



40th International
Chemistry Olympiad
2008 Budapest, Hungary

Catalyzer

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Welcoming message
of George A. Oláh

Welcoming message
of the Chairman



It is my pleasure to invite you to the 40th International Chemistry Olympiad to be held in Budapest, in the city where my scientific career had started.

Hungary has a long tradition of academic competitions, dating back to the 19th century. As one of the three founding countries, it will host the Chemistry Olympiad once again, 40 years after the first event.

Being a friendly competition for secondary school students, the Olympiad motivates and educates the best students of more than 70 nations. There are only a few meetings in Chemistry that have such a wide participation reaching almost to the 80 percent of the population of the globe.

Chemistry has a wide array of unexplored and challenging problems to be solved by a new generation of chemists. I hope that the Olympiad will become an important starting point in the career of the participants towards Chemistry.

Oláh A. György

Nobel Laureate in Chemistry, 1994

Distinguished Professor of Organic Chemistry, University of Southern California



Dear Friends,
I am really pleased to invite you to Budapest on the occasion of the 40th International Chemistry Olympiad. It is the fourth time that Hungary hosts this prestigious event and be-

ing a veteran IChO organizer I remember well the 3rd Olympiad, which was held at the Eötvös Loránd University. Looking back to these first steps of the chemistry olympiad movement, they started as local, friendly get-together parties in chemistry. Since that time IChO's have become professionally organized, world-wide events gaining considerable international reputation. Enlargement frequently results in loss of quality but not in this case because these events are dominated by such basic values as the respect of science and education, clear and fair atmosphere of the competitions with all of these glued together by friendship and goodwill.

So come and try your professional skills in the course of the competitions, come and enjoy Hungary!
In other words: "Gaudeamus igitur..."

Szepes László

Chairman of the 40th IChO

Deputy Director of Education of the Institute of Chemistry, Eötvös Loránd University



Hungary

Hungary lies landlocked in Central Europe. The area of the country is a mere 93 thousand square kilometres and out of its 10 million inhabitants almost one fifth lives in the capital Budapest, located in the middle of the country. The great rivers Duna (or Danube) and Tisza cross the terrain in north-south direction dividing it



into three parts. The western is scattered with hills while the eastern is ruled by vast plains called the Puszta, perfect for agricultural use. Though surrounded by a range of mountains in the neighbouring countries, the highest point of Hungary called Kékes is only 1014 metres above sea level. Nearby lies the wine area Tokaj famous for its sweet dessert wine Aszú, said to be wine of the kings and king of the wines. Due to the enclosedness also hundreds of plant and animal species live uniquely in the basin. In order to protect this diversity 10 national parks and numerous nature reservation areas have been established all over the country. As you will see, the greatest lake is Balaton, a popular destination point for both Hungarian people and tourists, along with the largest thermal lake in the world, Hévíz, where the hot water emerges naturally from the ground.

Hungarians

Hungarian people originate from somewhere near the Ural Mountains according to the prevailing theory based on the fact that their language belongs to the Finno-Ugric family. The settlement in the Carpathian Basin is dated to the year 896 AD, in the age of the Great Migrations, at which time chiefs lead the people. In

1000 AD was the first king Saint István (Stephen) crowned. The Christian state he had established remained a kingdom until 1946. The original crown has a rather peculiar story being lost and found but now it is on display in the Parliament Building, which is one of the symbols of Budapest and is a destination of all sight-



seeing tours around the city. The history of Hungary is characterized by a constant struggle between East and West, many battles, invasions and reconstructions, but in 1989 it was finally declared a Republic.

Culture

Hungarian, the only official language belongs to the same family as Finnish and Estonian. Some say it is one of the hardest languages to learn being an agglutinating one. Cuisine is also a prominent part of the national culture, which usually splits the visitors since it is quite spicy and includes a lot of meat dishes. These are traditionally flavoured with red paprika, maybe the most famous of them being the gulyás (or goulash) soup. Hungarian musical life has always been ranked high with many acclaimed composers and performers (just to name Bartók and Liszt). The literature has just recently



gained some renown outside the borders, e.g. Kertész Imre was Nobel Prize winner in 2002. (note that in Hungarian the first



name is written second). The country is also proud of the achievements of Hungarian scientists: Neumann János (John von Neumann), Szent-Györgyi Albert, Teller Ede (Edward Teller) to name a few.

Budapest

Budapest, the beautiful capital of Hungary is by far the biggest city in the country with its population of 1.8 million people. It is divided by the Danube into two parts, hills rising on the right-hand side, featuring numerous caves and hot springs in the heart of the city, while the left-hand side is almost flat. A total of 9 bridges arc over the river that also embraces two big islands. Margaret Island (formerly called Island of Rabbits) is a popular place among local people. The foundation of the northwestern area dates back to the Roman Empire, at that time called Aquincum, but the first castle was only built in 1247 on Castle Hill and its present form was finished in 1903. There are many sights in Budapest, some of them are the Buda Castle, the Parliament Building, St. István's



Cathedral, the Opera, the Millennium Monument on Heroes' Square and its surroundings, which were constructed in 1896 for the anniversary of the settlement. Though traffic is not the strongest point of the city, the public transport is really convenient with three underground metro lines, trams and buses.

ELTE

The 40th IChO will be organized at the Eötvös Loránd University (Hungarian acronym: ELTE), the oldest and largest institution of higher education in Hungary. The university is sometimes



also referred to as the University of Budapest although there are more than ten universities in town.

The University was founded in 1635. It has functioned as The Royal Hungarian University most of the time. The present name (after the experimental physicist and statesman baron Eötvös Loránd) was introduced in 1950, when the faculties had been reorganized. The first Department of Chemistry was formed in 1770 at the University. The present Institute has close to 80 faculty members and a similar number of PhD students.

The Faculty of Sciences moved to a new campus on the west bank of the Danube, slightly south of the city center in the last decade. This will be the venue of most of the events of the Olympiad with its classrooms, conference center and computing facilities. Laboratory space will be used in the Institutes of Chemistry and Biology. The campus is easily reached from downtown and from the hotel used by the mentors on public transport or even on foot. We plan to provide a transit pass to the participants accommodated in Budapest.

Students' accommodation

The students and guides will stay in the dormitory of the University of Gödöllő, a town about half an hour's drive from Budapest. The newly built buildings are close to the 150 year old main building



of the university and its wonderful gardens. With lots of greenery, the place radiates a tranquil atmosphere. Besides the rooms there are common halls for evening programs and fields for those who would like to enjoy some sporting activities.

Mentors' and guests' accommodation

Congress Park Hotel Flamenco is centrally located first class (four star) hotel in the heart of the city with 358 fully equipped, air-conditioned rooms. The building is overlooking a beautiful park with a small lake and is surrounded by the scenic hill-sides of southern Buda.



40th IChO tentative program

Date		Students	Mentors and observers	Guests
July 12th Saturday	Whole day	Arrivals and registration		
July 13th Sunday	Morning	Opening Ceremony and Welcome Reception (ELTE)		
	Afternoon	Lab safety instruction	Lab inspection (ELTE)	Excursion
	Evening	Excursion	1st Jury meeting + translation	Free time
July 14th Monday	Whole day	Excursion	Translation	Excursion
July 15th Tuesday	Morning	Practical exam	Discussion on theoretical exam 2nd jury meeting	Excursion
	Afternoon	Excursion	Discussion on theoretical exam 2nd jury meeting	Excursion
July 16th Wednesday	Whole day	Excursion	Translation	Excursion
July 17th Thursday	Morning	Theoretical exam	Excursion	Excursion
	Afternoon	Free time	Excursion	Excursion
	Evening	Re-union party		
July 18th Friday	Whole day	Whole day excursion		
	Evening		3rd jury meeting	
July 19th Saturday	Whole day	Excursion	Arbitration	Excursion
July 20th Sunday	Morning	Free time		
	Afternoon	Closing ceremony		
	Evening	Banquet		
July 21st Monday	Whole day	Departures		

A few practical issues

The weather is usually hot and dry in the summer (though thunderstorms and sometimes colder days are also possible) with an average of 28°C.

Hungary is a member of the European

Union. By mid 2008 it will be a part of the common visa (Schengen) policy. That means that many of the participants can enter the country visa-free. Others will have to apply for the unified EU visa with our full assistance.

The currency in Hungary will still be the forint in 2008. The euro is not official and

is not widely accepted in daily use, but currency exchange from most major currencies is facile.

Local time in Budapest is GMT+1, in accord with most of Western Europe. Electric appliances operate on 220 V/50 Hz, with European standard two-pronged plugs.

Useful Hungarian phrases

Hi	Szia
Yes/No	Igen/Nem
Thank you	Köszönöm
Sorry	Bocsánat
I am lost	Eltévedtem
It's too expensive	Drága
I don't understand	Nem értem
Test tube stand	Kémcsőállvány
My lab coat is burning!	Ég a köpenyem!
The hood has exploded!	Felrobbant a fülke!
You are beautiful	Szép vagy
I'll take a stew	Kérek egy pörköltet

Contact info

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