This issue of the Newsletter carries: a brief outline of the decisions taken by the Committee concerning membership; a short history of GIREP for the benefit of new members; reports on two International Meetings (Brisbane and Balatonalmádi) that took place in the last few months; news of the progress of the GIREP '86 Conference and the calendar of future meetings.

Furthermore, members are being sent the First Circular of the 1986 Conference with the Newsletter.

1. COMMITTEE MEETING

The GIREP Committee met at Balatonalmádi (Hungary) during the Microscience International Workshop.

The most important business discussed dealt with the examination and partial reformulation of procedures for the functioning of GIREP and with the preparation of the 1986 Conference in Denmark.

A. The Committee decided to change some of the procedures concerning new applicants and renewals.

New applicants: Applicants must require an application form from the Treasurer. The application form, duly filled, must be returned to the Treasurer and the fee for the current solar year must be paid for membership to become effective. If the application form arrives to the Treasurer after the month of September, membership will become effective at the beginning of the following year, unless the applicant specifies otherwise.

Renewals: Art. 17 of the Statute states: "Any member who has not paid his membership fee for the current year is considered as resigning.". Taking into account the existence of an unnoticeable number of late payers, the Committee considered the month of June of the current year to be a fair deadline for such a drastic punishment to become effective. Late payers will, therefore, receive a note of warning with their June Newsletter before being considered resigned.

Membership cards: The usual procedure of issuing yearly membership cards is awkward and time-consuming for the Treasurer and (maybe) not so practical for the receivers. So, as GIREP records will
soon be computerized, the new procedure will be to send a letter of
acknowledgement to members on receipt of the bank account testifying
the payment of their fee.

Dear members who have already updated your 1985 fee and are still
wondering whether it has been received, please be patient! It will
be acknowledged to you as soon as possible.

B. Poulsen Thomsen reported to the Committee on the organization of
the 1986 Conference on "COSMOS - AN EDUCATIONAL CHALLENGE". After
hearing P. Thomsen's report and after having examined the final ba-
lance of the 1984 Conference and the balance of GIREP, it was deci-
ded to grant the Organizing Committee 2500 US $ as contribution of
GIREP for the Conference.

2. GIREP STORY REVISITED

The first part of this short history of GIREP first appeared in
Newsletter n.8 (Feb. 1981), jointly authored by A. Loria and C. Ma-
lagodi. I think that the many persons who joined GIREP since then
and who never had the opportunity to read the history of the Group
may enjoy knowing something about it. So here it is, updated to
our days.

Foundation of GIREP

GIREP, Groupe International de Recherche sur l'Enseignement de la
Physique, was founded in 1966.

In the years 1960-64 OECE, later OECD, arranged a series of interna-
tional meetings to encourage renewal of the teaching of Physics in
schools. The meetings proved to be a very valuable source of in-
spiration for the participants. However, in 1964 OECD decided to
concentrate on other fields of activity, and it was made clear that
OECD would not support financially future meetings on the teaching
of Physics.

A number of persons who had participated in the meetings organized
by OECD, with prof. W. Nekht, Switzerland, as the driving force,
found it very important that the series of international meetings
on the teaching of Physics in schools were continued. They there-
fore decided to form an international group working actively for the
improvement of Physics teaching in their countries. As a result,
GIREP was founded Mar. 15, 1966, and prof. W. Nekht was elected
first President.

Membership

While at the beginning the number of members of GIREP was quite
small (a few tens), it soon grew to over 100. Figures available
for more recent years give: 210 members in 1979; 214 in 1980;
246 in 1981; 219 in 1982. Figures for 1983 and after are not
completely definitive because some members are late in updating
their fees. So the actual membership can only be estimated. It
is thought to amount to about 220 persons, active in at least 30
countries all around the world.
GIREP Meetings

Very soon it was proven that it was possible for GIREP to organize international meetings.

Jan. 1967 (Lausanne, Switzerland) - organized by Walter Knecht
Preliminary informal meeting arranged in collaboration with the International Commission of Mathematics Teaching. The main topic was the co-ordination of the teaching of secondary level mathematics and physics.

1st Meeting, 30 Oct.-5 Nov. 1968 (Malvern, U.K.) - organized by John Lewis
The participants studied and discussed the Nuffield Physics Project but the main purpose was that of preparing the second Seminar.

2nd Seminar, 30 July-5 Aug. 1969 (Copenhagen, Denmark) - organized by Søren Sikjaer
This Seminar was arranged with the purpose of discussing the treatment of energy in the junior high school, and of quantum mechanics and the special theory of relativity in the senior high school. Financial support was given by the Royal Danish Ministry of Education and the Association of Danish Physics Apparatus Manufacturers.

3rd Seminar, 16-18 March 1972 (Kiel, W. Germany) - organized by the German Commission for UNESCO
Realized as a joint UNESCO-GIREP meeting on the implementation of curricula in science education with special regard to the teaching of Physics.

4th Seminar, 14-20 Oct. 1973 (Venice, Italy) - organized by Arturo Loria
The subject was the teaching of electricity, magnetism and quantum mechanics in secondary schools. There were 95 official participants of whom 41 were GIREP members from 17 different countries. It was suggested that it may be of great inspiration to Italian physics teachers to attend the Seminar: hence the Italian Ministry of Education arranged for 70 of these teachers to attend as observers. Financial support came from UNESCO, MPI, CNR, SIF and the Italian UNESCO Commission.

5th Seminar, 6-10 Sept. 1976 (Montpellier, France) - organized by Goery Delacôte
The main subjects dealt with were probability and statistics in the teaching of Physics in schools and the first steps in the teaching of Physics at the beginning of secondary school. For the participation of French teachers the Seminar was organized in a similar way as the Venice Seminar for Italians. The participants, including the French teachers, were 200 from 29 different countries.
Financial support was granted by UNESCO, the French Ministry of Education, the Société Française de Physique and the Union des Physiciens.

6th Seminar, 14-21 July 1978 (Oxford, U.K.) - organized by Brian Woolnough
Realized as a joint ICPE-GIREP project on the role of the laboratory in physics education.
The main problems dealt with were: aims and organization of the la-
boration, aspects of laboratory work in physics education, assessment of practical physics, electronics, optics.
Financial support came from UNESCO, COSTED, the British Council, the Commonwealth Foundation of Physics and also some important manufacturers.

7th Seminar, 19-24 Aug. 1979 (Rehovot, Israel) - organized by Uri Ganiel
The subjects were waves and oscillations, and current problems in physics teaching.
Of the 110 participants, over 60 were from 25 different countries. Financial support came from UNESCO, the Weizmann Institute and several other Institutions in Israel.

8th Seminar, 6-12 Sept. 1981 (Balatonfüred, Hungary) - organized by George Marx
The main topic was the nuclear atom: its challenge, its power and its dangers.
It was attended by 150 participants from 27 different countries. Support came from UNESCO, the Hungarian Ministry of Education, the Hungarian Academy of Sciences, the Hungarian Atomic Energy Commission, the Central Research Institute for Physics of Hungary, the Roland Eötvös University in Budapest and the Kossuth Lajos University in Debrecen.

The Conference, whose title was "The many faces of teaching and learning mechanics", was attended by 180 persons from 35 different countries.
Financial support mainly came from UNESCO and the Dutch Foundation for Educational Research, but also from IBM, Shell and the Dutch Teacher Training Institutes.

GIREP Publications
The following publications were issued free to members of GIREP.

1. A detailed Report of the 1957 Lausanne Meeting was published in "Dialectica", vol. 21 (1967)

2. Seminar on the teaching of Physics in schools at the Royal Danish School of Educational Studies (Copenhagen, July 30 to Aug. 5 1969) 215 pgs. Edited by S. Sikjaer. Printed by Gyldendal - Denmark 1971.


Following the recommendations of 70 GIREP representatives who had read a preliminary edition in 1979, this book describes the ways physics teachers are educated in 30 countries, in the context of their national educational systems.


10. Proceedings of the International Conference on Education for Physics Teaching - Trieste 1-6 Sept. 1980. Edited by P.J. Kennedy and A. Loria. 305 pgs. Published by ICPE, Physics Dept, University of Edinburgh, Edinburgh EH9 3JZ, U.K. Distribution of this book free to GIREP members was kindly granted by ICPE, at the request of A. Loria, then President of GIREP.


3. GIREP NETWORK

More than 140 persons have already returned the Network Interest Sheet. The updated Network is now edited and is being sent to all members who are at least up-to-date with the payment of their 1984 fee. So, if you are not receiving the Network together with this number of the Newsletter, please look up your payment records.

The Secretary apologizes for any mistake on her part, and would be obliged to unintentionally overlooked members for writing to her stating their position.
4. REPORTS ON INTERNATIONAL MEETINGS

Third International Symposium on World Trends in Science and Technology Education (by R. Gunstone)

This Symposium, held in Brisbane (Australia) in December 1984, attracted about 240 participants from 40 countries. There were three (I think) GIREP members in attendance.

The theme of the Symposium was: "Teaching the Interactions of Science, Technology and Society (S/T/S)". The nine keynote speakers and a number of the other 85 papers addressed aspects of S/T/S teaching. A significant proportion of the general conference papers did not directly relate to the theme, but rather considered research and development issues in science and technology education. Various papers addressed science and/or technology education across the whole age range: from kindergarten to post-graduate training. The general papers included research papers, position papers and purely descriptive papers.

The keynote papers covered a variety of issues relating to the theme:

- Teaching and learning about science and society;
- The importance of new technologies to national development;
- Trends in science education research;
- Examples of the S/T/S interaction;
- Human capability as a focus for S/T/S education;
- A pro-nuclear perspective on energy and the human race;
- The purposes of S/T/S education;
- A framework for teaching S/T/S in schools;
- The world conservation strategy and science/technology education.

These papers, together with a selection of those general conference papers which directly addressed the theme, are to be published. (Details of publishing were not known when this report was written. Interested members could contact the editor of the volume: Dr. Ian Lowe, Science Policy Research Unit, Griffith University, Kessels Road, Nathan, Queensland 4111, Australia.)

General conference papers likely to have interest for GIREP members included: some on alternative frameworks in physics (with two of these considering technology and alternative frameworks); the PLON (Netherlands) Physics Curriculum Project; a number of papers concerned with science/technology education in China; a perspective on tertiary engineering education; some country-specific reports on the training of physicists and physics teachers.

One outcome of the Symposium was the decision to set up a network of those interested in S/T/S themes in education. This network aims to be serviced by occasional newsletters. (Contact: Dr. G. Aikenhead, College of Education, University of Saskatchewan, Saskatoon, Sask., Canada S7N 0WO.)

As is so often true of such international gatherings, the real value of the Symposium for most participants came from informal discussions. These of course cannot be recaptured. However, if GIREP
members have inquiries about the formal aspects of the conference, I would be happy to answer them.

Dr. Richard Gunstone
Education Faculty
Monash University
Clayton, Victoria 3168
Australia

Microscience: International Workshop on the Use of Microcomputers in Science Education (by Lidia Nuvoli)

About 200 participants from 40 different countries convened on the sweet, green banks of Lake Balaton for 5 days of Microscience, International Workshop on the Use of Microcomputers in Science Education (Balatonsalmadi (Hungary), 20-25 May 1985).

Thanks to the hard and efficient work of our hungarian friends, the Conference ran smoothly and successfully and many technical problems were overcome: one for all, the timely distribution to many users of quite a few bits and pieces of apparatus, always available and performing when and where needed.

An exhaustive description of all that has been done, discussed, learned and compared in those five very intense days cannot be compressed in a short report. Before I try, however, I want to recall the thoughtfulness of our hosts, who interrupted the stress of so much hard work with some unexpected and beautiful surprises: first of all the "I love my computer" tee-shirt. Another surprise that aroused the emotions of many participants was the celebration of the 100th anniversary of the birth of Niels Bohr. After an introduction by Poul Thomsen, who was one of Bohr's students, Eric Rogers captivated the audience with one of his wonderful talks. Finally, some participants had the opportunity to visit the Historical Museum of Chemistry in the medieval Thury Castle in Varpalota and to see the instruments of Eötvös in the Benedictine Abbey in Tihany.

With the help of ON LINE, Microscience's daily leaflet, here is the reconstruction of the doings of the Conference. Mornings (8 to 9) began with computer-time for early wakers, during which experiences were compared and programs exchanged. From 9 to lunch-time the plenary sessions gave us three to four talks each day, with the exception of Thursday when a lively Round Table dealt with the problematic issues produced by the introduction of microcomputers in the school.

Four of the five afternoons were entirely absorbed by the workshops: how difficult to choose between the different, parallel sessions! Four of the following ran each day:

1, 2 and 3: Using micros to teach physics, chemistry, biology;
4: Microcomputers and schools: a discussion concerning UNESCO's Project 3 and the topics of Thursday's Round Table;
5: Interfacing and adapting micros to lab equipment;
6: Applications to the study of statistical phenomena;
7: Computers and modelling;
8: Non linear and acoustical phenomena ... can Monday evening's phantastic and very noisy popconcert at the University of Veszprem be ideally linked to this workshop?

9: This workshop took the working blocks of the computer apart showing how data flow and get modified in it;

10: Here participants engaged in a decisional game involving economical and political issues.

After all this, you could still find small groups of late-sleepers gathered around a computer and running programs in the dining room at night.

The many uses of the computer were thoroughly examined in the morning sessions. In the same morning, for instance, we listened to S. Papert's lively description of how the computer can become yet another powerful tool in the hands of teachers to help young children learn and structure their knowledge, and to J. Depréux telling us how computers are used at the University of Liège to help first year low-ability students to overcome their difficulties.

The uses of computers to simulate reality were fascinatingly demonstrated by the evolutionary processes that occur in cellular automata (G. Vishniak), by the "microcomputer worlds" illustrated by G. Marx and by J. Ogburn's dynamical modelling instruments; but the last day, faced by the behaviour of a truly huge and complex system such as Lake Balaton itself, we were reminded that, while school simulations may perform quite easily, reality may be so intricate that even the capabilities of the computer will fall short.

The computer is used as driving and control system in D. Zollman's interactive video-film study units; as third phase (in which simulations are made) of a sequence whose first and second phases are a film and a lab practical (H-J Jodl); as self-controlled, self-demonstrating source of physical phenomena in studying acoustics (M. Euler).

Other, more "single-purpose" applications of computers were illustrated by K. Hirata (simulations) and J. H. Emek (on-line with experiments); new and otherwise "impossible" experiences were introduced by H. J. Scholz with his graphical display of fractal structures and, in a sense, by R. Sexl's graphical visualization of relativistic phenomena; P. Atkins left us to wonder at the future possibilities of the computer to extend the somewhat limited capabilities of today's textbooks.

The general problems were faced the first day by J. Beishuizen, head of UNESCO Joint Studies in the Field of Education Project 3; in the last day in a very critically minded talk by F. Hermann and, of course, in the Round Table of Thursday morning.

At the end, the participants surely returned to their homes enriched by many new ideas and perspectives and with the feeling that the last word on computers in education is far from having been said and a whole world of things to do is open for trial and exploration.

As a close, I would like to quote a question by S. Papert which, I feel, summarizes effectively many of the concerns and motivations
that accompany the use of microcomputers in Science Education: "Will kids program computers? Or will computers program kids?"

(The proceedings of Microscience are expected to be printed before the end of the year. Those interested can write to George Marx, Dept. of Atomic Physics, Eötvös University, Puskin utca 5, Budapest H-1088, Hungary).

5. GIREF 1986 CONFERENCE: "COSMOS–AN EDUCATIONAL CHALLENGE"

Preparation of the Conference is proceeding well. Collaboration from various Groups and Organizations, among which the European Space Agency (ESA) has been obtained.

Topics to be covered by papers, invited and contributed, are:
- Cosmology and scientific view of the world;
- Stars and galaxies;
- The Solar System (Halley's comet);
- Space laboratories and their use for educational purposes;
- Teaching aids and materials;
- Students' conceptions of cosmic phenomena;
- Recent developments in the teaching of Astronomy, Cosmology and Space Science.

Those who intend to participate, or simply wish to be informed of the Conference's programs and progress should send their name and address to Prof. Poul Thomsen, Royal Danish School of Educational Studies, Endrupsvæj 115 E, DK-2400 Copenhagen NV, Denmark, possibly before 1st October 1985.

6. GIREF 1986 CONFERENCE: SUPPORT FOR PARTICIPATING SCHOOL TEACHERS

Financial support is available for a limited number of school teachers (members of GIREF) who wish to contribute to the 1986 Conference. The applicants should send a description of their intended contribution to Prof. Poul Thomsen. Deadline for applications is 1st October 1985.

As the budget of the Conference is still subject to variations, the number of school teacher participants who will be able to receive financial aid is not established yet.

It will be the responsibility of the Organizing Committee to choose which contributions will be granted the available support.

7. FORTHCOMING MEETINGS

1. ICPE-IUPAP Conferences
   COMMUNICATING PHYSICS
   Conference Proceedings will be sent to the participants about six months after the Conference. Orders for additional copies
(price approx. 75 DM) must be sent to the Conference Secretariat, Univ. Duisburg, Lotharstr. 1, 4100 Duisburg, Fed.Rep. Germany.

TRENDS IN PHYSICS EDUCATION
Tokio, 25-29 Aug., 1986
Further information from: Prof. K. Shimoda, Japanese National Committee, Faculty of Science and Technology, Keio University, 3-14-1 Hiyoshi, Kohoko-ku, Yokohama, 223 Japan

2. SCIENCE AND TECHNOLOGY EDUCATION AND FUTURE HUMAN NEEDS
Bangalore, 8-15 Aug., 1985
Organized by ICSU, COSTED, ICASE, in cooperation with UNESCO.
Hosted by the Indian National Science Academy.

3. 1st JOINT INTERNATIONAL PHYSICS SYMPOSIUM ON SCIENCE AND SOCIETY IN THE TECHNOLOGICAL WORLD OF PHYSICS
University of Manitoba, Winnipeg (Canada), 19-23 Aug., 1985
sponsored by: International Council of Associations for Science Education (ICASE); Canadian Association for Science Education (CASE); Science Teacher's Association of Manitoba (STAM) and Manitoba Education
Languages: english and french
Pre-registration deadline: 3rd July 1985
Further information from: 1st Joint Physics Symposium, Manitoba Education, 409-1181 Portage Ave, Winnipeg, Manitoba, R3G OT3 Canada.

4. THE IMPLICATIONS OF COGNITIVE SCIENCE IN THE EDUCATION OF SCIENCE
TEACHERS
Kiel, 30 Aug.- 1 Sept. 1985

5. 1er CONGRESO INTERNACIONAL SOBRE INVESTIGACION EN LA DIDACTICA DE LAS CIENCIAS Y DE LAS MATEMATICAS
Barcelona, 25-28 Sept. 1985
Organized by "Ensenanza de las Ciencias"
Further information from: I.C.E. de la Universidad Autonoma de Bar-celona, Edifici Rectorat, Bellaterra, Barcelona, Spain

6. INTERNATIONAL SYMPOSIUM ON PHYSICS TEACHING
Brussels, 11-13 Nov., 1985
Languages: english and french.
Deadline for registration: 15th September 1985
Organized by Université Libre de Bruxelles and Vrije Universiteit Brussel.
The Symposium will attempt to provide a wide range of ideas and experiences in physics teaching for those working in physics education at various levels in different countries and to find a solution to the daily problems met by physics teachers, bridging the gap between secondary school and University.
Participation fee: 2000 BF, reduced to 500 BF for secondary school teachers and to 300 BF for students.
Further information from: Prof. A. Art, Faculté des Sciences, CP 234, Université Libre de Bruxelles, B-1050 Brussels, Belgium

7. CONFERENCE ON COMPUTERS IN PHYSICS EDUCATION
Chulalongkorn University, Bangkok, 28 Oct.-9 Nov. 1985
Further information from: Prof. Wijit Senghaphan, Physics Dept., Chulalongkorn University, Bangkok, Thailand
8. NATIONAL MEETINGS OF TEACHER'S ASSOCIATIONS

1. Union des Physiciens (U.d.P.) - France
   Poitiers, 25-29 October 1985
   Expected attendance: about 500
   Structure: Plenary lectures on general topics.
              Discussions on curricular developments and other di-
              didactical issues related to the teaching of the physi-
              cal sciences in french schools.
              Workshops.
              Visits.
              General Assembly.
   This year one workshop will deal with the teaching of physics and
   chemistry in foreign countries.
   Further information from: Union des Physiciens, 44 Blvd St-Michel,
   75270 Paris, France

2. Associazione per l'Insegnamento delle Fisica (A.I.F.) - Italy
   La Spezia, 28-31 October, 1985
   Expected attendance: about 400
   Structure: Plenary lectures on general topics.
              Member's contributed papers.
              Workshops.
              General Assembly.
              Exhibits.
   A.I.F.'s National Meeting traditionally hosts contributions by
   the representatives of invited foreign Teacher's Associations.
   Further information from: A.I.F., c/o Istituto di Fisica dell'U-
   niversità, via Irnerio 46, 40126 Bologna, Italy

3. Association for Science Education (A.S.E.) - U. K.
   University of York, 2-6 January 1986
   Expected attendance: about 2500 (including day visitors)
   Structure: Lectures on topics related to every aspect of science
              teaching.
              Symposia on A.S.E. Committee activities.
              Talks and discussions.
              Visits.
              Exhibits.
   All activities run in parallel sessions for four very busy days.
   The 1986 Meeting will host invited speakers from foreign countries
   to talk on educational issues.
   Further information from: The General Secretary, A.S.E., College
   Lane, Hatfield, Herts, AL10 9AA, U. K.

4. American Association of Physics Teachers (A.A.P.T.) - U.S.A.
   Atlanta, Georgia, 27-30 January, 1986
   Joint Meeting with APS.
   Expected attendance: more than 1000.
   Structure: Plenary sessions with invited papers.
              Many parallel sessions with contributed papers.
              Workshops.
              Open Houses.
   Further information from: A.A.P.T., 5110 Roanoke Place, College
   Park, Maryland MD 20740, U.S.A.
General Information

GIREP COMMITTEE

President  Paul Black, Centre for Science and Mathematics Education,
Chelsea College, Bridges Place, London SW6 4HR, UK (tel.01/7363401)
Vice-presidents  George Marx, Dept. Atomic Physics, Roland Eötvös
Univ., Puskin utca 5, Budapest 8, PB 327, 1088 Hungary (telex n°
22.54.67 - tel. 361/131-843)
Piet Lijnse, Rijksuniversiteit, 3508 TA Utrecht, p.o.b. 80008, The
Netherlands, (tel. 09/3130531179)
Secretary  Silvia Pugliese Jona, via San Nazario 22, 10015 Ivrea
(Torino), Italy (tel. 0125/49869)
Treasurer  Brian Davies, The Institute of Physics, 47 Belgrave Sq.,
London SW1X 8QX, UK (telex n° 918453 - tel. 01/2356111)

FEES

The fee for membership to GIREP costs $10 US yearly.

All fees except fees from the U.K. and from Italy must be paid to:
Crédit Suisse, 1002 Lausanne, Switzerland - account n°376089-91.
These fees must be paid in SFr at the current rate of exchange for
$10 US, with bank and mail charges paid by the sender.

Fees from the U.K. can be paid directly in pounds sterling to the
GIREP Treasurer, Brian Davies, the Education Department, The In-
institute of Physics, 47 Belgrave Sq., London SW1X 8QX (telephone
01-235-6111). The rates are again at the current rate of exchange
for $10 US, with bank and mail charges paid by the sender.

Fees from Italy can be paid directly in Lire to Marisa Michelini,
Istituto di Fisica dell'Università, via Campi 213/A, 41100 Modena
with the same conditions stated above.

Fees from countries where the above procedures are difficult or
altogether impossible can be paid directly to George Marx, Dept. of
Atomic Physics, Roland Eötvös University, Puskin utca 5, Budapest 8,
PB 327, 1088 Hungary, agreeing on the procedure with him.

CHANGES OF ADDRESS

Members are warmly invited to send notice of any change of address
to the Secretary, Silvia Pugliese Jona, via San Nazario 22, 10015
Ivrea (Torino), Italy.