

# PHYSICS AT SOUTHERN

---

Volume 42, electronic issue #6  
January 28, 2001

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

---

(SAU logo here)

(Physics Dept logo here)

## A PERK FOR READERS

It's somewhere in this issue!

## A LOOK BACK

Bignall Joins Faculty  
Physics at Southern, vol. 34, #1  
January, 1993

Dr. Orville Bignall has joined the Physics Department after successfully defending his doctoral dissertation at Florida State University. His arrival culminates a six-year search for just the right person to fill out the understaffed Physics Department at the College. The College and the Department are most fortunate to have a person of Dr. Bignall's caliber join the staff: he has had numerous offers to serve elsewhere. He chose to return to SC "because it is a place where more than a course of subjects are molded for a more noble cause."

Dr. Bignall's thesis concerned his experimental work on the infra-red spectroscopic determinations of vibrations in small molecules. Of this defense he says "The thought struck me that I am summarizing, in two hours, the last ten years of my life!"

Dr. Bignall's talent for experimental design will enable the Department to offer more laboratory experience, and the small-molecule topic will fit in well with the Departmental research program. He has had years of tutoring and teaching experience, gained during his college and his graduate-school years.

Dr. Bignall was graduated from Southern College, with a Bachelor's degree in Physics, in May of 1986. He began his graduate studies in Physics at Florida state University immediately thereafter. During his undergraduate years at Southern College, he worked several jobs (including regular shifts at the McKee Baking Company and working in the Physics Department) to defray his educational expenses and pay family expenses, while at the same time maintaining an excellent level of academic achievement.

Dr. Bignall was born and was given his early education in Jamaica, where his circumstances were very humble. The family came to Maples, FL, in 1981, and then he began his college years at Southern College. It was then that he was married to Seliene. As a student, Seliene was well known as an accomplished tutor, and she participated in the operation of the Campus tutoring ("Teaching-Learning") center. The Bignalls have two children, Ray (named after the Department Chairman), and Elissia.

## PHYSICS WEB SITE

Incremental updates are being made to the site. For example, when you click on some links, a new page is created. Class schedules for this semester are being put on the site so you can see who is teaching what and can empathize with the students who must (should) do the homework.

### ANOTHER SAU STUDENT CO-AUTHORS PAPER

Myla Thomas Matus is coauthor of an article entitled "Molecular Similarity for Small Species: Refining the Isoelectronic Index," to appear soon in the Journal of Chemical Information and Computer Science.

The publication process is a portent of the future: the article has already been published on the Web, with what is its official publication date, even though the print version will not appear for from seven to 11 weeks.

Four non-students and numerous students contributed indirectly to the article and are acknowledged. The students are Rick Cavanaugh, Chris Carlson, Brian Hartman, Katie Linderman, and Robert Marsa. Others who were involved were listed in the previous article on which this one is built.

The subject is a tendency of molecules with similar numbers of electrons to be similar. Traditionally, such series of molecules are called isoelectronic. The two articles discuss different series, i.e., those that are isoelectronic in the adjacent-Diatomic-in-Molecules model (a model where any molecule is replaced by a superposition of diatomic molecules, each of which exists where two adjacent atoms are bonded). Thus, the linear molecule OCO (carbon dioxide, which becomes OC + CO according to this model) is isoelectronic with FBF (which becomes FB + BF according to this model). However, in the traditional sense OCO has 16 valence electrons and FBF has 17.

You, the privileged recipients of *Physics at Southern*, are given the first opportunity to download the article. If you are interested, please download it. If you are not so interested, then please don't download it because the URL will shut down after 50 hits ("electronic reprints"). Please don't share the URL with anyone else for this reason. Thank you.

The download will arrive in Adobe PDF format. If you don't have a plug-in, a free version is available at <http://www.adobe.com>. The URL is

<http://pubs.acs.org/reprint-request?ci000070p/k5wF>.

This is the perk, if you are really "interested." You get to see how scientific publishing is moving into virtual journals. Having the publication of an article be its appearance on the Web edition is amazing!

## PERSONALS

~ Gary and Stella Bradley are expecting!

~ Ken and Lisa Gano have a second young one!

~ Lucia Medford works for Logicon in Florida. She is Systems Engineer on a huge joint military services simulation and training development

project.

~ Carroll is flying for American Eagle with home base being Chicago. Carol looks after the three children, volunteers at Church and at school, and helps with extended family.

### **QUOTE**

An expert is a man who has made all the mistakes, which can be made, in a very narrow field.

-- Bohr, Niels Henrik David (1885-1962)  
[Thanks to Ted Ashton]

### **THE LAST LAUGH**

"There is a theory which states that if ever anybody discovers exactly what the Universe is for and why it is here, it will instantly disappear and be replaced by something even more bizarre and inexplicable. There is another theory which states that this has already happened."

-- Douglas Adams  
[Thanks to Julie Gilkeson]

(Dr. Hefferlin is solely responsible for everything except the last two items in this issue.)