



Bob Eisenberg <bob.eisenberg@gmail.com>

Descriptive biophysics vs physics

1 message

Bob Eisenberg <beisenbe@rush.edu>

Sun, Aug 25, 2013 at 8:13 AM

Reply-To: beisenbe@rush.edu

To: "Stuart A. Rice" <sarice@uchicago.edu>, "Bob Eisenberg beisenbe@rush" <beisenbe@rush.edu>, "Bob Eisenberg beisenbe@rush" <Bob.Eisenberg@gmail.com>

Bcc: Ardyth at Gmail <ardyth.eisenberg@gmail.com>

Dear Stuart

I hope the holiday has gone or is going very well!

AND I hope this email does not get you at an inconvenient time.

I just wanted to explain one crucial issue about biophysics which you probably know, but perhaps not explicitly

Almost all the biophysics at UofC are DESCRIPTIVE scientist who do a superb job of making physical descriptions of biological systems. This is enormously important. Biological systems have lots of "moving parts" and just like engineering systems with moving parts, a list of those parts is absolutely required before we can understand the system (or how the parts make the system do what it does).

But what I do is quite different.

I try to write physical models, involving the same physical forces, equations, and mathematics that a physical scientist would use to analyze the system if it were not biological.

The bad news is that this can only be (sensibly) done if the parts list is pretty well known, and extensive experimentation is available.

The good news is that there are many biological systems where we know enough to proceed.

The bad news is that most of my biophysical colleagues confuse description with physical analysis. They think because they use physical techniques or measure physical variables they are

doing physical analysis.

And there is an old saying "scientists like to fondle their problems.
They resent those who (seek to) solve them"

Hope all is well with ALL of you!

As ever
Bob

=====
Return Address for email: beisenbe@rush.edu

Bob aka RS Eisenberg
Bard Endowed Professor and Chairman
Dept of Molecular Biophysics & Physiology
Rush Medical Center
1653 West Congress Parkway
Chicago IL 60612 USA
Office Location: Room 1291 of
Jelke Building at 1750 West Harrison

Email: beisenbe@rush.edu
Voice: +312-942-6467
FAX: +312-942-8711
FAX to Email: +801-504-8665
Department WebSite: <http://www.phys.rush.edu/>
Personal WebSite: <http://www.phys.rush.edu/RSEisenberg/>

=====