SOUTHERN OHIO SECTION/AAPT
Minutes of the Business Meeting held April 28, 1990
Herrick Hall, Denison University; 12:00-12:30 p.m.

PRESIDING: William Dollhopf

MEETING ITEMS INCLUDE: 1. There was a review of the minutes of the Executive Committee meeting held February 17, 1990 at Wittenberg University.

2. Robert Teese made a Treasurer's Report. We have approximately $1100.00 in our account, with income continuing to offset expenses. We have about 100 members.

3. James Poth made a Section Representative's Report. He announced the following:

a. Jack Wilson will be leaving AAPT in July. A search is underway for his replacement.

b. It was suggested that the name AAPT, be changed to AAPE, "E" for Education. No action has been taken on this matter yet.

c. The APS has withdrawn from the Winter Meeting. As a result, the AAPT is changing to a three meeting a year schedule. The next Winter Meeting will be a joint meeting with the Texas Section/AAPT. The following winter is when the new meeting schedule will start. The "new" January Meeting has no set format yet, it will be held in a hotel, and it may be a joint meeting with other organizations. The April Meeting will be a joint meeting with the APS, always located in the Washington, D.C. area. The August Meeting will have the same format as the current Summer Meeting.

4. There were no Vice-president's Reports.

5. It was announced that the Physics Prize Contest will once again be given this year. Dwight Portman at Greenhills High School is running the contest this year. An announcement has gone out advertising the contest.

6. Two by-law changes were voted on.

a. The first change would make the editor of the "Dialog" a member of the Executive Committee. It was felt that the editor should be informed as to what was taking place at this level. The question was raised as to whether former past-presidents would still be invited to attend the Executive Committee meetings. The answer was that this tradition would be continued, though not officially recognized in the by-laws. The change was seconded and passed unanimously.

b. The second change to the by-laws would make the term of the Section Representative a three year term instead of one. It was felt this was important if our section representative was to have any influence at the national level. After discussing the change, a straw poll was taken to see how people felt about the position of Section Representative being filled by the same person term after term. The poll

indicated that those present felt this position should be filled by someone new regularly, if possible. The change was seconded and passed unanimously.

7. The election of officers was held. The following members were nominated:

President elect-Ron Monnier
Treasurer-David Traxler
Secretary-James Sullivan
Section Representative-James Poth
Vice-president for Four Year Universities-Steven Yerian.

There were no other nominees. William Dollhopf moved that this slate of candidates be elected. Gordon Aubrecht seconded the motion. The slate of candidates was elected unanimously.

8. It was announced under "Old Business" that the judging for the State Science Fair had taken place last week. The quality of the exhibits was good, though more judges would make the judging go more efficiently. We agreed to continue this activity in order to encourage students to keep up the good work.

9. We then discussed future meeting plans. The list of meetings includes:

Fall, 1990-This meeting will be held October 13, 1990 at OMI College of Applied Science. James Sullivan will be the chairperson. At this time there is no theme, but invited speakers are being lined up. More information will be forthcoming.

Spring, 1991-OS/APS and the Appalachian Section/AAPT are already planning to meet jointly at Ohio University in Athens, OH. It was moved that we meet with these groups, at this time. The motion was seconded and passed unanimously.

Fall, 1991-The possibility of meeting jointly with the Ohio Section/AAPT at this time is being investigated. The meeting would be held somewhere Columbus and Mansfield, OH.

Spring, 1992-A request was made of everyone, to consider hosting this meeting. It was suggested that we consider holding the meeting at a high school this time.

10. It was announced that the Executive Committee will meet before the Fall Meeting at a time and place to be announced.

11. The meeting was adjourned.

Submitted by,

Edward Sunderhaus

Edward Sunderhaus
Past SOS/AAPT Secretary

The Dialog

September, 1990

A Publication of the Southern Ohio Section of the American Association of Physics Teachers

FALL MEETING IN CINCINNATI

by Jim Sullivan

The fall meeting of the Southern Ohio Section of the AAPT will be held on Saturday, October 13, 1990 on the campus of the OMI College of Applied Science of the University of Cincinnati. The OMI College of Applied Science (OCAS) moved to its "new" Victory Parkway campus-the former campus of the Edgecliff College-in June of 1989 and we really hope to show you this picturesque location. In general, the campus is located on a hill overlooking the Ohio River approximately 3 km east of downtown Cincinnati-specific dirving directions appear elsewhere in this edition of The Dialog.

Most will agree that the meeting is packed with interesting items. Letters have been sent to nearly thirty commercial vendors. As of press time (mid-August) many have committed to a presence at the meeting and have offered door prizes.

The agenda should stir the spirit of every red-blooded physics teacher. First, the Tri-State Physics Teachers have agreed to meet with us. You will have an opportunity to see one of their interesting and informative meetings first hand. These are quite informal so if you have a brief demonstration, question, or comment bring it along to share with others.

Our own Gordon AUbrecht will lead off the invited papers with a discussion of the greenhouse effect. We all know Gordon's excellent Energy book (you might ask him to autograph your copy) but you may not know that he has given invited papers on this topic on two other continents-Europe and Asia-and now will have him all to ourselves for this brief time.

Jim Marquardt of OCAS will give a demonstration of the DERIVE software package. He is a coauthor of a nationally acclaimed workbook which uses DERIVE to teach mathematics and is extremely interested in excellent physics teaching.

Jim Everly (OCAS) has spoken on the interplay between the electromagnetic fields of the earth and the sun to groups as diverse as the IEEE and the ARRL. I was surprised to find the many different types of physics which creep into this topic.

Dave Blackman will probably get the distance award at this meeting-he is visiting us all the way from the Unversity of California at Berkley. He gave an extremely well-received talk on right/left brain functions in the physics laboratory at the recent AAPT national meeting in Minneapolis. He plans to take those ideas a step or two further in his presentation to us.

Most of us already know Richard Harris of UC and Kelvin Trefz of OSU-each has a national reputation as a fantastic lecture demonstrator. They have agreed on this occasion to share the stage as they "ooh and awe" us with the magic that is physics.

Roger Rollins of Ohio University is the author of Chaotic Dynamics Workbench, one othe the Physics Academic Software packages. Physics Academic Software is a project of the American Institute of Physics (AIP), in cooperation with the AAPT and APS. We are indeed fortunate that he hàs agreed to join us for this meeting.

Gordon Aubrecht (OSU) will offer the workshop on computer use in the classroom. Bill Ploughe (OSU) and Kelvin

Trefz (OSU) will take measurements from videotapes in their workshop-they will bring some old favorites but many of the tapes will be made that afternoon. Ken Metz will lead the tour of OCAS for those interested in such things as the specialized laboratories and shops in a modern technical college.

Several commercial restaurants are available north of the campus within walking distance (1/2 km). Box lunches will be available for $5.00 each and will consist of a sandwich (your choice of roast beef, turkey, or ham & cheese). salad, a piece of fruit, cookies, and choice of beverage. These box lunches will have to be ordered from me by Friday, October 5th-don't forget to specify the type of sandwich. If you have special diet requirements please contact me as soon as possible so appropriate arrangements can be made.

Oh yes, plan to give a contributed paper at this meeting-it's fun and easy. The SOS/AAPT is a perfect forum for you and/or your students to present your work. See the call for papers article elsewhere in The Dialog. While exact information is, of course, not available yet, rumor has it that papers dealing with earthquake engineering and the an historical look at boiler explosions are being prepared.

Editor's Note

Mike Grote

This year I have taken a partial leave of absence from high school teaching. I will be completing the residency requirement for my doctoral program at the University of Cincinnati. (To make things even more busy, IBM dropped twenty networked computers into my high school classroom for a ninety day trial.) I have been learning that some important research is going on in physics education. I am sharing some of that in a later article in this issue and hope to do so in the future as well.

1990 Physics Prize Contest

by Dwight Portman

The 1990 SOS/AAPT Physics Prize Contest was a success. 222 students from 17 high schools participated in this year's contest. This year's top scoring student was Neil Stafford from Mariemont High School in Cincinnati, Ohio. Adam Stevenson from Dublin High School finished second. The top scoring school with 5 or more students participating and having the top five scores was Dublin High School, Dublin, Ohio.

Neil received a special certificate honoring him as the top scorer and both he and Adam received a copy of Flying Circus of Physics. Dublin High School received a plaque.

I am currently compiling questions for the 1991 Physics Prize Test so that it will be ready for earlier distribution in April or May of 1991 and I would like to use this note to ask all of you to submit questions for the test. Send 2 or 3 questions to me by March 1, 1991. Several of you expressed interest in having a list of formulas on the test. What do the rest of you think? Let me hear from you. I would also like to encourage more of you to participate with your students in the 1991 test. More information on ordering the tests will be available in the next Dialog. Send your test questions and comments to: Dwight Portman, Vice President for High Schools, SOS/AAPT, Greenhills High School, 147 Farragut Road, Cincinnati, Ohio 45218-1492. Phone (513) 825-7662.

The Dialog is Published at Mariemont High School, 3812 Pocahontas Avenue, Cincinnati, Ohio 45227. Editor: Mike Grote. Correspondence regarding The Dialog including articles should be sent to Mike Grote at the above address.
560 copies of this issue were printed and distributed.

Seasons Greetings!

by Bill Dollhopf, President SOS/AAPT

Misty mornings and dusky evenings herald the coming of a new year. Ready or not, academic year 1990-1991 is upon us. Courses, class lists, and committees are poised for an assault, and the slower pace of the summer is quickly forgotten. One of the joys of the summer which I particularly savor is reading some of those books for which there just seems to be no time during the school year.

One book which I found particularly fascinating was Eric Chaisson's The Life Era. I highly recommend it to you. It includes an excellent verbal description of the second law of thermodynamics and presents an interesting thesis regarding the evolution of the universe. Chaisson traces this evolution from its origin to the current state, identifying three eras. The first was the radiation era. During this time electromagnetic radiation (high energy "light") dominated. Particles would form and annihilate but could not bind due to the high energy of the radiation. The universe at this time was a hot plasma.

Then matter arose. As the universe expanded (cooled) the radiation was weakened due to the Doppler shift which reduced its energy. The matter which remained after the particle/antiparticle annihilation was now able to coalesce into hydrogen atoms with a small amount of helium. Now the great structures which we can observe even today began to take form. This included stars, galaxies, and even planets. FInally, as the stars themselves evolved, heavier elements were produced and with that, complex molecules became possible.

Complex molecules form the basic building blocks for life, and it was at this time that the various life forms evolved, and thus we are now on the threshold of the life era. Chaisson points out that we are now on the threshold of the life era. Chaisson points out that the first era was radiation dominated, and the second era was particle dominated. Will life forms now dominate the universe? Will biological systems evolve to the point where they can utilize the energy of a star? Will they continue until they are able to dominate a whole galaxy? Of course, this is not known. Life, intelligent life in particular, is still a very fragile entity. If we are to move beyond the threshold, Chaisson suggests certain things must happen, one being better education for all individuals, particularly in science. He continues by saying that in one sense this is fortuitous because science is taught worldwide. However, in another sense, this is a problem because scientists are usually very poor teachers.

Now you begin to see why I mentioned this book. We are physics teachers, concerned about excellence in science teaching. Does the fate of the Life Era rest in your hands? Who knows for sure, but the answer would appear to be yes, at least in part.

How can we enhance physics education, a discipline which some seem to disdain and others despair? The answer to this question is the heart of what we seek to do in SOS/AAPT. What specific suggestions can you share with the section? Rather than sharing some of my own specific suggestions, let me make a general observation: Physics education will be enhanced is we enjoy physics, enjoy others company, and are willing to share our experiences. Come to the fall meeting and participate; middle school, high school, college teachers and students. There will be something for each of you and your participation is needed.

Minutes from the Spring Meeting

by Ed Sunderhaus

Presiding: William Dollhopf

Meeting Items Include:

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3. James Poth made a Section Representative's Report. He announced the following:

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(Continued on page 7)

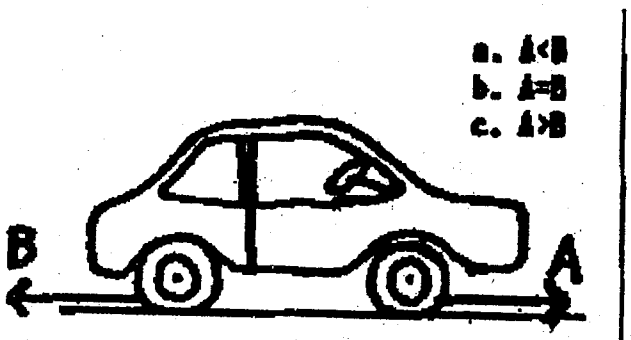
Physics Students: You've Got to Clean 'Em Up Before You Can Fill 'Em Up!

by Mike Grote

Some concepts in physics seem difficult to successfully teach. Do you wonder if some students will ever learn that a table exerts a force upon a book laying on it? Even though most may be eventually able to tell you this on a test, will they really believe it? Research studies have shown that students have many wrong ideas about basic physics concepts, even though they may have earned top test grades in the course. I have seen students who have had great difficulty understanding physics. It would be easy to dismiss them as being inattentive to their studies. After all, I did demonstrations, discussed the ideas, showed transparencies, and assigned them reading and homework. There are students, however, who despite their good efforts just don't seem to understand physics.

During the last ten years, considerable research has been done on what are known as science misconceptions. Students do not come to us as a blank slate. They already have ideas about how physical objects behave, and they have explanations for the behavior. These naive ideas are very difficult to change.

Ask your beginning physics students this question: What is the relationship between forces A and B if the automobile in the diagram is moving at a constant speed? Before you teach Newton's laws you'll probably find that around 15% answer correctly. Ask the question again after you have taught Newton's laws in the regular way, and you'll



probably find that about 40% will still miss the question[11].

In a drawing of a book resting on a table, ask students: "Discuss the forces in this diagram." Most students will probably say that the force of gravity is acting on the book or the book is exerting a force on the table. Even after teaching Newton's third law, many will still not list the force of the table on the book. Don't feel badly. The research has found large numbers of misconceptions among students who completed the introductory physics course at MIT!

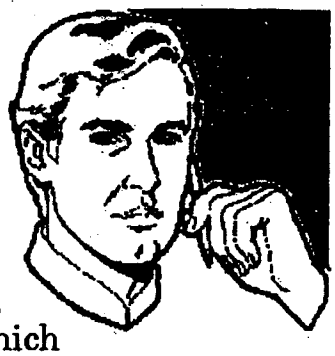
One technique which shown success in controlled studies is to build on anchors. An anchor is a concept the student already has which corresponds with a correct physics concept. A good anchor for the book on the table situation is to ask the student about the forces involved when a book is placed on a spring. Studies have shown that about 80% of the students will correctly recognize two forces in this example, the force of the book on the spring and the force of the spring on the book. Even students who do not recognize this on their own are easily convinced with some explanation. Students will generally

not, however, see how this relates to the book on the table. A useful strategy is to attempt to find an intermediate third case to bridge the gap between the spring and the table examples. An appropriate analogy might be a flexible board. The teacher can then describe a microscopic model of a rigid object as being made up of molecules connected by spring-like bonds. Try reflecting a laser beam off a reflective film attached to the desk while you stand on the desk and step off to complete the lesson[4].

Not all anchors are equally successful. Clement, Brown, and Zietsman[7] developed a diagnostic test which asked students about various prospective anchors and the student's certainty of them. Surprisingly, only 22% of the students were confident that the wall exerts a force on your hand if you punch it. That would probably not be a great choice for an anchor since 78% of the class do not believe it.

David Brown[5] found that most students view forces as a property of objects rather than as arising from the interaction of two objects. His study indicates that quantitative success with forces doubles when students are aware that forces arise from interactions.

Unfortunately, most textbooks say very little about the third law. It deserves to be a significant part of the unit on forces. Textbooks have been shown to be helpful in correcting misconceptions when they contrast the correct concept with commonly held misconceptions during the explanation. In a study[3] which compared two passages of equal length on Newtonian mechanics, the passage which contrasted Newtonian mechanics with Aristotelian ideas (which correspond to common misconceptions) was considerably more effective in teaching students than a passage which simply discussed Newton's laws.



Discussion was found to be an important component of changing students' misconceptions in a number of studies[8,9,10]. Students need to try to apply their misconceptions in situations where they fail. The physicist's conception which works can then be substituted in the student's mind.

In Germany[11], teachers are given a seven point plan to help students assimilate correct conceptions. 1. Ensure that students are aware of their preconceptions. 2. Allow them to make their ideas explicit and test them. 3. Confront them with situations where their preconceptions cannot be used as an explanation. 4. Let students become aware of this conflict. 5. Help them to accommodate the new ideas presented to them. 6. Make them conscious of the fact that their new knowledge is more powerful than their previous ideas. 7. Give them the feeling of progressing, of growing in mental power. Help them develop confidence in themselves and their abilities.

As teachers we need to be aware that we are not filling empty vessels with knowledge. There is already knowledge there, and it can interfere with what we are trying to teach. Some techniques have been offered, but research still needs to be done. It would be useful for teachers to keep a record of solid anchors, correct concepts which most students already have.

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2. Terry, C., Jones, G., and Hurford, W., "Children's Conceptual Understanding of Forces and Equilibrium," Physics Education, v20:162-165, 1985.

3. Hynd, Cynthia and Alvermann, Donna, "The Role of Refutation Text in Overcoming Difficulty with Science Concepts," Journal of Reading, v29:440-46, February, 1986.

4. Clement, John, "The Use of Analogies and Anchoring Intuitions to Remediate Misconceptions in Mechanics," A paper presented at the Annual Meeting of the American Educational Research Association, Washington, D.C., April 20-24, 1987.

5. Brown, David E., "Students' Concept of Force: The Importance of Understanding Newton's Third Law," a paper presented at the Annual Meeting of the American Association of Physics Teachers, Crystal City, Virginia, January, 1988.

6. Brown, David E. and Clement, John, "Overcoming Misconceptions via Analogical Reasoning; Factors Influencing Understanding in a Teaching Experiment," a paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, March 27-31, 1989.

7. Clement, John, Brown, David E., and Zietsman, Aletta, "Not All Preconceptions are Misconceptions: Finding Anchoring Conceptions for Grounding Instruction on Student's Intuitions," a Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, March 27-31, 1989.

8. Champagne, AUdrey and Klopfer, Leopold, "Naive Knowledge and Science Learning," a paper presented at the Annual Meeting of the American Association of Physics Teachers, New York, January 24027, 1983.

9. Gunstone, Richard F., "Some Long Term Effects of Uninformed Conceptual Change," a paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, April 5-9, 1988.

10. Chee, CHia Teck, "Misconceptions Concerning Laws of Motion, Frictional Force, and Work DOne among Students of Different Abilities at Upper Secondary Level," ERIC Report-Research/Technical, 1989.

11. Van Hise, Yvette, "Student Misconceptions in Mechanics: An International Problem," The Physics Teacher, v26:498-502, November, 1988.

SPRING MEETING (CON'T)

activity in order to encourage students to keep up the good work.

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Fall, 1990-This meeting will be held October 13, 1990 at OMI College of Applied Science. James Sullivan will be the chairperson.

Spring, 1991-OS/APS and the Appalachian Section/AAPT are already planning to meet jointly at Ohio University in Athens, Ohio. It was moved that we meet with these groups. The motion was seconded and passed unanimously.

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Spring, 1992-A request was made of everyone to consider hosting this meeting. It was suggested that we consider holding the meeting at a high school this time.

10. It was announced that the Executive Committee will meet before the Fall Meeting at a time and place to be announced.

11. The meeting was adjourned.

Historical Department

Ed Sunderhaus is still longing to complete his collection of old issues of The Dialog and back issues of The Physics Prize Test. If you can help Ed out, his address is Cincinnati Technical College, 3520 Central Parkway, Cincinnati, Ohio 45223.

Correction Department

The following should have been part of Jim's minutes on the last page of this issue

President Dollhopf requested ideas on how the SOS/AAPT might get more industrial support - either general support or assistance with specific projects. President Dollhopf will approach persons to act as an ad hoc committee to study this problem.

ADVANCED REGISTRATION FORM

SOS/AAPT 1990 FALL MEETING

OMI COLLEGE OF APPLIED SCIENCE
of the UNIVERSITY OF CINCINNATI

SATURDAY, OCTOBER 13, 1990

NAME_____

AFFILIATION_____ PHONE( )_____

ADDRESS_____

_____ ZIP_____

( ) SOS/AAPT Annual Dues	$5.00	_____
( ) SOS/AAPT Student Dues	$2.00	_____
( ) SOS/AAPT Retired Membership		No Fee
( ) Member SOS/AAPT Oct 13th Registration Fee	$5.00	_____
( ) Student SOS/AAPT Oct 13th Registration Fee		No Fee
( ) Retired SOS/AAPT Oct 13th Registration Fee		No Fee
( ) Box Lunch, specify sandwich choice below	$5.00	_____
____Roast Beef ____Turkey ____Ham & Cheese		
( ) Workshop, Computers in the Classroom		No Fee
( ) Workshop, Using Videotapes in Lectures and Labs		No Fee
TOTAL		_____

Please note that there are limits to the number of participants in each of the workshops. They will be filled on a "first registered - first served" basis.

Payment must be received by Friday Oct 5 for all lunch orders.

Checks should be made payable to "UNIVERSITY OF CINCINNATI" and returned with this form to

James F. Sullivan
OMI College of Applied Science
2220 Victory Parkway
Cincinnati, OH 45206

CALL FOR PAPERS

by Jim Sullivan

Be certain you and your students don't miss the chance to give a contributed paper at the October 13th SOS/AAPT meeting. Normal presentation time is 10 minutes followed by a 5 minute question period. Overhead projectors and chalkboards will be available in the rooms but you will have to request and/or provide other AV devices (e.g. slide projectors, computers, etc.). Be certain your abstract in APS format arrives by Friday October 5th. Send it to

James F. Sullivan
OMI College of Applied Science
2220 Victory Parkway
Cincinnati, OH 45206
Phone: (513) 556-4872

If you are not certain of the exact format simply send me the title, your name and institution, and a brief description of the content of your talk and I will be happy to organize it for you. If you are afraid that I will edit the life out of your abstract, contact me in advance and I will send you directions on how the abstract should be prepared. All abstracts will be published in a future edition of The Dialog.

NEWS FLASH: Due to the generosity of Fritz Kryman, the Dean of the OMI College of Applied Science, anyone giving a contributed paper at the SOS/AAPT meeting on October 13, 1990 will not have to pay the $5.00 meeting registration fee. Simply write "ABSTRACT SUBMITTED" in the appropriate blank space on the registration form. Don't forget, your paper does not have to be totally earth-shattering - something you are working on or a technique you use in the classroom can be quite interesting to others. Wow, I only hope that there are enough rooms in the college for all the contributed papers we will now have. Send your abstract in early to take advantage of this offer!

PRELIMINARY SCHEDULE FOR FALL MEETING

SATURDAY OCTOBER 13, 1990

8 am - 1 pm REGISTRATION

8:30 am - 4 pm COMMERCIAL EXHIBITS

9 - 10 CONTRIBUTED PAPERS

10 - 11 TRI-STATE PHYSICS TEACHERS SESSION, T.Toepker (XU) presiding

11 - 11:45 G.Aubrecht (OSU), Using the Greenhouse Effect to Teach Physics

11:45 - 12:30 PARALLEL TALKS:
J.Marquardt (OCAS) - If You Find That Mathematics is Drudgery, Try Derive (TM), A Mathematical Assistant
J.Everly (OCAS) - Sunspots, Solar Flares, and Geomagnetic Storms
D.Blackman (Berkeley) - Split Brain Function and Its Implications for Curriculum Development

12:30 - 1:30 LUNCH

1:30 - 2:10 LECTURE DEMONSTRATION SESSION, R.Harris (UC) & K.Trefz (OSU)

2:10 - 2:45 R.Rollins (OU), Basic Chaos: An Introduction with Computer Simulations

2:45 - 3:00 SOS/AAPT MEETING (door prizes)

3:00 - 5:00 PARALLEL SESSIONS - WORKSHOPS and TOUR:
G. Aubrecht (OSU) - Computers in the Classroom
W. Ploughe (OSU) and K. Trefz (OSU) - Using Videotapes in Lectures and Labs
K. Metz (OCAS) - OCAS Tour

OMI COLLEGE OF APPLIED SCIENCE
University of Cincinnati
2220 Victory Parkway
Cincinnati, OH 45206

FROM THE SOUTH (TWO ROUTES):
Follow I-75/I-71 north. Stay on I-71 north after crossing the Ohio River. Shortly after passing Riverfront Stadium, take the Columbia Parkway (east US-50) exit. Follow Columbia Parkway approximately 1 mile to the first traffic light (Kemper). Turn left onto Kemper and follow "FINAL APPROACH" below.

Follow I-471 north. Immediately after crossing the Ohio River, take the Columbia Parkway (east US-50) exit. Follow Columbia Parkway approximately 1 mile to the first traffic light (Kemper). Turn left onto Kemper and follow "FINAL APPROACH" below.

FROM THE WEST:
Take I-74 east to I-75 south. Follow the directions for "FROM THE NORTH (VIA I-75)" below.

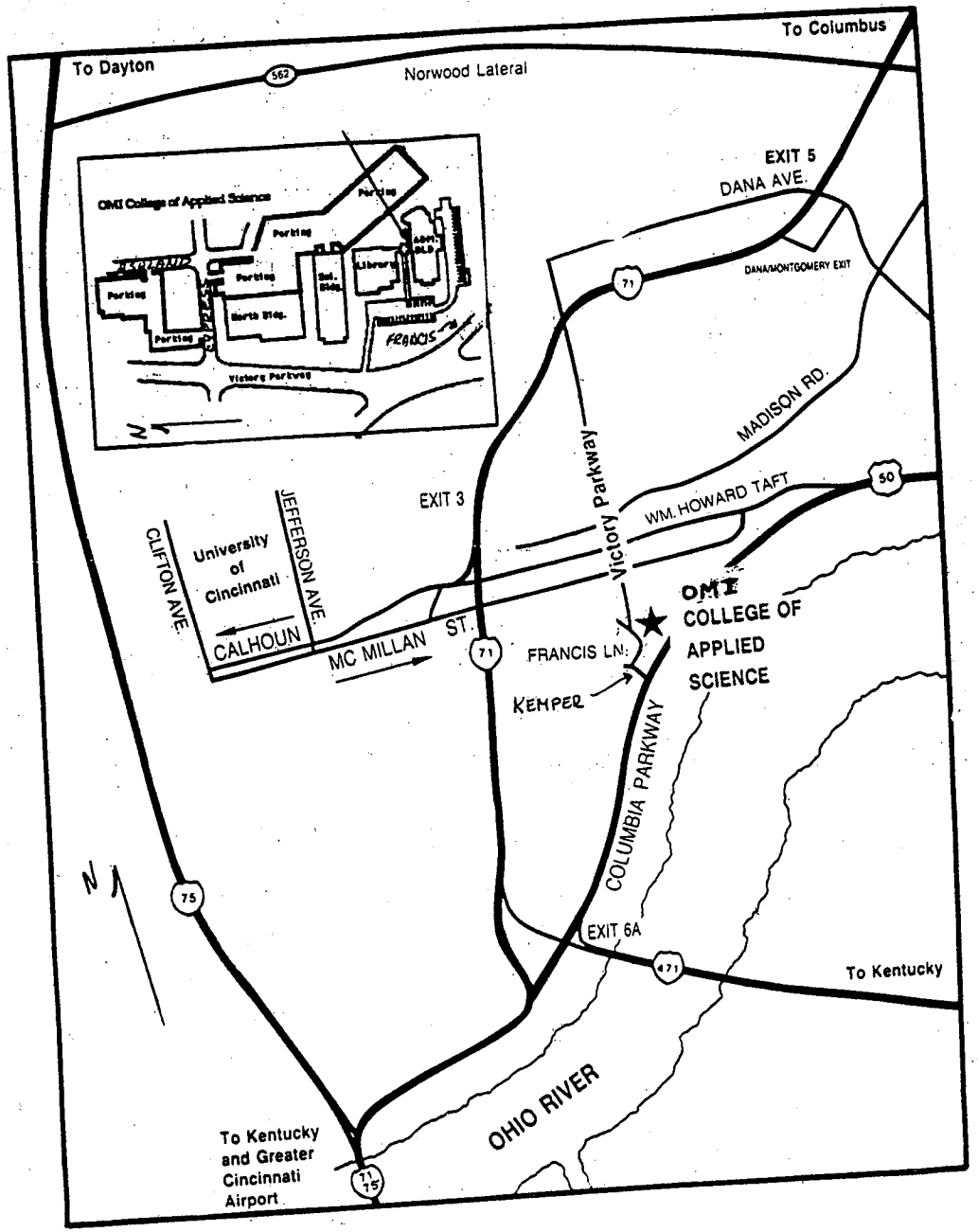
FROM THE NORTH (VIA I-75):
From I-75 southbound take the exit for I-71 northbound (this exit is about 1 mile north of the Ohio River. Shortly after passing Riverfront Stadium, take the Columbia Parkway (east US-50) exit. Follow Columbia Parkway approximately 1 mile to the first traffic light (Kemper). Turn left onto Kemper and follow "FINAL APPROACH" below.

FROM THE NEAR EAST (WITHIN THE I-275 LOOP):
Follow Columbia Parkway westbound to Kemper. Turn right onto Kemper and follow "FINAL APPROACH" below.

FROM THE FAR EAST (OUTSIDE OF THE I-275 LOOP):
Take I-275 south (yes, into Kentucky). Follow I-471 north. Immediately after recrossing the Ohio River, take the Columbia Parkway (east US-50) exit. Follow Columbia Parkway approximately 1 mile to the first traffic light (Kemper). Turn left onto Kemper and follow "FINAL APPROACH" below.

FINAL APPROACH (for all routes above):
Travel a few hundred meters on Kemper. At the first intersection make a (sharp) right - this is Francis Lane. Follow Francis Lane up the hill to the stop sign at Victory Parkway. As you pull onto Victory Parkway the college will be on your right. If you don't see a parking space in the front parking lots, continue on Victory Parkway and turn right on the first street - this is Cypress. Both of our back lots are visible from the next intersection (Cypress and Ashland).

FROM THE NORTH (VIA I-71):
Exit I-71 southbound at exit 5 (Dana Avenue). Turn left on Dana Avenue to Madison. Turn right on Madison to Victory Parkway. Then turn left on Victory Parkway and the college will be on your left side after about 1/2 mile.



APS HIGH SCHOOL PHYSICS TEACHERS' DAY

By J.F.Sullivan
SOS/AAPT Secretary

The 32nd annual meeting of the Division of Plasma Physics of the American Physical Society (APS) will take place November 12-16, 1990 in Cincinnati. A high school physics teachers' day is planned in conjunction with this meeting. A similar program was offered last year in Anaheim, California that focused on topics involving fusion and physics alliances and, by all reports, was a big success.

There will be a limit of approximately 60 participants. Formal announcements and forms should be directly mailed to all appropriate SOS/AAPT members (and members of other nearby sections) by the APS in the near future. The forms will have to be returned to APS by mid-October. If you wish further information please contact

Dr. Don Correll, L-481
Lawrence Livermore National Lab
P.O. Box 5508
Livermore, CA 94550
Phone: (415) 373-0778

More information should also be available at the SOS/AAPT meeting on October 13th.

MINUTES OF EXECUTIVE COMMITTEE MEETING

Denison University
Granville, Ohio
Saturday April 28, 1990

At the conclusion of the regular section meeting of the Southern Ohio Section of the American Association of Physics Teachers (SOS/AAPT) the Executive Committee convened in the side dining room of the Denison University cafeteria. Those present were R. Cunningham, W. Dollhopf, P. Haglberg, W. Kuhlman, J. Poth, J. Sullivan, E. Sunderhaus, and R. Teese.

It was determined that while outgoing secretary Ed Sunderhaus was responsible for the minutes of the just-completed regular meeting, newly-elected secretary Jim Sullivan would prepare the minutes of this Executive Committee meeting.

President Dollhopf (with the possible assistance of Secretary Sullivan) will redetermine the exact geographical boundaries of the section. President Dollhopf will contact officers from other sections to be certain that no ambiguities exist. He will also discuss possible solutions to any such problems with interested parties and report to the Executive Committee at its next meeting.

The financial report was distributed by Treasurer Teese. Our income was basically equal to our expenses during the past year. Our principal source of income is dues, while our major expense is The Dialog.

The Executive Committee reaffirmed its desire to meet with the Ohio Section of The American Physical Society (OS/APS) whenever that group met in the geographical area of the SOS/AAPT. At the regular meeting on this day the SOS/AAPT membership had also unanimously accepted an invitation to meet jointly with OS/APS and the Appalachian Section / AAPT on April 19-20, 1991 at Ohio University in Athens, Ohio. A listing of some future meetings of OS/APS follows:

- Spring,'91: Ohio University, Athens, OH
- Fall,'91: Wright State - Air Force Institute Of Technology, Dayton, OH
- Spring,'92: University of Cincinnati, Cincinnati, OH
- Fall,'92: Belind Campus of Penn State University (outside of SOS/AAPT area)
- Spring,'93: Liquid Crystal Institute at Kent State University (outside of SOS/AAPT area)
- Fall,'93: John Carroll University (outside of SOS/AAPT area)

Locations for the three SOS/AAPT meetings from Fall,'92 through Fall,'93 must be determined. If anyone wishes to volunteer please contact any Executive

Committee member. The thought was expressed that it would be a good idea if some future meetings would be held at high schools.

The question of how to attract more members (especially our high school teachers) was raised. The ideas discussed involved more physics demonstrations, workshops, and laboratory tours at SOS/AAPT section meetings. Possible CEU credits for SOS/AAPT participation was mentioned. Also the possibility of a free meeting registration for persons who first join the section at that time. In general, it was felt that we must be certain that our high school members realize that they are professional colleagues in the SOS/AAPT.

The next Executive Committee meeting will be called by President Dollhopf in late August or early September.

Respectfully Submitted,
James F. Sullivan,
SOS/AAPT Secretary

Southern Ohio Section / AAPT
OMI College of Applied Science
University of Cincinnati
2220 Victory Parkway
Cincinnati, OH 45206

MEMBERSHIP FORM
SOUTHERN OHIO SECTION / AAPT

NAME_____

TITLE_____

INSTITUTION_____

ADDRESS_____

_____

PHONE ( )_____

CHECK ONE:

___NEW ($5) ___STUDENT ($2)

___RENEWAL ($5) ___RETIRED (FREE)

Mail with payment to:

David E. Traxler
Moeller High School
9001 Montgomery Road
Cincinnati, OH 45242

Make checks payable to
"SOUTHERN OHIO SECTION / AAPT"

92 -6-9
93 - 3-7

AGENDA

SOS/AAPT Executive Committee Meeting

October 13, 1990 at OCAS

I. Call to order

II. Reports of officers

A. Secretary	Jim Sullivan
B. Treasure	Dave Traxler
C. Section Representative	Jim Poth
D. V.P. High Schools	Dwight Portman
E. V.P. Two Year Colleges	Bob Cunningham
F. V.P. Colleges	Steve Yerian

III. Thank-you note

IV. Spring meeting (April 19-20, 1991)
- A. Liaison?
- B. How can we encourage some active participation?
- C. Special arrangements with Appalachian Section?

V. Future Meetings - Spring '92 OS/AAPT
- A. Fall '91 - WSU/AFIT ?
- B. Subsequent meetings??
  - OS/APS is out of the area until after Fall '93
  - Involve a H. S. host? Early spring meetings

VI. Greater participation of H. S. Teachers
- A. CEU's
- B. ???

VII. Job descriptions

IX. Executive meeting (February, 1991?)

X. Old Business

XI. New Business

XII. Adjournment

Minutes of The Executive Committee
of
Southern Ohio Section
American Association of Physics Teachers

Denison University
Granville, Ohio
Saturday April 28, 1990

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President Dollhopf requested ideas on how the SOS/AAPT might get more industrial support - either general support or assistance with specific projects. President Dollhopf will approach persons to act as an ad hoc committee to study this problem.

The next Executive Committee meeting will be called by President Dollhopf in late August or early September.

The meeting adjourned at 1:35 PM.

Respectfully Submitted,
James F. Sullivan

SOS/AAPT
Statement of Revenues and Expenses

	1985	1986	1987 through Nov. 13	1987/88	1988/89	1989/90
Revenues:						
Contributions	$52.00	$0.00	$0.00	$0.00	$165.10	$0.00
Dues (regular membership)	$680.00	$600.00	$590.00	$470.00	$565.00	$395.00
Dues (student membership)	$8.00	$6.00	$2.00	$4.00	$2.00	$0.00
Dues (retired membership)	$12.00	$0.00	$7.00	$0.00	$0.00	$0.00
Contributing membership	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Physics Prize income	$212.00	$361.82	$100.50	$167.50	$0.00	$170.50
State Science Day income	—	—	—	—	$300.00	$250.00
Workshop registration	$415.00	$0.00	$0.00	$0.00	$0.00	$0.00
Advertizing income	$25.00	$0.00	$0.00	$0.00	$0.00	$0.00
Conference registration	$98.00	$76.00	$86.00	$100.00	$88.00	$114.00
Misc. conference income	$0.00	$136.50	$87.50	$31.50	$0.00	$43.07
Conference meals income	—	—	—	$131.25	$54.25	$0.00
Total Revenues:	**$1,502.00**	**$1,180.32**	**$873.00**	**$904.25**	**$1,174.35**	**$972.57**
Expenses:						
Misc. supplies	$55.55	$27.81	$25.76	$37.93	$15.43	$37.09
Conference expense	$630.49	$636.88	$131.50	$127.50	$263.20	$169.57
Physics Prize expenses	$65.00	$517.61	$154.68	$0.00	$0.00	$73.82
Postage	$57.76	$214.00	$192.57	$93.36	$412.41	$118.69
Printing	$480.00	$124.00	$275.00	$395.00	$245.00	$70.00
Building fund	—	—	—	$50.00	$0.00	$0.00
State Science Day Prizes	—	—	—	$100.00	$350.00	$350.00
Total Expenses:	**$1,288.80**	**$1,520.30**	**$779.51**	**$803.79**	**$1,286.04**	**$819.17**
Net Income:	**$213.20**	**($339.98)**	**$93.49**	**$100.46**	**($111.69)**	**$153.40**
Cash balance:	**$1,254.88**	**$914.90**	**$1,008.39**	**$1,108.85**	**$997.16**	**$1,150.56**

10/12/90

American Association of Physics Teachers

5112 Berwyn Road
College Park, MD 20740-4100
(301)345-4200 • FAX: (301)345-1857

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Stony Brook, NY 11794

Executive Officer
Bernard V. Khoury
AAPT

1991 AAPT / APS Winter Meeting
Hilton Palacio Del Rio and
San Antonio Convention Center
San Antonio, TX
January 21-24, 1991

1991 AAPT Summer Meeting
University of British Columbia
Vancouver, BC, Canada
June 24-29, 1991

December 5, 1990

Dear Section Secretary or Representative:

Happy Holidays!!

I am sure this is a busy time for you, but don't forget -- the next Announcer deadline is January 2, 1991. Since the Winter Meeting is three weeks after the deadline, I will be unable to collect copy at that time. All copy should be mailed to me at the Executive Office to be received prior to January 2.

Thank you for all your hard work. I look forward to another year of working together.

Sincerely,

Donna Willis

Donna Willis
Director of Publications

December 27, 1990

Donna Willis
Director of Publications
American Association of Physics Teachers
5112 Berwyn Road
College Park, MD 20740-4100

Dear Ms. Willis,

Enclosed please find an article on the Fall, 1990 meeting of the Southern Ohio Section / AAPT (SOS/AAPT) for inclusion in the "Section News" in the Announcer.

Also the Spring, 1991 meeting of the Southern Ohio Section will be on April 19 & 20 at Ohio University in Athens, Ohio. The contact person for this meeting is William E. Dollhopf, Wittenberg University (513) 327-7821.

I have no information (yet) for the fall, 1991 SOS/AAPT meeting.

If you should have to contact me for any reason my private office line is (513) 556-4872 and my home number is (513) 662-9560.

Sincerely,

James F. Sullivan
SOS/AAPT Secretary

The Southern Ohio Section of the American Association of Physics met on Saturday October 13, 1990 at the OMI College of Applied Science of the University of Cincinnati. The following papers were presented at that meeting.

Physics - 1850s Style. MARION A. BROWN, OMI College of Applied Science, University of Cincinnati.

Koosh Ball Kinematics. BARRY L. BROWNE, Lakeland High School.

Objective Exams Prepared With a Word Processor - An Update. ROBERT W. CUNNINGHAM, Tuscarawas Campus, Kent State University.

Static Forces Prescribed by the Model Building Codes to Simulate Real Earthquake Forces. HERBERT L. BILL, JR., OMI College of Applied Science of the University of Cincinnati.

Technical Physics Laboratory Courses at the OMI College of Applied Science. JAMES F. SULLIVAN, OMI College of Applied Science of the University of Cincinnati.

Mathematics United with Physics. DWIGHT J. PORTMAN, Greenhills High School.

Equipment and Selected Demonstrations from "The Rutgers/Industry National Leadership Institute for Teachers of Physics". THOMAS MILLS, Montgomery County Joint Vocational School.

Solving the Laboratory Equipment Problem Chinese Style. KENNETH A. METZ, OMI College of Applied Science, University of Cincinnati

Using the Greenhouse Effect to Teach Physics. GORDON J. AUBRECHT II, The Ohio State University.

If You Find that Mathematics Is Drudgery, Try DERIVE (TM), A Mathematical Assistant. JAMES F. MARQUARDT SR., OMI College of Applied Science, University of Cincinnati

Sun Spots, Solar Cycles, and Geomagnetic Storms. JAMES O. EVERLY, OMI College of Applied Science, University of Cincinnati..id5

Split Brain Function and Its Implications for Curriculum Development. DAVID BLACKMAN, University of California at Berkeley.

Demonstration Session. RICHARD HARRIS, University of Cincinnati and KELVIN TREFZ, The Ohio State University.

Basic Chaos: An Introduction with Computer Simulations. R. W. ROLLINS, Ohio University.

Additionally, in the late morning, the TRI-STATE PHYSICS TEACHERS held an open session. Terrence Toepker of Xavier University presided at this session.

The following tour and workshops were offered in the late afternoon.

Computers in the Classroom Workshop. GORDON J. AUBRECHT II, The Ohio State University.

Using Videotape in Lectures and Labs Workshop. WILLIAM D. PLOUGHE, The Ohio State University and KELVIN E. TREFZ, The Ohio State University.

Tour of The OMI College of Applied Science. KENNETH A. METZ, OMI College of Applied Science of the University of Cincinnati.

Thanks to WILLIAM KUHLMAN of St. Xavier High School and EDWARD SUNDERHAUS of Cincinnati Technical College for presiding at sessions of this meeting and to FREDERICK J. KRYMAN, Dean of the OMI College of Applied Science, for his support. The section thanks the following for their displays, door prizes, and support of this meeting: Central Scientific Company, Gilmar Publications, Klinger Scientific Company, Pasco Scientific Company, and especially John Wiley & Sons Publishers.

James F. Sullivan
Secretary, SOS/AAPT