

Female-Friendly
Science Departments

Howard Georgi
Harvard University

Harvard is probably not the easiest place to build a female-friendly science department

"I won't philosophize
and will be read."

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In This Archive:

- Front Page
- News
- Opinion
- Sports
- Magazine
- Arts
- Photo Gallery
- Comics
- OnAir

- Archives
- Classifieds
- Corrections
- E-Digest
- Web Specials

- About THC
- Advertising
- Contact
- Deliveries
- Rights/Permissions

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NEWS

Published on Friday, October 08, 2004

Female Faculty Discuss Tenure

By [STEPHEN M. MARKS](#)

CRIMSON STAFF WRITER

More than 50 female faculty met with top administrators Wednesday to discuss their concerns about the declining number of female tenure offers. Some said they walked away dismayed by the response they received from University President Lawrence H. Summers and Dean of the Faculty William C. Kirby.

The meeting addressed the concerns raised in a letter signed by 26 professors to Summers and Kirby in June. While 36 percent of tenure offers went to women in 2000-2001, the last year of former University President Neil L. Rudenstine, that number has declined in each successive year under Summers, down to 13 percent of last year's 32 offers.

At Wednesday's two-hour lunch meeting, held in the Barker Center, the faculty presented a two-page proposal for improving the University's efforts to recruit a diverse faculty, including the reinstatement of a diversity dean—a position that was existed up until a few years ago.

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LG SCHOLARSHIP

Lawrence Summers

National Bureau of Economic Research Conference on Diversifying the Science & Engineering Workforce

“It does appear that on many, many different human attributes - height, weight, propensity for criminality, overall IQ, mathematical ability, scientific ability - there is relatively clear evidence that whatever the difference in means-which can be debated-there is a difference in the standard deviation, and variability of a male and a female population. And that is true with respect to attributes that are and are not plausibly, culturally determined. If one supposes, as I think is reasonable, that if”

“one is talking about physicists at a top twenty-five research university, one is not talking about people who are two standard deviations above the mean. And perhaps it’s not even talking about somebody who is three standard deviations above the mean. But it’s talking about people who are three and a half, four standard deviations above the mean in the one in 5,000, one in 10,000 class. Even small differences in the standard deviation will translate into very large differences in the available pool . . .”

“ . . . First, most of what we’ve learned from empirical psychology in the last fifteen years has been that people naturally attribute things to socialization that are in fact not attributable to socialization. ”

a few professors who should not be allowed to teach -
macho attitude of even some very good teachers

“two guys tied for the top score but we will break the
symmetry on the next test”

“don’t take this course unless you are planning to go to
graduate school”

Very competitive student-body

Peer-pressure to be the first to get to string theory

Math department with no tenured women, and Math 55
- the most difficult course in the entire history of
geological time - attracting a scary collection of
undergrads

Nevertheless - I think we do pretty well under the circumstances and I will tell you about some of the things I am excited about and proud of

Then I will tell you some of the things I am worried about!

Nevertheless - I think we do pretty well under the circumstances and I will tell you about some of the things I am excited about and proud of

Then I will tell you some of the things I am worried about!

Advisors provide visionary leadership

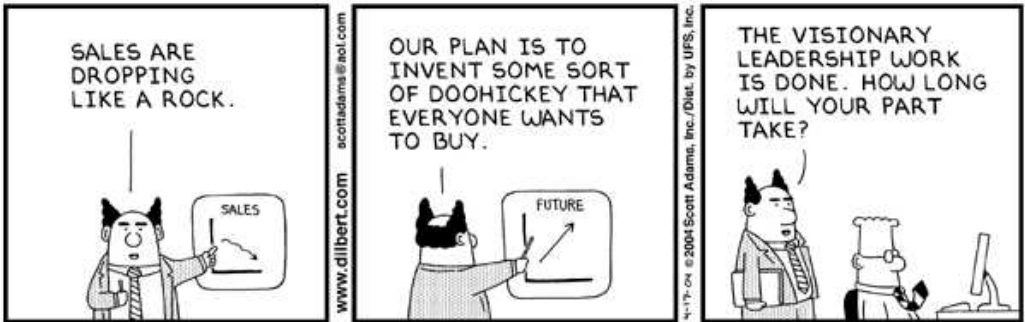


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advisor

Advisors provide visionary leadership



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student





Department chair in the early 90s - finally understood that we were torturing our women undergraduate physics concentrators!

Instant feminism!

As I worked to improve the experience of our women concentrators, I got more and more involved in the undergrad program.



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$$\mathbf{J}_+ | \mathbf{h} \mathbf{A} \mathbf{R} \mathbf{V} \mathbf{A} \mathbf{R} \mathbf{D} \mathbf{P} \mathbf{h} \mathbf{Y} \mathbf{S} \mathbf{I} \mathbf{C} \mathbf{S} \rangle = \mathbf{0}$$

To know where you're going,
you must be in many places.

Travel far.



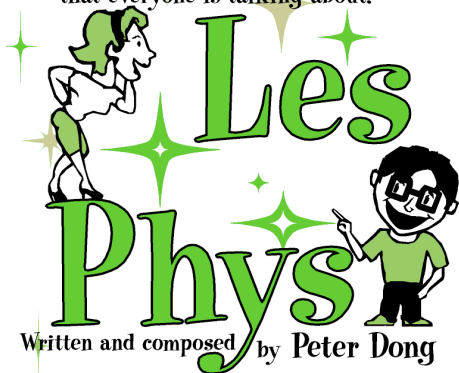
You may be here

Head Tutor in Physics and Chemistry and Physics (like
DUS without the D)



Master of Leverett House -
like president of a small
college without the
fund-raising

Life, love, and physics meet head on
in the brand new musical
that everyone is talking about!



Written and composed by Peter Dong

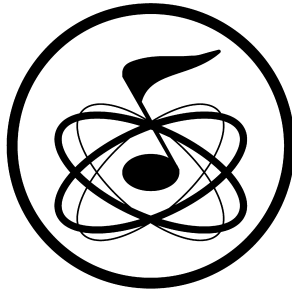
May 9, 10, 11 at 8pm and May 11 at 2pm
in the Agassiz theater

Physics 16 – Mechanics for freshmen with outstanding preparation in physics and math - about 50 kids who have always been the best - tendency to be high pressure and competitive

A green rectangular box containing production credits. On the left is a cartoon character with a beard and a green shirt, pointing to the right. The text is white and lists the following credits:

Produced by Jeffrey Filippini and Steven Padnick
Directed by Kaiflin Heller
Choreographed by Sara Heller
Music direction by Peter Dong
Vocal direction by Aaron Dinkin and Ezra Keshet
Tickets \$8 General Admission \$5 Student
at the Harvard Box Office Group discounts available

Les Phys



by
Peter J. Dong

in partial fulfillment of the requirements
for a Bachelor of Arts degree with honors in physics and music

Despite the title pun and the occasional passing reference to a certain Broadway show, Les Phys is not a physics-flavored Les Mis parody, but rather a completely original work that takes a lighthearted look at the ups and downs of life, love, and physics at Harvard. Steve, a freshman physics concentrator, hopes to beat his nemesis D.B. in a bet over a problem set, but is finding it hard to concentrate now that he's met the girl of his dreams, Christene. The trials and tribulations of this lovestruck Physics 16 student provide the comic fodder for this musical that answers the burning questions: Can brains ever beat brawn? Why does love always come when least expected? And how do you solve #5 on the problem set?

Physics is fun - lighthearted and quirky approach when possible

Cooperation rather than competition

Peer instruction and what NOT to lecture about

Focus on working in groups

Focus on undergraduate research and community

It seems to be working

Why worry?

We next build and discuss a model for the relativistic cookie cutter. For definiteness, assume that the conveyor belt moves at $4c/5$ and that the “cookie cutter” is a ring-shaped pulse of photons (particles of light) that in the cookie factory frame is circular with diameter d , horizontal and moves down at the speed of light until it hits the batter on the conveyor belt and burns out the boundary of a cookie.

Introduction to
**CLASSICAL
MECHANICS**

With Problems and Solutions



DAVID MORIN

CAMBRIDGE

One morning while eating my Wheaties,
I felt the earth move 'neath my feeties.
The cause for alarm
Was a long lever arm,
At the end of which grinned Archimedes!

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We will use the following system: you will earn three kinds of points, each on a scale of 0 to 100:

A — Achievement points;

E — Effort/explanation points;

F — Final exam score.

You will then be assigned a final numerical grade, *G*, based on the following formula:

$$G = \frac{2A}{3} + \left(100 - \frac{2A}{3}\right) K(F/100, E/100)$$

where

$$K(x, y) = x^{4/(5y^2)}$$

Your final grade will be based on the total number of points, *G*. If things go according to plan, the points

should correspond to letter grades as follows:

<i>A</i>	$107 \leq G + \epsilon$
<i>A-</i>	$103 \leq G + \epsilon < 107$
<i>B+</i>	$97 \leq G + \epsilon < 103$
<i>B</i>	$85 \leq G + \epsilon < 97$
<i>B-</i>	$80 \leq G + \epsilon < 85$
<i>C</i>	$74 \leq G + \epsilon < 80$
<i>C-</i>	$70 \leq G + \epsilon < 74$
<i>D</i>	$60 \leq G + \epsilon < 70$
<i>E</i>	$G + \epsilon < 60$

where

$$\epsilon = \frac{\text{Total Class } A}{500}$$

Thus the better the class as a whole does (and the more

people take the course), the easier it is to get any given letter grade. It is to your advantage to encourage and help others!

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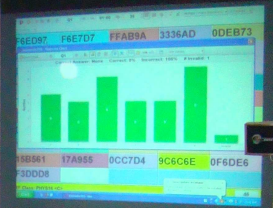




Suppose you have a vector \mathbf{v} and a scalar c . If \mathbf{v} has three components, then $c\mathbf{v}$ has three components. If \mathbf{v} has n components, then $c\mathbf{v}$ has n components. If \mathbf{v} has n components, then $c\mathbf{v}$ has n components. If \mathbf{v} has n components, then $c\mathbf{v}$ has n components.

$$c\mathbf{v} = c \begin{bmatrix} v_1 \\ v_2 \\ v_3 \end{bmatrix} = \begin{bmatrix} cv_1 \\ cv_2 \\ cv_3 \end{bmatrix}$$
$$c\mathbf{v} = \begin{bmatrix} cv_1 \\ cv_2 \\ cv_3 \end{bmatrix} = \begin{bmatrix} c \cdot v_1 \\ c \cdot v_2 \\ c \cdot v_3 \end{bmatrix}$$

Notice that we included "three" in the above. It seems that I doubt that you're a vector, approximately correct.







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IF I WERE A SCIENTIST
WORKING IN A BIG LAB,
I'D SHOUT "EUREKA!"
EVERY SO OFTEN JUST
TO BOOST MORALE.



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Home

[PRISE Fellows Page](#)

[Calendar](#)

[Program Eligibility](#)

[How to Apply](#)

[Program Overview](#)

[FAQ](#)

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Harvard College Program for Research in Science and Engineering (PRISE)

PRISE 2010! APPLICATIONS AVAILABLE DECEMBER 1.

STAY TUNED FOR DETAILS ABOUT INFORMATION MEETINGS:

FRESHMAN INTRODUCTION TO RESEARCH, LAMONT LIBRARY FORUM ROOM, MONDAY NOVEMBER 30

SCIENCE OPPORTUNITIES MEETING, LEVERETT HOUSE, MONDAY NOVEMBER 30

SCIENCE OPPORTUNITIES MEETING, PFORZHEIMER HOUSE, THURSDAY DECEMBER 3

COOL STUFF FROM 2009 . . .

THE INCREDIBLE SCHEDULE OF 2009 PRESENTATIONS! (.pdf)

PRISE '09: THE PHOTOBLOG (COMPILED BY PRISE FELLOW KATE XIE)

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I think things are pretty good for women in physics, especially from the professors. The only issue is sometimes men (TFs or male students) do not listen to female students who have an idea or an argument.

I didn't respond because as far as I can remember, the proportion of women in Physics 16 was about the same as the current proportion of women in our year of physics concentrators. I don't really think the physics department is losing concentrators as we go on - or at least, I personally know more men who have switched out of physics than women, so the ratio is not really being affected.

However I would point out that as far as my experience goes the junior class (my year) has a large number of physics girls in the same semester track and this kind of reinforces the fact that it's okay to be a woman in physics. For example, in terms of problem-setting the class definitely tends to separate into small,

single-gender groups (at least for a while, and only later congregate for a larger discussion.) So having more girls makes it a lot easier to find people to work with → therefore, to understand things.

The only other thing I've noticed is that when professors are kind of arrogant/macho/blustering then women drop out much faster than men do. This makes a lot of sense, since lecture should be tolerable as well as intellectually challenging.

Most things have been great. But we need more female TFs in the introductory courses - they are very important as role-models. It is important to see women closer to our age doing physics.

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Why worry?

Our women student are happier, but their numbers have increased only very slowly

It works OK because of a handful of key people - the usual suspects - we need buy-in from more people and I haven't seen enough evidence that it is happening - our junior faculty are OK - so maybe I'm just being impatient

Medical school - we need to make the case that technically talented women may save more lives by doing fundamental research

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