

REPORT

on the 7th WPhC-Congress-2016

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1. General

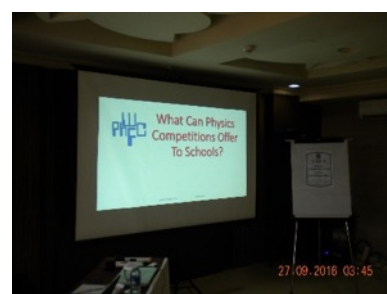
From September 26th to September 30th 2016 fourteen persons from all over the world enjoyed the cordial Indonesian hospitality in the Sapphire Sky Hotel in South Tangerang in Greater-Jakarta/Indonesia. The local organizer, Hendra Kwee, and his team did a very great job to organize this event.



The Congress took place in a very well equipped conference room inside the hotel, which was very comfortable to all of us.

On Monday, September 26th, the arriving day, we started with a delicious dinner.

Conference activities took place on September 27th and 29th, and on September 28th there were an excursion and some free time. September 30th was the departure day.



2. Tuesday, September 27th 2016



Having enjoyed breakfast, all participants came together in the conference room. After some information by the local organizer and introductory words by the president, our vice-president Hendra Kwee gave a very interesting talk about "The effect of the Physics Olympiad and Other Science Olympiads on Indonesian Students". Everybody could see the interaction between competitions and physics teaching and vice versa.

After a coffee break Martin Plesch from Slovakia gave a very interesting insight into how problems of the IYPT can influence the physics education in secondary schools.

Then Anne-Sofie Mårtensson from Sweden asked in her speech: "Will the snake see the mouse?"



There was no Yes-or-No-answer, furthermore there was information on a program all over Sweden concerning realistic problems when teaching physics to secondary school students. Well, everybody knows that this is definitely an important point and it was great to learn the Swedish point of view.



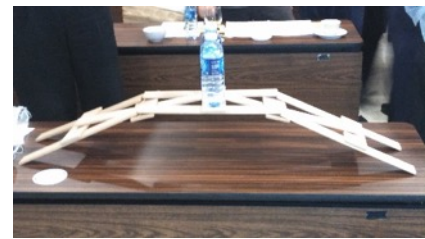
After that we enjoyed lunch and had the possibility of talking and discussing different interesting topics.



Gunnar Friege from Germany described a so-called MINT-Fight as a wonderful possibility of making physics more interesting for students, teachers, parents and the public. Such a MINT-Fight between two schools is a public event. Students and teachers of two schools have to solve different problems in public, moderated by an “anchor man”. In some way it reminds you at special TV-shows, and – in fact – there should not be only “cool problem solving”, but also the emotions of all participants and the public should be involved, too.



We trained such an event by solving a typical problem: There were given some pieces of wood and splitting up into some working groups, we had to build up a model-bridge being strong enough to hold a water filled bottle.



I have to confess, I was fascinated by this possibility of making physics more interesting – more or less – for all, including those being not particularly familiar with science.



After another coffee break Christian Thune Jacobsen from Denmark taught how to handle “Maple TA as teaching assistant”. Everybody was connected with his or her notebook with the net, and Christian told us, step by step, how to use this electronic teaching tool and what could be done with it. It was very impressive to learn that by this electronic means one can teach rather complicated details of all fields of physics in such a profound way as you

cannot do without this program.



Then we all went outside. There were some tables and seats and a different floor, which was not as sensitive as the one inside the conference room. The reason for this was the workshop, given by Paul



Stanley from the USA.

He gave us some steel balls of different diameters and two different shaped profiles made of aluminium. One had the shape of a “U” and the other of a “V”.

The task was to use these profiles as an incline and to predict which of the balls would be the fastest, which the next, and so on, up to the slowest one.

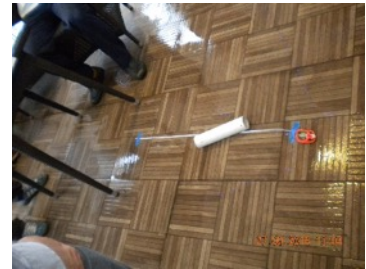


Then we had to create an experiment to check our predictions, first on the U-Profile. There were some working groups very busy to do so. To check the prediction experimentally, it was best to let the balls roll along the profiles and then let them jump to the floor. The faster the ball, the larger the projectile distance. As long as the balls could roll on the “U” like on “tracks”, the rule was: The larger the diameter, the faster

the speed. But there was one ball being so small that it rolled between the tracks, and this one did not follow the rule above.

On the other hand, as all the balls rolled along the “V”-shaped profile, all of them had the same speed at the end of the incline.

At last there was the task to let one of the balls jump into an empty cylinder. We had as many tries without the cylinder as we needed, but just one with this cylinder. It was both great fun and very interesting physics, and all of us liked this workshop very much.



A tasty dinner was the wonderful end of this day.

3. Wednesday, September 28th 2016



We started this day with a very early breakfast and then entered a bus, driving through the extremely intensive traffic of Greater-Jakarta. The aim was the Ragunan Zoo, which we entered about two hours later. The zoo of Jakarta is a very famous one. We split off into several groups, guided by local staff, and strolled through this huge

landscape with different small islands or cages, full of animals, lots of them endemic in Indonesia. It was impressive to be e.g. near a Komodo waran and to watch its behaviour.



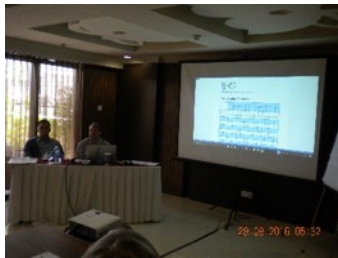
Lunch was enjoyed in a restaurant outside the zoo, and during the afternoon we had the possibility of seeing typical malls of Jakarta, travelling to the City or doing different activities, such as buying presents or souvenirs for family members or friends at home.

Back in the hotel we enjoyed a delicious dinner to close this interesting day.

4. Thursday, September 29th 2016



After a good breakfast Masuaki Matsumoto from Japan gave an insight into the interaction between the first round of their Physics Olympiad selection system and physics teaching. Masuaki explained that in the beginning there is an experimental problem solved by a group of students, guided by a teacher. We got a lot of information about the selection system of Japan and its efficiency and also the results of different evaluations. It was very interesting to understand how this system works and how the students can qualify for different steps of the competitions.



After a coffee break we heard - and watched a lot of pictures - about the International Junior Science Olympiad, performed by Victor Păunescu from Romania.



Then Stefan Petersen from Germany talked about German Science Olympiads: "Challenging Gifted Students in Science". Then it was time to enjoy another tasty lunch.



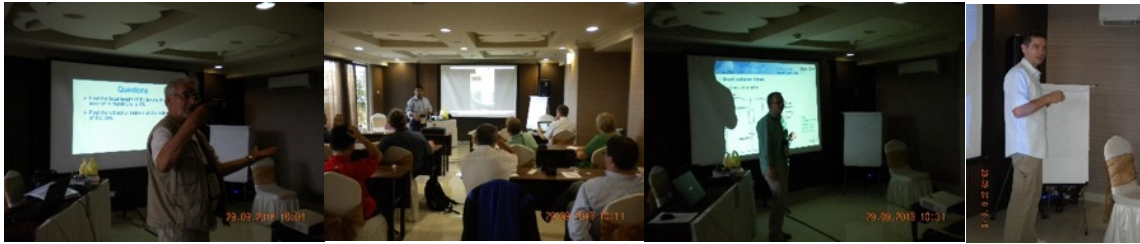
After that there was a workshop, given by Shirish Rajan Pathare and Vikrant Vivek Kurmude from India. They brought some set-ups of



a low cost Michelson-Morley-Interferometer. We split into working groups and – following their instructions – built up these set-ups and started to use them. An interesting discussion how to use this equipment in physics teaching or competitions came up. One could buy these set-ups from the two speakers.



After another coffee break there was a discussion about “Favourite Problems”. Different people gave short introductions and reasons why they liked a special problem very much. It was interesting to notice that experimental problems were stressed.



After that there was the Meeting of the WPhC. One important point was the WPhC-Award-2016. The Award Committee had chosen Andrzej Nadolny from Poland to be given this award. Unfortunately, Andrzej could not take part in the Congress, due to private reasons.

The head of the award committee, Jan Mostowski (who also could not take part in the Congress), had written a laudation, and the president read it out. The president described the award itself by using a short video and told the audience that this award would be sent by post to Jan Mostowski, and he would hand over the award to Andrzej Nadolny in Warsaw.



Andrzej Nadolny

The award itself – beside a diploma – is a self-rotating globe. There is no battery or any contact for electricity. So it reminds you of a perpetuum mobile. And what can be a better award for a physicist than such an equipment?

Another important point was the election of the new Executive Committee. There were numerous persons willing to take over a function in our Federation.

After that the president cordially thanked everybody for coming and especially Hendra Kwee, Stefan Petersen and Ingibjörg Haraldsdottir for their important and very professional work in organizing this Congress.

We closed this day and the Congress with a very tasty dinner and had to say goodbye, because the first flights home started in the night from Thursday to Friday.

All in all this Congress had an extremely high quality and was an enormous success. I want to say “Thank you!” once again to all participants and do hope to meet them and others at the next Congress in 2018.

Vienna, November 2016

Helmuth Mayr

Helmuth Mayr
(WFPPhC-President)

Photos:

All photos, except the one of Andrzej Nadolny, were made by Helmuth Mayr.

The photo of Andrzej Nadolny was provided by himself.