American Association of Physics Teachers

Ontario Section

NEWSLETTER

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AAPT- Ontario Annual Spring Conference

On June 21st and 22nd the AAPT (Ontario Branch) will be holding its seventh annual meeting at McMaster University in Hamilton, Ontario. The organizers have assembled an interesting group of speakers from inside and outside the physics teaching profession. They include:

Dr. Stuart Smith
President of the Science Council of Canada

Dr. Eric Svensson,
Atomic Energy of Canada, Chalk River

Mr. John Dobson
Founder of the San Francisco Sidewalk Astronomers and Worldwide Lecturer on Physics & Eastern Religions

Dr. Bill Goruk
Mohawk College of Applied Arts and Technology

Dr. Wally Piesczonka
Founder and President of Linear Technology, one of Canada's fastest growing "high-tech" industries.

Ms. Gilles Turner
Physics and Math Graduate & wife of Liberal Leader John Turner

Mr. Stan Percevel & Dr. Dave Wright Halton Board of Education writing team leaders of the Technological Science and Applied Physics Guidelines.

There will be also contributed papers, tours of the McMaster Research Reactor and Tandem Van de Graaff Accelerator facilities, two wine and cheese receptions, an outdoor barbecue and, most importantly, a chance to meet old friends and make new ones in the teaching profession.

There is accommodation in the university residences for a full fee of $120 (single occupancy) of $110 (double occupancy) for members. Or if you wish to commute each day the fees are $65 for members. The conference is open to non-members of the AAPT but it is cheaper to join and take advantage of the members' rates.

Anyone wishing to attend or wants further information should contact

Mr. A. McEachern
c/o M.M. Robinson H. S. 2425 Upper Middle Road
Burlington, Ontario
L7P 3N9

Or David McKay
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Burlington, Ontario
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(1-416-335-5588)
School

AAPT Grade 11 Contest

This year about 3000 or so grade eleven students participated in the fifth annual contest held on Tuesday, May 7th. This contest was in the form of 25 multiple choice questions based mainly on the curriculum laid down by the government but including a few questions on Physics, History, current events and general knowledge. We thank Don Murphy at Sydenham H.S., Sydenham, Ontario, Canada K0H 2T0 for running the contest for us and look forward to seeing the results.

Last year 2676 students entered and not just from Ontario.

A Status Report on the Intermediate /Senior Science Curriculum Project

For high School Science Courses (extract)

In the fall of 1982, work began on the development of an Intermediate/Senior Science Curriculum Guideline with the formation of a Project Team, an Advisory

Committee, and a Franco-Ontarian Group. Additional writers and resource personnel have been involved in the creative process.

The task has involved the writing of several drafts of each of 27 courses and a comprehensive section on the overall program and policy.

At present, of the 27 courses, 15 have been validated, 7 are now out for validation, and the remaining 5 will be distributed for reaction before the summer. All validation returns will be in by the end of this calendar year.

It is anticipated that the Intermediate and Senior Science Curriculum Guideline will consist of nine parts, each in a separate booklet, as follows:

Part 1:
Science Program and Policies

Part 2:
Science, Grade 7 & 8, and 9 & 10 General and Advanced
- Science, Grade 7
- Science, Grade 8
- Science, Grade 9, General Level
- Science, Grade 9, Advanced Level
- Science, Grade 10, General Level
- Science, Grade 10, Advanced Level

Part 3:
Basic-Level Science
- Science, Grade 9, Basic Level
- Science, Grade 10, Basic Level
- Science, Grade 11, Basic Level
- Science, Grade 12, Basic Level

Part 4:
Environmental Science
- Environmental Science, Grade 10, General Level
- Environmental Science, Grade 10, Advanced Level
- Environmental Science, Grade 11, General Level
- Environmental Science, Grade 12, General Level
- Environmental Science, Grade 12, Advanced Level

Part 5:
Geology
- Geology, Grade 12, Advanced Level

Part 6:
Senior Biology
- Applied Biology, Grade 11, General Level
- Biology, Grade 11, Advanced Level
- Biology, OAC

Part 7:
Senior Chemistry
- Applied Chemistry, Grade 11, General Level
- Chemistry, Grade 11, Advanced Level
- Chemistry, OAC

Part 8:
Senior Physics and Technological Science
- Applied Physics, Grade 12, General Level
- Technological Science, Grade 12, General Level
- Physics, Grade 12, Advanced Level
- Physics, OAC

Part 9:
Science in Society
- Science in Society, OAC

Part 1, which is now being distributed for validation, contains sections as follows:

1. Introduction to the Guideline
2. Introduction to Part 1
3. The Goals of Education
4. Why Science Education?
5. The Aims of the Science Curriculum
6. The Nature of Science
7. Scientific Literacy
8. The Science Program Framework
9. Teaching Policy
10. General Considerations
11. Curriculum Emphases
    - Blending Curricular Aims with Content
12. Language and Science
13. Values in Science Education
14. Implementing the Science Program
15. Staff Development
16. Resources
17. Modes of Delivery
18. Courses of Study
19. Measurement
20. Safety
21. Evaluation

Four Appendices
A. Physical Quantities
B. Metric Editorial Practice
C. Some Poisonous Plants
D. Course Codes

Some of the features that distinguish the new science courses compared to former courses are as follows.

- They are more prescriptive, that is, they have, as a rule, a higher percentage assigned to core units and less to optional units.
- They prescribe attitudinal, skills, and knowledge objectives.
- They contain mandatory student activities.
- They include the teaching of applications and societal implications.
- In Grades 7 to 10 Science, each year consists of a mosaic of biology, chemistry, physics, and environmental science.
- There are courses for all three levels of difficulty in Grades 9 through 12.
- It is recommended that the Grade 9 general or advanced-level course or any basic-level course is compulsory towards the earning of a diploma; one other science credit is also compulsory.
- There are prerequisites to the OACs.
- Science in Society is a new course developed as an OAC particularly for students planning to enrol in the arts at a university.
- Technological Science is a new Grade 12, general-level course developed particularly for students who are not taking senior advanced-level chemistry and physics and who wish to enrol in technology courses in the colleges of applied arts and technology.

It is anticipated that present science courses based on current intermediate and senior science guidelines will be phased out and that the new courses will be phased out and that the new courses will be phased in according to the following schedule:

- Grade 7 and 8 courses by September 1, 1988;
- Grade 9 to 12 courses and the OACs by September 1, 1989.

Implementation prior to these dates is encouraged whenever it is feasible to do so.

Reactions of a constructive nature to this SCINFO are welcomed by the Curriculum Branch of the Ministry which deeply appreciates the assistance of Don Garratt and John Pettit Curriculum Project.

At present, Regional Office personnel in the Ministry, publishers of textbooks, science coordinators, and STAO Councilors are becoming aware of the curriculum guideline drafts and their revisions. All who are concerned with the new courses will have opportunities to be fully informed. In the meantime, our efforts in the Ministry are focussed on steering the document through its final stages realizing that much has yet to be done. We sincerely appreciate the efforts of all who have helped.

Jack Bell
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HOW TO MAKE THE BEST OF A POSTER PRESENTATION

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The poster or display presentation is an increasingly common way of giving a paper at a scientific meeting. Many and sometimes all contributed papers are given in this manner. The poster presentation has some advantages over the oral presentation - especially the five-minute oral presentation currently used by some scientific societies. The audience can view the poster at leisure, and the presenter can discuss it in depth with

the audience, without stage fright or rehearsal.

It is our experience that the poster presentations given at most meetings range from excellent to abominable. Those in the latter category do not convey their information effectively and do not create a good impression. An established scientist may not need to create a good impression, but a more junior one - especially if job-hunting - cannot afford not to. A good poster presentation does not require much more in the way of time and materials than a bad one, especially with the advent of new technology in computers and photocopiers. It does require a bit more forethought and concern. The following suggestions may be useful.

BEFORE THE MEETING

Find out how much space you will have for your poster. Standard sizes are 1 m x 2 m (clearly it makes a difference). Start to gather and organize the photographs, diagrams, tables and text which you will need.

Choosing Your Material

Avoid the temptation to include too much material in the body of your poster. Two or three pages of text, plus a few diagrams, are usually adequate. The captions for the diagrams should be self-contained. Often, they can take the place of some of the text. Ideally, each diagram should illustrate a single point, and should be contained on a single sheet. You could include two diagrams together if you were comparing them. Avoid long formulae, derivations or calculations in the text. These can be posted as an appendix, to be read by those who are particularly interested. The same goes for long tables of data. Often, these are better replaced by bar graphs. One of the advantages of the poster presentation is that you can have more detailed information on hand for those who want it. It doesn't hurt to include an abstract or summary in your poster, even though this may also appear in the meeting abstract book.

Organizing Your Material

It helps to lay out and organize your material ahead of time. Find an arrangement which is both clear and aesthetically pleasing. Arrange the text and diagrams in logical order. This can be done, if necessary, with page numbers or with arrows to guide the viewer's eyes.

Constructing the Poster

Legibility is a primary concern. The lettering on the poster should be readable from a distance of a metre or more. Letters should be 5mm or more in size. This can be accomplished by photographic enlargement (expensive and time-consuming), by use of IBM Orator typing ball, by computer graphics or by photocopying ordinary typescript with one of the enlarging photocopiers which are widely available today.

Your diagrams and captions should be clear and easy-to-read. Avoid small, faint dot-matrix printing. Make sure that graph symbols are large and clear. Some computer-generated diagrams are very poorly-formatted. Colour can add clarity as well as getting the viewers' attention (as discussed below).

It helps to mount your diagrams and text on sheets no larger than what you can carry easily in your briefcase. Some people put their poster on a single sheet and carry it rolled-up. It may be more cumbersome to carry this way but, since the material is pre-organized, it can be posted quickly, Take a supply of thumb tacks. The meeting may not proved them.

Getting the Viewers' Attention

Although some viewers will find and read your poster no matter how bad it is, others (even some with good intentions) may

pass it by. You can help your viewers by having a large, clear title which includes your name and institution. You can further attract an audience by using a bit of colour in the text or diagrams, or as a border or background. Mounting your material on sheets of coloured construction paper, for instance, can be very effective. You could even use a bit of whimsy or humour, if you like. Consider including a photograph or two of the objects being discussed in your paper, even if this is not absolutely necessary. People still relate to a visual image.

AT THE MEETING

Find out when you are required to be with your poster, and when you are to put it up and take it down. Putting up the poster late is a waste of valuable time, and reflects poorly on your professional image. Failing to take it down on time may result in its unceremonious removal by the meeting organizers. If you cannot be with your poster when required, post a sign stating when you will be there, or when you will be back. Also post your mailing address, so that interested viewers can get in touch with you. You may want to distribute preprint versions of your paper, but remember that you will have to transport them to the meeting, and that some viewers will use them for scrap paper. A useful alternative preprints by mail. This is especially appropriate if your poster contains preliminary results, and a preprint is not yet available. It has the additional advantage of providing you with a mailing list of persons who are interested in your work.

AFTER THE MEETING

If you have followed our suggestions, your poster will be too good to throw out. Post it on a bulletin board or wall outside your office, and encourage your colleagues to do likewise!

Nomination For AAPT - Ontario Executive 1985-1986

(If no further nominations have been received by May 23/85 this will be our new executive)

President: Dave McKay

Vice-President: Ross Hallett

Secretary/Treasurer: Bob Bassett

Section Representative: Al Hirsh

Member at Large: Grace Dominato

Thank-you, all,
Brenda Molloy