



# The Einstein Postdoc Newsletter

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## A word of welcome from the Editors

Welcome back to the Einstein Postdoc Newsletter. In this second issue we continue to bring you information of relevance and interest to postdocs. Two important issues related to postdocs have surfaced in the past few months. First, a new Director of the Belfer Institute was announced, Dr. Jonathan Backer. We interviewed Dr. Backer to hear his goals for postdocs at Einstein. Second, a committee has been formed to address the inclusion of postdocs in the Senate bylaws. We explain what the Senate bylaws are and why it is important to change them. Also, we summarize the highlights of a fun event on the science of champagne. Of course we have some announcements on upcoming events and the impressive achievements of our fellow postdocs. As always, we'd love to hear what you think. Drop us a line at [postdocnews@gmail.com](mailto:postdocnews@gmail.com).



## Within the Ivory Tower: A new beginning An Interview with Dr. Jonathan Backer

On April 10<sup>th</sup> 2008, it was announced that Dr. Jonathan M. Backer has been appointed the next Director of the Belfer Institute for Advanced Biomedical Studies at the Albert Einstein College of Medicine of Yeshiva University. Just a week and half after beginning his role as Director of the Belfer Institute, Dr. Backer has graciously co-operated for this feature to communicate his thoughts to the Einstein Post-doctoral community. Dr. Backer's overall goal

is to make the post-doctoral experience at Einstein more enriching and productive by improving mentoring, career development and quality of life assistance. For that cause, Dr. Backer firstly aims to identify the post-doctoral needs by working closely with the EPA representatives and then will communicate them to the AECOM administration, thereby acting as a "conduit." "Post-doctoral well-being is extremely crucial to the progress of an Academic Institution. Additionally, the post-doctoral experience is also critical to a researcher's career. It is therefore important to implement programs which would genuinely interest post-docs and also lead to better work environments," Dr. Backer reckons. He understands that different educational and national backgrounds of the post-doctoral researchers result in varied requirements. In order to categorize these real post-doc needs, Dr. Backer is researching the backgrounds of post-doctoral fellows currently enrolled at Belfer. In addition, he is also invested in providing support for the varied career choices of the current post-docs. To that end, Dr. Backer is also researching the career paths taken by previous Einstein post-docs (from up to eight years ago). Dr. Backer was delighted to read the first issue of the Einstein Post-doc Newsletter and believes communication within the post-doctoral community will definitely enhance post-doctoral life.

So how does Dr. Backer have this incredible insight about post-doctoral issues? "It's very simple", he said, "I used to be one". Although an MD from Harvard/MIT, after medical school, he worked as a Post-doc at the Joslin Diabetes Center. "Even worse, I had to pay off my medical school loans with my Post-doc salary which started at \$16,500," Dr. Backer recollects with a smile. He agrees that financial stresses can strain post-doctoral life but believes opportunities to participate in ground-breaking research make it worth the effort. Indeed, we are appreciative of Dr. Backer not only for serving as a role-model for post-docs but also for his efforts in improving the post-doctoral experience at AECOM.

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## Upcoming Events

- EPA BBQ, June 6, starting at 6 pm in the courtyard in front of the library
- World Science Festival, NYC, May 29—June 1

## The Inside Story: Why are the Postdoc Senators trying to change the Senate Bylaws, and what are the Bylaws anyway??

At 4 pm, on the first Wednesday of every month (except during the summer), there is a mass migration of faculty, staff, postdocs and students to the Robbins Auditorium in the basement of Belfer for the monthly Senate meeting. The appeal is not only in the free beer, chips, pretzels and fresh vegetables with dip, but rather the opportunity for nearly all the facets of Einstein to interact. The Senate is where faculty, postdocs and students participate in Einstein-policy formulation, discuss important school-related issues and vote on recommendations to be made to the Dean.

A typical Senate meeting usually starts with the speaker, Dr. Karen Weidenheim, asking the Senate to approve the minutes, and then is usually followed with the Dean's report. The Dean's report is the main reason most people come to these meetings, where the Dean, Dr. Allen Spiegel, or in some cases the Assistant Dean, Dr. Ed Burns, updates us on all the interesting, important, significant, crazy, wonderful, terrible things that have

happened in the past month. This was where we were officially told that we would be getting a new head of Belfer, that Daycare was becoming a reality, that passes to the NYSC in Bronxdale for Friday and Saturday would become available for Falk members, etc. Following the Dean's report, there are usually reports about things that directly affect the school, e.g. an update on the fire in Forchheimer was given here, a presentation on the new website was given here, etc. The Senate meetings are open to all - just bring your AECOM ID to be allowed in - and if you'd like to be a senator, please tell your EPA rep, elections are held once a year. For a complete list of the postdoc senators, please go to: <http://www.aecom.yu.edu/home/senate/index.asp?ID=124>

Now what are the bylaws and what do they have to do with the senate, and why are the postdocs senators trying to change them?

The bylaws are a document that was last updated in June 1992 and is a manifesto or blueprint on how the senate shall be run, how changes can be made

## Science in a Bubble

### EVENT REVIEW - "The Science of Champagne" at the New York Academy of Sciences



Have you ever looked at the bubbles in a glass of champagne and wondered what scientific principles governed their actions? We might take champagne bubbles for granted, but the science behind them is really quite amazing. On April 22<sup>nd</sup> Gérard Liger-Belair, a very cute physicist and champagne expert, presented a talk on the science of champagne at the New York Academy of Sciences. After hearing the talk and watching movies of champagne bubbles forming, champagne currents swirling in a glass and bubbles bursting spectacularly at the surface of a glass, we got to "analyze" some champagne while looking at panoramic views of lower Manhattan from the windows of the NYAS. As postdocs at Einstein we are given membership to the New York Academy of Sciences for one year. The academy hosts events on a wide range of subjects that are well worth attending.

Scientists are often inspired by a natural curiosity about the world and a desire to understand why things are as they are. Sometimes they are lucky enough to find the answers. Very often scientific discoveries start with the simplest questions about ordinary things. Liger-Belair, a physics professor at the Faculté de Sciences, Reims, France, in the heart of the Champagne region, was inspired by sipping his favorite beverage – champagne. Dr. Liger-Belair has found a way to combine his interests in physics and imaging and a love of champagne as the subject for research, and the results are fascinating.

Champagne is a wine that is fermented in closed bottles. Carbon dioxide that is produced by the breakdown of sugar remains in the wine. One bottle of champagne has as much as 10 g or 5 L of carbon dioxide. Once the bottle is uncorked, carbon dioxide gas starts to escape in the form of bubbles that we enjoy when drinking champagne. Two million bubbles may escape from a single glass! Liger-Belair asked some fundamental questions, such as, "Where do bubbles come from?" He made use of a high speed camera attached to a microscope to learn the basic science of bubble formation. By watching bubbles forming in a flute he found that there is an essential ingredient in the nucleation of bubbles – dirt. More specifically, tiny cellulose fibers that are present in dust are needed. These microscopic hollow tubes are the source of all bubbles. Champagne poured into perfectly clean glasses will not bubble at all.

After bubble formation, the next step in the life of a bubble is its trip to the surface of the wine. Next time you drink a glass of champagne take a look at the bubbles. As they move upwards they accelerate and get bigger. Sometimes they travel upwards in pairs. For those of you who are mathematically inclined, the progress of a bubble through champagne can be described by complex equations. The movement of bubbles in a glass of champagne is not only pretty, but also creates "currents" in the champagne that mix the liquid and affect the flavor of the wine. The currents created are dependent on the properties of the glass, such as its height. Special engraving in the glass can also change the bubbling patterns and currents. After all this, the bubble eventually reaches the surface. Each bursting bubble forms a tiny short-lived tower of liquid that eventually collapses and falls apart. The champagne surface is pretty exciting. Sometimes bubbles come together to form beautiful flower patterns. Unfortunately, it's all too fast and tiny to see with the naked eye.

Hearing about Liger-Belair's discoveries increased my appreciation of champagne. The event was a good reminder that inspiration for the next science project can come from simply sipping a glass of champagne. A podcast of "The Science of Champagne" is available online at [www.nyas.org/snc/podcasts.asp/](http://www.nyas.org/snc/podcasts.asp/). The New York Academy of Sciences event schedule can be found at [www.nyas.org](http://www.nyas.org). Helene Eisenman ([heisenma@aecom.yu.edu](mailto:heisenma@aecom.yu.edu))

## Bylaws (Continued)

in many areas of running the school, how committees can be formed etc. For the complete document, please go to: <http://www.aecom.yu.edu/home/senate/Uploads/SenateBylawsFinalI.pdf>. There's just one problem, however, the word "postdoc" only appears once as "postdoctoral fellows" in section 5.4. Though the presence of this section allows postdocs to be senators, it doesn't allow postdocs to serve on the Senate council (a council that amongst other things counsels the Dean and makes recommendations concerning priorities of Einstein issues) or the Committee on Committees (the committee responsible for appointing members to the various committees - the absence of a postdoc in this forum results in our participation being taken for granted). Now, we need to give credit where credit is due - the Committee on Committees has extended its membership to include a postdoc without waiting for this change to be ratified in the senate bylaws, but, for instance, the Senate Council has not.

Therefore, the postdoc senators stood up in December of last year, and asked that a committee be formed to try and change the bylaws so that postdocs be included in more than one section.

A committee comprising of the Head of Belfer, Dr. Jonathan Backer, Postdoc senators - Alfredo Fort, Michaela Jansen, Aviva Joseph and Yan Li, as well as the Chairman of the Committee on Committees, Dr. Mike Brenowitz, was formed and approved in the last senate meeting; a revised version of the bylaws document has already been put together and now we wait with anticipation for the postdocs to be officially recognized in this manifesto as integral members of the Einstein senate.

So that's what the senate bylaws are, and why the postdocs want to change them. Aviva Joseph ([ajoseph@aecom.yu.edu](mailto:ajoseph@aecom.yu.edu))

## Einstein Postdoc Achievements:

- **Pooja Arora** from the Department of Microbiology and Immunology gave an oral presentation at the 2008 "NK and NKT Cell Biology" Keystone conference.
- **Tony Baughn** from the Department of Microbiology and Immunology was a second author on a paper in press in *Molecular Microbiology*, is currently a Helen Hay Whitney Fellow and most importantly, he and his wife Linda of the Dept of Cell Biology are new parents to Sophia Helen, who happens to be the most wonderful little girl in the history of the universe
- **Clemence Blouet** from the Department of Medicine Division of Endocrinology presented his work at the Keystone meeting "Neuronal Mechanisms Controlling Food Intake, Glucose Metabolism and Body Weight", received a Keystone scholarship, received a post-doc fellowship called "Prix de projet de recherche post-doctorale a l'etranger" from the French Society for the Study of Nutrition and received the young investigator award from the Society for the study of feeding behavior.
- **Cristina C. Clement** from the Department of Pathology co-authored a paper published in PlosOne, presented a poster at the 2008 American Chemical Society Meeting and gave an oral presentation at the 2008 North East-Regional Meeting of the American Chemical Society
- **Patrick Frantom** from the Department of Biochemistry gave an oral presentation at the Spring 2008 National Meeting of the American Chemical Society.
- **Scott Garforth** from the Department of Microbiology and Immunology published a first authored paper in PLOS and gave two poster presentations - one at Experimental Biology, San Diego and the other at the Cold Spring Harbor Retroviruses meeting
- **Xiao Hu** from the Department of Medicine/Hematology and the Department of Cell Biology was awarded a 3 year postdoc fellowship from the New York Stem Cell Foundation beginning this year.
- **Michaela Jansen**, from the Department of Physiology and Biophysics was awarded a Career Development Award (K99/R00) from the NINDS at the NIH for up to 2 years of mentored support and 3 years funding for an independent laboratory.
- **Arunika Mukhopadhyaya** from the Department of Microbiology and Immunology received a Postdoctoral research grant from the International Juvenile Diabetes Research Foundation for 2 years (JDRF, 2008-2010), and received a Symposia Travel Scholarship Award for the Keystone meeting called 'Tolerance in Transplantation and Autoimmunity'
- **Johanna van Oers** from the Department of Cell Biology was awarded a Rubicon fellowship for 2 years by the Netherlands Organization for Scientific Research (NWO).
- **Joerg Schlatterer** from the Department of Biochemistry published a first authored paper in JMB
- **S Chandra Shekar** from the Department of Molecular Pharmacology and the Department of Biochemistry published a first authored paper in the J. Chem. Phys.
- **Mia M Thi** from The Dominick P. Purpura Department of Neuroscience published two first author articles – one in J Neurosci Res and one in Ann N Y Acad Sci.
- **Li Zhou** from the Department of Developmental and Molecular Biology (DMB) published a first authored paper in Blood