



The Restriction Digest

G.S.A. Newsletter

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Graduate Student Association
Johns Hopkins University School of Medicine

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Five Questions for James Rothman

By Daniel Gorelick-Feldman

Using a biochemical approach, Rothman discovered the core proteins responsible for vesicle budding and fusion. For this work, Rothman received the Lasker Award for Basic Medical Research in 2002. Rothman now directs the Center for Chemical Biology at Columbia University.

If you were beginning your scientific career today, what would you study?

I think the closest area to what I would do today is some sort of a hybrid between physiology and pharmacology. Sometimes you see it as systems biology, or integrative biology—it goes under lots of different names. Since my involvement in science, in the early 1970s, we've gone from knowing about a few hundred proteins and their functions, fortunately most of them are central to metabolism and cell biology—to having a better understanding of thousands of proteins. It seems like the more we learn, the more complicated it gets. That's not really a very satisfactory state of affairs.

We're now in an era where we generate more complexity than the physicists do. It's really difficult to extract concept from among all the details. I have a feeling that cell and molecular biology are increasingly challenged that way.

We're at a crossroads where you can adopt one of two views: as you go

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Welcome New Students!

by Krishna Juluri

On behalf of the Graduate Student Association (GSA), I would like to take this opportunity to welcome a new group of graduate students to Baltimore and Hopkins, as well as those students returning from their well-deserved vacations.

For the new graduate students and for those of you who are not aware of the GSA, this article should serve as a brief introduction. Our organization deals with the most important resource at Hopkins – you! The GSA represents the graduate student body at the School of Medicine and functions as a liaison between the students and the administration.

Our interest is primarily in those areas affecting student life. Our organization meets monthly and consists of an executive board of five members, representatives from each department and/or graduate program, as well as a number of specialized representatives (i.e. student health, parking) and committees.

The GSA organizes and sponsors a large variety of events ranging from academic, social, and career-oriented events, community service and outreach, as well as functions with other student groups on campus, including the Medical Student Society (MSS), Public Health, and the Graduate Representative Organization (GRO) of Homewood.

We have a number of exciting events planned to start off the year. First is the Orientation Happy Hour in the Greenhouse Cafe on Thursday August 26th. Come out, have a beer, join old friends and make some new ones as the new students are introduced to their Big Sibs. On September 17th, we'll be grilling up burgers, chicken, and hot dogs in an old-fashioned cookout in the PCTB Restriction Courtyard. On October 2nd join us on a trip to the National Aquarium at Baltimore (free for first year students).

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The Importance of Being Ernest Dowson

As another academic year begins, please allow me to welcome you, beloved readers, to a decidedly non-academic portion of the Restriction Digest. Allow me also to use an italicized font. Some of you are new students, looking forward to upcoming rotations and intellectually stimulating classes. The rest of you are older, in terms of disappointments if not years, perhaps slightly world-weary, having long ago exchanged your first-year pleasures for the doldrums of thrice-daily Westerns, glassware washing, and preparing endless liters of LB that some idiot colleague proceeds to contaminate with aplomb. But don't complain. As ancient and tired as you may consider yourself, I would submit, quite convincingly, I think, that I am much older and much more exhausted. But do you see me giving up, throwing in the proverbial paper towel? I may often need to walk with a walker, but my shoulders don't slump and my head is still held high. My gaze remains fixed just as firmly on the pole star of graduation as it was on that fine September morning (well, night, I suppose) back in 1889 when I first entered what some freakish people like me would call the hallowed halls of Hopkins.

In my 115 years of graduate study, I have learned much. For one, that I am in love with and would marry Qiagen if it were a single woman or man. By my calculations, the availability of Qiagen kits throughout the last century would have freed up about 18.5 years of my life. I've also learned that I'm always a few years behind the latest craze. My leisurely (but meticulous!) research is ignored in the din of each successive scientific stampede. So you won't find my name in PubMed just yet: my only publications have

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Later that month, on October 16th, grab your hiking boots for a trek through the trails at Gunpowder Falls State Park.

We will have many more exciting events throughout the year so keep an eye out for them. To give you an idea, last year, in addition to regular happy hours, we ran special events including Wine Tasting Seminars, featuring noted wine experts, outdoors events, such as our immensely popular White Water Rafting trip to Pennsylvania or trip to Six Flags, and our social mixers at the Kiss Cafe. We plan to have more great activities along these lines and in addition community service events, such as working with Habitat for Humanity or at local soup kitchens. We also have two lecture series, Pioneers in Science and the Alicia Showalter-Reynolds Memorial lecture. These lecture series bring to the Hopkins community some of the world's most renowned scientists, who are chosen by the graduate students. Recent speakers have included Paul Greengard, Phil Sharp, James Rothman, and Claire Fraser. Finally, we co-sponsor some of the events organized by the Professional Development Office (PDO), which include useful career-minded activities on topics such as resume and grant writing and career paths and choices. The GSA also provides partial funding for the events of a number of student groups including the Jewish Students Association (JSA) and the Chinese Students and Scholars Association (CSSA).

So how do you get to participate in all of this? The easiest way is to watch for our announcements and come to our events! We will have flyers up in the buildings for specific events and will also notify you by email throughout the year. I would like to encourage those of you who are interested in a more active role to come to our meetings. They take place on the third Tuesday of each month at 3PM in room 2-108 in the 1830 building. We even serve free pizza! You may also want to become a representative or an officer, or write for the GSA newsletter. If you have any questions, concerns, or comments, there are a number of ways to reach us. You can email us at gsa-g@jhmi.edu. If there is some issue you believe relevant to graduate students, definitely let us know. You can also visit our website at www.hopkinsmedicine.org/gsa which is updated with the latest hot topics, minutes from previous meetings, and useful guides and links to other websites.

Welcome again to Johns Hopkins! We look forward to another great year!

GSA newsletter

The Restriction Digest, named for the historic discovery made by Hamilton Smith at Johns Hopkins in 1970 has been publishing since 1990. This newsletter is meant to be an open forum for graduate students to express their opinions, share information, and address all aspects of graduate student life at Hopkins. Articles range from serious to comedic, with past issues featuring bioethical debates, restaurant reviews, and interviews with visiting scientists. The newsletter currently does not have a permanent writing staff. Instead, all students are encouraged to e-mail submissions directly to the editors. As we strive for a diverse, informative, and entertaining publication, virtually every submission is gratefully accepted. Finally, we're always looking for people to cover GSA and Hopkins events, either as writers or photographers. We are also in need of people to serve as editors. All of these positions have a minimal time commitment with a great deal of flexibility. In the next couple of months, we will be having an organizational meeting for all those who may be interested in working on the newsletter. In the meantime, students can feel free to e-mail any editor with questions, submissions, or suggestions.

The success of the newsletter is directly related to the contributions of all of the graduate students. This is YOUR open forum. Come and express yourself!

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UPCOMING EVENTS:

Thursday, August 26, 2004
2:45 pm - 4:30 pm
Orientation Happy Hour
Greenhouse Cafeteria

Friday, September 17, 2004
3-6pm
Fall Cookout
Restriction Courtyard

Friday, September 24, 2004
Office of Graduate Student Affairs
10th Anniversary Celebration
Time and Location TBA

Saturday, October 2, 2004
Time TBA
Free Trip to the National Aquarium
for First Year Students

Saturday, October 16, 2004
1pm
GSA Hiking Trip
Gunpowder Falls State Park

Late October
Halloween Masquerade Ball
Time and Location TBA

from genes and proteins to whole organisms, one hypothesis is that there will be simplifying principles, subroutines, systems level organizational principles which will be dependent on the molecules but will have a life, an evolutionary life, of their own; the other hypothesis is that it's just complicated, and it's going to get more and more and more complicated. If I thought the latter hypothesis was true, I would leave biology. I'm a concept oriented person, so I believe there are organizational principles that will be revealed if we figure out how best to simplify them.

Today, there's no prescription for how to find this simplicity. But it needs to be done. People are struggling to do it, and it's developing as an inter-disciplinary approach that has elements in common with physiology and pharmacology as they are defined traditionally—very traditionally, long before your time, long before they became molecular.

Are biochemistry and genetics dead?

If you want to understand networks, biochemistry and genetics are not the way to go. Let's say I have a network that controls some system output, and this network has a thousand components. If I knock out any one of a large number of these components genetically, the output will be seriously compromised. If I want to dissect this network, do I initially want to know about all of its working parts? No, it's too complicated. I probably want to know where the brains are first. In network speak that's a node. Essentially, where are the volume controls that I can reach in and grab and change the output of the network. These are the genes that I want to know about first. How am I going to get at those? The good news about genetics is that you don't have to know much about the system. The bad news is that it doesn't easily distinguish the fine tuning regulators—the nodes—from a required component that is not normally regulated. You can do that, but only with a whole series of mutations with increasing reductions in functions. And then you have to be able to quantify this reduction in function. It's so complicated that you really have to love the one gene to do it. But if you're taking a more holistic view, it may not be the appropriate way to proceed.

Biochemistry is in an even worse situation. System output is very sensitive to the level of function of a regulator, a node. If you reduce the concentration of the functional protein, you'll get a change in output. But when you homogenize a cell, you always get a big dilution. So you can pretty much forget about finding those regulators. That's why classical biochemistry has been so successful in discovering core machinery like protein synthesis, DNA replication, vesicle transport, energy metabolism—because when you dilute the extract, you're diluting out all the fine regula-

tion. What you're left with is the robust core machinery. If you want to go to the systems level, you can see that you don't necessarily want to use biochemistry or genetics, but you want a method that allows you to control, with a fine touch, a large number of proteins. In that respect I'm very impressed with what some people call chemical genetics or chemical biology, and what used to be called pharmacology. What is the definition of a drug? A drug is a chemical compound which, when added to a cellular system or animal, changes the output of a biological system in a dose dependent fashion. What is the definition of a node? A point in a network where, if you ramp up or down the level of activity, you get a change in the output of the system. You can see that the definition of a drug is exactly the same as the definition of a node. For example, I look at RNAi as a drug. Unfortunately, RNAi inhibition does not seem to be dose dependent in an easily controllable way. So I'm moving my thinking away from RNAi and towards screening compounds. If you can throw enough chemistry at a biological system, you get a bunch of "hits." In theory each of those "hits" is addressing a molecular target, a protein. If you get a dose dependent change in output, then you've identified a node. What you're left with is the problem of going from the identity of the compound to the identity of the protein it's targeting in that pathway. Many of these compounds are dirty, and may bind to a number of proteins. But if you have the right tools, you can potentially sort out which binding reactions are relevant. That's pharmacology, the mechanism of drug action. I'm excited about using chemical compounds and screening not for drug discovery, but as a way of identifying regulatory nodes in networks.

What are the big unanswered questions in biology?

Understanding how the pathways that we now know about are harnessed and regulated in a coherent way. That's what people mean by regulatory networks. The first 50 years of the 20th century was small molecules and metabolism and energy utilization. The next 25 was essentially information flow in biology: DNA to RNA to protein. In the last 25 years it's been signal transduction, how cells pass information at the cytoplasmic level. The result of that has been 10 or 15 core signaling pathways. Add to that basic pathways of cell replication and division and you have maybe 20 core pathways. There has to be an integrative way in which these pathways are called upon that can vary from one cell type to another, based on the physiological state—and even in contrary ways in different tissues, or in the same tissues at different times. That is the level of complexity one gets into when trying to map genes onto physiology and disease. No one has figured out a great way to get at this yet.

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Who greatly influenced your scientific development?

Arthur Kornberg. He is a still active biochemist, probably in his 80s, at Stanford. In the 1950s, he discovered DNA Polymerase and developed that into a dramatically detailed and beautiful understanding of DNA replication. He did this in an inspired and brave way, taking on one barrier after another and conquering them—barriers that people didn't even realize existed. He is probably the greatest biochemist of the second half of the 20th century. I had the privilege of having my lab next to his the first 10 years that I had my own lab (starting in 1978). It was a huge influence on me, giving me the courage to develop an assay to measure vesicle transport in a cell free system. It was at a time when everybody told me 'you can't do that' or 'that won't work.' Undoubtedly if it were my son doing that I would have told him the same thing. Somehow it was very encouraging to work in proximity to someone who had done impossible things in his own area.

Which was cooler: winning the Heineken Prize or the Lasker Award?

Well the Heineken was pretty chill. I didn't get any free Heineken as part of the prize, but I was hoping. I did get to meet the late Freddy Heineken, owner of the brewery. He tried to flirt with my wife.

The Office of Graduate Student Affairs (OGSA) will celebrate their 10 year anniversary in September 2004. The Graduate Student Association (GSA) was instrumental in the formation of this office. In 1993, the officers of the GSA asked James E.K. Hildreth, D. Phil., M.D. to present to the School of Medicine (SOM) a proposal outlining the need for an office specifically designed to serve Ph.D. students in the SOM. The proposal was approved by Dean Michael Johns and Dr. Hildreth served as first Associate Dean for Graduate Student Affairs. Peter C. Maloney, Ph.D. was appointed as Associate Dean in February of 2001.

The OGSA coordinates a variety of activities that serve the 600+ Ph.D. students and 14 graduate programs. The office has led the way in support of the Graduate Student Association and recruitment of underrepresented minority students. The OGSA designed and implemented a centralized application process for the graduate programs and oversees the online application for the graduate programs. The OGSA also championed the proposal for the establishment of the Professional Development Office.

We are planning a 10 year anniversary for Friday, September 24th – time and location TBA.

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stemmed from my hobby of slightly more literary pursuits, far outside the purview of science.

And this brings me to my point. The most important wisdom gleaned from my graduate career has involved the balance between pleasure and pain. Id est, the more time I spend having fun outside of lab, the more productive my endeavors in lab. When I began attending the cinema back in the 1930's, my genetics experiments really took off. In the late 80's, I learned to stop worrying and love the bong...and suddenly my minipreps were beautiful. And so on. My stickler logician friends from back in England, most of whom have since died, mercifully, were fond of pointing out that my increased productivity correlated not only with increased leisure, but also with the passage of time. When I no longer had to make my own glassware, they said, I gained more hours in the week than I lost by bumping up my visits to the pub. My genetics work similarly benefited from the introduction of a tractable model organism. My molecular biology, in turn, received a real shot in the arm from the restriction enzyme discovery (with all the time I saved, I could spend weeks in Europe searching for some decent absinthe, as I recall).

To those boring dead logician friends of mine I say, "Whatever," and I hope they're having stultifying afterlife conversations with liberal use of "for every" and "such that." And I also hope that wherever they are, they pull up the ladder behind them in best Wittgensteinian form so I can't join their party by mistake. For my part, I like to think that my ever-expanding free time has fueled not only my own modest success, but also the astounding progress of biology over the past century.

Of course, I realize that I'll never convince any of you to emulate me. In the past, I employed every rhetorical skill at my disposal to persuade fellow graduate students to cut back their hours and instead do some oil painting, write some poetry, sky-dive, run for county commissioner, bake cookies, take a sex cruise in Australia, etc. Each one rebuffed my attempts, even the future Nobel Prize winners. I don't think a single person ever even dropped below 30 hours a week in lab. Sad.

But then I noticed something: it had taken me, personally, until about the forty-second year of graduate studies to see the light and make what I like to call the leisure leap. So why should I expect the rest of you, even with my constant and careful prodding, to do it in two years, or even ten?

Still, I'm an optimist. I like to extract the yeast in every situation. I'm also a realist. Short of kidnapping and sedating you, and marching you in a drug-induced state of pliability to the opera, I'm unlikely to get any of you out of lab and into a cultural event. But not only am I an optimist and a realist, I'm also a public servant in the finest tradition. I am willing to sacrifice my own time in lab to enrich your life. If I can't bring you to the opera, I sure as hell can bring the opera to you.

And that, my friends, is why I am writing this column. If you won't go to the theater to be entertained and enlightened, you can still be entertained and enlightened vicariously through me, as I have fun while you're at work. Think of me as the drama doctor, making a lab-call. Consider the cultural stakes. How many of you caught the thought-provoking "Van Helsing," for example? Or had a chance to admire the stunning cinematography of "Alien

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vs. Predator?" Thus, in each column, I will review a groundbreaking piece or two that I've seen recently. Almost anything's game: plays, movies, musicals, concerts. I don't do strip clubs anymore, but I have a friend who will oblige if enough of you (disgusting perverts!) express an interest.

Here is the framework, some central aims and ideas.

1) I will inform you about so-called cultural performances. Often, reading about a movie or a play is just as good as being there. Take "Catwoman," for instance, about which it's quite possible to have a basic cocktail party conversation even if you've only read a few reviews. ("Wasn't that haircut fabulous? I loved the way she was walking along the back of her couch like a cat...while talking on the phone! And I wonder...do you think the whip is symbolic? How many 'witches' do you estimate were burned at the stake? I found Catwoman's treatment of male-female discourse simply remarkable, but I was somewhat disturbed by the consistent association of female power with cruelty and emotional impotence," and so forth.) 2) I will attempt to entertain you as well. This will likely take the form of your derisive laughter at my pathetic attempts at humour or my British spelling of various words. 3) Through my maddeningly byzantine, comma-ridden, and all-around boxish writing style, I will make you feel that even the best movie or performance was boring and probably not worth your time. This will assuage any regret you might have about running that extra gel on Tuesday evening—then dropping it on the floor—instead of going with your chumsie-wumsies to "Collateral." 4) Where possible, I will review scintillating performances that will no longer be around to tempt you away from the scintillation counter by the time you read the column. For example, the piece I review in this issue is no longer running. 5) You, the readers, may give feedback and make requests by contacting me. I will promptly examine...and then, likely, summarily discard...your suggestions.

In view of my advanced age, my adviser (number nine, I think, or ten if you count the one I slept with and who as a result got kicked out after three months) will only let me work twelve hours a week. I also take two or three months of vacation every year to have dental work done. Yes, I have plenty of time to remain culturally savvy, and I would like to pass some of my experiences on to you. Whenever and wherever you're reading the Restriction Digest, whether waiting for your spin to finish or doing some relaxing porcelain-sitting in the little scientist's room, I hope you will take me up on this offer. Particularly since I spent so much money and self-esteem bribing the editors to publish this column. But read fast...this first column might be the last: my adviser says I could graduate soon.

THE PRODUCERS

I approached the Kennedy center at 7:00 PM on Sunday, August 17, accompanied by my lovely girlfriend, a successful businessperson endowed by the gods with the grace and good wit necessary to put up with my silliness (and senility). For those of you who haven't visited before, the John F. Kennedy Center for the Performing Arts¹ is an imposing structure beside the Potomac River in D.C.'s delightfully-named Foggy Bottom area. Just across the street is the luxurious and secure Watergate Hotel. The Kennedy Center looks much akin to a tremendous hippopotamus that has just waded up and out of the Potomac. In fact, it looks exactly like a hippo, except for being white

and rectangular with the roof jutting out, sporting slender golden pillars about the exterior, and not having a snout. There's also a rooftop terrace, where a visitor can enjoy a bite to eat or a swig of something bubbly, albeit not possibly as intoxicating as the view from the edge. And what a view it is.

Killing time (softly) before the 7:30 performance, my companion and I took advantage of the terrace and its afforded vantage. The river lay below in the evening light, flowing languidly toward the bay. In the direction of Georgetown, several kayakers and canoe-persons cavorted gracefully upon the river's tranquil surface, intermittently thrilling onlookers by executing additional strange verb-adverb combinations. Towards Rosslyn, Roosevelt Island's thick vegetation had already shrouded it in early twilight. And over our shoulders, the sun's rays frolicked off the Capitol and the presidential monuments, also off the many edifices erected to my own genius and contributions to society, e.g. the time back in 1956 when I kept my mouth shut for an entire day.

Back inside the Center, ensconced² in the white-and-red décor, we made our way to the Opera room. Uncharacteristically, I had not misplaced our tickets, so the only obstacles in our way were several flights of stairs up to the second tier. We took our seats just below the constellations of sparkling stars (or snowflakes?) on the ceiling, where a more traditional house might display an elephant-sized chandelier. Frankly, I would rather have a snowflake fall on my head.

With my ample grad student stipend, I could naturally afford orchestra seats, but I do enjoy the viewing angle from the balcony. It offers a perspective I thoroughly appreciate, including a view of the orchestra pit. Also the chance to observe when an actor steps on, say, a long piece of yellow paper streamer offstage and trails it about behind her throughout the next act. Tonight, I was not to be disappointed in the latter regard.

As one of the four people who has read this far,³ you are perhaps marginally interested, so let me tell you what we were in D.C. to see: The Producers, the smash hit Broadway show⁴ by the indefatigable Mel Brooks.

The Producers is a rare piece that models itself on a movie...and then garners more accolades (and rakes in more cash) than the screen version. In fact, the show created such a furor in its 2001 debut that the cheapest ticket price immediately rose to \$100. Not that they needed to stop there. For months, it was still impossible to get tickets as the entire city of New York clamored to see the show. Desperate times call for desperate measures. Here's a dubious anecdote related by The New Yorker: "One person, who tried to beg a ticket for a friend dying of cancer, was told by the producer, Rocco Landesman, 'That's not good enough.'"⁵

Should this level of demand be such a surprise? Not when we consider the illustrious career of Mr. Brooks, who is no stranger to comedy. Until The Producers hit Broadway, Brooks was probably known best for his films, such as "Blazing Saddles" and "Young Frankenstein." But his comedic beginnings were in stand-up. Mel Brooks toured as an Army comedian in the latter part of World War II and its deployment aftermath. In his own memories of that time, the scatological humor that later would plop "Blazing Saddles" into the history books was already squeezing through. Brooks recalls in a New York Times interview that, in his routine, "Cole Porter's "Begin the Beguine" morphed

PDO Events

The Professional Development Office (PDO) was founded in January 2001 to assist JHMI graduate students and postdoctoral fellows achieve their career goals. Towards this end, the PDO sponsors a wide range of career-related events, including panel discussions about career options for scientists, job skills workshops, and career fairs. In addition, the Director of the PDO, Ms. Wendy Sanders, teaches numerous classes in biomedical communication, including grant writing, writing a research paper, and presentation skills. The next Biomedical Communication Course will begin in January."

The Professional Development Office is pleased to announce a special lecture on "**Conducting an Effective Job Search: Resume Writing and Interviewing**", on **Wednesday, September 29, from 4 – 6 p.m.** This lecture will be given by Dr. Ellie Cantor, President of CJ Resources, Inc., an executive recruiting firm that specializes in identifying executive scientists for biotech/pharmaceutical positions.

Subject: Resume Writing and Interviewing

Speaker: Ellie Cantor, Ph.D., MBA

Date: September 29

Time: 4 – 6 p.m.

Place: PreClinical Teaching Building, West Lecture Hall

Small Workshops on Resume Writing:

September 30

In addition to this session, Dr. Cantor will sponsor small resume writing workshops on Thursday, September 30. These workshops are designed to allow participants to obtain feedback on their own resume. Each workshop can accommodate 5 – 6 participants; each workshop will last for one hour. Workshops are scheduled for 9 a.m., 10 a.m., 11 a.m., 1 p.m., 2 p.m. and 3 p.m. **PRE-REGISTRATION IS REQUIRED.** In order to pre-register, participants must bring a check made out to the Professional Development Office for \$25; THIS CHECK WILL BE RETURNED TO THE PARTICIPANT ON THE DAY OF THE WORKSHOP. The workshop is free of charge; the check serves to "hold a place." (Only if a participant does not attend and does not notify our office in advance, will the check be forfeited.) This policy is necessary since only a small number of participants can be accommodated at any given workshop and we would like to have every space filled.

If you are interested in attending one of these workshops, please stop by the Professional Development Office, which is located on the 2nd floor of the 1830 Building, Room 107, and ask for Ms. Tia Greene.

To All New Graduate Students:

Please join us for an informal welcome reception hosted by the School of Medicine Development and Alumni Relations Office and the Johns Hopkins Medical and Surgical Association

Tuesday, September 14, 2004

4:00-6:00 p.m.

Greenhouse Café

**Wine and light refreshments will be served
Please bring ID**

Who is the School of Medicine Development and Alumni Relations Office?

The School of Medicine Development and Alumni Relations Office's mission is to build lifelong relationships with our constituents, including students and alumni, in order to foster participation in and financial support of the institution's priorities for the continued growth and development of JHM as a world-renowned leader in research, teaching and patient care. Johns Hopkins' history and traditions inspire us to achieve excellence in all that we do and represent.

Located off-campus on the second floor of One Charles Center, at the corner of Charles and Fayette Streets, the School of Medicine Alumni Office can be reached at 410-516-0776, toll free at 888-546-1336 or by email at JHMAlumni@jhmi.edu.

Who is the Johns Hopkins Medical and Surgical Association (JHM&SA)?

The JHM&SA is the alumni organization for all graduates of the School of Medicine as well as all current and former fellows, house staff and faculty. The Association is supported entirely by its membership base through an annual dues campaign and focuses on projects that enrich both predoctoral and postdoctoral life at Johns Hopkins. Some of its activities include:

- Annual financial support of the Medical Student Society, the Graduate Student Association, the Johns Hopkins Postdoctoral Association and the House Staff Council
- Annual funding of student scholarships
- Sponsorship of 5 awards given at Young Investigators' Day
- The Biennial Meeting and Reunion Weekend
- Financial assistance for students, house staff and fellows using the Johns Hopkins Family Center

The JHM&SA is run by a volunteer council and is managed through the SOM Development and Alumni Relations Office.

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into 'When we begin to clean the latrine.'" After the war, Brooks continued to dabble in stand-up comedy. He was good, quite good, but his heart wasn't in it.

When he turned to film in the late 60's, with a script lampooning both Hitler and Broadway, he was a natural. His apparent youth raised some eyebrows, but he had few problems assembling a talented cast for "The Producers," his first movie. Even when the baby-faced Dustin Hoffman was lured away from the set by "The Graduate," Brooks found another actor, Kenny Mars, who was arguably even better for the role. Yet the film would likely have been a flop, suffering from publicity difficulties, had it not been for several personages in the film world who screened the piece, had their mouths drop open in awe, and were able to close them only after medical intervention. These personages were members of two Hollywood cults known as the Shakers and the Movers, respectively, and they shook and moved "The Producers" into acclaim...and onto a lot of screens.

Mel Brooks enjoyed a meteoric rise to the top, which is strange considering that meteorites are usually going downwards, but he did it anyway. The hits kept coming, and Brooks even did some acting. And in 2001, at the age of 75, Brooks mined his first success for a new Broadway show. Brooks gives much credit to David Geffen (of DreamWorks) for making the show happen, describing the enthusiastic and persuasive Geffen as "a little yappy dog that won't let go of your pants leg." Geffen had decided there was a success in the material, and he wouldn't relent.

With all of the hype, I was looking forward to experiencing the show for myself. I was not disappointed. From the opening notes, the jokes—some tasteless, some cerebral, some as yet unclassified—started flying, and they never slowed down. The rapid fire succession sometimes forced me to stop laughing (torture of tortures!) just to keep up with the pace. I didn't want to miss anything.

"The Producers" refers to the two leading characters, Max Bialystock and Leopold Bloom. The former is a once-powerful Broadway producer⁶ whose career has crashed and burned. His latest work, "Funny Boy," is an adaptation of *Hamlet*...and a monumental flop that closes after one performance. Max is forced to prostitute himself to women of the octogenarian persuasion ("one last fling on the way to the cemetery") just to pay his rent. The latter is a public accountant (not even a CPA!) with dreams of Broadway and disgust for the drudgery of his work. No excitement, no hope, day after day; when, he asks, will it be Bloom's day?⁷ But he is hampered by a herd of compulsions and brings new meaning to the word "insecure." And so the set-up for the formula struggle is complete: Can Max help Leo become confident and successful, and maybe meet a woman along the way? Can Leo pull Max out of his financial straits?

Without meaning to, Bialystock and Bloom hit upon a fail-proof scheme. They will raise a few million dollars, courtesy of Max's army of little old lady paramours, and produce a flop for only several G's. It will close after one night. The investors will expect no return, while the conniving Producers will skip the country for Rio to live out their days in luxurious debauchery.

The key is finding the worst play ever written. The two closet themselves in Bialy's studio for some all-night literature sessions. After tossing aside several stacks of books, Max

finds one that might work: it's about a guy who wakes up one morning and discovers he's turned into a cockroach. "Nah," says Max after brief consideration, "Too good." But later, he strikes the "mother lode." It's a work with the title, "Springtime for Hitler. A Gay Romp with Adolf and Eva at Berchtesgaden." The play is an unabashed attempt to rehabilitate the Fuehrer's image, and there is something in it to offend everyone...deeply. The show will certainly close after one performance, perhaps even before intermission.

Bialystock and Bloom begin a journey through Manhattan to put their scheme into play. First, they must obtain the rights to "Springtime for Hitler" from its author. The producers find Franz Liebkind on the roof of his squalid apartment building, tending some caged pet pigeons and crooning to them of his beloved Bavaria. He is clearly a holdout from the Third Reich with an L for loser just about visible on his forehead. Although Liebkind at first loudly protests his innocence, taking his visitors for government agents, he quickly changes his tone when they profess an interest in producing his play. Full of joy that the bright side of his beloved Fuehrer may soon be shown to the world, Liebkind invites his visitors to dance and sing with him in the "Guten Tag Hop-Clop," the Fuehrer's favorite number. Still, Liebkind remains wary and will not sign away the rights until Max and Leo have taken the sacred "Siegfried Oath" under pain of "deasz":

"I solemnly svear
To obey ze sacred Siegfried Oasz
Und
Never, never, never
Dishonour ze spirit und ze memory of Adolf Elizabeth
Hitler!"

Bialystock and Bloom, repeating after their host, suddenly stop, look at each other with a pregnant pause, then chortle in chorus, "Elizabeth?!?" Why, yes, Liebkind responds matter-of-factly. The Fuehrer was in fact "descended from a long line of English queens." So much for genetic purity, I suppose...but that's only the first piece of interesting Hitler trivia to be revealed during the show.

Signature in hand, the producers continue their Odyssey, heading over to the Village to meet with the worst director of all time, a true Broadway queen named Roger de Bris. He has read the play already, at their request, and is enthused. ("I mean, I never *knew* the Third Reich meant Germany. It's just *drenched* with little historical goodies like that.") Before Mr. de Bris will sign, though, Max and Leo must critique his new dress—does he really look like Princess Anastasia in it?

The producers can now begin to produce. Max spends his days and nights fund-raising in Little Old Lady Land, a realm where the elderly tap-dance with their walkers and are all crazy about their sex-toy "Bialy." The auditions are held, with none other than the author, Liebkind himself, earning the role of Adolf E. Hitler with a winningly horrifying and "butch" performance of "Haben Sie gehoert das deutsche Band?" And through it all, the producers are supported—if occasionally thrown on their backs—by a new aide, Ulla for short, "the ultimate sex machine of a Swedish secretary with the requisite unpronounceable name."⁸

What could go wrong? With nothing left to chance, and the worst of the worst picked by the producers for

Continued on page 8

everything from the script to the receptionist, the show seems doomed to failure. But is it really? After all, this is Broadway we're talking about here, where the dregs of literature are presented in the most tasteless of fashions, to the acclaim of the world.

And that is just one reason why most spectators enjoy "The Producers." The play is formulaic, its humor often appeals to the lowest common denominator, and it's rather sappy in parts. In other words, if you like Broadway shows, you'll love it. On the other hand, precisely by virtue of being formulaic, etc., "The Producers" makes fun of Broadway and the entire genre of the musical, not to mention various social circles in New York City. This means that died-in-the-wool Broadway haters will also enjoy the show.

As for the humor of the play-within-a-play, isn't it a bit crass and insensitive to joke about the Third Reich? This is an important issue to consider, if I can manage to be serious for a few seconds. Both the movie's opening in 1968 and the show's debut over three decades later were greeted by outrage from various quarters, especially Holocaust survivors groups and the families of Holocaust victims. The uproar died down fairly quickly, though, as more people took a look at the piece and comprehended its true nature.⁹ Mel Brooks maintains that he does not address the Holocaust in "The Producers." Nor does he feel that it should be approached with levity. Yet Brooks has also stated that "laughter is a protest scream against death." Which reminds me of something I used to say back in the 20's, namely, "If you can't laugh at something, it will control you." In my opinion, Brooks's treatment of the German dictator, his contradictions, and his compliant Volk is witty, hilarious, and devastating.

Do I have some minor quibbles? Of course. For example, the apple martinis served at intermission cost twelve bucks. They were tasty, though, made with Van Gogh vodka (so is it still a real martini?) and containing a luscious strawberry. Also, one or two of the trumpets seemed slightly weak, especially accompanying scenes 2 and 4 of the second act. Actually, I'm lying, but there needs to be a line or two like that in every review.

So is "The Producers" the crowning achievement of Mel Brooks? I for one was impressed, and reviews from around the world have been glowing. Hands down—in fact, hands held tightly clenched below my seat—the show was the best performance of Broadway provenance I have ever seen. Which isn't saying much, considering my opinion of Broadway, but it was good. But I feel that Mel Brooks is always good for a surprise...who can say what he might come up with next? In any case, there are rumours of a new movie adaptation, this one with Matthew Broderick (Bloom in the original show) and Nicole Kidman. It could turn out to be the biggest "Producers" incarnation¹⁰ yet.

Excuse me as I switch back to italics. If you would like to see this highly-rated show immediately, you're out of luck, since the D.C. run of The Producers finished on August 22. So get back to work. Of course, I'll be happy to lead an excursion to New York City if anyone's interested...and the GSA is paying.

Signing off,
Ernest Dowson
ernestdowsonjh@hotmail.com

¹¹ Not to be confused with the nearby John F. Kerry Center for the Obfuscating Arts, which, incidentally, does not exist.

² "Ensnconced" is probably not the best word here: the interior of the center is actually quite roomy

³ Thanks, Mom! I don't know who the other three of you are.

⁴ The initials are, notably, "TP."

⁵ New Yorker, May 7, 2001

⁶ Bialystock's past successes include "The Breaking Wind," "When Cousins Marry," "The Kidney Stone," and its sequel, "This Too Shall Pass."

⁷ I think this character would make great material for a novel. What do y'all think of an Irish setting?

⁸ This according to the New York Times, April 20, 2001. Actually, the "secretary-slash-receptionist" has a pronounceable name; it's just long: Ulla Inga Hansen Bensen Yonsen Tallen-Hallen Svaden-Svanson.

⁹ "true nature" being, unfortunately, a phrase I've never really understood, so why did I just use it?

¹⁰ Incelluloidation? Indigitization?

Register and Vote!

As you are no doubt aware, there will be a presidential election this November. It's time now to make sure that you're registered to vote at your current address. The deadline to update your registration (or to register for the first time) in Maryland is October 12. Even if you've just moved here, even if you consider yourself a resident of another state, as long as you live here, you can vote here. The GSA is giving you the opportunity to register here on campus. You'll find us at GSA events (such as orientation) as well as at various locations on campus (for example, in front of the Greenhouse, the week of September 27th). We'll be able to register you in under 5 minutes, even if you chose to register in your home state. We'll also be available to answer any questions you have about registering, or voting.

If you have any questions, or would like to get involved in helping others on campus to register in this non-partisan effort, please feel free to contact David Zuckerman (dzucker2@jhmi.edu) or Amanda Pendleton (apendle1@jhmi.edu). We look forward to seeing you, and seeing you vote!

SAP CORNER

Safety in the City

Deborah Hillard, Psy.D.
Student Assistance Program

As we begin yet another academic year, it is important for us to think about personal safety, both on and off campus. Many of us live, attend classes, and commute through the city on a daily basis, often times taking for granted our personal safety. We may even naively adopt an "It won't happen to me" mentality, which inherently, places us at a greater risk of being victimized. With the hustle of trying to manage our academic careers, it can become easy to forget about the ways to maintain personal safety.

Although Johns Hopkins University is fully committed to maintaining a safe campus environment by providing comprehensive and state of the art security systems, you must also play an active role in maintaining personal safety. Several crime prevention strategies may be useful for students to consider. The following safety tips are adapted from the Johns Hopkins Security Department websites:

Safety at Home:

- Secure dorm rooms and apartments to protect your property. Lock your doors and windows and place valuables out of plain view.
- Never give your keys or your student id/keycard to anyone, even if they are your best friend.
- Be aware of your surroundings and report suspicious activity.

Car Safety:

- Always lock your car and remember to place valuables under your seat, in your trunk, or somewhere else out of sight.
- As you approach your car, be aware of your surroundings. If you see someone loitering near your car, do not go to it; instead, walk to an area where there are other people and seek assistance.
- Have your car keys ready. Make sure you don't have to stand by your car fumbling for your keys.
- Before you enter your car, look inside to make sure there is no intruder in the car.

Campus Safety:

- Wear your identification badge visibly, displayed at all times. Replace it immediately if it is lost or stolen.
- Never leave your personal property unattended even if you're going to be gone for just a minute.
- Walk in a group, try not to walk alone.
- Be aware of your surroundings; walk in well-lit areas at night.
- Keep your head up. Do not look down or away and make brief eye contact with all people you meet.
- Use public walkways and avoid shortcuts, especially at night.
- Be aware of places along your path of travel that could conceal a criminal (shrubbery, buildings recesses, etc...). Avoid or keep a distance from these areas whenever possible.
- Make sure someone knows when you leave and when to expect you back.
- Carry a "disposable" wallet/purse with a small amount of money in it. If an assailant attempts to rob you, turn it over without hesitation.
- Know the location of campus emergency phones and don't

hesitate to use them.

- Use Security Escort Services (van or walking)
 - East Baltimore Campus: 410-955-5585 (24-hour service)
 - Homewood Campus: 410-516-8700 (operating from 5pm to 3am)
- If you think someone is following you, cross the street, head for a well-populated and well-lit area at night.
- Wear clothing that will allow you maximum mobility if it is necessary to run. Be prepared to drop your valuables (heavy books, packages), since these can slow you down.
- Carry a whistle or personal panic alarm with you.
- Report suspicious activity immediately to the Security Department or Police, don't be embarrassed to make the call:
 - **Non Emergency Numbers:**
 - East Baltimore/Medical Campus: 410-955-5585
 - Homewood Campus: 410-516-4600
 - **Emergency Numbers:**
 - East Baltimore/Medical Campus: 410-955-5585
 - Homewood Campus: 410-516-7777
 - Baltimore City Police: 911
- Use the campus shuttle when commuting across campuses.
 - A shuttle service operates year round between the Homewood Campus and the Johns Hopkins Medical Institute, with stops in the Charles Village area and Peabody.
 - An Eastern Campus shuttle operates weekdays between the Eastern and Homewood campuses along with another shuttle, which runs between the Eastern Campus and the medical institution.
 - The Colltown shuttle runs between Hopkins and Goucher College, with stops in the Towson area.

The Johns Hopkins Security Department works in concert with the students, faculty, and staff toward ensuring our security throughout the campus and neighboring communities. Members of the department work closely with Baltimore Police and community representatives in crime prevention and investigations in keeping with Hopkins' community outreach initiatives. Detailed information about the security departments, including a daily incident report, may be found on the following websites:

www.jhu.edu/~security and www.hopkinsmedicine.org/security.

In summary, a college campus is a great place to learn and grow. But a college campus, like any other community, has its share of accidents, crimes and injuries. You need to take an active role in crime prevention, including the realization that you might be the next crime victim. Victims of crime are encouraged to seek assistance from the security department and confidential counseling from the Student Assistance Program (SAP). For more information about this topic, please feel free to contact the Student Assistance Program (SAP) at (410) 955-1220 or visit our website at www.jhu.edu/sap.

Travel Essay

Submitted by: Benjamin M. Auerbach and
Matthew C. O'Neill,

Center for Functional Anatomy and Evolution

This April, we attended the American Association of Physical Anthropology's annual meeting in Tampa, Florida. As in recent years, the meetings were held in a large conference hotel, with attendance close to 1000 and over 600 presentations. As society meetings, these are not enormous, but are large enough to give space to a diversity of disciplines, from human genetics to hominid paleontology to primatology. Even with this breadth of areas of study, however, there is still opportunity for cross-discipline exchange within the biological anthropology community in attendance—an exchange as commonly found in the presentation rooms as the hotel and neighborhood bars. This year, like last year's meeting in Tempe, Arizona, provided an abundance of topics that kept us (BMA and MCO) in meetings outside the sessions and sprinting among talks within. Amongst these were five presented by Center for Functional Anatomy and Evolution (FAE) students, four of which (including ours) were delivered in separate sessions on the first morning.

My paper (BMA), on variations in modern human skeletal limb asymmetry, was delivered as a podium presentation to a general human skeletal biology session. Most of the results presented were abbreviated from the complete analysis, which is currently being written for publication. Because the forum was somewhat of a "grab-bag" of topics, I do not think that it reached as much as my desired target audience as I had wished; I know from conversations I had with colleagues afterward that many missed a number of papers in that session due to its disunity of subject matter. However, the presentation did yield a couple of useful unsolicited conversations with and introductions to individuals I had wanted to meet. Overall, my experiences at the meetings were positive and will prove useful for upcoming studies.

I presented (MCO) a paper testing whether comparative statistics that incorporate phylogenetic information are appropriate for studies examining skeletal adaptation at the species level. In this paper, a new method for quantifying levels of phylogenetic covariance within a data set was used to show that species level comparisons that ignore phylogenetic information bias their results and have limited utility for addressing issues of adaptation. This paper was part of a session on primate locomotion and skeletal biology, which included talks ranging from the effects on limb mass distribution on energetic costs of walking in baboons to the developmental biology of the sacrum its implications for the evolution of human locomotion. Although my paper dealt specifically with comparative methods for analyzing biomechanical data, rather than biomechanics *per se*, the paper was well-received and of interest to many of the researchers in the session.

Among the better-attended sessions at this year's meetings were the "Evolution of the Primate Special Sensory System" and the "Skeletal Biomechanics and Adaptation" sessions (the latter of which was chaired by recent FAE graduate, Valerie DeLeon). In addition, recent work by former Center for Functional Anatomy and Evolution professor Alan Walker (now at Penn State) on the size and shape of primate inner ears generated a great deal of discussion. Walker and colleagues (two recent FAE graduates, Mary Silcox and Gail Krovitz) showed that dimensions of the primate semicircular canal (an inner ear structure that promotes balance during movement) are highly correlated with locomotor

behavior (leaper, slow climber, etc.), and that this relationship can be used as an independent line of evidence for predicting the locomotor behaviors of fossil primate species. Between a substantial amount of new material presented in the sessions and the numerous opportunities for introducing further information away from the formal setting, the American Association of Physical Anthropology meetings continue to provide incentives for regular attendance.

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CONGRATULATIONS TO THE WINNERS OF THE ANNUAL GSA POSTER CONTEST!!!

Training Years 1-2

1st place - Jason Shepherd - "Arc Modulates AMPA Receptor Trafficking via its Interaction with Endocytic Machinery"

2nd place - Yefei Han - "Latent HIV-1 Genomes Reside in Actively Transcribed Genes in Resting CD4+ T-cells in vivo"

3rd place - Deepali Tukaye - "The Yeast Endosomal Na+(K+)/H+ Exchanger, NHX1, Plays an Important Role in Cellular pH Regulation"

Training Years 3-4

1st place - Curtis Chong - "Two Approaches to Anti-angiogenic Drug Discovery"

2nd place - Li Cheng - "Multiple Zinc Finger Protein OAZ Regulates Olfactory Receptor Neuron Development"

3rd place - Michael Nicholson - "Translation of a Novel Simian Immunodeficiency Virus Pr55Gag Isoform is Mediated by an Internal Ribosome Entry Site"

Training Years 5-above

1st place - Tianyi Mao - "Characterization of the Drosophila Mical Protein in Axon Guidance"

2nd place - Wenqin Luo - "An Outer Segment Localization Signal at the Carboxy-terminus of the Photoreceptor-specific Retinol Dehydrogenase"

3rd place - Yan Zhou - "Kinetic Study of HIV-1 in the Pre-integration State"

Thanks to all of the poster presenters, judges, and attendees!

**For submission information
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**[http://www.hopkinsmedicine.org/gsa/
news.html](http://www.hopkinsmedicine.org/gsa/news.html)**

Next Deadline: October 15, 2004