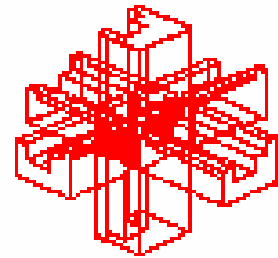


PHYSICS AT SOUTHERN

Volume 45, electronic issue #2
July 29, 2003

Published once in awhile
For students, alumni and friends of the department



ERRATA

Esther Kim is at the Medical College of Georgia (Augusta), not at Loma Linda School of Medicine.

FLOOD IN HSC, EPISODES 2 AND 3

Our last issue reported on water damage caused by frozen pipes upstairs from the physics department. This water drama continued for two more weeks. The second burst pipe happened a week later, but (fortunately for us, who had taken our turn) on the opposite end of a diagonal through the footprint of the building. Then, a week later, while repairing stains on the wall caused by that leak, someone accidentally ignited the paper wrapper of the insulation! Fire and police personnel descended upon the building and soon had everything under control.

HICKMAN UNDERGOES NEUROSURGERY

Tuesday, June 9: All six miles of ethernet cable in HSC have been pulled from above the false ceiling and are being replaced with new cables. The reasons for the change are that splits and multi-use cables need to be

replaced, that Southern wants to be up to code, and that Southern will sometime upgrade to MegaHerz “bandwidth,” according to infor-med sources. The process began on the first floor (Physics and Computer Science). First, temporary lines were taped to the floor for computers currently in use. Next, the existing nerves were pulled, resulting in a pile of cables over two feet high and exceeding in average diameter the width of the hallway. During this procedure there was a lot of talk about how much of cables would be worth in some remote countries, or how to give a few feet to each of hundreds of high-school geeks. Finally, the new cables are being strung. They all converge at a router which connects to a single yellow fibre-optic cable leading to the rest of cyber-space.

THE WORLD OF SDA HIGHER EDUCATION

Significant changes seem to be afoot in the physics departments among the Seventh-day Adventist institutions of higher education, some ten years after they were predicted to occur. Dr. Roy Campbell moved from SWAC to WWC two years ago. Then, a death at

Union College resulted in a need for a physics professor starting with the 2004 academic year; this opening will be filled by Dr. Weber from PUC and his move results in an opening at PUC. Negotiations for filling this need are in progress. Other openings are expected to occur at other colleges/universities in the next few years.

AN EXPERIMENT

During the Christmas/New Year season, the editor undertook writing a personal note to all former physics students, alumni or not, from Southern whose e-mail address is known and valid. A very large and gratifying response was obtained. Excerpts from one-half of these letters follow, in chronological order (for a change). Most are restricted to professional areas and mildly edited (as usual). Excerpts from the other half are planned for the next issue of *Physics at Southern*.

1/23/03, from **Jonathan Vigh**, graduate student in meteorology: I'm out here (at Colorado State University) finishing my Master's (ensemble prediction of hurricane tracks using a barotropic model) and getting ready to take the qualifier.

2/10/03, from **Mickey Kutzner**, professor of physics at Andrews University: Latest publication is "Relaxation Effects in Inner-shell Photoionization of Mg, Ca, and Sr", M. Kutzner, V. Maycock, J. Thorarinson, E. Pannwitz, and J. A. Robertson, *Phys. Rev. A* **66**, 042715 (2002). This was published in October. I have submitted another last month, but have not received word yet.

2/11/03, from **Steven Kurty**, graduate student in physics at Case Western Reserve University: I think that the best thing about graduate school for me has been learning to patiently and systematically work through a

problem. In general I really like being a graduate student (minus the part about living from hand-to-mouth!). I work in a really great research group. My advisor is one of the coolest professors in the department. I'm by nature a doer, so while research is fun and interesting, I suspect that I will be in product development within 10 years of graduation.

As of 2/12/03, **Jason Iieto**, now a student in the Navy's submarine reactor program but then a senior physics major, and **Brad Davis**, free-lance photographer and computer expert, are coauthors with Dr. Hefferlin of an article titled "An Atlas of Forecasted Molecular Data I: Inter-nuclear Separations of Main-Group and Transition-Metal Gas-Phase Diatomic Molecules in the Ground State." It was published in the *Journal of Chemical Informaiton and Computer Science* and reprints are available.

2/24/03, from **Fred Liebrand**, physics professor at Walla Walla College: I'm teaching astronomy which we just expanded to a year-long course so that we could do more justice to cosmology and a little smattering of SETI (which always draws the most attention). I'm also teaching thermo with 4 students, teaching mathematics of physics with two students and two faculty members, and team-teaching an education class for science certification. We've revised the curriculum and expanded almost every upper division class from modern physics on up, so I get to teach a lot of new course work and do teaching better.

3/5/03, from **Ray Paden**, in the High Performance Computing Center of the IBM Corporation in Houston: I am in Göttingen, Germany, presenting an all day tutorial and a paper in a conference here at the Max Plank Institute here in Göttingen.

3/15/03, from **Bob McReynolds**: Now I am an elder at the SDA Church in Bandon, Oregon. I preach on the first sabbath of every month and occasionally preach in other SDA churches. I do research on the web for book material and I am responsible for 8 web sites.

3/16/03, from **Clifton Keller**: Since returning to Kentucky, I have worked at the University of Louisville doing statistical programming to determine effects of administrative decisions on Kentucky's welfare recipients. I've been trying to retire since June, so have asked for only enough employment to have access to UofL computers. I do miss teaching, so I have volunteered to teach Visual Basic for the Jefferson County Adult Education Program one night a week.

3/17/03, from **Mike Howard**, now at Conoco-Phillips: Conoco is no more. We were taken over by Phillips last August. We still market Conoco branded gas, along with our other brand Jet (Kayo), and heritage Phillips' brands including Phillips 66, Union 76, Circle K, and Coastal, and even 700 Exxon outlets and 1200 Mobil outlets they had to divest when they merged.

3/17/03, from **Rob Mills**, physician: Yes, I keep interested in astronomy, but my practice keeps me from doing very much with it. I do subscribe to Astronomy magazine, but get to read it much less than I wish. I have an eight inch Celestron "Nexstar" with a camera mount.

3/19/03: from **Roy Campbell**, professor of physics at Walla Walla College: This is my second year at Walla Walla and it was a good move for us. I've really enjoyed my work here and we all enjoy the Pacific Northwest. I've taken on some extra responsibility and have been chair since last summer.

3/29/03, from **Robert Shipman**, nuclear treaty monitoring station auditor: Last week I had a certification audit of the monitoring station I installed in Rio de Janeiro. It was very stressful as the United Nation sent four scientists to examine every aspect of the station. This coming week we are doing an audit of the station on Easter Island. It's a very beautiful island with many interesting archeological sites. Coming up soon are stations on Wake Island and one in the Galapagos.

3/30/03, from **Wayne Salhaney**: I'm enrolled in a Masters in Information Technology program at Southern Polytechnic State University here in Marietta.

CIVIC CONTRIBUTIONS

As of 2/12/03, there was an announcement about another meeting of the PHYSICS Alliance of Chattanooga. Henry Kuhlman and other physics professors invited local high-school teachers to the science building at Baylor School for a look at how remote controls communicate, how radio-controlled toys work, and how electromagnetic waves behave.

A LOOK BACK

From *Physics at Southern*, vol. 37, issue #3, December 16, 1996:

Moving from Daniells to Hickman, part I

Yesterday, 15 December, we packed the moveable contents of the shop into boxes and set them in DH 18. The furniture installers are stymied because desk tops are weeks behind, and we were given the opportunity to have them move our machine shop furniture today. Uhhh, here it is 10:20 and I don't see anybody yet.

From *Physics at Southern*, vol. 37, issue #4, December 17, 1996:

Moving from Daniells to Hickman, part II

Yesterday, 16 December, we packed the moveable contents of DH 18 (the lab which was up the small set of stairs) also into boxes. This afternoon, 17 December, workers began dismantling the utilities attached to the cabinets in DH 18 in preparation for their move!

From *Physics at Southern*, vol. 37, issue #5,

Moving from Daniells to Hickman, part III

Today, 18 December, workers took the cabinets out of the shop and are in the process of taking them out of DH 18 (It's a good thing that on 16 December we packed the moveable contents of the DH 18 into boxes)! They marvel at how good furniture is, as measured by how easily it is dismantled into units, and that makes us very glad that we [asked that it be used in] Hickman Science Center instead of letting it be trashed or given away.

Today, 18 December, students packed the contents of the general physics laboratory (sometimes referred to as the "zoo," *only* due to its having windows so that students in the hallway can watch the activities).

Dr. Kuhlman, Dr. Caviness, and Dr. Hansen are engaged in planning for keys; Dr. Hefferlin has determined an optimum rearrangement (at least for some rooms) of library shelves in the book cases.

From *Physics at Southern*, vol. 37, issue #6, December 19, 1996:

Moving from Daniells to Hickman, part IV

Today, 19 December, the "island" cabinets in the general physics laboratory (DH 23) were taken loose in preparation for moving to Hickman Science Center. Meanwhile, down in the Center itself, three students readjusted most of the bookcase shelves in the department for realistic book heights (up to 12 inches, from 10 inches) and put together a set of metal shelves in the lecture hall's demonstration stockroom. Demonstrations in E & M, for the beginning of the second semester, will be moved there ASAP, along with other items for second semester, up to a half of the items. The rest will be kept in boxes until the existing shelves in DH can be moved down to HSC and mounted next to the new ones. The result will be a 1:2 mapping of items on shelf space (thanks to Mike Seaman for the terminology). The general physics and introduction to physics laboratory cabinets of HSC have been numbered; a translation table has been prepared. It is planned to hire students to stack the boxes on hand trucks, load them into Service Department vehicles, drive them down to HSC, and unload them into the shelves where the contents are to be. Moving the offices, especially valuable/delicate laboratory equipment, and tools, is temporarily at a standstill due to lack of keying for HSC.

HIGH-SCHOOL TEST ANSWER

"H₂O is hot water, and CO₂ is cold water"