

Mississippi Association of Physicists



The Mississippi Section of the American Association of Physics Teachers

September 2002

No. 066

NEWSLETTER

<http://www.msphysics.org>

Fall Meeting

October 19, 2002

Jones County Jr. College

Ellisville, MS 39437

Getting to know MAP:

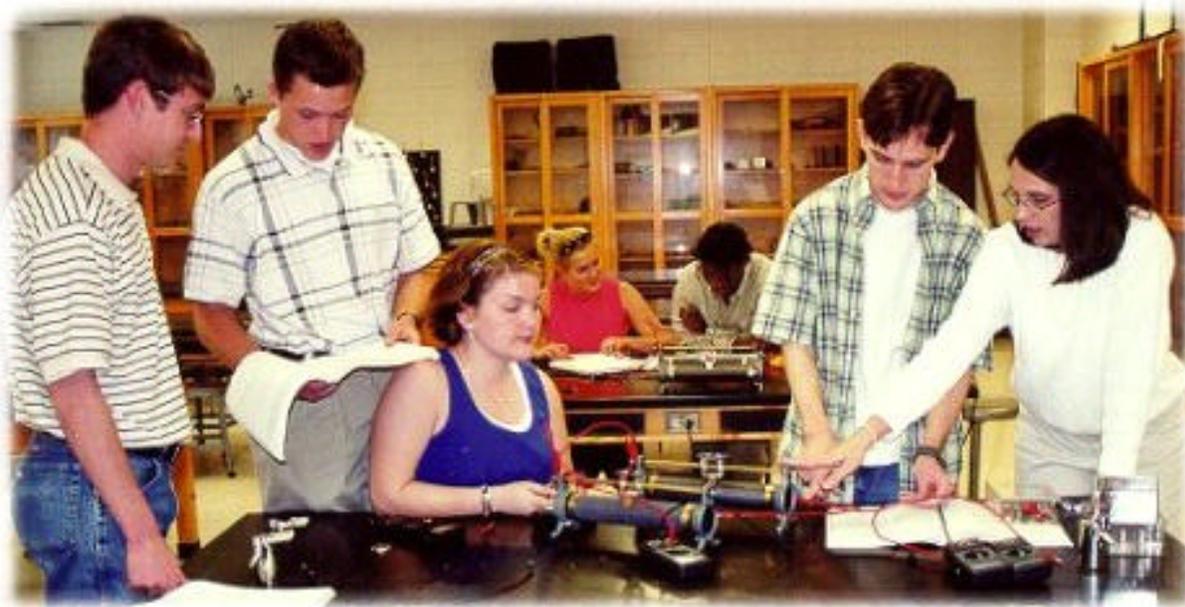
MAP was formed during an organizational meeting at Mississippi State University on June 26, 1970. Its goals are:

- To provide an opportunity for the physicists of the state and physics and physical science teachers to get to know their colleagues at other institutions.
- To provide a means for greater cooperation among the physics departments in the universities, colleges, junior colleges, and high schools in promoting teaching and research.
- To provide a better program of consultation between the universities, colleges, junior colleges, and high schools.
- To provide a cooperative effort among all universities, colleges, junior colleges, and high schools to strengthen the teaching of physics at all levels.
- To improve the public understanding of science.

The first MAP Newsletter (Number 000) was published August 6, 1970. It followed the organizational meeting on June 26, at MSU and the Steering Committee meeting at Mississippi College on July 24.

The purpose of the Newsletter is to improve communication among physicists in Mississippi. All members may use it to publish information about their programs, as well as information that they deem beneficial to the MAP community at large. Items such as book/software reviews, staff activities, seminars, workshops, new facilities, new faculty, etc., are welcome.

President's Message



Greetings fellow MS physicists,

It's that time again when we are all very busy planning for a new school year. In the midst of your planning, don't forget to mark October 18-19 on your calendar. Plan to join us for the Fall 2002 MAP meeting at Jones County Jr. College in Ellisville, MS. We have a little something for everyone on the meeting agenda. Whether you teach University/College Physics or High School Physics, plan to join us for a fun, physics-filled day.

During the 2002-2003 school year, it is my goal as MAP president to revitalize our organization. In doing so, I believe it is necessary to strengthen the relationships that exist between the University, Community College, and High School physics teachers. Specifically, I would like to see more High School physics teachers get involved with MAP. We are open to new ideas and invite you to contact us if MAP can help you in any way.

I know that the coming year has great things in store for MAP, and I hope to see many of you at JCJC in October.

Sincerely,

Mary Boleware, MAP President
Jones County Junior College
900 South Court Street, Ellisville, MS 39437
601.477.4066, mary.boleware@jcjc.edu



They Said....

I am standing on the threshold about to enter a room. It is a complicated business. In the first place I must shove against an atmosphere pressing with a force of fourteen pounds on every square inch of my body. I must make sure of landing on a plank traveling at twenty miles a second round the sun - a fraction of a second too early or too late, the plank would be miles away. I must do this whilst hanging from a round planet, head outward in space, and with a wind of aether blowing at no one knows how many miles a second through every instice of my body.

Arthur S. Eddington (British Astrophysicist, 1882-1933) in *The Nature of the Physical World* (1928)



Meeting Agenda

Friday, October 18

7:00 pm Dinner, JCJC Cafeteria

Saturday, October 19

8:15 – 9:00 Registration

9:00 – 9:30 Introductions & MAP Business Meeting

9:30 – 10:15 Guest Speaker
(Jim Walley on Global Positioning Systems)

10:15 – 10:45 Break

10:45 – 11:10 TeachSpin Demonstration



11:15 – 12:00 Sharing Session:
“What is this and what does it do?”
Bring any mystery equipment you may have and we’ll figure out how you can use it.

11:15 – 12:00 Lab/Demo Setups

12:00 Adjourn/ Lunch



Dining

The cost of dinner on Friday evening will be approximately \$ 9.00. Please RSVP to Mary Boleware at: mary.Boleware@jcjc.edu if you are planning to come to the dinner. Reservations for dinner need to be made by October 11.

Saturday JCJC will be having our annual Chicken Cook-out prior to the football game. There will be barbecue chicken plates for sale during lunch. The plates will cost \$6.00. This includes barbecue chicken, beans, slaw, roll, and drink.

You also need to reserve one of these plates by emailing Mary Boleware at: mary.Boleware@jcjc.edu. The deadline for this is also October 11. There *may* be some extras available that day.

Directions to Jones County Jr. College

From Northeast

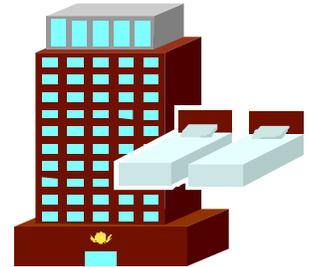
Take I-59 South to Ellisville. Take Exit 88. Turn left onto Hill Street. At traffic light go straight and continue to the 4-way stop. Turn right onto Church Street (HWY 29 S). The road will “Y”, stay to the right. The campus will be on the right. Take the next right. The science building is the second building on the right. The cafeteria is in the third building on the left.

From Northwest

Take HWY 49 South to Collins. Take HWY 84 East (toward Laurel). Turn Right onto HWY 29 at Big Creek, and this goes into Ellisville. At 4-way stop turn left onto Hill Street. At traffic light go straight and continue to the 4-way stop. Turn right onto Church Street (HWY 29 S). The road will “Y”, stay to the right. The campus will be on the right. Take the next right. The science building is the second building on the right. The cafeteria is in the third building on the left.

(Continued on page 7)

Hotels



There are two hotels in Ellisville:

Best Western
1102 HWY 29 N
Ellisville, MS 39437
601.477.8082
\$65 - \$85 per night (+tax)
Continental Breakfast

Hotel Alice
102 Court Street
Ellisville, MS 39437
601.477.9871
\$45 – \$90 per night
(Bed and Breakfast)

MSU Full Moon Autumn Physics Competition



The Department of Physics and Astronomy in the College of Arts and Sciences of Mississippi State University (MSU) plans to start an on-line physics competition during Fall semesters, starting in the Fall of 2002. This competition is for all high schools in Mississippi or high schools within 250 miles of Starkville, Mississippi. There will be two types of team events: teams with 2 students and 1 alternate and teams with 10 students and 3 alternates. These competitions will be held in October and November, on the first MSU school day following the full moon. The dates for this year are October 21, 2002 and November 20, 2002.

Each school must register at least one week before the competition. Two weeks before the competition, any required materials or aids, such as a graphing calculator, experimental apparatus, etc. for the competition will be listed. When needed, any experimental apparatus required will be inexpensive and commonly available.

On the day of the competition, each school will use its password and log-on name to access and print the physics question, including the requirements. Once the school has logged on, it will have 1½ hours to submit its results on-line.

All correct entries will be sent a certificate or other award. From the correct entries one will be chosen at random to receive the monthly Grand Prize. The Grand Prize will consist of a visit by an MSU physicist on a mutually agreeable date, as well as certificates or other awards to the team members and to the instructor/sponsor.

More details about the competition are available online at:

<http://physics.msstate.edu/fullmoon/>

MAP Resources

Since last Spring, MAP started archiving slides of MAP presentations. You can find these at the MAP website under resources. The web page also provides a direct link to MSU's list of simulations for teaching introductory physics. You may send email to Taha Mzoughi to suggest additional resources.

mzoughi@ra.msstate.edu

Announcements

MSTA

This year's MSTTA meeting will be at the Crowne Plaza Hotel in Jackson, MS. On October 28-29, 2002.

MSU

MSU has expanded its computational physics research group by hiring two new faculty members. The first, Seong Gon Kim came to us from WISEnut, Inc. He received his PhD from Michigan State University in 1994, and has conducted post graduate work at Vanderbilt and the US Naval Research Laboratory. The second, Torsten Clay, received his PhD from the University of Illinois in 1999. He came to us from the University of Arizona.

Sandra Harpole was named interim associate vice president for research at the university. She will continue to direct MSU's Center for Science, Mathematics and Technology, which she founded in 1996.

OleMiss

This year a few people will be away (Tom Marshall and Hank Bass on sabbatical, Jim Reidy in Washington working for the Department of Energy), and a couple are retiring (Gordon Baird has already left this summer, and Kumar Bhatt will retire at the end of the calendar year). So we have had the opportunity to hire several visiting faculty members, and are in the process of discussing future hirings of regular faculty. In addition to Zdravko Stipcevic and Igor Ostrovskii, who were already here, we have two new visitors in the department: Tibor Torma, who was previously at the University of Oklahoma and works on a number of areas in theoretical particle physics and gravitation, and HoSeong La, who was previously at Union College in Schenectady, NY, who has also worked in particle theory and more recently on applying dynamical systems theory to the development of acoustics-based devices for medical purposes. (Prepared by Luca Bombelli)

Southern

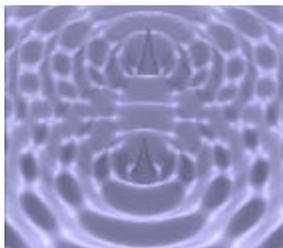
This year, Southern was able to lure one of its 1988 graduates, Dr. Christopher Winstead, back from MSU DIAL where he was working as an Associate Research Professor. Winstead joined Dial at 1995 after receiving his PhD in physics from Georgia Institute of Technology. His degree from Southern was a B.S. in Physics and Mathematics. Winstead's research areas are Atomic and Molecular Spectroscopy and Laser Spectroscopy.

Others

Please send your announcements to

mzoughi@ra.msstate.edu

so that we can include them in the next newsletter issue.



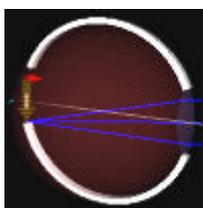
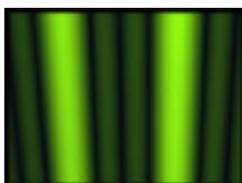
WebTOP

Modules for Teaching Waves and Optics

WebTOP, developed at MSU under the direction of Prof.

John Foley, is a set of web based 3D simulations that can be used to teach and learn about waves and optics. Each of the 16 modules available at the Web site includes a simulation, an examples page, a set of suggested homework exercises and a brief description of the theory pertaining to the module. The topics addressed by WebTOP range in difficulty from high school level to undergraduate optics. A scripting feature allows users to use VCR type controls to design their own animation. The whole site is available for download so that users can set it up at their local computer labs. A 48 page tutorial in PDF format is also available for download from the website.

Example modules that can be used for high school and introductory physics courses include the ripple tank pictured above. Users can add multiple point or line sources and visualize an animation of the resulting interference pattern.



Some of the examples visualize beats and standing waves. The N-slit module allows the user to visualize the interference and diffraction phenomena with a single slit or multiple slits. With the Diffraction Grating Module,

the user can view the pattern from a variety of standard lamps, or create her/his own lamp and view the pattern. The Eye module allows the user to investigate common eye defects and the effect of adding glasses or contact lenses. For further details about WebTOP check:

<http://webtop.msstate.edu>

Physics Poetry

Twinkle, twinkle little star,
I don't wonder what you are
For by the spectroscopic ken
I know that you are hydrogen

Big whirls have little whirls
That feed on their velocity;
And little whirls have lesser whirls,
and so on to viscosity.

Lewis Fry Richardson



SESAPS 2002

The 69th Annual Meeting of the Southeastern Section of the American Physical Society (SESAPS) will be held from October 31 to November 2, 2002 at Auburn University, Alabama. Details about the meeting can be found at:

<http://www.physics.auburn.edu/sesaps.htm>

Society of Physics Students-SPS

The Auburn University Chapter of SPS will be hosting a meeting of SPS - Zone 6 in conjunction with the SESAPS meeting. Mississippi students can attend and present at this meeting. The deadline for submitting abstracts is September 20, 2002. More details about the meeting can be found at:

<http://www.physics.auburn.edu/~plasma/sps/>

First National Model Rocket Competition



The Team America Rocketry Challenge is the first national model rocket competition for U.S. high school and junior high school students.

Teams are challenged to design, build, and launch a model rocket carrying two raw eggs to exactly 1500 feet, while returning both eggs to the earth unscrambled! The contest is limited to a total of 500 US high school teams and the deadline to enter the Challenge is November 15, 2002.

A grand prize pool of \$59,000 in cash and savings bonds will be shared by the top five teams. In addition, three of the top ten teams are eligible to win \$2500 grants, including travel expenses, to launch an advanced rocket with NASA. Each of the top 25 teams' schools will be invited to send one teacher on an all expenses paid trip to attend an advanced NASA rocketry workshop with NASA scientists and engineers, and tour research and development facilities at NASA Marshall Space Flight Center.

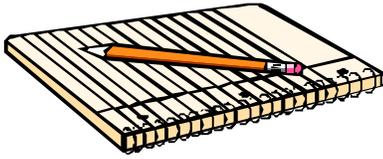
Detailed information, including an application, is located at <http://www.ROCKETCONTEST.org>.

Signup to Get the Newsletter

You may add your name to the list of Newsletter recipients and update your contact information by going to the MAP website.

<http://msphysics.org>

Better yet, you may use the site to provide your email address and receive more up-to-date MAP information.



Minutes for Spring meeting

April 5, 2002 –Mississippi State University - Starkville, MS

A welcome was provided by Mark Novotny, followed by an announcement concerning the luncheon arrangements. Mary Boleware led the business meeting. During the financial report, Al Deaton announced that he is planning to retire. The financial report was approved. No minutes of the previous meeting were available.

New Business

A motion was made and approved for the creation of a nomination committee that would help select possible board members and officers for future elections. Another motion that the president should appoint members of the nomination committee was approved.

New Officer were nominated and elected as follows:

Executive Board Members

- 4-year Colleges: Taha Mzoughi (MSU)
- 2-year Colleges: William Newell (JCJC)
- High School: Fran Burkett (Forest Hill)
- At Large: Connie Maxwell (Lafayette)

Officers

- President: Mary Boleware (JCJC)
- Vice-President: Connie Maxwell
- Secretary: April Fowler
- Treasurer: Al Deaton

All were elected by acclamation.

Our Section Representative is Sandra Harpole. Taha Mzoughi will remain our Webmaster and will serve as our Newsletter editor. A recommendation was made that Taha try to obtain a better URL for MAP. A recommendation that the newly created nomination committee will find an assistant for our treasurer was approved and accepted.

Mary Boleware announced that no nominations for the Outstanding High School Physics Teacher Award were provided. A motion was made and approved that MAP will present an Outstanding High School Physics Teacher Award during both upcoming Fall and Spring MAP meetings. Nominations for this award are to be sent to Mary Boleware via email:

Mary.boleware@jcjc.ms.us

The Fall 2002 meeting is tentatively scheduled for October 26, 2002. This meeting will be held at the Jones County Jr. College Campus. The group suggested possible topics for this meeting. Suggestions included provid-

ing a make-take workshop for high school teachers with possible door prizes, setting up a display table of various labs (equipment on display with handouts of instructions provided). It was decided that the fall meeting agenda would consist of two concurrent sessions: a Workshop for high school teachers and a Seminar of Research Topics.

A recommendation was made that MAP arrange to have a display table at the fall MSTTA convention.

Dr. Sandra Harpole gave a report concerning AAPT. Including information about the AAPT officers, the National Task Force of Undergraduate Education Researching Physics, a New Faculty workshop, the International Physics Olympiad, and PhyTech (a preparation of Physical Science and Physics teachers). Dates for the upcoming AAPT Conventions are as follows: August 3-7, 2002 at Boise State University in Boise, ID; Jan 11-15, 2002 at Renaissance Austin Hotel in Austin, TX; August 2-6, 2003 Monona Terrace w/University of Wisconsin for workshops in Madison, Wisconsin; January 24-28, 2004 at Miami Beach, Florida; Summer, 2004 – TBA; January 8-12, 2005 Albuquerque, NM ; Summer 2005 – Yale; Winter 2006 –TBA; Winter 2007 – Seattle

MSU is offering Physics for Teachers during the first three weeks of June and the first three weeks of July.

The business meeting was followed by presentations. Mark Novotny made a presentation about Computational Physics. This was followed by a Presentation of Web-Based Resources for Teaching Physics provided by Taha Mzoughi. The group dismissed for lunch. After lunch, John Foley and Taha Mzoughi provided a workshop on WebTOP.

They Said....

"Very strange people, physicists - in my experience the ones who aren't dead are in some way very ill"

Mr Standish "The Long Dark Tea-Time Of The Soul" by Douglas Adams

..it would be better for the true physics if there were no mathematicians on earth.

Daniel Bernoulli



Membership in MAP

Mississippi Association of Physicist

If you are a physicist, physics teacher, or physical scientist, you are eligible for regular membership in MAP. If you are a physics student or someone who is interested in the physical sciences, you are eligible for associate membership (non-voting). Dues are paid for a calendar year January 1 – December 31.

The dues schedule is as follows:

Individual	\$5.00
Institutional:	
Community/Junior Colleges	\$20.00
4 year Colleges	\$35.00
Universities	\$60.00

You may sign up to become a member of MAP and pay your yearly dues at any of the MAP meetings. Meetings are usually held once during the Fall and once during the Spring. Dates and locations are posted on the web site.

If you are unable to attend the MAP meetings, you can still pay your yearly dues by mail to this address:

Al Deaton
P. O. Box 451
Decatur, MS 39327-0451

(Continued from page 3)

Directions to Jones County Jr. College

From South

Take I-59 North to Ellisville. Take exit 88. Turn Right onto Hill Street. At traffic light go straight and continue to the 4-way stop. Turn right onto Church Street (HWY 29 S). The road will “Y”, stay to the right. The campus will be on the right. Take the next right. The science building is the second building on the right. The cafeteria is in the third building on the left.

Just for Fun...

A priest, a drunkard and a physicist were condemned to die by the guillotine. The priest is led up to the guillotine and is asked if he prefers to be facing up or down. He replies "I would like my last earthly sight to be of heaven". The executioner than fastens him in face up and releases the guillotine blade. It falls, but stops just within an inch of his throat. "A miracle!" the crowd of spectators shout in unison, and the priest is released unharmed.

Next, the drunkard is led up the steps and he is asked if he prefers to face up or down. "Upward", he replied, "so

that I can drink, one last time, some good wine you pour down my throat!" After the drunkard is given a drink, the huge blade is released and plummets downward, but stops within an inch of his throat. "Mon dieu! A second miracle!" the crowd cheers, and he is released unharmed.

Finally, the physicist is led up to be executed. He also chooses to be shackled to the guillotine faceup. The crowd is placing bets left and right about whether a third miracle will take place. As he lies faceup, he ponders the death apparatus above him. Raising his hand, moments before the executioner releases the blade, the physicist declares, "Wait, wait! ... I see what your problem is!"



Editor's Note: The humorous notes that were included in this newsletter were obtained from the Internet and are available in numerous sites. Send us your favorite jokes to include in future issues.

If you want to add your name to the list of people receiving this newsletter, or to update your contact information go to the web site:
<http://msphysics.org>

Fall Meeting
Jones County Jr. College
October 19, 2002

Don't miss the:

MAP
Mississippi State University
Department of Physics & Astronomy
PO Box 5167
Mississippi State, MS 39762-5167