

Mini-workshop: “Interdisciplinarity and Discipline in Education”

Phil Nelson, Rob Phillips and Boris Shraiman, coordinators.

Sunday June 11th, 2006 in the KITP Auditorium – UCSB Kohn Hall Room 1403

The past few years have seen a surge of interest in biological problems among physics, mathematics and engineering students both at the graduate and undergraduate level. This is complemented by the push to provide students in life-sciences with a more solid physics and mathematics foundation which would endow them with the quantitative skills increasingly demanded by modern biology. A great many new courses in biophysics, systems biology and modeling, computational biology and informatics at both the graduate and undergraduate levels are being introduced and interdisciplinary curriculum is under construction at many departments and inter-departmental entities. Yet the strategy for raising interdisciplinary students with knowledge and ability in particular sub-disciplines comparable to their pure disciplinary peers is far from clear.

The purpose of this one-day workshop will be to share the experiences of inter- and cross- disciplinary teaching and education and have a “no-holds-barred” discussion of the realities and challenges of this undertaking. Can we create an interdisciplinary curriculum without sacrificing the “discipline” – i.e. the rigor of traditional training? What are the demands of the life-science and physics communities? What do students want? How do we measure the effectiveness of our efforts?

Please be prepared to provoke and to be provoked.

Morning Program: 9:45 am – 12:30 pm

David Gross - (KITP): Opening Remarks

Phil Nelson - (Physics, U Penn): *“Intermediate Biological Physics”*

Koen Visscher - (Physics, Arizona): *“An interdisciplinary lab course at U. Arizona”*

Bruce Alberts - (Biochemistry, UCSF): *“How can future researchers learn to distinguish a critical biological problem from a mundane one?”*

Discussion

Afternoon Program: 2:00 pm – 5:30 pm

Rob Phillips - (Appl Physics, Caltech): *“Must have labs”*

Ila Fiete - (KITP) and Hernan Garcia - (Appl Physics, Caltech): *“A view from the trenches”*

Jane Kondev - (Physics, Brandeis): *“Freshman Biophysics: Putting some life into Newton and Maxwell”*

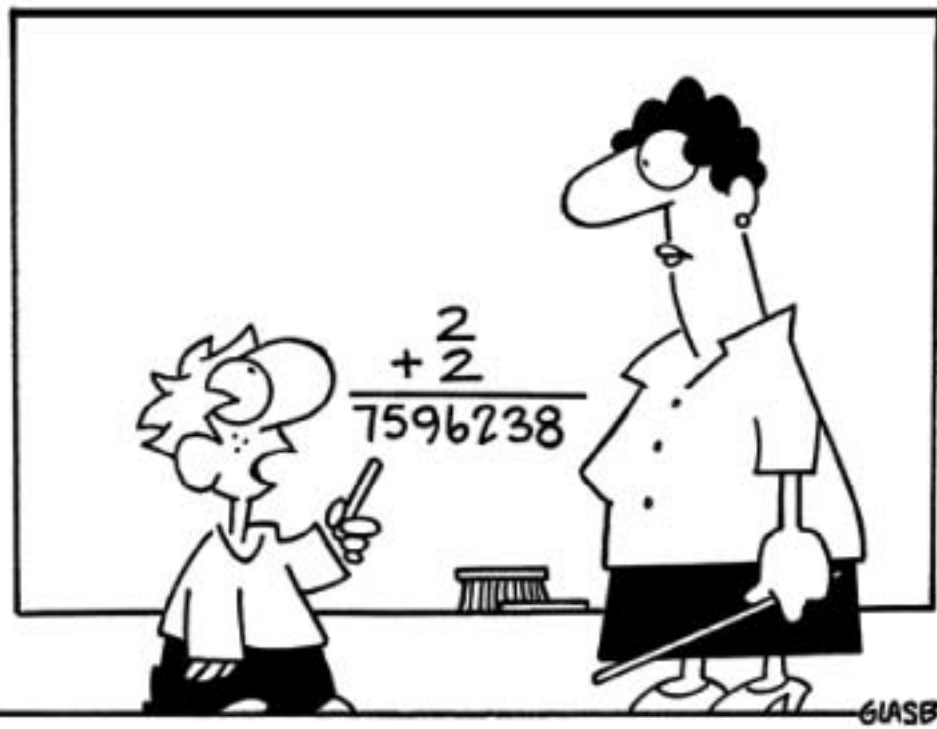
Bill Bialek - (Lewis Sigler Inst, Princeton): *“The other half of Western civilization”*

Robijn Bruinsma - (Physics, UCLA): TBA

Julie Theriot - (Stanford Med School): *“Physics concepts for medical students”*

Discussion

If you have any questions please contact Lauren Brown at 893-6324 or lauren@kitp.ucsb.edu



“In an increasingly complex world, sometimes old questions require new answers.”