12th Central-European Olympiad in Informatics

CEOI 2005
Sárospatak, Hungary

28 July - 4 August 2005 Sárospatak Hungary


CEOI 2005
Sárospatak, Hungary

NewsLetter
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Welcome to Hungary in 2005!

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Welcoming Address of the Central European Olympiad in Informatics

by Dr Bálint Magyar, Minister of Education of the Republic of Hungary

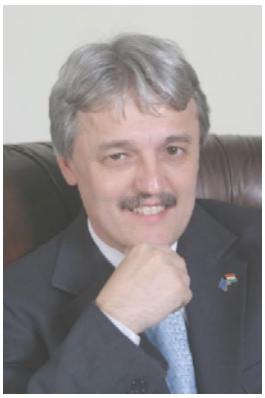
Dear Students, Teachers, Ladies and Gentlemen,

Let me welcome all the participants of the Central European Olympiad in Informatics in Sárospatak. I am happy that Hungary has taken again the opportunity to host this contest and to present itself to the participants from thirteen European countries. We are really proud to offer this historic venue and hope you will keep this Olympiad in your memory for a long time.

The idea of this event comes from the realization that competence in using and mastering the most advanced information technology is crucial to the strength of our economy and society. On the one hand, I think, this motivates people to become familiar with information technology since it will be of great importance in one's success in life. On the other hand, it is also a great challenge for all of us since we have to keep up with the increasing speed of development in this field of science.

Pupils from different parts of Europe are meeting for the 12th time to take part in contests, exchange experiences, and put further their personal development. They are discovering the possibilities of informatics and expanding their knowledge and their creativity. The great willingness and ability with which all the participants approach this challenge deserve our respect and recognition. The task is made even more difficult by the fact that the participants have

by Kálmán Kovács, Minister of Informatics and Communications of the Republic of Hungary



I feel greatly honoured to welcome you, all the participants of the 12th Central European Olympiad in Informatics (CEOI 2005) held here, in Hungary. Between July 28th and August 4th, teams from thirteen countries will try their programming skills in Sárospatak, which has been considered an acropolis of Hungarian education for nearly 500 years.

Just a few years have passed in the 21st century, but it seems obvious that this will be the century of information technology. Some decades after John von Neumann laid the theoretical bases of computer technology, we can now see the overwhelming speed with which computers invade our offices and homes. No less rapid is the rate at which information technology changes our economy and society. Knowledge, especially knowledge of information technology has become more important than ever before.

Victory in this century's economic and social competition will be secured by those countries that are capable of quickly and efficiently utilising the advantages of the sudden rapid evolution in technology, and modernise their economies on the basis of such knowledge.

On the other hand, the above holds true for the individual, as well, as the key to success is no longer origin or inherited wealth, but individual ability and knowledge acquired.

The Olympiad in Informatics is a great op-

to compete

Continuation of the letter by Bálint Magyar

not only with each other but with the steady growth of information technology as well.

Informatics, however, is not only factual knowledge but a common language that connects people, countries as well as continents. I therefore hope that all the participants will make new friends, despite the competition, and will be able to thoroughly enjoy these days in Sárospatak.

I wish you all success, and I hope that you will gain new personal and professional experiences while enjoying the hospitality of our country. Finally, I would like to sincerely thank all the organizers and coaches for their commitment.

Dr Bálint Magyar

Continuation of the letter by Kálmán Kovács

portunity for you to assess your programming skills in an international arena.

However, remember that this Olympiad is only a game and I am convinced that this competition will have more than just one or two winners; all the participants will win, since the knowledge and experience you acquire here will make you of value in the labour market of any country, which in turn will help you become successful in our globalizing world.

Keeping all the above in mind, I wish you all an enjoyable and good competition.

Kálmán Kovács

Letter of Welcome by Dr Gábor Jánosdeák

Dear Guests,

Welcome to Sárospatak (which is also called the Athens of the River Bodrog). It gives us great pleasure to host for this noble competition of students.

Sárospatak being an old school-town has always been open to everything that is new in the fields of education and science.

Our pride Árpád Vezér Grammar School and Students' Hostel, which that was founded twelve years ago soon became famous both in Hungary and abroad. Talent spotting, language teaching and computer studies are of high priority for the school.

Our fast world is full of challenges. Some types of science like Informatics are part of our everyday lives and the future generations would hardly succeed without them.

Who knows how many of the students who are only 'trying their wings' will become professionals in the field of Informatics. Life has taught us many times that a thing that only exists virtually today can become the reality of the future.

I wish that you all receive nice personal experiences here.

Dr Gábor Jánosdeák, Mayor of Sárospatak

Olympiads in Hungary

Hungary has a long tradition in organising scientific contests for secondary school students, in most school subjects including mathematics, physics, chemistry, biology, history, foreign languages, or most recently, in informatics. Our students are active and successful participants of international student competitions from their very beginnings.

Most recently, we mentioned above, hence if we compare the world history of computer technology to the history of our national olympiad in informatics, the so called "Tihamér Nemes" National Contest, you will find it has a rather long history. Our first national informatics contest was held in 1985. Today, the contest is organised in three categories for primary and secondary school students in the age groups 10—14, 15—16 and 17—19, and in three rounds (firstly, at school, then on the regional, and finally on the national level). Annually, the total number of participants is about 5000 in the first round, and about 180 in the final.

Hungary hosted the 2nd and the 8th Central European Olympiad in Informatics (1995, Szeged, 11 countries, and 2001, Zalaegerszeg, 13 countries) and the 8th International Olympiad in Informatics (1996, Veszprém, 60 countries).

The Host City of CEOI 2005 Sárospatak

The formulation and development of the town was very much influenced by its natural environment. It lies at the meeting point of the mountains (Eperjes-Tokaj volcanic range) and the northern continuation of the Great Plane, on the river Bodrog, which separates but at the same time connects the various geographical regions.

According to the findings, the area has been continuously populated since the arrival of the Magyars into the Carpathian Basin.

In the middle of the 11th century King Andrew I made the town the centre of the royal forests since hunting in the area was his favourite pastime, and also because his wife Anastasia of Kiev liked spending her time here, near her home country.

The medieval town was a one street settlement. On the spindle-shaped square there stood the parish church which was later reconstructed and extended several times, and was transformed into a late-Gothic hall church. It has been restored in this style.

The castle with its defense structure is one of Hungary's most valuable monuments, part of our national heritage. Between 1534 and 1537 were built a residential tower in late Renaissance style and a new wing to the castle.

Later the political significance of the town increased. It became the seat of princes and the cradle of the war of independence in the 17th and 18th centuries.

Since 1950 the castle has housed the Rákóczi Museum. The exhibitions give an authentic description of its history.

Within the walls of the outer fortress there were several significant medieval residential houses, parts of which are still visible.

With the ideas of the Reformation spreading rapidly, a Calvinist College was established in Sárospatak in 1531. By the end of the 16th century the school had gained strength, and since then it has played an important role in the history of the Hungarian Reformed Church, as well as the Hungarian education and culture.

Sárospatak became known as the "Athens on the bank of the river Bodrog" in the last century. In the light of the role it has played in the Hungarian culture, education and history, its past and traditional-bound present, the school town well deserves this denomination.

Sárospatak has preserved the structure and the major transportation routes of the medieval town. The present townscape bears the imprint of the architect Imre Makovecz, who designed a number of beautiful buildings such as the Culture House, The Árpád Vezér Secondary Grammar School etc.

Sárospatak was awarded the Hild medal in 1987, for the "mastery mix of traditional and modern" in town development.

The thermal bath of the town has 49 ^{0}C thermal water containing various minerals which offer effective treatment and aftercare for locomotor disorders and gyneacological diseases.

The Programme of CEOI 2005

	Contestants	Team leaders
28 July	Arrival. Sightseeing. Free time. Welcome Party.	Arrival. Sightseeing. Free time. Meeting of the Council of Team leaders.
29 July	Opening ceremony. Sightseeing. Games.	Opening ceremony. Sightseeing. Selection of tasks for the 1st Competition Day.
30 July	Competition: 1st Session. Cultural activities. Grill party.	Evaluation of the solutions. Decision to be made by team leaders.
31 July	A half-day trip. Free time.	A half-day trip. Free time. Sightseeing. Selection of tasks for the 2nd Competition Day.
1 August	Competition: 2nd Session. Free time. Games.	Evaluation of the solutions. Decision to be made by team leaders.
2 August	A half-day trip. Recreation.	A half-day trip. Decision on medallists. Meeting for the OC.
3 August	A half-day trip. Closing ceremony. Farewell Party.	A half-day trip. Closing ceremony. Farewell Party.
4 August	Departure.	Departure.

The Organisers of CEOI 2005

Who's who?

Who / as …	At … (*employment*)	e-mail
Aranyos, Gabriella secretariat	John von Neumann Computer Society	Aranyos@njszt.hu
Benczúr, András presidency	Eötvös Loránd University	ABenczur@inf.elte.hu
Horváth, Gyula scientific committee	University of Szeged	Horvath@inf.u-szeged.hu
Szlávi, Péter editorial board	Eötvös Loránd University	Szlavi@ludens.elte.hu
Tóth, Tamás presidency	Árpád Vezér Secondary School and Students' Hostel	ibolyka@arpad-sp.sulinet.hu
Zsakó, László presidency	Eötvös Loránd University	Zsako@ludens.elte.hu

Contact with Secretariat

Telephone:	(+36 1) (1) 472-2730,
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Snail-mail:	H-1372, P.O. Box 451,
Visiting address:	1054 Budapest, V. Báthori u. 16., Hungary.

On-line information

is available on the World Wide Web:

http:	http://ceoi.inf.elte.hu/, or
http:	http://olympiads.win.tue.nl/ioi/ (the IOI Secretariat)

The Main Supporters of CEOI 2005

Ministry of Education

http://www.om.hu/

Dr Bálint Magyar, Minister

Ministry of Informatics and Communications

http://en.ihm.gov.hu/

Kálmán Kovács, Minister

Prime Minister's Office Electronic Government Centre

http://www.meh.hu/szervezet/hivatalok/ekk

Dr Ferenc Baja, Secretary for the Government

Sárospatak City Council

http://www.sarospatak.hu/

Dr Gábor Jánosdeák, Mayor

Other Supporters

Eötvös Loránd University

http://www.elte.hu

Dr László Kozma, Dean

University of Szeged

http://inf.u-szeged.hu

Dr János Csirik, Dean

The Organiser

John von Neumann Computer Society

http://www.njszt.hu

As a significant professional body and learned society in the Hungarian IT community, the John von Neumann Computer Society (NJSzT) is dedicated to preserving values that can be included in today's knowledge-based society as well as to setting new directions that meet the requirements of the age and to actively forming the IS world of the future.

Mission statement (Core purpose of the Society)

The John von Neumann Computer Society's mission is to preserve the values of the past as well as to influence the present and form the future.

The Society is an independent forum committed to promote the following both in Hungary and Hungarian-speaking communities abroad:

- the study and practice of Computing and the dissemination of the results;
- maintaining the prestige of the profession as well as the highest standards and defining the standards of professional conduct;
- representing the profession and others engaged in IT on issues of importance;
- providing opportunities for its members for participating in the international community of IT specialists, disseminating information important to the advancement of knowledge in IS, promoting computer literacy and IT education.

Scope of activities

The Society is a non for profit organisation, which provides services and promotes activities including:

- providing opportunities for its members to participate in the work of the IT community; trying to integrate students and young professionals in the work of the IT community; providing opportunities for networking within national and international organisations,
- assessing and preparing research, development, educational and training projects;
- giving professional advice, advising the Hungarian government, its agencies as well as business and social organisations on IT-related matters;
- preparing conceptions, studies and expert opinion;
- organising lectures, conferences, seminars, exhibitions and courses;
- organising study-tours both in Hungary and abroad;
- by announcing competitions and founding awards it acknowledges excellence;
- representing Hungary in national and international scientific organisations,
- spreading computer literacy, coordinating ECDL examinations.

*For more information see the homepage of the Society **www.njszt.hu**.*

The Host

Árpád Vezér Secondary School and Students' Hostel

http://www.arpad-sp.sulinet.hu/

Árpád Vezér Grammar School and Students' Hostel of Sárospatak is one of the most modern institutions of secondary education in the north-east of Hungary.

Education started in this building of unique style in 1993. The school was designed by the famous Hungarian architect, Imre Makovecz.The institution was named after Árpád who was an outstanding personality of Hungarian history; he was the leader of the Hungarian conquest at the end of the 9th century. The emblem of our school calls up the memory of that era by representing a hair ornament with a tree of life on it. This tree of life symbolizes the strongest ties between past and future, tradition and modernity.

The most important aims of our education is to establish students' modern general culture, to improve their skills in modern acquisition of knowledge and to prepare them to go on to higher education. We also find it important to impart the scale of values in which respect for others, knowledge, creativity, fostering our national and cultural traditions and creating a nice atmosphere are all central issues.

In the years past we were improving our educational system raising it to a higher level, which has trebled the number of our students. This achievement is due to successful work and openness to reforms. Fusion with the students' hostel five years ago enriched our means of education.

In our educational system computer science, foreign languages and talent spotting are of high priority. Our students are successful at general competitions between schools in Hungary and fulfil the requirements of school-leaving exams, entrance exams to higher education institutions and language exams.

Besides lessons our students can attend study circles, sports circles and they can go on school-excursions to make their knowledge richer. In summer they can also go to camps for traditionalists or to talent spotting camps. The students may also take part in walking tours, cycling tours and tours on the River Bodrog taking use of the cultural traditions and the natural endowment of the region. The name of our school has become well-known both in Hungary and abroad. We have built up close relationship with English, French, German and Romanian schools by taking part in European projects. We also have twin schools abroad in the Uplands in Slovakia, in Sub-Carpathia in Ukraine and in Transylvania in Romania.

Our school is continuing the work of our great ancestors (Comenius, Kazinczy, Kossuth) to strengthen the fame of Sárospatak and to make it a real school-town.

We appreciate it very much that our institution together with the town can host to The 12th Central European Olympiad in Informatics.

The Main Sponsors of CEOI 2005

Microsoft Hungary

http://www.microsoft.com

Microsoft's mission is to enable people with great software to realize their full potential. As the worldwide leader in software for personal and business computing, Microsoft strives to produce innovative products and services that meet our customers' evolving needs. At the same time, we understand that long-term success is about more than just making great products.

In an industry that moves at lightning speed, innovation is critical to our competitiveness. Microsoft's long-term approach to research & development, combined with our constant efforts to anticipate customer needs, improve quality and reduce costs will enable us to deliver the best products and technologies.

As a leading provider of development tools and methods, we find it important to help young and talented students learning new and interesting programming techniques. We also make it possible for them to see the „.NET future" as we see it.

CISCO Systems Magyarország

http://www.cisco.com/hu/

Cisco Systems, Inc. is the worldwide leader in networking for the Internet. Today, networks are an essential part of business, education, government and home communications, and Cisco Internet Protocol-based (IP) networking solutions are the foundation of these networks. Cisco hardware, software, and service offerings are used to create Internet solutions that allow individuals, companies, and countries to increase productivity, improve customer satisfaction and strengthen competitive advantage. The Cisco name has become synonymous with the Internet, as well as with the productivity improvements that Internet business solutions provide. At Cisco, our vision is to change the way people work, live, play and learn.

To help foster access to education and professional opportunities around the world, the company has founded the Cisco Networking Academy Program, dedicated to providing students with the education and resources they need to design, build, and maintain computer networks. By combining education and the Internet, Cisco Networking Academies help students around the world acquire the necessary skills for IT-related jobs and for higher education in engineering, computer science, and related fields-and ultimately, aid in the development of their countries and their local economies. Now in its sixth year, the program has more than 10,000 academies in 152 countries.

The Hungarian subsidiary of Cisco Systems Inc. came into operation in 1995. Today, with its 50 employees, Cisco Systems Hungary performs commercial, marketing and technical tasks in order to adapt and test the last technologies.

Important Information

Remember:

- Of course, when you have free time, you'll be able to do sports (swimming, ping-pong, tennis, football etc) in Sárospatak as well. Ask for information and equipment at the school.
- You can choose among 3 sport activities: canoeing along the river Bodrog, cycling to Hercegkút, walking tour to a mountain lake.
- Please find below the most important venues of CEOI:

① Árpád Vezér Secondary School (Arany J. u. 3-7.), competition venue ② Bodrog Hotel, Hall of residence (Rákóczi út 58.) ③ The Rákóczi Castle (Szt. Erzsébet út 21.) ④ Thermal bath (Határ út 2/b.) ⑤ Railway station (Csokonai út 1.) ⑥ The Calvinist College (Rákóczi út 1.) ⑦ Culture Center (Eötvös út 6.) ⑧ Port (Árpád út 1.) ⑨ Post Office (Rákóczi út 47.)

About , the symbol of CEOI

The symbol of the 12th Central European Olympiad in Informatics takes us back to the world of ancient Hungarian beliefs.

The conquering Hungarians had high-quality goldsmith's art, which is clearly seen on the nice symbol of the Olympiad. The emblem is one of two silver-gilt disks of a hair ornament which depicts a tree of life and which was found on the confines of the town.

The conquering Hungarians, both women and men, wore their hair in plaits and the disks decorated with different symbols were worn on the plaits. Sometimes the disks depicted people or animals but much more often they depicted various trees of life.

The ancient Hungarians were in the belief that the universe was made up of several layers that were connected by the tree of life. According to them this world was connected to the other-world and they were going up on the tree of life in their lives. The Sun and the Moon were much-loved symbols of nomadic peoples. These celestial bodies symbolized different things for different peoples. Nowadays it is very hard to identify all the symbolized things and ideas but in our case the Sun symbolizes light and the Moon refers to completeness. When we decided to have these symbols as the emblem of the Olympiad we thought that the ancient world of beliefs can be connected to the science of the 21st century. As Informatics is an organizing power in our world such was the tree of life according to our ancestors.

History of CEOI

The first International Olympiad in Informatics (IOI) for secondary school students, supported by UNESCO, was organised in 1989. Thirteen countries took part in the first competition, held in Pravetz (near to Sofia), Bulgaria. A year later already 25 countries sent their teams, composed of four students and two team leaders, to Minsk, Belorussian Republic, Soviet Union. In the subsequent years the number of participating countries rose to almost 50: Anavissos (near to Athens), Greece, hosted about 24 countries in 1991; Bonn, Germany hosted already 46 in 1992; Mendoza, Argentina hosted ca 43 in 1993, and lastly Stockholm, Sweden, hosted 49 in 1994.

Inspired by the fast-growing popularity of the IOI, the Romanian team proposed in 1993 to organise a similar event for the Central European countries (as a matter of fact, they have been organising the Olympiad in Informatics of the Balkan countries for many years).

Hailing the Romanian initiative, Austria, the Czech Republic, Croatia, Poland, Hungary, Slovakia and Slovenia decided to organise the Central European Olympiad in Informatics, CEOI annually from 1994 on in order to provide the new generation of competitors of IOI with an opportunity to compare their skills. Some years laters Germany joined the founders, while Austria and Slovenia have suspended their participation.

According to the rules accepted by the initiators of the CEOI, teams of seven Central European countries, i.e. Croatia, the Czech Republic, Germany, Hungary, Poland, Romania and the Slovak Republic, are invited as regular participants. Moreover, the host country may invite guest participants as well.

1994

Cluj, Romania

Participants:
Croatia, Czech Republic, Hungary, Moldova, Poland, Romania, Turkey, Yugoslavia

Gold medallists:
Alexandru Sălcianu, Jirí Hajek, Marx Dániel

1995

Szeged, Hungary

http://ceoi.inf.elte.hu/ceoi95/

Participants:
Belarus, Croatia, Czech Republic, Estonia, Hungary, Lithuania, Poland, Romania, Slovakia, Ukraine, Yugoslavia

Gold medallists:
Vladimir Brankov, Daniel Kral, Martin Hajduch

CEOI '95
2ND CENTRAL-EUROPEAN OLYMPIAD IN INFORMATICS

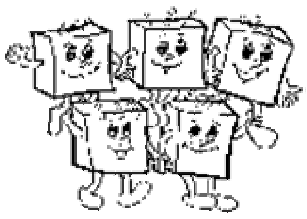
1996

Bratislava, Slovakia

http://turing.fmph.uniba.sk/www/ceoi/

Participants:
Croatia, Czech Republic, Hungary, Poland, Romania, Slovakia, Slovenia

Gold medallists:
Adam Borowski, Stanislav Funiak



1997

Nowy Saçz, Poland

http://www.mimuw.edu.pl/oi/ceoi97/

Participants:

Belarus, Croatia, Estonia, Germany, Hungary, Latvia, Lithuania, Netherlands, Poland, Romania, Slovakia, Ukraine, USA, Yugoslavia

Gold medallists:

Timo Burkard, Daniel Adkins, Krists Boitmanis, Valentin Gheorghita, Matt Craighead

1998

Zadar, Croatia

http://public.srce.hr/hsin/ceoi98/

Participants :

Bosnia-Herzegovina, Croatia, Czech Republic, Germany, Hungary, Poland, Romania, Slovakia, Slovenia

Gold medallists:

Andrej Gasienica-Samek, Eryk Kopczynski, Jan Senko, Tomasz Czajka

1999

Brno, Czech Republic

http://www.fi.muni.cz/ceoi/

Participants:

Bosnia-Herzegovina, Croatia, Czech Republic, Germany, Hungary, Poland, Romania, Slovakia, Slovenia, USA

Gold medallists:

Andrzej Gasienica-Samek, Mihai Patrascu, Radu Stefan, Daniel Wright

2000

Cluj, Romania

http://ceoi.ubbcluj.ro/

Participants:

Croatia, Czech Republic, Germany, Hungary, Moldova, Netherlands, Poland, Romania, Slovakia, Slovenia, USA

Gold medallists:

Reid Barton, Radu Stefan, Tomasz Czajka

2001

Zalaegerszeg, Hungary

http://ceoi.inf.elte.hu/

Participants:

Austria, Croatia, Czech Republic, Estonia, Finland, Germany, Hungary, Italy, Netherlands, Poland, Romania, Slovakia, Slovenia

Gold medallists:

Parys Pawel, Martin Pettai, Daniel Jasper, Jozef Tvarozek

Közép-Európai Informatikai Diákolimpia

2002

Kosice, Slovakia

http://cs.science.upjs.sk/ceoi/

Participants:

Croatia, Czech Republic, Germany, Hungary, Iran, Netherlands, Poland, Romania, Slovakia, Slovenia

Gold medallists:

Peter Bella, Victor Costan, Daniel Dumitran

2003

Münster, Germany

http://www.ceoi2003.de/

Participants:

Croatia, Czech Republic, Germany, Hungary, Netherlands, Poland, Romania, Slovakia, Slovenia, USA

Gold medallists:

Bartosz Walczak, Filip Wolski, Luka Kalinovcic

2004

Rzeszów, Poland

http://www.oi.edu.pl/ceoi2004/

Participants:

Bosnia & Herzegovina, Croatia, Czech Republic, Germany, Hungary, Poland, Romania, Slovakia

Gold medallists:

Luka Kalinovcic, Filip Wolski, Lovro Puzar, Bartomiej Romañski

2005

Sárospatak, Hungary

http://ceoi.inf.elte.hu/

Participants:

Bosnia & Herzegovina, Croatia, Czech Republic, Estonia, France, Germany, Hungary, Netherlands, Poland, Portugal, Romania, Slovakia, Spain

Gold medallists:

??? ☺

Hungary is looking forward to meeting you!


CEOI 2005
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SÁROSPATAK

DESIGN: PATAK EDUART BT