Welcome to our 6th year of publication! In this issue we bring you news of the Ivy League, some straight talk on taxes, and another look at open publishing. Speaking of publishing, wait till you see how many papers students published in the past year! Of course, we also have our usual contest. And say hello to our new B Idols, the Pipelves, shown above kicking back at a swanky New York bar.

The Ancient Eight Reach Out

BY C. MASON

Once a year, delegates from all eight Ivy League Graduate School Governments meet to compare their institutions and push for change. The last Ivy League Summit (ILS) occurred in October, 2004. This coming year, the Ivy League Summit will be held at Yale, and the delegates will discuss everything regarding the life of Graduate and Professional Students, including those in the BBS. But does this matter? How does this fit into the mysterious “Dwarves and Elves” meeting? What will happen? Does this relate to unionization? This article will explore these issues.

“Dwarves and Elves” refers to meetings among the Ivy Deans and Assistant Deans. At these meetings, all the schools compare programs and policies and try to out-do one another: in stipends, summer funding, and department statistics. There’s lots of pomp and circumstance, fancy dress and prose, and large talk of the future. While Yale’s ILS for graduate students will have similar features, the student governments have a much different purpose – discussion with very limited power.

Child care, diversity, unions, academics, funding, security, community, health care, and inter-Ivy festivals are all discussed, but the main power of this event is in comparison - what do they have that we don’t? Fortunately, Yale is ahead in almost every category (see table) except for a few: we have to pay to use the gym in the summer, we have no students on the board of trustees, and humanities students receive less funding than Princeton. Otherwise, Yale could be easily classified as the best graduate program in the Ivies, especially considering the cost of living in New Haven.

This past year, I served as a panel speaker for a seminar open to Columbia on the future of graduate education. I suggested that the administrations of the schools start to work towards co-governance with their representative bodies (like GSA and GPSS), negotiate with health care providers as a whole Ivy-wide unit, and establish a minimum stipend level for graduate students. This was not met with smiles. Talk of creating a “humanities post-doc” position were thrown around, plus the “dangers” of giving students too much say in their own programs – which brought the talks to GESO.

Cornell, UPenn, Columbia, Brown, and Yale have or have had unionizing drives, while the continued on page 4
OP-ED
Providing Realistic Access

BY IRA MELLMAN
Sterling Professor of Cell Biology & Immunobiology

I read with great interest Michael Seringhaus’ recent B article on Open Access. Although I’m a strong supporter of the concept, the issues raised by my friends at Public Library of Science (PLoS) are more complex than they appear. As currently framed, their proposal stands to do a lot more harm than good, and do it to a system which is in no more of a crisis than Social Security. Due to my “other job”, I have had to become more involved in this issue than I would have wished.

I am the editor in chief of a “high impact” not-for-profit journal (The Journal of Cell Biology). The JCB is run entirely by and for academic scientists who donate incredible amounts of their time and expertise to enhance free scientific communication and promote excellence in cell biology. Why do we do this? Simply put, it is important and also a responsibility. Those of us involved with the JCB, and similar journals, feel that our work as editors and reviewers has an immensely positive impact on the progress of science. We provide a rigorous quality control step to help ensure that the work published in cell biology’s journal of record is of the highest possible scientific quality, and moves the field forward. No less important, however, is the fact that we all feel morally obliged to take every opportunity to give back to the community that has nurtured our efforts -- and to society at large for having granted us the great honor and privilege of their support. In other words, there is no group of scientists more committed to the mission of communication -- or who have demonstrated that commitment time and time again -- than those of us who are involved in editing scientist-run journals.

What have we done to facilitate access and service to the community? I can begin by pointing out that the JCB, supported by our publisher The Rockefeller University Press, was the first major journal to release its content for free, online 6 months after publication. More recently, we self-financed an archiving project, making us the first journal to release all of our prior articles back 50 years to volume 1, issue 1. We maintain a low site license fee that provides immediate access to scientists at an enormous number of universities and research institutes around the world. The JCB on-line costs $51/person/year at Yale. As inexpensive as this may seem to us here at Yale, it is an impediment to colleagues in countries where there is little or no research support. So, the JCB provides completely free access from the moment of publication to 142 developing nations.

Publishing costs money and adds considerable post-laboratory value to our science and to the community. To run a selective journal like the JCB, which accepts only 15-20% of the papers it receives, a single accepted paper can cost between $6,000-12,000 (just for on line publication costs). Such is the cost to manage a scholarly, accurate, and efficient reviewing and a high quality editing operation with excellent production values. These are not just our numbers, but numbers gleaned from a variety of other selective journals, both commercial and non-commercial. Why is it so expensive? It costs money for the JCB to keep track of our many reviewers (who also donate their time), to ensure that the review process is handled in a timely and respectful fashion (typically 3-4 weeks), to maintain our web interface and develop attractive, user-friendly layouts and interfaces, and to write and publish reviews or news material that puts the science we publish in a larger context. We are charter supporters of Addgene, a not for profit company that will distribute for free all reagents developed by scientists publishing in the JCB (and hopefully, elsewhere). We have funded other important initiatives, such as establishing standards for the presentation of digital data. The JCB receives close to 200 papers every month, and papers that do not get accepted also place a cost on the system.

In the PLoS model of open access, the author will be expected to assume most or all of the cost of publication, so any reader can get it for free. Even if one assumes a $6000 per paper cost, few if any authors would be willing -- or even able -- to pay. This would make publishing an inherently elitist activity, with only
well funded labs being able to afford one or more publications in a year. Reducing publication is not in the interest of scientific communication.

PLoS journals, which are also highly selective, charge only $1500+ per published paper. This must be a gross underestimate of the true cost, or the rest of us are running operations that are hideously inefficient. Unfortunately, PLoS has yet to reveal their business model to demonstrate how they can publish so inexpensively. I suspect they cannot but instead survive because they have a $9,000,000 grant to cover their operating costs. That’s fine, but if that’s their business model, it isn’t going to work well for the rest of us. Our business model is to spread the cost of publication between the author and the reader. Polls taken thus far clearly indicate that the vast majority of scientists would be unwilling to pay much more than $500 per paper for the privilege of open access.

Understating the cost of publication is not only disingenuous, it is dangerous. If funding agencies are led to believe that they need only spend $1500/accepted paper, the system — which actually has served and can continue to serve science very well — will collapse, and we and the public will be left with nothing, or with only journals that provide poor service to the community. Science will suffer, and the public will suffer. The idea that such a consequence will rid us of nasty, arrogant, profit-crazed commercial journals is nostalgically appealing, but probably nonsense. The fact is that commercial journals provide a product that the scientific community desperately wants (due in part to our collective vanity), and they will somehow survive. The real threat is to publications such as the JCB, a journal that is representative of perhaps the most important class of scholarly publications we have.

Unfortunately, we scientist/scientific society-run non-profits are omitted from “the open access debate”. This is most unfortunate:

– Non-profits are 5% of the total number of journals in biomedical sciences yet account for nearly 50% of all the citations
– 44 of the top 100 most cited journals are non-profits: this is the forum where most of the "work of science" thus gets done
– Nearly all such journals, published by the non-profit HighWire press at Stanford, release all of their content 6-12 months after publication (the lay public is well served by this...do they really need to see last week’s journals, anyway? It might be better to wait 6 months to see what has been retracted!)
– Non-profits are low margin operations...meaning if our revenue streams decrease, we will have to cease publishing entirely
– For-profits are heavily indemnified and often supported by powerful multinational corporations, and will likely survive (as mentioned above).

The fact is that much of the current system, where the cost of publication is spread out between author and reader, already provides “Realistic Access” that serves both the scientific community, and society at large, reasonably well. Certainly, there is much room for improvement, including taking steps that will help induce our colleagues in the commercial sector to similarly release their content online after 6 months. The National Library of Medicine has just approved an initiative to release all papers resulting from NIH-funded research within 12 months of publication, but this represents only ~50% of the papers in these journals and will probably not change their policies.

Our experiment with Realistic Access has demonstrated that neither revenue streams nor subscription rates are significantly compromised by a 6 month release date. It is a finding repeated at many other journals, so commercial publishers cannot hide behind lost revenue as an excuse for inaction. Indeed, some commercial publishers have already begun to release their back content. On a related issue, we are also working to establish a wholly open access site, tentatively called Cytopedia®. Cytopedia® will be coordinated by a consortium of selective journals to publish papers that are scientifically sound but may not rise to the priority level required for acceptance in the top tier outlets. This high quality, peer reviewed, and free access journal could replace the many (often commercial) archival journals that by contrast are poorly reviewed, poorly read, despite commanding incredibly expensive subscription rates. Such journals also comprise the single most numerous group of scientific journals; their gradual disappearance would thus represent a substantial financial savings for institutions such as Yale.

Thanks to advances in internet-based publishing, the entire field is evolving at an increasingly rapid rate. Many of these innovations have been driven by the non-profit community: HighWire Press, mentioned above, basically invented on-line journals. With Google now getting involved (see http://scholar.google.com), the sky is the limit. We should encourage creativity, innovation and flexibility during these rapidly changing times, not press single mindedly for an ideology of open access which may or may not even be the best model for the future. I salute the efforts of PLoS, but there is a lot that is good about the current publishing environment. Although there is also much to change and to improve, change is taking place, and is taking place at a spectacular pace.

I would hope that the "open access movement" becomes interested in working more closely with the rest of us, especially when their open access model could easily co-exist with multiple other models; unless open access is viewed as a fundamentalist ideal to which we all must eventually adhere. Happily, my sense is that at least some in PLoS are moving in this direction. It is not worth risking a system that has served science quite well, especially when Realistic Access is so very close to being a reality.
other Ivies have no strong history of graduate student unionization. In my panel speech, I noted that the main reason graduate students seek out union representation is to improve and protect their work relationship with a legally enforceable contract at the local level and also to address larger issues in Academia at a national level. Since interplay between student governments and administration is limited in its ability to enact change, and is generally local, where else can students go who want large, even national change? They look to unions. Other groups, such as the National Association of Graduate and Professional Students (NAPGS), also coordinate lobbying efforts, but have much less clout and fewer resources than international labor unions.

Furthermore, pressing questions on the future of scholarship must be addressed. Why are Universities saturating the job market with too many Ph.D.'s, while claiming limited funding for those currently enrolled? How can this be reconciled with the Universities' goal to educate as many people as possible? Why is there uneven required teaching across disciplines, and why does that inequity exactly correlate to the number of undergraduate courses needing TAs? Are post-doctoral positions helping careers or stagnating them? Are graduate students and post-docs receiving just compensation for their work? Why must people choose between career and family, and how can we encourage families while parents are still young and at a biological ideal for fertility and viability?

These are all problems that were addressed at the last ILS, and the same problems, as well as others, will be addressed this October when Yale hosts the Summit. Asking the hard questions is easy. Fixing these issues will require everyone to work hard, and to work together, towards valuing

Ancient Eight continued from page 1
BBS Recruiting Weekends

1. At the poster session at the Quinnipiack Club, Geeta Devgan, Genetics, tells applicants about kinase substrates, protein chips, and the free company car every BBS student gets. Photo courtesy of the BBS Office.

2. From left to right: Anne Scott, Lynn Cooley, Dani Waterbury, and David Schatz stop and smile just before they attack the dessert table at the Quinnipiack Club. Photo courtesy of the BBS Office.

3. The Neuroscience community stages a sit-in in the TAC foyer. Or maybe it’s just a poster session for their applicants. Photo courtesy of N. Horst.

4. Computational Biology and Bioinformatics students Kevin Keating and Sara Nichols (far right) bring their applicants to Payne Whitney for a mandatory powerlifting contest. Only the strong get into this Track! Photo courtesy of K. Keating.
In Press

See what happens when B goes a whole year without printing student publications? Take a look at this amazing list...

Cell Biology


Cellular & Molecular Physiology


Immunobiology


Microbiology


Genetics


Microbiology


6 B magazine
SA (2004) Substrate-assisted catalysis of peptide

Muth GW (2004) Solid phase synthesis and binding
helix packing, oligomerization, and function. J Biol
Two faces of the third transmembrane domain for
evidence for allosteric head-head communication. J
Mechanism of nucleotide binding to actomyosin VI: Rof


Eakin CM, Attenello FI, Morgan CJ, Miranker AD
Oligomeric assembly of native-like precursors of ribosomal proteins in the structure assembly, and

Klein DJ, Moore PB, Steitz TA (2004) The roles of ribosomal proteins in the structure assembly, and


yet more publications on page 8
MOVEMENTS IN FOOD

Take This With A Grain Of Salt
by Rafael Rosengarten

Move over BBS, sit down MCGB, go home MGCD. Here's a new acronym to add to the alphabet soup. I bring you... MG!

No, not MSG without the “S,” MG stands for Molecular Gastronomy, the study of how food changes at the molecular, chemical, and physical level when cooked or eaten. Hervé This, a French scientist, and Nicholas Kurti, an English physicist coined the term in 1988 as their interest in food science leaptfrogged past agriculture and nutrition. Since then they have gained collaborators and disciples, chiefly among European scientists and cooks. Some are simply curious, while others are driven to understand how the food they eat became just so. Many molecular gastronomists, including Hervé This, have tackled old wives’ tales in the kitchen to discover if there is method to the madness of traditional practices. Top professionals are attracted by the potential of using the scientific method and laboratory techniques to achieve culinarian perfection. Eager for a new intellectual challenge, they set a toolkit of tools that will enable them to break the boundaries of cuisine and push the limits of gastronomic experience.

Perhaps the chef most entrenched in molecular gastronomy is Heston Blumenthal, proprietor of The Fat Duck restaurant in Bray-on-Thames, England. Blumenthal creates dishes that transform the traditional flavors and eschewing any preconceived notions about what form an ingredient should take and what combinations are acceptable. For example, his current menu pairs Foie Gras with “almond fluid gel,” and tempts the adventurous palate with a “mango and Douglas fir puree.” Sound too weird to eat? Well, not to sensory curious, while others are driven to understand how the food they eat became just so. Many molecular gastronomists, including Hervé This, have tackled old wives’ tales in the kitchen to discover if there is method to the madness of traditional practices. Top professionals are attracted by the potential of using the scientific method and laboratory techniques to achieve culinarian perfection. Eager for a new intellectual challenge, they set a toolkit of tools that will enable them to break the boundaries of cuisine and push the limits of gastronomic experience.

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10 Questions for 4 Scientists  

By J. Kim

I interviewed four people in different stages of their careers: Tony Daggett, an undergraduate biology major in Archibald Perkins’ lab; Rebecca Steiner, a fifth year graduate student in Marina Picciotto’s lab; Michael Smith, a post-doc in Michael Snyder’s lab; and Thomas Pollard, PI and chairman of MCDB. I wanted to hear their different perspectives on the same ten questions about science and graduate school. Here’s what I found:

**In one sentence (or less), what is science?**

**PI (Tom Pollard):** A method of investigating the natural world.

**Post-doc (Mike Smith):** The process of logical study.

**Grad (Rebecca Steiner):** Investigation, systematic investigation.

**Undergrad (Tony Daggett):** Anything you can quantify and study systematically.

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What is the most important thing to get out of grad school?

**PI:** Learning the strategy of investigating the natural world, learning a lot of technical matters that enable you to execute your ideas, and also deciding what a good scientific problem is and how to attack it.

**Post-doc:** The most important thing is to learn how to think.

**Grad:** The relationships you form with the other people around you. These relationships are vital to succeeding in graduate school and in your career after graduate school.

**Undergrad:** Besides getting your Ph.D...I would guess networking with people in your area of expertise.

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What’s the worst thing about grad school?

**PI:** My sense is that the toughest thing for people is getting their arms around enough information in their field to be really creative. That’s a lot of work. I’m not sure if it’s the worst thing, but it’s one of the harder things!

**Post-doc:** The politics.

**Grad:** How much of your life it takes over. It can be tremendously difficult to balance the need to have a life outside of graduate school with the dedication necessary for your research.

**Undergrad:** The length. Six years is a long time.

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What is your stance on mouth pipetting?

**PI:** I’ve mouth pipetten for about 25 years, and it worked just fine! Obviously, you have to be careful. But back in the late 60s there was no other way to do it. Automatic pipetters only came along in the early 1970s.

**Post-doc:** Not necessary and inaccurate!

**Grad:** I’ve never tried mouth pipetting, although I can’t say that I’ve never seen anyone do it.

**Undergrad:** I think this is the 21st century! If you’re comfortable doing it, then to each his own, but I’m a child of the new age.

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What do the words “thesis defense” mean to you?

**PI:** Historically it used to be that the young person would put together a body of work with some new ideas and defend that before some peers. Now, most students are subjected to peer review by publishing papers and making presentations at meetings all along the way, so it doesn’t boil down to one big defense, but it’s spread out over years. What it is today is more or less a celebration of that person’s work. It’s anything but a trial, it’s more like a party.

**Post-doc:** Commencement.

**Grad:** Excitement, Completion, “The End”

**Undergrad:** I picture someone standing against a blackboard, and people throwing stuff at them, like tomatoes. Really, I think it must be a hard time, with people peltting you with questions.

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Who is your favorite scientist?

**PI:** I have a couple of scientific role models. One is Hugh Huxley, who used electron microscopy and X-ray diffraction to work out the mechanism of muscle contraction. He set a good example for me by illustrating the importance of structure and cell biology. The other is Ed Taylor, who worked out the chemical mechanism for muscle contractions. He illustrated the importance of time in biology—that is, the rates of reactions. We put together these two strategies in our work: structure and kinetics.

**Post-doc:** Sydney Brenner. He’s reinvented himself several times. He discovered mRNA, and then he pioneered C. elegans study, and then he started studying fugu. I think anybody who can challenge themselves and reinvent themselves is incredible and it’s inspiring. I’m humbled by it.

**Grad:** My father is my favorite scientist because he was the first person that encouraged my curiosity. He taught me how to think about and investigate nature and problems.

**Undergrad:** I’d have to say my PI (Archibald Perkins). Once we were doing a restriction digest, and I asked him what the digest site was for a particular enzyme, and he just rattled it off by heart, like “oh, it’s ATCG...” and who knows that? It was really amazing and impressive.

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You can’t stand the person you’re collaborating with. How do you get by?

**PI:** This doesn’t apply to me, because there isn’t anybody I can’t stand! But I’d probably try to finish the collaboration cleanly as soon as possible.

**Post-doc:** You just have to be extremely patient, call up as much tolerance as you can, then sever ties as quickly as possible.

**Grad:** I would deal with the person directly and respectfully. Hopefully I’d still be able to work with them, but I would not invite further interaction.

**Undergrad:** Honestly, I would suck it up and do what I gotta do. That’s life, you just have to make do.

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What do you do when you get scooped?

**PI:** Generally, we publish our work, which is frequently more detailed than the other people’s work, so it can be looked at as an extension of what they just published.

**Post-doc:** Getting scooped stinks, but you can change subtle things and still get your paper out...try to get it out as soon as possible.

**Grad:** I’m not sure I can answer this question as I don’t have any first-hand experience with it.

**Undergrad:** I guess I would feel bad at first, continued on page 10
Lifestyles of the Poor and Academic Classmates Who Cook

Sirie’s Churrascaria by Rafael Rosengarten

My first conversation with Sirie was about food. Planning a dinner for my vegetarian house-mates, I shared the menu with everyone sitting within earshot on the bio-med bus. I rattled off a few dishes that, at eight o’clock in the morning, sounded quite impressive. Sirie whipped around in her seat, her long chestnut braid flying, fixed me with a penetrating gaze, and asked incredulously, “Where’s the meat, man?” I knew right then I had to cook with her!

We conspired to make a meal very different from the veggies-only one I was planning. We set a date and hashed out an invite list together, but the menu was her own. As I walked into the recently renovated kitchen in Sirie’s spacious Bradley street flat, the first thing I saw was a basket piled high with garlic bulbs. A meat AND garlic lover! Pavlov would have done well to include me in his research when Sirie unveiled the six and a half pound leg of lamb destined for the dinner table. I volunteered to peel potatoes while Sirie prepared the lamb. First she made a dozen or so incisions through the thick layer of fat down into the flesh, and studded the entire leg with peeled garlic cloves. She seasoned the meat generously with salt and fresh cracked pepper, dried mint leaves, and oregano flakes. Then she doused the whole beast in garlic-infused olive oil which she makes herself and keeps on hand at all times. The potatoes received similar treatment—cut into even, bite-sized chunks, and doused in garlicky oil, salt and pepper, and herbs. A couple of halved onions and whole heads of garlic went into the pan, and the potatoes joined the lamb in the oven.

“We need more wine,” Sirie said. Excellent. Once upon a time, Sirie had worked in the tasting room at Peachy Canyon winery in Paso Robles, California, a region famous for its Zinfandel. At the local wine shop, we discussed what wines would stand up to the seasoned lamb. Sirie selected a $10 old vine Zinfandel from Bogle vineyards. Zins are big red wines, luscious and jammy. The flavors and acidity that comes from old vine grapes go great with a slab of red meat. I proposed a Primitivo from the heel of Italy’s boot and picked a standby of mine called Salice Salentino Taurino for about $11. The Primitivo grape is the old world sibling of America’s Zinfandel.

Something about the climate and the rugged landscape of the Apulia region in Italy makes the wine surly but delicious. As Willie Gluckstern writes in The Wine Avenger, “Primitivo... behaves appropriately, like some hairy half-simian, reeking of sweat and roadkill.” Oh, but it is much tastier than that.

Crossing our fingers that some of the guests would bring wine as well, we returned to Sirie’s place and the aroma of garlic sizzling in lamb fat made us shake with anticipation. Sirie basted the lamb, then basted the potatoes with the juices from the lamb. The guests began arriving and the wine list grew to include a magnum of Yellow Tail shiraz/cabernet sauvignon blend, a Bulletin Place shiraz from Southeast Australia, and an Oregon Pinot Noir. The Yellow Tail is a fruit bomb, perfect for a cheese course before dinner, so we opened it first. Before
The Tax Man Cometh

By Irvin Pan

They say that April is the cruelest month, but let’s not be melodramatic here. We’ll just say that April tends to be a tough month for us grad students in BBS. Come April, the perk of being some of the best-paid grad students on campus turns into the burden of having to pay the most taxes. To make matters worse, most of us wait until April to file because Yale does not withhold taxes on most stipend money for US citizens, and so we end up having to write a big fat check to Uncle Sam. I’m writing this article as a brief guide to help you figure out your own taxes and help you anticipate how much you might have to pay up. This article should obviously not be taken as prescriptive tax advice, since it’s based on one man’s lonely 3 year journey towards tax code enlightenment. For an official source, you can consult the mind-numbing amounts of information on the IRS website. Part of the opaque charm of our tax system is that if you ask 10 people the same tax question, each person will tell you something different. I’m one of those 10 people, and if you get audited or harassed by one of our branches of government, I will disavow all knowledge of this article and B magazine.

So enough disclaimers. First of all, you definitely should file state and federal taxes. The only income we earn that we get a W2 form for is for money we get when we TA. If you TA one semester, that salary comes out to about 4,000 dollars (That's the number I got. I’m not sure if this number changes from year to year or varies for departments), and the school will withhold a certain amount of money for state and federal taxes depending on whether you put a 0, 1, or 2 on some form you don’t remember filling out when you started here. This withholding of your money is a good thing. However, the rest of your stipend does not show up on your W2 form, and I don’t think the government gets that information. The only way I can figure out how much money Yale has actually coughed up to me in the calendar year is by looking at my last paycheck for the year. So the first logical question is, “Do I have to pay taxes on the money not on my W2 form?” I’d like to say no, and imagine some grad students merrily go down this path towards fiscal bliss, but the answer is actually yes. According to the IRS, fellowship/scholarship money that gets paid to us that isn’t used for tuition or supplies is taxable. Since I use most of my fellowship money for rent, food, car expenses, and entertainment, all that money is taxable. During the year, I keep track of the money I spend that goes toward school expenses, like textbooks, computer equipment that I use at my desk in lab, and any lab supplies I have to pay for out of pocket. I subtract these expenses from my taxable income. Is this the right way to do it? Well, that’s the way I interpret the rules, and I can save a few bucks off my tax bill. If I ever do get audited, someone can feel free to come to my apartment and look at all the receipts and records I have.

So, based on my experience, if you haven’t had any money withheld or haven’t paid any estimated taxes, you’ll need to scrounge up about 2,500 dollars for federal taxes. According to the rules in 2003, if you owe the government more than 1000 dollars in taxes, you have to pay a fine. Last year, I owed the federal government about 1600 dollars and they fined me about 40 bucks, an amount I can live with for the privilege of keeping my money in my pocket until April.

As for state taxes, I file in Connecticut and had a tax bill for about 270 dollars. I’d allot maybe 350 for state taxes to be safe. When I first came here, everyone made a big fuss about being a CT resident and paying taxes on your car. However, car taxes count toward CT state taxes, so the 114 dollars I paid for my old car was applied to my state tax.

To ease the pain of having to write such a big check to the federal government in April, you can pay estimated taxes four times a year. To do this, you need to fill out a 1040ES form. Once you pay your first installment, the IRS will send you payment vouchers for sending in the remaining installments. How much you send each time is up to you. Ideally, you should pay in total as much as you paid in taxes the previous year or enough that you don’t owe a fine at the end of the year. In reality, you should pay enough that makes the amount you finally owe in April manageable.

All this talk of giving away your hard-earned money leads to the question of whether there are ways to ease your tax burden (legally, of course). One way is to contribute to a traditional IRA, but this requires coming up with even more money, so we’ll leave that for another article. There are also ways to set aside money every month in an interest-bearing bank account that you can access during tax time and a few other things you can do to make your stipend money go further, but these are issues to think about after April 15. For now, I’ll be busy trying to come up with the 3 grand to pay my taxes for 2004.

For comments or questions, contact Irvin Pan at irvin.pan@yale.edu.
We were unable to secure a sponsor for this issue and find ourselves without any cool prizes for our winners. We’ll make it up to them somehow and also hope to have a sponsor by the next issue.

1st Place - ‘The Insoluble Hulk’

Jared Odegard, Immunobiology
The slightest provocation can turn him into an angry green precipitate. “Hydrophobic domain... make hulk... mad!”

2nd Place - ‘The Mighty Chondria’

Charlotte Frank, Microbiology
He whips evil with his Electron Transport Chain. So watch out. Don’t ATPiss him off. Or you may meet your endoplasmic reticulum.

3rd Place - ‘The 12th Year’

Dylan Burnette, MCDB
Able to motivate hundreds of fellow graduate students simply by existing.

Other Notable Entries (in random order)

Frank Slack, Asst Professor, MCDB
Waking Nightmare - Falls asleep in every seminar but wakes up to ask THE really important question.

Richard Wing, MB&B Track
Ribonuclease “Real Nasty” Ase a.k.a Rnase - So small he can’t be seen. So pervasive he can’t be controlled. Turn your back on him and your RNA samples are history. Enjoy the eternal paranoia.

Kendra Frederick, MB&B
Cruella de Spill - When you’re not looking, she knocks over any and all open containers on your bench. And she also skins puppies for lab coats.

Mumbles - The Post-Doc in you lab who won’t speak clearly, but on whom you rely for verbal transfer of essential protocols.

X-OMAT Men - They develop the radiograph of your gel or blot perfectly, without an overly-dark background. And the tank never runs out of developer.

Craig Gibson, CMP
The Devil- aka “Anonymous Reviewer #2”.

Matthew Johnson, Neuroscience Track
The PowerPointer - Evil genius whose presentations bore captive audiences to death. Baits his traps with free lunch. Sidearm of choice: a sophisticated light beam called a “laser!”

Jen - not really a superhero, but has her own arch-

Sponsor our next contest, and absolutely everybody in the BBS Program will patronize your store/restaurant/club/business.

Honest.