in the area. The other major reason was, of course, the strength of structural biology at Yale. The Reinisch Lab joins a growing number of Yale labs in unknown, so this is clearly one of the first questions the De La Cruz Lab will investigate at Yale.

And what better place than Yale to study these questions? De La Cruz notes that, although UPenn (where he just finished a post-doc) is one of the leading institutions for studying the cytoskeleton, labs at Yale (Mooseker, Rosenbaum, Forscher, Koleske, Cooley, Pollard) convinced Enrique that Yale has "a rock-solid crew to study cell motility."

The "phenomenal," "down-to-Earth," MB&B faculty, the serious commitment to teaching, and the great energetic Yale students were other factors that led him to Yale. There's the feeling that "you can do anything here" he says, "and I hope we will."
NYC on a Dime (well, ok, maybe a few dimes)

By B. Shansky

Depending on where you're from, you may think that New Haven is the height of cosmopolitan city living. Well, you're wrong! Just a hop, skip, and a jump down I-95 is a hamlet known as New York (or "The City" for those really in the know), and this metropolis really knows how to rock. While the uninitiated may lose half their stipend in a weekend there, it is possible to have lots of fun without breaking your wallet. We'll tell you how.

In Part I of this two part story, we'll tell you how to get to NYC, how to get around town, and how to do some really cheap sight-seeing. In Part II (in the next issue of B), we'll describe how to spend the night in NY without going broke and will also look at the all-important eating and drinking scene.

Getting there: There are two ways to get yourself to the big, bad, apple: train or car. What you choose will depend on a) how much money you'd like to spend on transportation, and b) how comfortable you'd be driving in the city. Many students take the Metro North train from New Haven's Union Station to Grand Central Station, which will run you about $23 round trip, plus cab fare to and from Union Station. If you have a fancy car, or are worried about "New York drivers" (and believe me, all the rumors are true), the train is probably your best bet. Go to www/connecticutsbest.com/metronorth for schedules.

However, if you're feeling both frugal and fearless, I highly recommend driving. As long as you don't get towed, you can save lots of money, especially if you are going with friends. You can take 95 S all the way there; just make sure you get off before you go over the GW bridge and end up in New Jersey. You can also take the Merritt, which turns into the Hutchinson, which feeds into the Cross County Expwy, which feeds into the Saw Mill Pkwy, which turns into the Henry Hudson, which spits you out on the West Side Highway (WSH) in Manhattan. Though the latter sounds complicated, it's actually not at all, and there's usually less traffic than on 95. These options will cost you $0 or $1.75 respectively. Once you're in Manhattan, park! If you are there with friends and are staying overnight, it's probably worth finding a garage near where you're staying, which is usually about $25 for 24 hrs. If you'd like to save even more money, street parking is actually very safe, and the non-major numbered streets (not avenues) don't have meters. Just pay attention to the street sweeping signs; they sweep sometimes at strange hours. My favorite place to park is the Upper West Side, which is easily accessible from the WSH, and where there are usually spots.

Anywhere between 72nd and 120th St is safe, and you can go as far east as Central Park, but stay away from the Museum of Natural History (Columbus & 79th), where things will be crazy.

Getting around: The New York subway system runs 24 hrs and is probably the easiest thing in the world to master. If you're planning to run around the city all day, it's economical to get a $4 Fun Pass, which you can use freely on the subways and buses for a day. But be warned that it will expire at midnight on the day you purchase it, so you'll need a new card for that late-night ride home. If you don't get a Fun Pass, buy a regular Metrocard, which can be shared with friends, and if you put $15 on it you get an extra ride for free.

Cheap things to do: One of the best things New York has to offer is its endless collections of art. For totally free viewing, check out the dozens of SoHo galleries. They are scattered throughout the neighborhood (bordered by Houston, Broadway, Canal, and 6th Ave), and you can walk into any of them and see what you want. If you're lucky, you'll stumble upon an opening, which means free wine and snacks. Almost free are the Metropolitan Museum of Art (5th Ave. at 82nd) and the Museum of Natural History (79th between Columbus and Central Park West), which are always pay-what-you-wish ($1 is fine; pay no attention to the "suggested donation" sign). The Museum of Modern Art (53rd between 5th and 6th Aves) also has a pay-what-you-wish evening on Fridays from 4:15-8. Two great places to see some seriously intimidating and beautiful (and free) architecture are the Cloisters in Ft. Tryon Park (take the A train all the way up to 190th St) and the Cathedral of St. John the Divine in the Columbia U neighborhood. This is the largest cathedral in the world, and during the temperate seasons has peacocks strutting about the grounds. (Amsterdam at 112th).

If the theater's more your bag, there are lots of ways to get cheap tickets. One strategy is to spend the morning waiting in line at TKTS in Times Square for half-price tix to Broadway shows (though don't expect to see The Producers on their list any time soon). If you're a bit more adventurous, look in the Village Voice (free paper, look for bright red boxes on most corners) listings for Off-Off-Off Broadway shows you probably haven't heard of; they are usually under $15 and are often very cool and/or weird and may even have a rising star or two. For instance, a few years ago I saw an $8 show in the Village that starred Phillip Seymour Hoffman, who then went on to make major films like Magnolia, Boogie Nights, and The Big Lebowski.

If you're into people watching, pick up a baguette and brie at Zabar's (B'way at 80th) and stroll over to Central Park, where you can sprawl with your picnic and make up stories about everyone who passes you. You can also rent rollerblades for less than $10 from any of the sport shops in the Upper West Side. On Sundays, cars aren't allowed on the main drive, and there's a hill around 63rd where disco rollerbladers do tricks. If you're down near NYU, swing by Washington Square Park, where you can people-watch trendy young hipsters to your heart's content, and you may be lucky enough to catch an impromptu show in the fountain. Past features have included breakdancers, street magicians, and ranting lunatics.

Look for Part II of NYC on a Dime in Volume 3 Issue 1 of B magazine, due on newsstands sometime in spring!
The BBS student stipend for next year will be $23,000. Students who win outside competitive fellowships will receive a total of $27,000.

The BBS Program added a brand new track this fall and will begin recruiting students into “Bioinformatics and Computational Biology” for the fall 2002 semester. The new track has been spearheaded by Mike Snyder in MCDB, Junhyong Kim in EEB, and Perry Miller in Medical Informatics. See the BBS web site for additional information.

The BBS Program recruiting weekends will be February 15 and March 1, 2002. Mark your calendars for the annual GPSCY bashes on both nights!

GSRS and the Biotech SIG will host a joint Career Fair on February 21st, 2002. Note that the Graduate Student Research Symposium will take place later in the spring and will not coincide with the Career Fair. Visit the SIG web site (www.yale.edu/biotech) or email Angie Grech or Petra Scamborova, the GSRS co-chairs, for more information.

Dani Waterbury, Administrator for the Cellular & Molecular Biology training grant has created a Lending Library for BBS students. Stop by her office at SHM L-203 to sign out A Ph.D. is NOT Enough! A Guide to Survival in Science, Advice to a Young Scientist, and other essential reads.

The B magazine

“Papers You’ll Never See in Nature” Contest

PART OF THE GREAT B-YOND - A SHOWCASE OF STUDENT CREATIVITY

...and still champion! Pharmacology students win yet again, thanks to perennial powerhouse Jeff Knight. Thanks to everyone who entered, and good luck next time!

First Place
Jeff Knight, Pharmacology
Morris P and Reynolds RJ. Nicotine is addictive.

Second Place
Kevin Rice, Chemistry
Bin LadenO, Hussein S, and Omar MM. Inhalation of anthrax spores as a therapeutic strategy for western decadence.

Other Notable Entries

Kevin Rice, Chemistry
Bush GW, Falwell J, Limbaugh R, Reed R, and Gingrich N. Why human cloning research should be funded with your tax dollars.

Venter J Craig. The complete and un-patented sequence of the human genome

CORRECTION: Watson J, and Crick F. Fatty acids, and not nucleic acids, encode all genetic information.

Michael Seringhaus, MB&B Track
Gerstein M. Horizontal gene transfer: Staph and E.coli, sitting in a tree, K-I-S-S-I-N-G -- my thoughts on interspecies romance.

Stelitz TA and coworkers. The structure of the ribosome complexed with something or other, solved at some undoubt-edly fabulous resolution.

David Gortler and Friends, Vascular Medicine
Self-colonoscopy - The new standard of care, but how reliable are the results? Kahanadarian Med J (still under review)

Chris Mason, Genetics & Development Track


Jared Odegard, Immunobiology
Easter, Mike, et al. Beans, Beans, the Musical Fruit: A Gastroenterological Characterization of Phaseolus vulgaris

Anonymous
Citation rates show that, among podiatrists, ‘The Canadian Journal of Feet’ has a greater impact than ‘Nature’.

Nelson Medeiros, INP
cDNA synthesis, RT-PCR, tissue culture of bag cells: A late Friday afternoon set-up allows one to attend Happy Hours.

John Rinn, B staff
Sumo wrestles the CHRK-HO chimera to a degrading fate.