EDITOR’S SECTION

Dear Colleagues,

Electronic GIREP newsletter is issued biannually to inform GIREP active members as well as everybody interested in GIREP activities about ongoing work continued between GIREP seminars and meetings. Since summer 2012 all newsletters are available online on GIREP homepage. We announce the publishing of each newsletter by sending an e-mail to all GIREP members and colleagues subscribed at the GIREP mailing list.

On behalf of GIREP Committee I would like to invite you to contribute to the GIREP Newsletter. There is so much going on in your institutions and your countries. Please inform us about upcoming events, new initiatives and all other announcements that are relevant to GIREP ideas and mission, and you would like to share with the GIREP community.

The deadline for sending information to be included in the next, Autumn issue of this newsletter is September 30th, 2015.

At the beginning of my adventure as a new editor, I would like to thank dr Claudia Haagen, the former editor, currently the Vice-President of GIREP, for her great work on the restoration of the GIREP newsletter.

I am looking forward to fruitful cooperation on development of the newsletter with GIREP representatives, GIREP members and GIREP friends,

Dagmara Sokolowska

Starting from February 2013 the GIREP newsletter has been recorded permanently as online publication in the ISSN register as follows:

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GIREP COMMITTEE ACTIVITIES

Since the last report GIREP Committee (GC) took part in five online meetings on 13th of October, 2014, 25th of November, 12th of January and 30th of May. Yet another online meeting is anticipated in June, just before the GIREP-EPEC 2015 Conference.

The work of the GC work has been focused on:

- Practical issues of organization of the GIREP-EPEC 2015 Conference in Wroclaw
- Proposals for organization of future GIREP seminars and conferences
- Celebration of GIREP 50th anniversary in 2016
- GIREP Statute legalisation process and the procedure of Statute approval by all GIREP members
- GIREP cooperation with HOPE and other partner organizations
- GIREP representation at Physics and Science Education Conferences organized in the nearest future by GIREP partner organizations
- Development of GIREP Thematic Groups
- Involvement of GIREP national representatives
- GIREP web site and newsletter

GIREP REPRESENTATION AT UPCOMING SCIENCE EDUCATION CONFERENCES

One integral part of cooperation between partner organizations are mutual participations at conferences. In 2015 GIREP will be present at several International Physics and Science Education Conferences across the world.

ESERA 2015 Conference, Helsinki, Finland, Aug. 31- Sept. 4, organized by the University of Helsinki, invited GIREP President, Marisa Michelini to present a symposium held by GIREP organization, entitled Content-focused researches on students and teachers learning carried out on optics in GIREP

Organizers: Marisa Michelini, GIREP President, University of Udine, Italy
Bat-Sheva Eylom, Weizmann Institute of Science, Israel
Chair: Laurence Viennot, Université Paris Diderot, France
Contributors:
1. Simarro, C, Lopez, V, Pintó, R. CRECIM, Universitat Autònoma de Barcelona, Spain
2. Cedric and Anna Linder, University of Uppsala, Sweden
3. Laurence Viennot and Nicolas Décamp, Université Paris Diderot, France
4. Marisa Michelini and Alberto Stefanel, University of Udine, Italy
5. Bat-Sheva Eylom, a, Esther Bagno a,b, Roni Mualem a, Gesche Pospiech c, Ulrike Böhm d, Olaf Krey e, Ricardo Karam f of a) Weizmann Institute of Science; b) The David Yellin Academic College of Education; c) Technische Universität Dresden; d) Gymnasium Coswig, Dresden; e) Martin Luther University Halle-Wittenberg; f) University of Copenhagen
Discussant: Costas P Constantinou, University of Cyprus, Cyprus
http://www.esera2015.org

MPTL 2015 Conference, Munich, Germany, September 9-11 will take place at the Ludwig-Maximilians-Universität München. GIREP Vice-President, Claudia Haagen-Schuetzenhofer will participate in this event on behalf of GIREP.
http://www.en.didaktik.physik.uni-muenchen.de/mptl/index.html
GIREP THEMATIC GROUPS (GTG)

GIREP Thematic Groups (GTG) are focused communities of GIREP members interested in contributing their expertise in particular facets of physics education, from working with children, through undergraduate work, to teacher training. The aim of the GTG is to stay in touch as critical friends, exchanging thoughts, materials, and findings from the varied contexts in which we work and contribute to GIREP activities on the topic of GTG. The leader of a GTG takes responsibility for involving and organising the participation of active colleagues in the GTG in the conferences: offering an activity (workshop or poster-symposium, symposium) in each Conference or Seminar of GIREP. GTGs come into existence when someone offers to run one, and writes to the GIREP Committee. If the negotiations go well the GTG is announced in the newsletter.

GTG on Energy
- Group Leader: Paula Heron (University of Washington, USA)
- Contact: pheron@phys.washington.edu

GTG Mathematics in Physics Education
- Group Leader: Gesche Pospiech (Technical University of Dresden, Germany)
- Contact: gesche.pospiech@tu-dresden.de

Physics Education Research at University (PERU)
- Group Leader: Jenaro Guisasola (University of the Basque Country, Spain)
- Contact: jenaro.guisasola@ehu.es

Evaluation of Learning and Instruction (ELI)
- Group Leader: Genaro Zavala, Tecnológico de Monterrey, Mexico
- Contact: genaro.zavala@itesm.mx

Physics Preparation of Teachers in Grades K-6
- Group Leader: Stamatis Vokos, Seattle Pacific University, USA
- Contact: vokos@spu.edu

Problem Solving in Physics Textbooks
- Group Leader: Josip Slisko, Facultad de Ciencias Físico Matemáticas, Benemérita Universidad Autónoma de Puebla, Puebla, México
- Contact: jslisko@fcfm.buap.mx

Two GIREP Thematic Groups will be present at GIREP-EPEC2015 Conference in Wroclaw.

GTG Mathematics in Physics Education offers a symposium on “Mathematics in Physics Education – Forming the Process of Mathematization along the Educational Career” organised by its leader, Gesche Pospiech.

GTG Problem Solving in Physics Textbooks will be represented by another symposium: “Problem designs in physics textbooks: What students learn or might learn?”, organised by its leader, Josip Slisko.

GTG leaders are happy to welcome new members and participants of their activities.
GIRepublic 2015 Conference in Wroclaw, Poland

We invite you to participate in GIRepublic-EPEC Conference on Key competences in physics teaching and learning, organised by the University of Wroclaw on July 6 - 10, 2015.

The organizers welcome all contributions (oral presentations, workshops, posters and symposiums) from a broad range of topics concerning different aspects of the essential knowledge, skills and attitudes related to physics teaching and learning.

Main domains:

- Researching formation of Key Competences in physics teaching and learning – new research approaches, new methods, innovative learning strategies, new models
- Key Competences changing pedagogy – formative assessment, teacher role, student role, KC oriented assessment, shared pedagogy, KC oriented pedagogy
- Developing of Key Competences – examples of good practices

We are happy to announce the contribution of excellent Invited Speakers

Prof. Dr. Mojca Čepič, Ljubljana University, Slovenia
Prof. Gareth Jones, Imperial College London, the UK
Prof. Knut Neumann, Kiel University, Germany
Prof. Edward F. (Joe) Redish, University of Maryland, College Park, the USA
Dr Roman Rosiek, Institute of Physics, pedagogical University, Krakow, Poland

The abstract submission has been already closed and the process of review is about to finish.

Late Registration is still open until the 15th of June.

Like in previous GIREP conferences, a lot of attention goes to engaging teachers in taking part and establish better networks between teachers and researchers. This time we use the format of a pre-conference: in a number of workshops (in principle 6 or 9) we bring teachers and researchers together to learn from projects and their outcomes, to learn from research and to reflect and discuss. They take place on Sunday afternoon the 5th of July (two WSs) and Monday morning the 6th (one WS), in the same venue as the rest of the conference. These are planned workshops:

- **Investigating with Concept Cartoons** by Ed van den Berg, VU University and Hogeschool van Amsterdam
- **Embedded Formative Assessment and Feedback for Student and Teacher Learning** by Ed van den Berg, VU University, Amsterdam and Hogeschool van Amsterdam
- **The use of ARDUINO in IBL** by Filip Vandenwyngaert, Wim Peeters, PONTOn vzw, Belgium
- **Versatile ICT-Learning Environment to enable context-rich and authentic Physics Education** by Ewa Kędzierska, CMA, Amsterdam, The Netherlands
- **Ruch i siły - projekt ICT for IST** by Elżbieta Kawecka, Ośrodek Edukacji Informatycznej i Zastosowań Komputerów, Warszawa, Ewa Kędzierska, CMA, Amsterdam, The Netherlands (in Polish)
- **Lekcyjne zadanie projektowe LZP** by Rafał, Wydział Studiów Edukacyjnych, Zakład Pedeutologii, Uniwersytet im. Adama Mickiewicza, Poznań, Poland

In view of the number of participants, we can and will organise more workshops.

On the website [http://girep2015.ifd.uni.wroc.pl/teachers/](http://girep2015.ifd.uni.wroc.pl/teachers/) you can find the descriptions of these workshops, as well as more practical information. If you as a teacher are attending the conference, please consider participation too and register via e-mail to Dobromila Szczepaniak (dobnosz@gmail.com) with the subject “GIREP teachers pre-conference”.

Thanking the good relationship with EPS-PED the following offer for teachers is launched during GIREP-EPEC 2015 Conference.
EPS SPONSORED WORKSHOP AT GIREP-EPEC 2015 IN WROCLAW

Specialist Physics Teacher Shortages and the Preparation of School Leavers for Further Study

The European Physical Society is pleased to announce sponsorship of a workshop at the forthcoming GIREP-EPEC conference (http://girep2015.ifd.uni.wroc.pl/), 6-10 July 2015, Wroclaw, Poland to address the issue of teacher shortages and preparation of school leavers for further study in physics. There is growing anecdotal evidence that problems exist across most, if not all, of Europe and the aim of the workshop is to try to gather that evidence together and stimulate further discussion and collaboration.

Ten travel bursaries of up to 200 Euros each are available to participants who would like to provide evidence within Europe generally or within individual countries of one or more of the following:

1. Concerns about standards in physics and maths education, preferably supported by data (perhaps studies on PISA or TIMSS);
2. Concerns about the state of physics teaching and the supply of physics teachers, also supported by data if possible
3. Where physics teachers are in short supply, what are the effects of this on pupil education?

The workshop will be run in conjunction with Horizons of Physics Education (HOPE: http://www.eps.org/default.asp?page=edu_hope) and will aim to further our understanding of teacher shortages and their effects on pupils across Europe.

Further information about the travel grants is available from the Chair of the Physics Education Division of the EPS, David Sands (d.sands@hull.ac.uk). Please note that the last date for registration at the conference is 20 June and ideally applications should be made before this date.
GIREP STATUTE

During the GIREP General Assembly in Palermo we announced that we would work out the statute for a legal entity "GIREP". We want to register ourselves officially as an organisation with the statute. A version that reflects our ideas is ready now to be presented to all GIREP members. The GIREP Committee does not want to change any of the fundamental and historical aims of our organisation as such. We do modernise some practical issues.

We would like to kindly ask all of you to send us your suggestions and advice for improvement.

The statute can be downloaded from:
http://girep.org/member/statutes_girep_members.pdf

Please read the document and mail your ideas BEFORE JUNE 20th 2015 to wim.peeters.int@gmail.com. Afterwards the GIREP Committee will have another two weeks to discuss and finalise the statute. The final version will published two weeks prior to the start of the conference in Wroclaw and submitted for your approval during the General Assembly there.

After this step we will establish GIREP as a legal entity in Belgium, where relevant procedures seem to be the most easy and also the cheapest.

Thank you for your collaboration and engagement!
HOPE (Horizons of Physics Education) is a European project with the objective to increase the impact of physics on the European socio-economic area, coordinated by Nadine Vitkowski of Pierre et Marie Curie University in Paris, together with Ivan Ruddock of Strathclyde University in Glasgow, and Marisa Michelini from University of Udine in Udine, Italy. It is a three-year project (2013-2016), based on the collaboration of 71 partners from 31 European countries. They are mainly universities, but also one teacher association, CERN, European Physical Society, International Association of Physics Students and two private companies. Additional associated partners from European and non-European (USA, Brazil, India) countries complete the network.

See more at: http://hopenetwork.eu/content/horizons-physics-education

GIREP – HOPE COLLABORATION
AN INVITATION TO PARTICIPATE IN PHYSICS EDUCATION RESEARCH

Since 2013 GIREP is an active participant of HOPE Network. As such it is obliged to take part in all research designed within the project. So far two Work Groups, namely WG1 and WG2 have prepared surveys, interview protocols and templates on Research in Physics Education. We would like to encourage all GIREP members to consider a selection of instruments suitable for their research interest and to use them in order to involve their own research groups in comprehensive, large-scale study and collect relevant data in their own countries.

HOPE WG1’s activities are organized by its leader Marek Trippenbach (University of Warsaw, Poland).

The list of research instruments already developed in WG1:

- Questionnaire for university students (Gareth Jones)
- Interviews for university students (Olivia Levrini)
- Template for good practices in School-University cooperations (Dagmara Sokolowska)
- Template for student competitions (Dagmara Sokolowska)
- Questionnaire for talented secondary school students (Gesche Pospiech, Marisa Michelini, Alberto Stefanel)
- Questionnaire on stakeholders’ opinions on school-university activities (Ovidiou Caltun)
- Statistics on university physics student admissions and graduation in all European countries.(Simonetta Croci)

Should you need any further information, please, do not hesitate to contact Marisa Michelini, the President of GIREP or Dagmara Sokolowska, GIREP Secretary (dagmara.sokolowska@uj.edu.pl)
HOPE NETWORK NEWS

HOPE Work Group 2. New Competences for Physics Graduates: Fostering Innovation and Entrepreneurship

In order to assess the types of competences society expects from physicists sub-group A developed two questionnaires, one for alumni that recently started working in companies and one for the company managers. On the other hand sub-group B is assessing the integration of Physics Studies with the world of work also using an on-line questionnaire, this time directed mainly to directors of physics programs.

Data collection in WG1 has been finished and two groups of representatives of WG2A (Cristian Focsa, Ruben Trieling, Velte Nilsen and Sandris Lacis) and WG2B (Gareth Jones and Hendrik Ferdinande) will analyse the results before presenting the preliminary conclusions during the next annual forum.

The Second Annual HOPE Forum will take place 9-12 of September 2015 in Coimbra (Portugal)

HOPE Work Group 3. Improvements in Physics Teaching – Meeting Future Global Challenges in Physics Higher Education

35 members participated in the first meeting of the third working group, WG3 held in Dublin from November 20th till 22nd 2014 and organized by Eamonn Cunnigham.

Priorities of WG3
The aim of WG3 is to improve the effectiveness and attractiveness of physics teaching in Europe’s university physics departments to help ensure their competitiveness in the global student market.

- **WG3-A** aims at student recruitment and mobility, including effective recruiting methods, student exchanges and mobility between the Bachelor and Masters.
- **WG3-B** investigates teaching methods and Physics Education research (PER).

**WG3 at DCU**

This will be pursued through actions such as:
(a) surveying third country students in physics departments and the strategies used to attract them,
(b) studying the impact of ERASMUS MUNDUS programmes in physics,
(c) investigating the use of innovative methods in physics teaching in a global context, and
(d) studying the application of the results of physics education research, and weaknesses in current methodologies.

Short questionnaires are being produced in each area to go initially to group members and used to identify particular examples of successful practices in each area. Given the limited and possibly unrepresentative membership of the network it was felt that any attempt to gather statistics would be unsuccessful. In addition it is useful to gather and use published studies in relevant areas to supplement the work of WG3.

Good practice in teaching/learning physics in physics degree will be collected by Sonia Gomez Puente S.M.Gomez.Puente@tue.nl, Marisa Michelini marisa.michelini@uniud.it and Sune Pettersson ksunepettersson@gmail.com. Please, send them suggestions and good practices you find useful.
HOPE Work Group 4. Improvements in the Training and Supply of Physics School Teachers

The Work Group 4 will be launched on 18-20 of June 2015 in Zagreb, Croatia. Preliminary meeting with Marisa Michelini, Leopold Mathelitsch, Ales Mohoric, took place in May 2014 in Ljubljana. The tasks of WG4 within the HOPE project are to recommend strategies for increasing the supply of well-prepared physics school teachers and to enhance the role of university physics departments in supporting physics learning in schools. Four topics have been identified to be investigated by the working group:

(a) Facilitating the pre-service teacher education.
(b) Contributing to the professional development of existing school teachers.
(c) Contributing more directly to the process of physics teaching/learning supporting teachers’ activities
(d) Applying results of physics education research.


WHAT IS GOING ON? NEWS FLASHES FROM GIREP COUNTRIES

Singapore

Mr Wee Loo Kang Lawrence, GIREP representative in Singapore reports the organization of a four-day event for more than 20 teachers from his country participating in workshops and discussions led by invited experts: Francisco Esquembre and Wolfgang Christian on creating physics, chemistry and mathematical models.

The event titled “Computational Modelling with Open Source Physics (OSP) Easy Java/JavaScript (EJSS) Simulations”, funded by eduLab NRF2011-EDU001-EL001 Java Simulations for Teaching and Learning took place at the Academy of Singapore Teachers, eduLab@AST Block J Level 4, Singapore on November 25-28, 2014 and was sponsored by the Singapore Ministry of Education, National Institute of Education & National Research Foundation.

“This 4 day workshop and consultations aims to provide a hands-on bootstrapping experience to the ComPADRE Open Source Physics (OSP) project and the Easy Java/JavaScript Simulations (EjsS) modelling and authoring tool. Professor Francisco Esquembre and Wolfgang Christian didn’t just teach us how to make amazing JavaScript applets but also inspire us to become better teachers”, wee Loo Kang Lawrence reports.

The teachers performance of learning (EjsS) (physics, chemistry and mathematical ) models can be downloaded here http://iwant2study.org/lookangejss/00workshop/ as well as editable directly using EjsS authoring tool kit available here http://www.um.es/fem/EjsWiki/Main/Download.
FUTURE CONFERENCES

**Ecsite Annual Conference 2015, June 11-13, Trento, Italy**
Ecsite, the European network of science centres and museums gathers more than 350 organisations committed to inspiring people with science and technology and enabling dialogue between science and society. The 2015 Ecsite Annual Conference will take place in the alpine city of Trento. It will be hosted by MUSE, Trento’s new science museum designed by Renzo Piano, nestled in the Dolomites mountains.  
[www.ecsite.eu/annual-conference](http://www.ecsite.eu/annual-conference)

**Summer Meeting of American Association of Physics Teachers, July 25-29, 2015, College Park, Maryland.**
The 2015 AAPT Summer Meeting will offer five days of quality, forward-thinking presentations led by physics leaders from around the globe. In addition to paper and poster sessions, as well as workshops, there are a variety of special events and activities that will enable you to network and collaborate with attendees on all levels. The AAPT Exhibit Hall typical hosts more than 30 companies and industry leaders.  

**International Conference on Teaching Physics Innovatively**
The Graduate School for Physics of ELTE University organizes conference for teachers and researchers of physics education on secondary and tertiary level, entitled “Teaching Physics Innovatively” on 17-19 August 2015 in Budapest, Hungary.  
[http://parrise.elte.hu](http://parrise.elte.hu)

**The World Conference on Physics Education 2016**
WCPE 2016 will be held 11-16 July in São Paulo (Brazil) as a joint conference by several institutions (GIREP & ICPE plus endorsing organizations).  

**GIREP 50th Anniversary Seminar 2016**
GIREP Seminar 2016 will be organized by Faculty of Physics, Astronomy and Applied Computer Science, Jagiellonian University in Krakow, Poland.

**GIREP-ICPE-EPEC 2017**
GIREP-ICPE-EPEC 2015 Conference/Seminar will be held in Dublin, organized by Eilish McLoughlin from Dublin City University.

**GIREP-MPTL Conference in 2018**
This conference is planned in San Sebastian.
GIREP MEMBERSHIP RENEWAL & FEES

We would like to thank all members for supporting GIREP in 2014 and hope for further support. The current fee for GIREP membership is due from the beginning of 2015. Payment information can be found on the GIREP homepage (https://www.girep.org/information.html) We also invite everybody interested in physics teaching and learning as well as in physics education research to join GIREP. You can become member easily. Just follow this link: https://www.girep.org/register.html

As a GIREP member you have exclusive access to the digital proceedings of the past GIREP conferences. In addition you can get a reduced registration fee for GIREP conferences and for conferences of our partner organisations (see GIREP Newsletter 54).

CALL FOR CONTRIBUTIONS TO THE GIREP NEWSLETTER

We would like to encourage all GIREP newsletter readers to participate in sharing news and ideas about physics teaching and learning and physics education research. Please, send contributions for the next GIREP Newsletter to GIREP Secretary, Dagmara Sokolowska dagmara.sokolowska@uj.edu.pl until the end of September 2015.

Credits
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