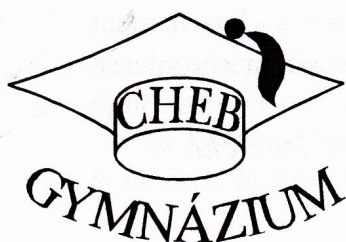


Daily Physics

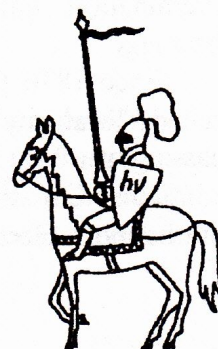


10th International Young Physicists' Tournament



4

5. 6. 1997



Our school in the past

Everyone who lives in Cheb knows that the 1st September has started the first school year in new building of grammar school. The institution of grammar school in Cheb Gymnazium has celebrated 200 years of its existence this year. The last gram. school was German school, standing at the Kostelní Square. There is the Special School for mentally retarded children today. In 1938 The Czech Gymnázium was built and should have been opened, but the border region was occupied by Nazi army and the school (children's polyclinic today) has never been opened. After the Second World War the Grammar School was opened in another building and was attended by students from Cheb until 1988, when the building was found in such a bad condition that the school had to be moved into another building. At the same time the new school building started to be built.

The first written documents about Gymnasium you can find in the State Archives in Cheb. There is a cycle of the cronicles. The first two volumes are written in Latin others in German. All of them are handwritten, bound in leather. The cycle is named *Historia Gymnasii Egrensis*. The third volume starts with these words: „The school year 1851 started under a kind protection of Majesty Franz Josef I and the Pope Pius XI.”

In those times one half of the profesors were the Czechs and one half of the Germans. There was no woman teacher. The students had to pass the school leaving examination both in Czech and German language.

Since 1876 the school leaving exam was called "Maturity", which meant that after passing it, you are grown up. The history continues: On the 10th November 1860 one of the best German Profesors visited Cheb

Gymnasium and gave the students literary lecture about Fridrich Schiller. There were no entries in the years 1884 - 1892, probably because of political reasons. Then the chronicle was renewed. In these years you



can find here the first "List of school rules for students". There are not many differences from today's rules except that it is more strict. Pages from this period contain also the notion about the Music School, which was the part of Gymnasium in those days. So much from the older history of our school.

As to the present YOU write the modern history of our school and the names of 10th the Young Physicist's Tournament participants will be written in our chronicles.

Nikola Ružičková

A Survey

We asked the competitors two questions:

1. Are you in the Czech Republic for the first time?
2. How do you like being here?

Here are their answers:

Adrian, 18 years, Germany:

1. Yes, I am here for the first time.
2. It's very nice.

Dimitrij, 17, Russia:

1. Yes, this is my first visit here.
2. I like it.



The team from Georgia

Janos, 18, Hungary:

1. Yes, I'm here for the first time.
2. I like it very much. People are very friendly. I have just talked to a little girl in the place where we had lunch and she had a bunch of small origami sculptures made out of paper. I asked her what they were and she gave me the lot as presents. I think that it was very cute of her. Hello people!
I like you! I like the Czech Republic very much.

Karin, 19, Sweden:

1. Yes.
2. I like it very much. The competition isn't going very well for us but we're having great fun anyway. At the beginning we didn't know the competition procedures and we were confused. But now we've started to understand it and it's okay.

Adam G. and Adam N., Poland

1. Yes, we are here for the first time. But other Polish teams have already been here.
2. Quite nice. At the first fight on Monday evening we were too nervous. But the next fight was very nice, it had a great atmosphere. So we quite like it. The organisation could be a little bit better but there's not really much to complain about. It's a tremendous experience to be here, to take part in such a competition.

Thank you
Petra Pivničková and Lenka Hájková

(The interview with Mr. Klitzing - part2)

Have you got some other hobbies?

"Very few. I like nature - walking in forests in the mountains...A long time ago I collected stamps to get some view of other countries. But during the last few years I had no time for this. Hobbies should be for everyone, but after your family not too much time is left. If you work moreless all of the day and night, then you forget sometimes your family."

Can we ask you what your main work is at present?

"My main work is still in semi-conductor physics and microelectronics. Microelectronics means a micrometer scale in very small devices. These devices become smaller and smaller with time. During the last 20 years there has been some scaling - where everything you can use became smaller. But it can not go to very very small structures. You know if you have a material you cut it down to small structures - you have atoms. They have different behaviours. So we're

trying to find an answer to what happens if you go to these very small structures."

In your childhood, did you have a "dream profession"?

"At the beginning I wanted to be a mathematician. Mathematics was for me the most fascinating thing, because you have a problem there and some equations and you know that it should be possible to solve this problem. When I was at school I had already produced my own problems and I tried to solve them using mathematics. At university I started to study this science but then I discovered that in physics you can apply all areas of mathematics. So I moved to physics."

What advice would you give to students at school about how to learn physics?

"I think students should be critical and ask questions. Always if you don't understand something, you have to ask. Also think about how you can answer the question, what experiments you have to do, play with the problem. In my opinion, this is the best way to learn about physics."

Thank you.



Mr. Klitzing during his lecture.

THE SEMIFINALS RESULTS

Team	Place	Total SP	Total R (in semifinals)
Czech-Prague	1	290	5
Hungary	2	280	4
Belarus	3	267	4
Russia-Moscow	4	262	4
Ukraine-Odessa	5	273	3
Poland	6	270	3
Georgia	7	267	3
Ukraine-Lvov	8	258	3
Russia-Ekaterinburg	9	256	2

The teams which qualified for the finals are:

Czech Republic-Prague (TR: 16, TSP: 1114, begins as the Reporter)

Belarus (TR: 16, TSP: 1076, begins as the Opponent)

Hungary (TR: 14, TSP: 1126, begins as the Reviewer)

There will be **no fourth team** in the finals. This would have been the case if the team with the maximum TR (taken over all four PFs carried out so far) had not been among the winners of the semifinals.

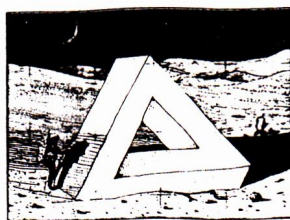
The Problems for the Finals

The representatives of the three teams written below state to present the following problems in the Finals.

Team of	Beginning as (in the finals)	Member of the team	Signature	No. of the chosen problem
Czech Rep. - - Prague	The Reporter	HYNEK NEMEC	<i>Nemec</i>	4
Belarus	The Opponent	Sergey Zhukovsky	<i>Sergey Zhukovsky</i>	9
Hungary	The Reviewer	ASBÓTH, JÁNOS	<i>Asbóth János</i>	16

INDIVIDUAL COMPETITION

	Name	Team	Points
1	Adam Glogowski	Poland	8.60
2	Janos Asboth	Hungary	8.60
3	Libor Inovecky	Czech-Prague	6.40
4	Denis Murakhovskiy	Ukraine-Odessa	5.40
5	Yaroslav Lutsyshyn	Ukraine-Lvov	5.20
6	Pavel Merkoul	Russia-Ekat	4.40
7	Imre Balint	Hungary	4.40
8	Petr Chaloupka	Czech-Prague	4.20
9	Igor Vorokhaev	Ukraine-Odessa	4.20
10	Victor Issaev	Russia-Ekat	4.00
11	Peter Svrcek	Slovakia	3.40
12	Anatoly Dymarsky	Russia-Moscow	3.20
13	Maciej Borowka	Poland	3.00
14	Alexander Aivazov	Georgia	3.00
15	Igor Vasilkovski	Georgia	2.80
16	Nikolai Sambelashvili	Georgia	2.60
17	Poya Tababat-Khani	Sweden	2.60
18	Elisaveta Ovdeenko	Ukraine-Odessa	2.60
19	Sergo Sindariani	Georgia	2.40
20	Markus Kapp	Germany	2.40
21	Sergei Zukovskiy	Belarus	2.35
22	Alexander Licholap	Belarus	2.20
23	Hynek Nemec	Czech-Prague	2.00
24	Alexei Starovoitov	Belarus	2.00
25	Hendrik Hoeth	Germany	1.80
26	Iuri Oskuzian	Georgia	1.80
27	Maxym Morus	Ukraine-Lvov	1.20
28	Andriy Haidys	Ukraine-Lvov	1.20
29	Dmitry Melnikov	Russia-Moscow	1.20
30	Thomas Schmidt	Germany	1.20
31	Petr Luner	Czech-Prague	1.20
32	Adam Zawadowski	Hungary	1.00
33	Per Norlin	Sweden	1.00
34	Leonid Volkov	Russia-Ural	0.80
35	Alexander Gedranovic	Belarus	0.80
36	Grigoriy Zavorothny	Ukraine-Odessa	0.80
37	Oleh Farenjuk	Ukraine-Lvov	0.80
38	Thomas Preusser	Germany	0.60
39	Evgeniy Kim	Uzbekistan	0.60
40	Pavel Shlapak	Belarus	0.60
41	Vadim Sedelnikov	Russia-Ural	0.60
42	Petr Mikheev	Russia-Moscow	0.60
43	Igor Ivanov	Uzbekistan	0.50
44	Ali Mohammad	Sweden	0.40
45	Kirill Belokurov	Ukraine-Odessa	0.40
46	Sergei Fotine	Russia-Ekat	0.40
47	Jirka Plsek	Czech-Opava	0.20
48	Jan Trojak	Slovakia	0.20



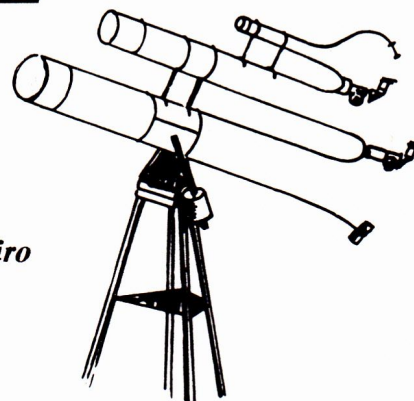
*We invite you to visit
investing events accompanying the 10th International Young Physicist Tournament*

*Thursday 5th June, 1430
in the Lecture Hall of Economical Faculty Cheb*

THE MAN AND THE UNIVERSE

original View of the Universe

*Doc.Dr.Josip Kleczek, Dr.Sc.
(proffesor of the Federal University in Rio de Janeiro
and University Colorado USA)*



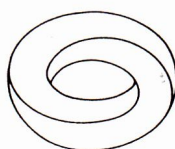
*Thursday 5th June, 1530
the same place (in the Lecture Hall of Economical Faculty Cheb)*

PHYSICISTIS SHOW

*Between a game and physics
- Interesting physical experiments in various branches of physics*

*Milan Slavík, Jaroslav Kočvara
(Gymnázium Cheb)*

We are looking forward to your participation.



Interview with Mr. Klaus von Klitzing

Mr. Klitzing, are you in the Czech Republic for the 1st time ?

"No, I've already been in Prague different times. There was some colaboration many many years ago. I know many scientists in Prague from that time."

How are you feeling at The Young Physicists' Tournament?

"I always feel happy when I meet some young students, because they are the future of science. When I get an invitation to speak to young students I always try to accept it. This is the reason that I am here. I am interested in young people very much."

Do you think that enough young people devote their time to physics?

"Today the number of students of physics is decreasing, because it is very difficult to study it. The job situation is not so good as it was about ten years ago, but I still believe that physics is one of the most innovative areas. And if we have no physicists, only lawers and these people, then we have no future. And that is why I think science in general should be supported."

In your opinion, what can be done to support it?

"To have good education already at school. And I think that there's a tendency that the concentration on scientific areas in schools, for children at the age of fourteen or so, has been reduced during the last years and if you miss something at this age then you

have problems in the future to mobilize or to be enthusiastic about science. Then you are sceptical, you don't understand science and then it's much more difficult for science to develop. I think that we must try to make sure that young people at this age are not dissappointed with science.

"Traditional" physics - does it have a future? Or will it be replaced by computer technology?

"Computers have become more important than we had believed. Some years ago I was very sceptical about the importance of information technology for books and education. I think I underestimated the importance of these technologies. It will still be the long way but changes happen today - it is difficult to me to predict how important it will be. But it is becoming more important than perhaps most of the scientists of my age believed. It is rapidly developing and I see that these technologies have a big future.

How many hours a day do you devote to physics?

"A day? If you are a scientist, you have physics in your mind 24 hours per day. It is all your hobbies, you live for your science. Even if I have a walk with my family in the forest, my wife always says: "Oh, you are surely thinking about physics! You are looking through the trees, preparing your next talk also..."(laughter). So you can't just reduce the time of physics in my mind to about 10 %, because then you are losing the connections. I know a lot of physicists who are full-time scientists. (continuing - page 5)

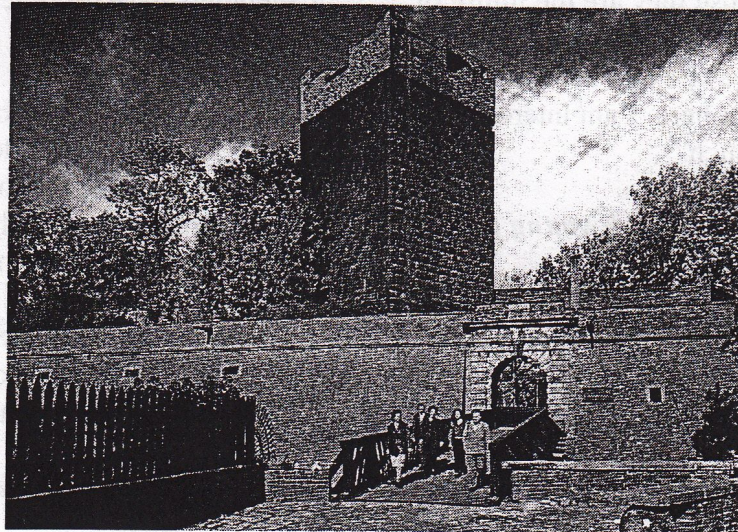
(continuing from the last edition)

It was 2 o'clock and the quiet was again at the square.

In the morning a man found an immobile stature. It was frozen Marie Martínková. Her eyes were wide open. The red cap of the velvet and the golden veil were lying at her legs. The laughter resounded at the tower. It was Rosalia's laughter so strange and painful that the heart of the man hurted him. He

wanted to enter to the tower but no doors were there. Suddenly he saw something on the wall. There was this inscription: "The Devil's Tower".

Until today time, the Devil's Tower stands near the river. People say that once a year, one day before the carnival, in the morning before the dawn, the laughter sounds from the tower. And who hears it, his heart hurts.



Weather forecast for 5th June 1997

On Thursday we expect a flood of warm air. It will be party cloudy, in the morning it will be foggy in some places. The overnight temperature will be from 9 to 13 degrees, the temperature during the day will be from 23 to 27 degrees. The Sun will rise at 04:53 and will set at 21:04. The Moon will appear at 05:26 and will disappear at 20:57.

