

PHYSICS AT SOUTHERN

Vol. 38, electronic edition #5
August 15, 1997

Published once in awhile
For students, past & present, and friends of the Department

(SAU logo here)

(Phys. Dept. logo here)

THE RIGHT TO PRIVACY; ECOLOGY

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THE HICKMAN HALL FOYER FOUCAULT PENDULUM

The pendulum is in the process of being born. It is very complex: the pendulum must be capable of adjustments vertically and horizontally with respect to the base; it must be driven (magnetically) in such a way as not to influence the plane in which the pendulum wants to swing; it must be driven in such a way that the amplitude must stay constant; elliptical modes must be damped out; bending of the wire must be prevented not only at the top where the system is hung but also at the ball in case it should wobble microscopically about axes perpendicular to the cable; the bouncing up-and-down mode must be minimized; and there must be compensation for stretching and thermal expansion/contraction as the temperature changes.

The pendulum has been up once, and the magnetic driver has been through initial testing (See FACULTY ACTIVITIES).

FAMILY-NAMED ENDOWED SCHOLARSHIP FUNDS FOR PHYSICS STUDENTS

There are three of them, with restricted-fund principals of about \$8,000, \$10,000 (new this year), and \$12,000. The existing funds have been helping physics students meet their SAU expenses for several years now; the first recipient was graduated in May.

EMOTICONS (iconic symbols expressing emotion in e-mail)

The following is adapted from the July, 1997, issue of Delta Airlines' "Sky" magazine, page 87:

The symbol for something "ironic" should be <Fe>, the chemical symbol for iron. Other possible symbols from the periodic table:

<Ar> = we aregon

<As> = for when you realize you've made a real arse-nick of yourself

 = you're boron me = you've said enough already

<Ba> = bury-'im = give him the licking he just asked for!

<Cs> = from the Latin "cease-ium" = enough already

<Fr> = frankium = honestly!
<Ge> = It's not really germanium to the list = off-topic
<In> = in-deum = as it says in the Bible
<Ir> = irratium = you're starting to tick me off!
<Mg> = magnanimesium = I graciously concede your point
<Ni> = a penny (adjusted to 5 cents for inflation) for your thoughts
<Pd> = you should have rented the palladium = what a performance!
<Pt> = platitudinum = you're using nice words and not saying anything
<Si> = it's a silly con = what makes you think I'm dumb enough to fall for that?
<Ti> = titan-ium = I'm too big to let that bother me
<W> = tungsten-in-cheek humor = I wasn't really serious
<Zn> = next time, zink before you post!
<Zr> = zircon-ium = so it wasn't a gem of wisdom, but it was free, wasn't it?

Example given: And in case you were wondering ... <Fe> (<W> if you prefer), and it's time for me to <Cs>, since this isn't <Ge> and I don't really want to <As>. <Ar>.

GRADUATES

James Davis -- teaching physics and mathematics at Sunnyvale Academy
Julie Gilkeson -- medical study at Loma Linda
Jason Wohlers -- staying on to study advanced quantum mechanics

What with having Justin Woody being graduated last year, James Nelson leave to work at Lucent Technologies this summer, and Jonathan Vigh leave for as a student missionary, one would think that we would be running out of "J"s. But no: Justin Stahl will be a sophomore; also, Jeremiah Weeks and Jonathan Geach are scheduled to start their freshman years.

WHAT WE HAVE HEARD FROM YOU

Dan and Jan-an Bartell, their wanderings temporarily over, are settled in Silicon Valley again. Son Jason is one of the authors of Photoshop software.

Richard Boskind's interesting web page can be found at www.boskinddevinc.com. [We are accumulating web page addresses for our "alumni."]

Doug Bredahl ... heard from [Thanks for the nice photo of your completing the Appalachian Trail!] but no additional news for this column.

Janene Burdick was married December 29, 1996. To whom? John Burdick IV! The branches of the family tree seem to converge in the 1600s. Janene is an administrative assistant to a brokerage firm. (adapted from "Southern Columns)

Rick Cavanaugh devoted some weeks of this summer to his work on the Aleph detector at CERN. The detector is crucial in the attempt to determine fundamental particle masses more accurately.

Earl Cornell completed his post-doctoral work and has been employed to develop faster instrumentation for the Human Genome Instrumentation Group of a biotechnology firm. The current sequencing rate of about 5 million bases per year is not adequate to achieve the 3 billion or so bases of one genome by the year 2000! [Note again the diversity of vocations for which SAU Physics alumni seem to be capable!] Ella Jane was born to Earl and Linda on March 19.

Rande Dager has completed his third year of teaching at Highland View Academy; Kathi is at work for the Review & Herald Publishing Association.

James Davis, graduated May 1997, has accepted a teaching position at Sunnydale Academy.

Bernard DeVasher continues his career as a certified RN anesthesiologist in Nashville and Ikey has her similar career.

Jerry Evans ... heard from [Thanks!] but no news for this column.

Ron Fox is researching some new ideas in relativity. He and Sharon are still enjoying their mountaintop cabin near Albuquerque.

David Hanon reported one of the first observations of Hale-Bopp from our area.

Brian Hartman ... heard from [Thanks!] but no news for this column.

Shandelle Henson has won a start-up research grant and was reappointed by the University of Arizona.

Pat Brenneman Jacobson ... heard from [Thanks!] but no news for this column.

Carl Jansen ... heard from [Thanks!] but no news for this column.

Cliff Keller has left West Indies College and is located in Louisville, KY. For the moment he is associated with the University in a receptionist position which, most incidentally, requires access to the University computers.

Robert Marsa has completed one year as a post-doc at the University of Texas at Austin.

Bill McKay renders expert opinions on medical files from his home office.

Bob McReynolds continues to run his rug-cleaning and computer-consulting businesses at Coos Bay, OR. Most of his time is devoted to Church responsibilities; Bob is approaching retirement.

Lucy Medford can be found at Hughes Information Systems, thinking about facial or other recognition systems for the Department of Immigration.

Rob Mills continues his 12-year practice for the Union Regional Medical Center in Monroe, NC. Rob serves on the Radiation Safety Committee.

Bill Mundy is serving on the Strategic Planning Committee for Pacific Union College. The Committee considers values, purposes, visions, and "big, hairy, audacious goals." "Whom does PUC serve? Can PUC provide an education to every student who desires it? How big should the school be? Should the enrollment be more selective? Can the school generate a \$100 million endowment for support? ... How will PUC maintain its spiritual identity in the future?" These and other questions are taken up, according to the winter, 1997, edition of ViewPoint, page. 19.

Jon and Lizzie Nash are in Mexico. Jon is in charge of the Telecommunications Department of the University at Morelia (web page, internet connection, remote learning, videoconferencing, etc.) and will do a little teaching on the side.

Ray Paden has joined PGS Tensor Company's parallel (computing) optimization group. The company does seismic modeling for oil exploration.

Carl Pedersen promises to visit now that daughter will be a student at SAU.

Ken and Suzy Priddy are in Minneapolis. Ken works at Fluoreware (which specializes in handling super-pure materials such as chip wafers) as a UNIX system administrator.

Scott and Nicole Puckett are in Knoxville. Nicole finished her masters in mathematics in last summer and taught mathematics as an adjunct professor this year. Scott took two classes in graduate engineering at UTK, worked as a research assistant in the Instrumentation and Controls Division at ORNL, and hopes to begin his masters thesis research in integrated circuit design.

James Robertson is involved in graduate study at the University of North Carolina, Asheville, being enrolled in one class this summer and planning on two this coming academic year. His teaching at Fletcher Academy will serve as the "student teaching."

Mary Ann Swayze, Don, daughter Meri, horse Onyx, and dog Blitz have moved to Clarion, PA. Mary Ann is managing the home and garden, trying out the greens, and scouting the antique malls.

Jonathan Vigh is an alumnus in the sense that he has departed to study meteorology on a campus which offers that major. However, he is devoting a year to student missionary work on an island in the Pacific before going on with his new major. Jonathan and his parents traveled extensively (e.g. in Russia) this summer.

Carol and Carroll Wheeler had their third little one in May of 1996. Carroll flies for Mears Transportation Company.

David Wheeler ... heard from [Thanks!] but no news for this column.

Harold White is a member of the Fitzgibbons Brothers law firm, which has the interesting e-mail address FITZIALAW (constructed from "Fitzgibbons" and from "L.A. Law").

Michelle Williams is a graduate student in mathematics at the University of Dayton (taking classes and also serving as a TA), cares for a foster child, volunteers at an urban ministry of area SDA churches, and has taken up distributing American humor on the internet.

Justin Woody has been in the process of completing his Microsoft and Novell certifications. He and a partner have begun a new business, Orion Computers. Take a look at their Web page!

FACULTY ACTIVITIES

Henry Kuhlman attended a workshop for astronomy teachers at the Sommers-Bausch

Observatory of the University of Colorado at Boulder. Along with presentations by active research astrophysicists, the two-week workshop in July introduced new computer simulations and modeling. The group of 22 college and university astronomy teachers visited Fiske Planetarium, also on the Boulder, campus, and had observing sessions locally and at a dark site in the Rocky Mountains.

Ray Hefferlin, Brad Davis (a former physics major now living in the Belmont, CA), and SAU physics sophomore Blake Laing had their article "The Learning and Prediction of Triatomic Molecular Data with Neural Networks" published in the Proceedings of the 1997 International Arctic Seminar. You will receive a copy presently. Finally, "Least-Squares and Neural-Network Forecasting from Critical Data: Diatomic Molecular r_e (internuclear separations) and ΔH_a (heats of atomization)," by the same three authors plus Jason Wohlers, physics graduate May 1997, has been accepted by the JAI Press as a chapter in the book "Advances in Molecular Similarity."

Ken Caviness attended a very serious conference on "Black Holes, Theory and Mathematical Prospects," held at Banff, from May 31 to June 4 this summer. The 19 presentations by experts in the field have rekindled his interest.

Dr. Chris Hansen is the lead author on two papers that have been published in Resonance Ionization Spectroscopy in the last couple of months: "Photon Burst Mass Spectrometry for the Measurement of ^{85}Kr at Ambient Levels," and "Three-Color Resonance Ionization Spectroscopy of Zr in Si."

Henry Kuhlman's comet viewing sessions at the church parking lot attracted approximately 100 people per week. The Service Department assisted by parking a large van in the line of sight to a very bright floodlight.

Kuhlman and a host of assistants and "sidewalk superintendents" have been involved in hanging and starting up the pendulum and its electromagnetic amplitude stabilizer.

Hansen has additional publications in process: Comments from reviewers of "Energy and Yield Distributions of Calcium Clusters undergoing 4 keV Ar+Ion Bombardment" are in and have been addressed so the paper is now in preparation for second (and probably final) submission. "Sputtering Products of Sodium Sulfate: Implications for Io's Surface and for Sodium-Bearing Molecules in the Io Torus" is now in press (Icarus).

Caviness runs an international internet-based course in Esperanto, discusses Departmental business in French, and studies Spanish on the side.