

EPS-12: European physicists' conference in Budapest

The General Conference of the *European Physical Society* will be held between 26 and 30 August 2002 in the Physics Building of the Loránd Eötvös University, Budapest. The triennial conference *Trends in Physics* is aiming to review the latest results in physics, especially those achieved in Europe. The present conference is the twelfth of the series and the first one in Hungary.

The European Physical Society (EPS), founded in 1968, is primarily a federation of European physical societies gathering more than 70000 physicists and physics teachers from nearly all countries of Europe. The Hungarian physicists' *Roland Eötvös Physical Society* is one of the founding members of EPS.

Some 500 participants of EPS-12 will attend 34 plenary lectures. Another 55 lectures will be presented in 6 + 6 parallel sessions in two afternoons. Complementing the oral presentations, some 300 posters will also be on display.

The plenary lectures are held by most outstanding physicists, among them particle physicist *Martinus Veltman*, and solid-state physicist *Zhores Alferov*, Nobel laureates in 1999 and 2000, respectively.

Some plenary lectures deal with the most recent results in physics that have drawn considerable attention: "*stopping*" of light, *fundamental quantum-physical experiments* on single atoms, or even on larger molecules, the latest results achieved at the largest *particle accelerators*, etc.

Several plenary lectures will focus on the applications of physics; such as the *nanstructures* that are gaining an ever-larger role in high-tech. Future sources of energy will be discussed in a plenary lecture on the possibilities and the future of *fusion energy*.

The word "physics" means nowadays not only physics in the traditional sense, but all sciences that apply the *methods of physics*. The application of these methods has been well known for long in chemistry and biology, and lately they have been also used in *environmental*, and in some cases even in *social sciences*. There will be, for example, a plenary lecture on the connection of nuclear energy and carbon dioxide emission, but also on the description, and even optimal control (e.g., panic prevention) of the behaviour of people moving in large crowds and, generally, the use of the methods of statistical physics in social dynamics.

Listening to these lectures one will be convinced how untrue the statement that "physics was the science of the twentieth century, in the twenty-first century other sciences will take its place" is. Instead, we have to talk about the appearance of the methods of physics in other sciences.

Special mention must be given to the closing talk, dedicated to the memory of *Eugene P. Wigner*, a physicist outstanding even among Nobel laureates, who was born 100 years ago in Budapest. The lecture, surveying Wigner's legacy from new viewpoints will give the American physicist *László Tisza*, also born in Budapest, and only five years younger than Wigner.

A new initiative in the history of EPS conferences is the *round-table discussion* about the *future of European research and development*. Experts and scientific policy makers will take part in the discussion that will certainly focus primarily on views from the side of physics research and education. The *European Commission* has delegated a special representative to the discussion.

Following the traditions of this series of conferences, the most important EPS prizes will be presented here. Most outstanding of these is the *Agilent Technologies Europhysics Prize*, that may be considered as a sort of "European Nobel prize", awarded this year to a French–Italian–American research group of five members for their results in clarifying some basic phenomena of *nanomagnetism*, a field of particular importance from the point of view of high technology.

For the first time in the history of EPS conferences, the whole plenary program of the event will be *transmitted in real time through the Internet* (www.eps12.kfki.hu/eurotron/). On the same web address, it will also be possible to review the plenary program later on. During the two hours long round-table discussion, not only the audience present on spot, but anyone in the world will be able to participate in the discussion through the Internet and to ask the participants. The materials of the parallel sessions will also be available on the Internet afterwards.

Among the topics of the twelve sections one finds, for example, development plans for *large particle physics and materials science research facilities*, problems of *physics education*, and application of physics in *biology, space research* and other fields. A separate section deals with what physics could do for solving the problems of *developing countries*.

Traditionally there have always been many young participants present at EPS conferences. This time the number of young participants is increased by the fact that the *International Conference for Physics Students ICPS2002* takes place with a two-day overlap with EPS-12. On 26 and 27 August the two conferences will have a joint programme, thus on these two days we expect some 700 participants, more than 400 among them young (below 35). This has been made possible primarily by the generous support of the *European Commission*, the *European Physical Society*, the *UNESCO*, the *Open Society Institute* and the *INTAS*. With the help of these grants, many young participants arrive not only from the member and associated states of the European Union, but also from the Balkan and from the former Soviet states, and even from other continents.

An interesting feature of the common programme of the two conferences is the *young people's poster competition*. From among the some 150 contenders, displaying their posters on Monday, an international jury will select the best ten, who will have an opportunity to present their results in short *oral plenary lectures* on Tuesday morning.

A few small *exhibitions* will also join the conference. One of these deals with the next large international facility for fusion energy production, i.e., the *ITER torus*. Another exhibition describes the plans for a very important research tool of solid-state physics, materials sciences, chemistry and biology, i.e., the *European Spallation Source (ESS)*. Specialised *publishing houses* will also be present at the conference.

The Hungarian organisers of EPS-12 are very much honoured by the possibility of hosting this distinguished event in a period of time when their country is expected to join the European Union within a relatively short time.

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Dénes Lajos Nagy
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