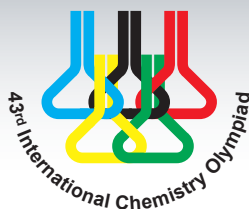


2011 Ankara, TURKEY



CATALYZER

future through chemistry

no: 1 july 27, 2010



It is my great pleasure to invite you to the 43rd International Chemistry Olympiad to be held in Ankara, Turkey in July 2011. As President of Middle East

Technical University (METU), I am delighted that this important forum of scholars and students of chemistry from all over the world will convene on our Campus.

Chemistry has been a key discipline for humankind to understand and work with the physical universe, and it will continue to drive the critical technologies needed to deal with the major challenges, such as climate change, environmental pollution, and food shortages, that face us in the 21st century. I trust the young students of chemistry who participate in the Olympiads today will play crucial roles in the scientific advances and technological innovations in chemistry and its affiliated fields tomorrow. As such, IChO represents a best practice in attracting, motivating, and training a new generation of dedicated scholars and practitioners of chemistry who will help create a safer and more prosperous world in the future.

I hope you will take this opportunity to participate in this unique forum, and also enjoy the natural and cultural treasures of Turkey. We look forward to hosting you on the METU Campus in July 2011.

Prof. Dr. Ahmet Acar
President of Middle East
Technical University



It is great pleasure for us to host the 43rd International Chemistry Olympiad in Turkey in 2011. This is the first time that the Chemistry Olympiad will be

organized in Turkey and I am very honoured to welcome talented young scientists from more than 70 countries to the capital of Turkey, Ankara whose history can be traced back to the Bronze Age Hatti civilization.

In the 21st century chemistry, although it has a reputation for being a complicated science, is critically important for modern scientific developments. It contributes to biotechnology, molecular biology, pharmacy, environmental, and material sciences.

In contemporary society, chemistry responds with significant ideas generating and developing new areas, such as molecular electronics, magnetic resonance imaging (MRI) methods, superconductors, chaotic systems, lasers, and new spectroscopic methods.

By your participation in the 43rd International Chemistry Olympiad, I believe that your involvement in an international environment will contribute to your education and pave the way to becoming chemists of the future for all of you.

I look forward to seeing you next summer and hope you will enjoy your stay in Turkey during the 43rd International Chemistry Olympiad.

Prof. Dr. Nüket Yetiş
President of The Scientific and
Technological Research Council of
Turkey



More than 40 years have passed since our assistant in my first General Chemistry laboratory hour corrected the way I handled a glass pipette. In the

following years until today chemistry has given me a lot of amusement and happiness.

All these positive feelings were further enhanced when I met many high school students so enthusiastic and motivated in chemistry through my experiences in Chemistry Olympiads. Now, we will have the pleasure, honor and joy of hosting the 43rd International Chemistry Olympiads next year at the Chemistry Department of Middle East Technical University at Ankara, Turkey. Together with the young chemistry lovers, we shall run in the labyrinths of science leading to a better understanding of chemistry. I would like to believe that the next generations will make and see a world that is better than today and the role of chemistry will be significant and appreciated.

We are all looking forward to hosting you in Ankara and to celebrating together The International Year of Chemistry 2011.

**Madem geldik dünyaya,
Çalışalım kimyaya.*

**Since we came to this world (dünya),
Let us study for chemistry (kimya).*

Prof. Dr. O. Yavuz Ataman
Chairman of the 43rd IChO

middle east technical university

Middle East Technical University (METU), a state university founded in 1956, currently has about 23,000 students of which 4,500 are in master's and 2,700 are in doctorate programs.

METU hosts over 1,500 international students from nearly 80 different countries studying toward a myriad of academic degrees.

METU, with 168 Erasmus agreements and 182 bilateral exchange and cooperation agreements with universities in third countries annually sends 350 students abroad and hosts 300 students and 50 teaching staff/researchers.

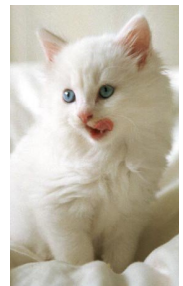


ANKARA

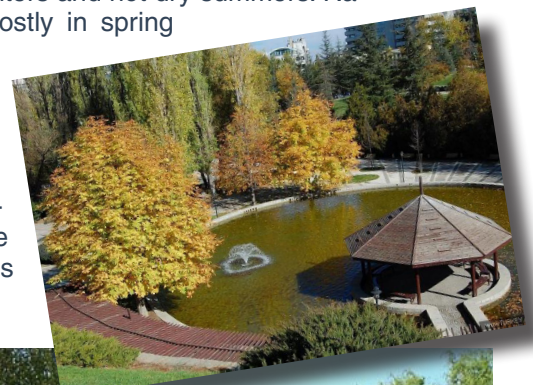
Ankara is the capital of Turkey and the country's second largest city after Istanbul, with a population of about 5 000 000. It is a very old city with various Hittite, Phrygian, Hellenistic, Roman, Byzantine, and Ottoman archaeological sites.



The city is famous for its long-haired Angora goat and its prized wool (mohair), a unique breed of cat (Angora cat), white rabbits and their prized wool (Angora wool), pears, honey, and the region's muscat grapes.



Ankara has a continental climate with cold, snowy winters and hot dry summers. Rainfall occurs mostly in spring and autumn. Because of its high altitude and its dry summers, nightly temperatures in the summer months are cool.



turkey

The Republic of Turkey is a Eurasian country situated in the Anatolian peninsula, located in Western Asia, and Eastern Thrace, located in southeastern Europe. The country is encircled by seas on three sides: the Aegean Sea to the west, the Black Sea to the north and the Mediterranean Sea to the south. Turkey also contains the Sea

of Marmara in the northwest and occupies an area of 783.56 km².

The population of Turkey is more than 73 million and the average population density is 92 persons per km².

Turkey is a democratic, secular, unitary, constitutional republic, with an ancient and historical cultural heritage. The Anatolian peninsula, comprising most of modern Turkey, is one of the oldest continuously inhabited regions in the world. The earliest Neolithic settlements are considered to be among the earliest human settlements in the world.

Turkey has a very diverse culture that is a blend of various elements of the Oguz Turk, Anatolian, Ottoman (Greco-Roman and Islamic cultures) and Western culture and traditions.



useful turkish phrases

Good morning	Günaydın
Good evening	İyi akşamlar
Good night	İyi geceler
Good-bye	Hoşçakal
Excuse me	Afedersiniz
I am sorry	Üzgünüm
Thank you	Teşekkürler
Yes/No	Evet/Hayır
Please	Lütfen
Good luck	İyi şanslar

practical information

Weather in Ankara in July

Daytime : ~30°C

Night : ~ 16°C

Humidity : 20-50%

Local time in Turkey: GMT +2

CURRENCY

The unit of Turkish currency is Turkish Lira (TL). 1 TL : 100 Kr.

Banknotes 5, 10, 20, 50, 100 and 200 TL

Coins 1, 5, 10, 25, 50, 100 Kr

Poem of the Day

Davet

...

Yaşamak bir ağaç gibi tek
ve hür
Ve bir orman gibi
kardeşçesine,

...

Invitation




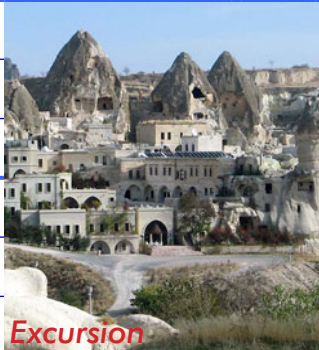

...

To live like a tree; in solitude
and free
Yet, fraternally like a forest,

...

Nazım Hikmet Ran

43rd IChO tentative program

Date		Students	Mentors, Observers
July 9 Saturday	whole day	Arrivals and Registration	
July 10 Sunday	morning	Opening Ceromony	
	afternoon	Free time	Lab Inspection
	evening	Lab Safety Instructions	1st Jury Meeting
July 11 Monday	morning		Translation
	afternoon		
	evening		Excursion
July 12 Tuesday	morning	Practical Exam	Excursion
	afternoon		Meeting with the authors
	evening		2nd Jury Meeting
July 13 Wednesday	morning		Translation
	afternoon		
	evening		
July 14 Thursday	morning	Theoretical Exam	Excursion
	afternoon	Re-union Party	
	evening	Open-air Party	Score Marking
July 15 Friday	morning		Excursion
	afternoon		
	evening		3rd Jury Meeting
July 16 Saturday	morning		Score Marking
	afternoon		Arbitration
	evening		4th Jury Meeting
July 17 Sunday	morning	Free Time	Free Time
	afternoon	Closing Ceremony	
	evening	Banquet	
July 18 Monday	whole day	Departures	

contact details

43rd IChO Office
Department of Chemistry
Middle East Technical University
Ankara 06531 Turkey

Tel +90 312 210 3203
Faks +90 312 210 3200

Email: icho2011@metu.edu.tr
Web www.icho2011.metu.edu.tr

supporting organizations



The Scientific and Technological
Research Council of Turkey



Middle East Technical University



The Turkish Chemical Society

2011 Ankara, TURKEY



CATALYZER

Editor : Ayfer Toppare
Graphic Design : Idil Ayçe Aba,
Beril Aba



CATALYZER

future through chemistry

no: 2 july 9 , 2011

MESSAGE OF THE CHAIRMAN



Dear Participants of the 43rd IChO,

For the past year, all of us in the Department of Chemistry, METU, have worked hard for a successful 43rd IChO. Our pace was elevated especially in the last few weeks. It has been a pleasure for us to be gainfully employed all together: our Scientific Committee members, assistants, student helpers, technicians and all other administrative and technical staff in our university. Our government, through the main supporter TÜBİTAK, gave us the maximum support possible. Our president and all other members of the university administration also gave a hand and opened doors for us just to make things better. You can imagine how a challenging and thrilling experience this has been. We are by all means, very excited to host the mentors, scientific observers and guests of the national teams. However, I must admit that our excitement to host the young chemistry students here in Ankara is even greater.

Throughout this period of preparation, we could talk about “US”, the hosts and “YOU”, the guests. Now that you are here, there is only one entity and it is “ALL OF US”. We shall now be working together through the several meetings and contacts with your mentors. We know that our work and performance now will have the support of the most excellent chemistry teachers of the world.

We definitely hope that all together, we shall be elevating our knowledge and understanding of chemistry. Both as mentors and students, we will learn from our errors and become more proficient in chemistry. In the International Year of Chemistry-2011, the young chemistry lovers from many countries will share a period of hard work. Yet, the social aspects of the event will pay for all the efforts put into your performance during the Olympiad pressure. The rich natural, cultural and historical colours of Turkey are waiting for you to be explored.

We hope and expect that this Olympiad will be a memorable experience for all of us.

I wish you all a successful 43rd IChO, and days full of joy, friendship and chemistry.

O. Yavuz Ataman, Chairman



turkey: A new country in an old land

In 1055, Seljuk Turks conquered Baghdad and established a Middle Eastern and Anatolian empire. When this empire was brought to an end by the Mongolian invasion, one of the remaining local powers was the Ottomans.

The Ottoman Empire started to grow and expand from northwestern Anatolia and Constantinople (İstanbul) became their capital in 1453. Until the 18th century, most of the Eastern Mediterranean was under their control. As the Ottoman Empire began to decline in the 18th and 19th centuries, it became a battleground for rival European powers. By the outbreak of World War I, the Empire had essentially been under the political influence of the great European powers. At the end of the war, practically the whole country was under invasion.

In 1922, the Turks, led by Mustafa Kemal, later known as Kemal Atatürk, defeated the armies occupying Anatolia. The republic was declared on October 29, 1923 and Atatürk was elected the first president. The Ottoman sultanate and caliphate were abolished, and modernization, reform, and industrialization began under Atatürk's direction. With a secular constitution, completely separating the government and religious affairs started the transformation of Turkey. The Latin alphabet was adopted. Fez and veil were outlawed and western dress codes were adopted. Polygamy was abolished. Women were granted equal status with men. The reforms including a public education system brought effective social changes in the society. Turkey became one of the first countries in the world to give full political rights to women, including the right to elect and be elected locally in 1930 and nationwide in 1934. Since 1984, the death penalty has not been implemented in Turkey and was abolished in 2004.

Anatolia throughout Ages

Paleolithic Age (Early Stone Age)	60 000 - 10 000 BC
Mesolithic Age (Mid Stone Age)	10 000 - 8 500 BC
Neolithic Age (Late Stone Age)	8 500 - 5 000 BC
Chalcolithic Age (Copper Age)	5 000 - 3 000 BC
Bronze Age	3 000 - 2 000 BC
Hatti and Hurrian Civilizations	2 500 - 2 000 BC
Troy - II Settlement	2 500 - 2 000 BC
Hatti and Hittite Principalities	2 000 - 1 750 BC
Great Hittite Kingdom -	
Hurri Civilization	1 750 - 1 200 BC
Troy - VI Civilization	1 800 - 1 275 BC
Aegean Migration and Invasion From Balkans	1 200 BC
Anatolian Principalities during the Iron Age	1 200 - 700 BC
Urartu Civilization	900 - 600 BC
Phrygian Civilization	750 - 300 BC
Lydia, Caria and Lycia Civilizations	700 - 300 BC
Ionian Civilization	1 050 - 300 BC
Persian Conquest	545 - 333 BC
Hellenistic and Roman Age	333 BC - 395 AD
Byzantine Civilization	330 - 1453 AD
Seljuk Civilization	1071 - 1300 AD
Ottomans	1299 - 1923 AD
Turkish Republic	1923 - present



turkish cuisine

Dating back to the Ottoman Empire, Turkish cuisine is largely a fusion and refinement of Central Asian, Middle Eastern and Balkan cuisines. It varies greatly across the country. While the northwest inherits many elements of the Ottoman court cuisine, with a lighter use of spices, a preference for rice over pounded wheat, and a wider use of seafood, on the Aegean and Mediterranean coasts, vegetables (mainly cooked in olive oil), herbs, and fish are widely used. The cuisine of the Black Sea Region, on the other hand, has been influenced by the Balkan and Slavic cuisines. Here again, fish is the main attraction and it is possible to witness an innumerable ways of serving it. In fact, it would not be completely wrong to say that only desserts do not have fish in it! Central Anatolia is known for its pasta varieties, like 'gözleme' and 'manti'. The southeast, mainly due to its geographical position, shows a vast contrast and is well-known for its kebabs and appetizers.

Turkish cuisine would be incomplete without stressing the importance of yoghurt. Yoghurt is an indispensable element in Turkish cuisine. In fact, the English word yoghurt derives from the Turkish word 'yoğurt'. Yoghurt can accompany almost all meat dishes, kebabs, meatballs, vegetable dishes, appetizers and certain dough-based dishes

AYRAN is a Turkish drink made from a mixture of milk, water, salt and a special yeast.



ETLİ DOLMA has vegetables (peppers, tomatoes, squash, eggplant) stuffed with a meat-and-rice mixture served with yoghurt.



ŞAKŞUKA is fried and chopped eggplants and peppers served with garlic, yoghurt or tomato sauce



MANTI is mainly folded triangles of dough containing minced meat and is served with yoghurt and tomato sauce

ottoman military band: mehter

Ottoman military band is thought to be the oldest military marching band in the world.

It is believed that individual instruments may have been mentioned in the 8th century Orkhon inscriptions in Central Asia, the oldest written sources of the ancestors of modern Turks. Mehter, as the name of the military band, was first mentioned in the 13th century.

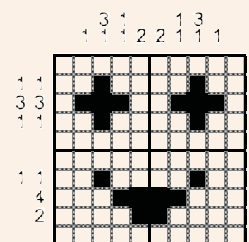
The standard instruments employed are the kös (a giant timpani), the nakare (a small kettledrum), the davul (a bass drum), the zil (cymbals), the kaba zurna (a bass variety of the zurna), the boru (a kind of trumpet), and the cevgen (a kind of stick bearing small concealed bells). It is possible to find different mehter compositions according to the number of instruments and musicians employed.



The costumes worn by the mehterân (name given to players in the band), despite wide variance in color and style, are always very flashy and bright, often including high ribbed hats which are flared at the top and long robes wrapped in silk.



nonogram



*Puzzles Lovers!
Wait for our
daily nonograms...*

Lessons in Turkish

Hoşgeldiniz *Welcome*

Merhaba *Hello, Hi*

Hoşçakal! *Bye!*

Adın ne? *What's your name?*

Nasılsın? *How are you?*

Teşekkürler *Thanks*

Evet *Yes*

Hayır *No*

Today's Weather

Lowest 17
Highest 34
Humidity 24

Emergency numbers

Police 155
Fire 110
METU Medical Center:
Day 210 4960
Night 210 4972

Happy Birthday

Matthew
Knox

Ireland



PROGRAM

10 JULY SUNDAY

Mentors

7:00 Breakfast
9:15 Transfer to METU
10:00 Opening Ceremony, METU-KKM
12:30 Welcome Reception, METU-KKM
14:00 Laboratory Inspection
15:30 Transfer to Hotel
16:00 Meeting with Authors
18:30 Dinner
20:00 1st Jury Meeting
Practical Exam
23:00 Happy Hour

Students

7:00 Breakfast
9:30 Transfer to METU
10:00 Opening Ceremony, METU-KKM
12:30 Welcome Reception, METU-KKM
14:00 Transfer to Dorms
15:00 Activities -Excursion
18:30 Dinner
20:00 Welcome Party

11 JULY MONDAY

Mentors

7:00 Breakfast
9:00 Transfer to METU
10:00 Translation
19:30 Transfer to Atli Spor Club
20:00 Dinner, Atli Spor Club
22:30 Transfer to Hotel
23:00 Happy Hour



Beypazarı

Students

7:00 Breakfast
10:00 Transfer to Beypazarı
11:00 Excursion in Beypazarı
13:00 Lunch
14:00 Transfer to Ankara
15:00 Activities -Excursion
20:00 Dinner
21:00 Laboratory Safety
22:00 Happy Hour: Music

12 JULY TUESDAY

Mentors

7:00 Breakfast
9:00 Transfer to Buses ,
Sightseeing
12:00 Lunch, Washington
Restaurant

14:30 Transfer to Hotel
15:00 Meeting with Authors
18:30 Dinner
20:00 2nd Jury Meeting –
Theoretical Exam
23:00 Happy Hour

Students

7:00 Breakfast
8:30 Transfer to Chemistry
Department
9:00 Practical Exam
14:30 Transfer to Buses
15:00 Excursion in Ankara
19:00 Dinner, Uludağ
Restaurant
21:00 Transfer to Dorms
22:15 Happy Hour: Music

13 JULY WEDNESDAY

Mentors

7:00 Breakfast
9:00 Translation
12:00 Lunch
19:30 Transfer to Çayyolu
20:00 Dinner, Uludağ Restau-
rant
22:30 Transfer to Hotel
23:00 Happy Hour

Students

7:00 Breakfast
8:30 Transfer to Eymir Lake
9:00 Eymir Lake Program
18:00 Transfer to Dorms
19:00 Dinner
21:00 Happy Hour: Pantomime
Show & Music

14 JULY THURSDAY

Mentors

7:00 Breakfast
9:00 Transfer to Buses
10:00 Excursion in Beypazarı
13:00 Transfer to METU
14:00 Reunion Party
16:00 Transfer to Hotel
16:30 Marking
20:00 Dinner
23:00 Happy Hour

Students

7:00 Breakfast
8:30 Transfer to METU High
School
9:00 Theoretical Exam
14:00 Transfer to Festival Arena
15:00 Reunion Party
19:00 Transfer to Dorms
21:00 Dinner
22:15 Happy Hour: Rock
Concert

15 JULY FRIDAY

Mentors

4:30 Transfer to Airport
6:00 Flight to İstanbul
9:00 Excursion in İstanbul,
Boat crouse



Cappadocia

21:30 Transfer Airport
23:00 Flight to Ankara
24:00 Transfer to Hotel

Students

8:00 Breakfast
9:00 Transfer to Cappadocia
13:00 Excursion in Cappadocia
18:00 Arrival at Hotel
19:00 Transfer to Restaurant
19:30 Dinner
21:30 Transfer to Hotel
22:00 Party at Hotel Disco

16 JULY SATURDAY

Mentors

7:00 Breakfast
6:00 Arbitration - Marking
12:00 Lunch
18:30 Dinner
20:00 4th Jury Meeting-
Business
21:30 Happy Hour

Students

7:00 Breakfast
9:00 Excursion in Cappadocia
12:00 Lunch
15:00 Transfer to Ankara
19:00 Dinner
21:00 Happy Hour: Music

17 JULY SUNDAY

Mentors

7:00 Breakfast
6:00 Free Time (Shopping)
12:00 Lunch
14:30 Transfer to METU-KKM
15:00 Closing Ceremony,
METU-KKM
18:30 Transfer to JW Marriott
Hotel
19:00 Farewell Dinner
23:30 Transfer to Hotel

Students

7:00 Breakfast
6:00 Free Time (Shopping)
12:00 Lunch
14:30 Transfer to METU-KKM
15:00 Closing Ceremony,
METU-KKM
18:30 Transfer to JW Marriott
Hotel
19:00 Farewell Dinner
23:30 Transfer to Hotel

Contact details

43rd IChO Office
Department of Chemistry
Middle East Technical University
Ankara 06531 Turkey

Tel +90 312 210 3203
Faks +90 312 210 3200

Email: icho2011@metu.edu.tr
Web www.icho2011.metu.edu.tr

Organizers



The Scientific and Technological
Research Council of Turkey



Middle East Technical University

Sponsors



IUPAC



The Turkish Chemical



The Chemist Society



JAPAN-ICH02010



Catalyzer

Editor : Ayfer Toppare
Graphic Design : Idil Aba, Beril Aba

iznik tiles

Iznik pottery, named after the town in western Anatolia where it was made, is highly decorated ceramics whose heyday was the late sixteenth century. The largest collection of vessels is in the British Museum and Iznik tiles may be seen in quantity in the imperial and religious buildings of Istanbul.

The second half of the 16th century which is named as the classical age of Turkish art during Ottoman rule, was the most magnificent period for ceramics as well as the other handicrafts.

The white paste products in ceramics which had started with the blue and whites had reached the summit of their developmental phases during 1549.

The most important final phase of the Turkish ceramic art also started with a three lugged lamp made for the Süleymaniye Mosque, Istanbul which was completed in 1557. This third stage of our building tile and ceramic art continued until 1608.

Iznik workshops applied underglaze technic during this period of extraordinary success which started with the Blue-and-Whites. This period attained a unique level in worldwide tile and ceramic art with its design and colour scale. The geometrical design of the Seljuk inheritance was completely dispensed with in the embellishments whereas the palmettes and leaves were still used. The plant motifs of the classical age were drawn on the white undercoats. A superficial abstraction is dominant in the naturalistic plant designs. The main examples of Nature motifs were carnations, tulips, plum blossoms and branches in full blossom, pomegranates, peonies, broken leaves, rosettes, roses, bunch of grapes, acanthus leaves, vases and birds with black, thin counterlines.

The white, tile paste prepared with a great amount of silica is given form on the pottery lathe, then it is dried in the sun and baked in the oven at a degree of 800-1000°C.



When it cools, a white, thin kaolin undercoat is applied. The decorations are drawn and coloured on this undercoat and then it is reovened to fix the colours. It is then glazed with thin, transparent lead-glass and the final baking takes place. The cobalt or sead blues,

turquoises, manganese violets, chrome greens, slightly raised coral and tomato reds and their various tones on white ground which are painted underglaze, give a colour drunkenness to the admirers as well as the artist himself. There are no cracks on the glaze. Motion and dynamism are in full balance and symmetry both in the designs and the colours. Each motif is a whole in itself whereas it is also an unseparable part of the eternal whole. Celi and Nesih styles of calligraphy are often seen in these embellishments.

The decorated surfaces of the Ottoman polychrome pottery made by underglaze technic are embellished with white and pale blue over either indigo or light brown. They are made with raised and coloured undercoat and black underglaze colouring is also seen. Thus, they have a special characteristic with these qualities. The coloured undercoat decoration technic under transparent, colourless glaze, has been successfully applied in building-tiles as well as pottery, as can be witnessed by an example displayed in the Tiled Kiosk Museum, Istanbul.

This technic is another development of that period. According to documents and books giving information about that period, forty five of the six hundred artists working for the court were painters and designers. The composition of decorations to be applied on the inner or outer surfaces of artistic architectural works were prepared by those artists. The preliminary sketches were presented to the court by means of the head architect and the necessary approval was obtained. Imperial edicts and orders take place among the archives documents related to the Iznik

tile workshops. In these documents dated 1575, 1578, 1588, not only the list of ordered products, but also the inventory of the tiles and pottery stocked in the depots are mentioned. Furthermore the names of the production supervisors and the artists are also written. The workshops that gave priority to the orders of the court and its close circles were more than 300 during that period. Those workshops met from time to time the demands for export and the foreign orders. The export port was Lindos in Rhodes. Some European researchers have been misled by the Rhodes stamps on the ceramics and they have mentioned these as Rhodes tiles and pottery in their publications. Some of these ceramics also bear the coats of arms of foreign families. It is understood from the samples that in addition to the Iznik production center, the workshops in Kütahya and Haliç, Istanbul successfully produced ceramics.

The recession in Iznik and the decadence of the workshops started in the beginning of the 17th century. The colours lost their vividness. The coral and tomato blues darkened. Quality deficits and cracks on the glazes began. The attractiveness was lost. The net lines of the contours were dispersed. The political regression was felt most at the Iznik tile workshops among all the handicrafts. The decadence was completed when financial support ceased and the producer families were scattered away. The later attempts to revive did not give successful results. The level of the second half of the 16th century was never attained. Since the production technic details were kept secret, and the technical development knowledge was not mentioned in written documents, an important gap of information was formed for the following generations. The attempts for revival required thoroughly new efforts and these efforts could not be a substitution for the traditional training passing from one generation to the next.

The examples to be found in the museums and in private collections gain value and they are considered rare works of art in the world antique markets.

flint(stone)



In ancient times, to get fire was a hard job. One of the common techniques was the use of flints. In modern times, it is much easier to get fire using lighters with

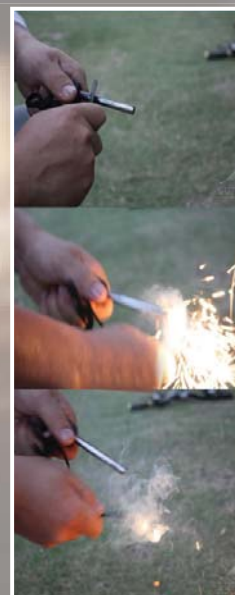
"flints" to get sparks and butane as fuel. However, the flint used in lighters is a synthetic material named ferrocerium and actually is not the same material as natural flintstone. This material contains mainly 78% mischmetal (an alloy composed of cerium, lanthanum, neodymium, praseodymium) 20% iron oxide and 2% magnesium oxide.

This modern flint produces spark when scraped against a rough surface which is a ridged steel in case of lighters. The spark ignites butane and it burns with oxygen to start a fire.

Source:

<http://www.wildwoodsurvival.com/survival/fire/flintandsteel/RBclarifications.html>

Photo: <http://www.sxc.hu/photo/246868> (with the permission of photographer)



icho students in paris for launch of iyc

In case you've just arrived from another planet, 2011 is, of course, the International Year of Chemistry. Through its connections with the joint organiser IUPAC, previous competitors from all across the globe were invited to attend the official launch in January at the UNESCO World Headquarters in Paris. The program included talks by several

Nobel Prize winners: supramolecular chemist Prof Jean-Marie Lehn of France, physical chemist Prof Yuan Lee of Taiwan, chemical biologist Ada Yonath of Israel, and Rajendra Pachauri of India who was the joint winner (with Al Gore) of the Nobel Peace Prize. French nuclear physicist Hélène Langevin-Joliot, gave a fascinating talk about the work of her grand-mother, Marie Curie. (Prof Langevin-Joliot has the distinction of having FIVE Nobel Prizes in the family: three from her grandparents Pierre and Marie and two more

from her parents Irène and Frédéric Joliot-Curie!) The topics discussed were centred on the role of chemistry in today's world: climate and the environment, food and water production, health, energy, and the creation of new materials. But equally importantly, it was a fantastic chance for lots of young chemists to meet up again.

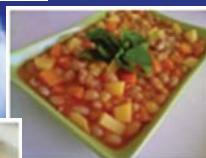


turkish cuisine

DISHES IN OLIVE OIL

A notable variety in Turkish cuisine is the “zeytinyaglılar”, dishes cooked in olive oil. A typical “zeytinyagli” dish is prepared with a base of chopped onions, carrots sautéed first in olive oil and later with tomatoes or tomato paste. The vegetables, hot water and quite often a spoon of rice and lemon juice are then added and served with its own gravy. Spinach, eggplant, leek, cabbage, celery, cauliflower, string beans, and artichokes in olive oil are among the most widespread dishes in Turkey.

‘Zeytinyağlı Dolma’, Turkish word for filling, is a common name applied to vegetables such as green peppers, tomato, eggplant, zucchini and grape and cabbage leaves, stuffed with spiced rice and cooked in olive oil.



Day One : Arrival



lessons in turkish

bir	one
iki	two
üç	three
dört	four
beş	five
altı	six
yedi	seven
sekiz	eight
dokuz	nine
on	ten
yirmi	twenty
otuz	thirty
kırk	forty
elli	fifty
yüz	hundred
bin	thousand
milyon	million



today's weather

Lowest	17
Highest	33
Humidity	26

Emergency numbers

Police	155
Fire	110
METU Medical Center:	
Day	210 4960
Night	210 4972

contact details

43rd IChO Office
Department of Chemistry
Middle East Technical University
Ankara 06531 Turkey
Tel +90 312 210 3203
Faks +90 312 210 3200
Email: icho2011@metu.edu.tr
Web www.icho2011.metu.edu.tr

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The Chemist Society



JAPAN-ICHO2010



catalyzer

Editor : Ayfer Toppare
Graphic Design : Idil Aba, Beril Aba

10 JULY SUNDAY

PROGRAM

MENTORS

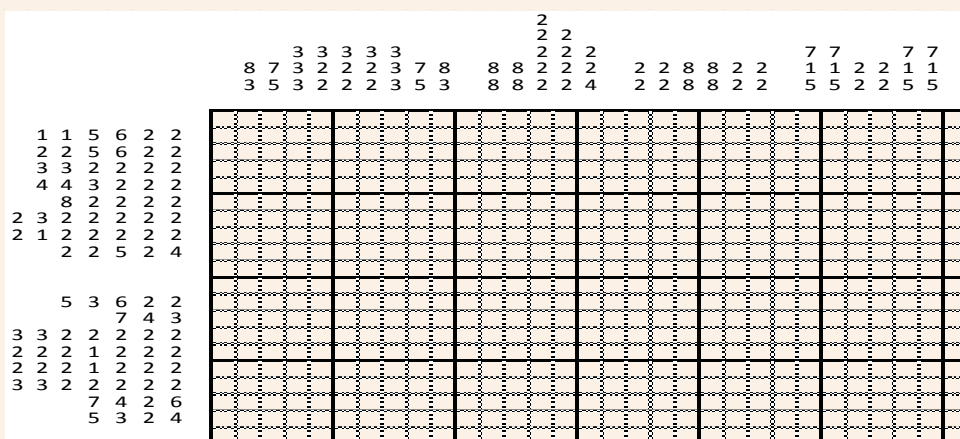
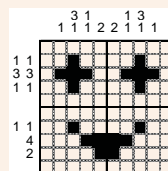
7:00 Breakfast
9:15 Transfer to METU
10:00 Opening Ceremony, METU-KKM
12:30 Welcome Reception, METU-KKM
14:00 Laboratory Inspection
15:30 Transfer to Hotel
16:00 Meeting with Authors
18:30 Dinner
20:00 1st Jury Meeting
Practical Exam
23:00 Happy Hour

STUDENTS

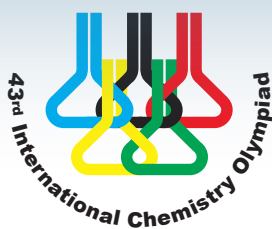
7:00 Breakfast
9:30 Transfer to METU
10:00 Opening Ceremony, METU-KKM
12:30 Welcome Reception, METU-KKM
14:00 Transfer to Dorms
15:00 Activities -Excursion
18:30 Dinner
20:00 Welcome Party



nonogram



2011 Ankara, TURKEY



CATALYZER

future through chemistry

no: 4 july 11, 2011



Beyşehir

90 km to the west of Ankara, is on the old Ankara-Istanbul route. It remains a cultural and economic center due to its central location near the towns of Ayaş, Güzöl, Nallıhan and Kırıbrıcık. Throughout Anatolian history, the area surrounding Beyşehir was dominated by HITTITES, FRIGIANS, GALATS, ROMANS and the BYZANTINE in the early ages, and later by ANATOLIAN SELJUKS and OTTOMANS. Beyşehir was on the important historical routes connecting Istanbul to Ankara and Baghdad. Its first name was Lagia, which means "the country on top of the rocks" in Luwian.



history of anesthetics

In the Americas, Incan shamans used to chew coca leaves and perform operations on the patients' skulls by spitting into the wounds to anesthetize the site. Ancient herbal anesthetics had different forms and types depending on whether the emphasis was on producing unconsciousness or relieving pain. The first effective local anesthetic was cocaine and was used in an eye surgery in 1859. More recent local anesthetic agents, many of them derivatives of cocaine, include eucaine, amylocaine, procaine and lidocaine.



The first physician to use diethyl ether as an anesthetic was Crawford Long, administering it during a surgical procedure to remove a tumor from a patient in 1842. William Thomas Green Morton, conducted the first public demonstration of the inhalational anesthetics. Morton at first attempted to hide the actual nature of his anesthetic substance. Nevertheless, respected surgeons in Europe quickly undertook numerous operations with ether. The first use of anesthetics



in the southern hemisphere took place in Tasmania in 1846.

Drawbacks with ether such as excessive vomiting and its flammability led to its replacement with chloroform whose use spread quickly and gained royal approval when John Snow gave it to Queen Victoria during the birth of Prince Leopold. Unfortunately, chloroform is not as safe an agent as ether, especially when administered by an untrained practitioner. In 18th century, scientist Joseph Priestley discovered that inhalation of nitrous oxide might relieve pain. The first time nitrous oxide was used as an anesthetic drug in the treatment of a patient was when a dentist, Horace Wells, demonstrated insensitivity to pain from a dental extraction in 1844. Later, Wells treated the first 12–15 patients with nitrous oxide and according to his own record only failed in two cases. In spite of some successful results, this new method was not immediately adopted and using nitrous oxide did not come into general use until 1863.

A Traditional Turkish Art: EBRU

Ebru, or marbled paper as it is sometimes called, is an art form that was developed in Turkey in the fifteenth century. The word 'ebru' comes from the Persian word 'ebr,' meaning 'cloud.' The word 'ebri' then evolved from this, assuming the meaning 'like a cloud' or 'cloudy,' and was assimilated into Turkish in the form 'ebru.' Marbling does actually give the impression of clouds.



Ebru is a traditional decorative form employing special methods. To make it, mineral and vegetable dyes are sprinkled on water, mixed with gum and the gall fluid of cattle, over which a sheet of paper is laid, creating unique and unrepeatable patterns.

turkish cuisine

what else is commonly consumed by turkish people?

Nuts, especially pistachios, chestnuts, almonds, hazelnuts, and walnuts are indispensable side dishes, starters and cake ingredients.



Spices such as parsley, cumin, black pepper, paprika, mint, oregano and thyme are used extensively in cooking.

Dried fruits like plums, apricots, apples, grapes and figs, alongside with all kinds of fresh fruit, plays an important role in a fairly typical Turkish kitchen.



Another common dish, pilav ('rice' in Turkish), is generally made of rice or cracked wheat or even vermi-

celli and is one of the mainstays of the Turkish table. The pilav may contain aubergines, chick peas, beans or peas in it.



Turkish coffee

Among the national drinks, Turkish coffee and tea take the lead by far. If you prefer to take alcohol, you should try "Raki", a traditional Turkish drink with a high percentage of alcohol and made of anise. It is called "lions drink" among the consumers because if you ask anyone of them 'why?', they will tell you that you must be as strong as a lion to drink it.



Turkish 'Raki'

Opening Ceremony



11 JULY MONDAY

Lessons in Turkish

.....nerede? / Where is?

Saat kaç? / What time is it?

Bu ne kadar? / How much does this

cost?

Alıyorum / I'll get/buy it

Nerelisin? / Where are you from?

Ben / I'm from

Today's Weather

Lowest 16
Highest 32
Humidity 26

Emergency numbers

Police 155
Fire 110
METU Medical Center:
Day 210 4960
Night 210 4972

Happy Birthday

Maja
Petek

Slovenia



PROGRAM

MENTORS



7:00 Breakfast
9:00 Transfer to METU
10:00 Translation
19:30 Transfer to Atılı Spor Club
20:00 Dinner, Atılı Spor Club
22:30 Transfer to Hotel
23:00 Happy Hour



STUDENTS

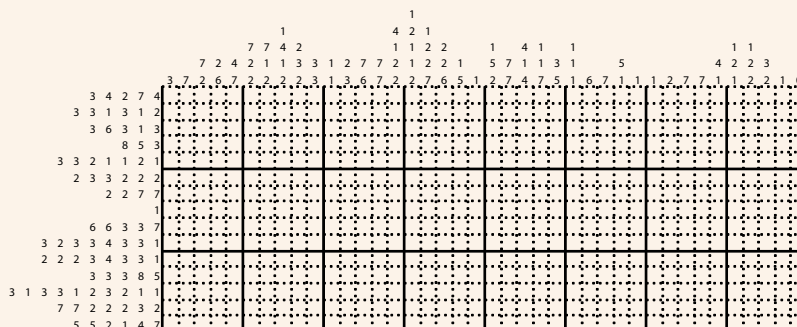
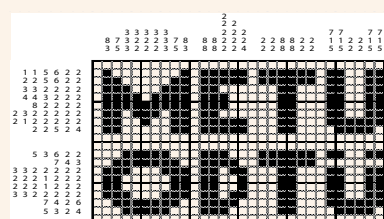
7:00 Breakfast
10:00 Transfer to Beypazarı
11:00 Excursion in Beypazarı
13:00 Lunch
14:00 Transfer to Ankara
15:00 Activities -Excursion
20:00 Dinner
21:00 Laboratory Safety
22:00 Happy Hour: Music



Beypazarı

NONOGRAM

Solution of
the previous puzzle



Contact details

43^d IChO Office
Department of Chemistry
Middle East Technical University
Ankara 06531 Turkey
Tel +90 312 210 3203
Faks +90 312 210 3200
Email: icho2011@metu.edu.tr
Web www.icho2011.metu.edu.tr

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JAPAN-ICHO2010

2011 Ankara, TURKEY



CATALYZER

Editor : Ayfer Toppare
Graphic Design : İdil Aba, Beril Aba

2011 Ankara, TURKEY



CATALYZER

future through chemistry

no: 5 july 12 , 2011



Ankara Castle was built by the Galatians and the Byzantines, now surrounded with antique shops, coffee houses, bars and restaurants in restored Ottoman-period wooden houses.

Ankara Castle

Museum of Anatolian Civilizations

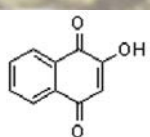
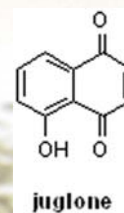
Paleolithic to Early
Bronze age: BC 8000-1950
Assyrian Period B.C. 1950-1750
Hittite Period B.C. 1250-700
Uartian Period B.C. 1200-600
Lydian Period B.C. 1200-546



henna and walnut



If you try to peel a fresh walnut with its green husk on it, you will see that after some time, your hands will darken and it will be impossible to remove them by washing. That is an annoying experience for those who like fresh walnuts. Responsible molecule for this color change on the skin is juglone, of which there is a significant amount in the walnut husk.



hennotannic acid

There is a similarity between walnut and henna. Henna is a plant that has been used to dye hair and skin for thousands of years. It is an important part of eastern culture especially, in Turkey, India and Pakistan. Still in traditional Turkish weddings, both the groom and the bride may prefer to use henna for their palms. Some women in Turkey still use henna to dye their hair. The active ingredient which colors the skin or hair in henna is hennotannic acid, also known as lawsone.

Dweek, A. C. "Natural ingredients for colouring and styling". *Int. J. Cosmetic Sci.* 24: 2002, 287–302.

<http://www.sxc.hu/photo/1115716/> (used with the permission of the photographer)



Mentors Busy!



turkish cuisine

APPETIZERS

Appetizers ('meze' in Turkish) can be served with or without drinks, as a main course or as starters. The most common are eggplant salad, hummus (prepared from broad beans), kisir prepared from pounded wheat, various fried vegetables served with yoghurt

or tomato - and - garlic sauce, Circassia chicken, Albanian liver, vine leaves, cabbage leaves, chard leaves, peppers, tomato, squash, eggplant or mussels stuffed with rice and/or meat, pastirma (pressed beef), fish croquettes, and lambs' brains with plenty of lemon juice.



ALBANIAN LIVER



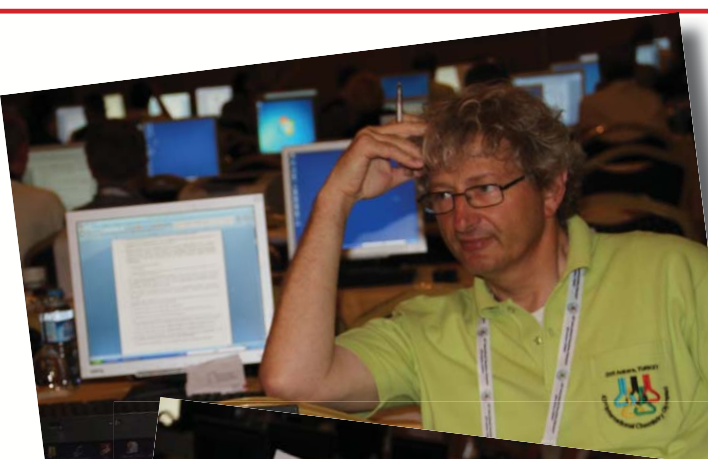
CIRCASSIA CHICKEN



KISIR



EGGPLANT SALAD



URUGUAY



12 JULY TUESDAY

lessons in turkish

Ben	I
Sen	You
Arkadaş	Friend
Oda	Room
Tuvalet	WC
Banyo	Bathroom
Otobüs	Bus
Para	Money
Banka	Bank

PROGRAM

MENTORS

7:00 Breakfast
 9:00 Transfer to Buses , Sightseeing
 12:00 Lunch, Washington Restaurant
 14:30 Transfer to Hotel
 15:00 Meeting with Authors
 18.30 Dinner
 20.00 2nd Jury Meeting – Theoretical Exam
 23.00 Happy Hour

STUDENTS

7:00 Breakfast
 8:30 Transfer to Chemistry Department
 9:00 Practical Exam
 14:30 Transfer to Buses
 15:00 Excursion in Ankara
 19:00 Dinner, Uludağ Restaurant
 21:00 Transfer to Dorms
 22:15 Happy Hour: Music



Washington R.



Piriç Han



Uludağ Restaurant

nonogram

Solution of
the previous puzzle



today's weather

Lowest 17
 Highest 31
 Humidity 24

EMERGENCY numbers

Police 155
 Fire 110
 METU Medical Center:
 Day 210 4960
 Night 210 4972

Happy Birthday

Maria
Grant

Costa-Rica



contact details

43^d IChO Office
 Department of Chemistry
 Middle East Technical University
 Ankara 06531 Turkey
 Tel +90 312 210 3203
 Faks +90 312 210 3200
 Email: icho2011@metu.edu.tr
 Web www.icho2011.metu.edu.tr

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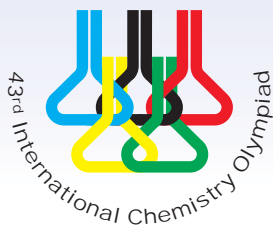
2011 Ankara, TURKEY



catalyzer

Editor : Ayfer Toppare
 Graphic Design : Idil Aba, Beril Aba

2011 Ankara, TURKEY



CATALYZER

future through chemistry

no: 6 july 13, 2011

Eymir Lake

Eymir Lake is located inside the territory of Ankara City. Its land belongs to Middle East Technical University and the work area of Middle East Technical University's boating team. It has a boat house belonging to the team. It has a nice and natural view in winter as frozen. The shape of the lake roughly resembles the letter S. While the total length is a more than 4 km the width is slightly less than 500 m.

SUNLESS TANNING CREAM

If you work too hard and cannot take holidays during summer or maybe you want to have a tanned skin in the middle of winter without solariums, then you can use sunless tanning cream which has a simple organic molecule as an active ingredient: Dihydroxyacetone.

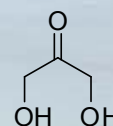
It is the smallest member of carbohydrate ketoses with three carbon atoms. It is produced from sugar cane and sugar beets or by the fermentation of glycerin. Sunless tanning creams contains between 1% and 15% of dihydroxyacetone.

How does it work? Not very complicated to

understand for a chemistry fan: the carbonyl group of dihydroxy acetone reacts with the amino functional group on the amino acids of proteins on the dead skin and causes a color changes which we call tanning. This reaction is known as Maillard reaction [1]. Although there are some concerns and considerations, it is accepted as non-toxic and safe chemicals in many countries.

[1] Jung K, Seifert M, Herrling T, Fuchs J. Spectrochim Acta A Mol. Biomol. Spectrosc. 2008, 69, 1423. <http://www.ncbi.nlm.nih.gov/pubmed/18024196>

Photo: <http://www.sxc.hu/photo/249196> (used with the permission of photographer)



Dihydroxyacetone

A Tour in Old Ankara and METU



turkish cuisine

BEYTİ

BEYTİ is ground lamb or beef, seasoned and grilled on a skewer, often served wrapped in **dough** and topped with tomato sauce and yoghurt.



ISKENDER KEBAP

ISKENDER KEBAP: is a kind of 'döner kebab' served with yoghurt, tomato sauce and butter.



KEBABS

A great variety of meat-based dishes in Turkish cuisine, referred as **kebab**, encompasses not only grilled or skewered meat, but also stews and casseroles. Among these **Adana Kebab**, **Alinazik**, **Beyti**, **Cağ Kebab**, **Çöp Şiş**, **Döner Kebab**, **İslim**

Kebab, Tandır, Şiş Kebab, Iskender Kebab, Urfa Kebab are the most popular.



ALİ NAZİK

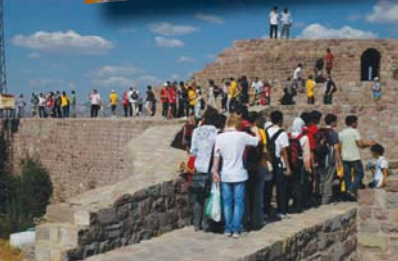
ALİ NAZİK: (Ali the Gentle) is ground meat kebab with garlic sautéed in a saucepan, yoghurt and eggplants added.



ŞİŞ KEBAP

HUNKAR BEĞENDİ

(Sultan's Delight) is sliced lamb meat mixed with eggplant purée, basil, thyme and bay leaf.



lessons in turkish

Pazartesi	Monday
Salı	Tuesday
Çarşamba	Wednesday
Perşembe	Thursday
Cuma	Friday
Cumartesi	Saturday
Pazar	Sunday
Bugün	Today
Yarın	Tomorrow

13 JULY WEDNESDAY

PROGRAM

MENTORS

7:00 Breakfast
9:00 Translation
12:00 Lunch
19:30 Transfer to Çayyolu
20:00 Dinner, Uludağ Restaurant
22:30 Transfer to Hotel
23:00 Happy Hour



Uludağ Restaurant

STUDENTS

7:00 Breakfast
8:30 Transfer to Eymir Lake
9:00 Eymir Lake Program
18:00 Transfer to Dorms
19:00 Dinner
21:00 Happy Hour: Pantomime Show & Music



today's weather

Lowest 19
Highest 32
Humidity 30

EMERGENCY numbers

Police 155
Fire 110
METU Medical Center:
Day 210 4960
Night 210 4972

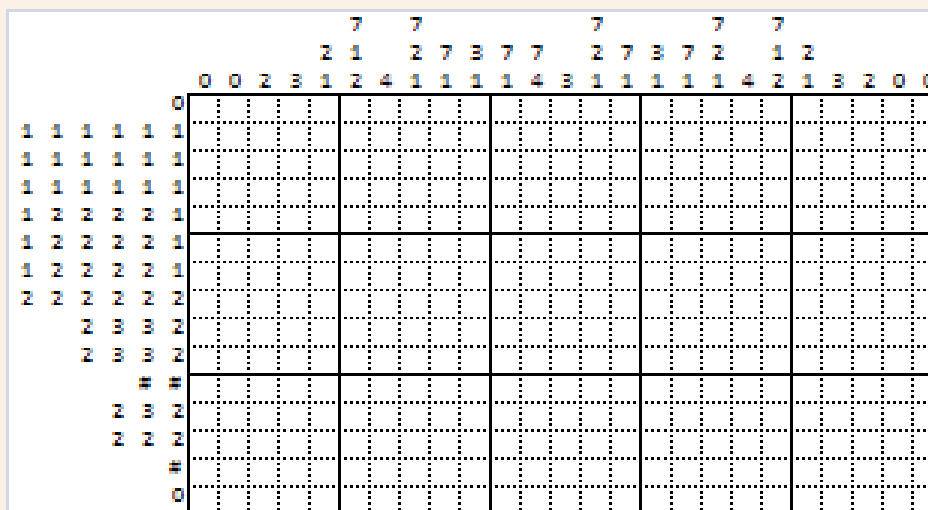
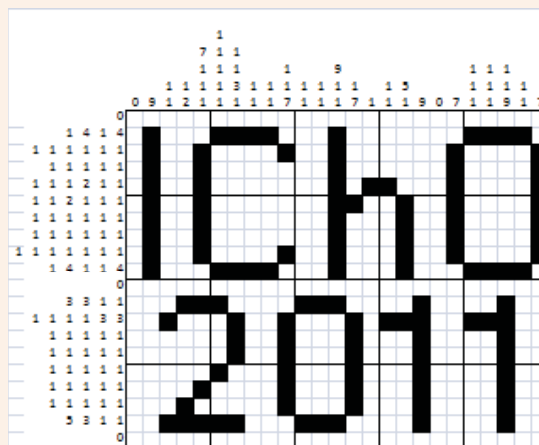
Happy Birthday

Abdullah Enkhbat
Alturki Myagmar
S. Arabia Mongolia



nonogram

Solution of
the previous puzzle



contact details

43^d IChO Office
Department of Chemistry
Middle East Technical University
Ankara 06531 Turkey
Tel +90 312 210 3203
Faks +90 312 210 3200
Email: icho2011@metu.edu.tr
Web www.icho2011.metu.edu.tr

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JAPAN-ICHO2010

2011 Ankara, TURKEY



catalyzer

Editor : Ayfer Toppare
Graphic Design : Idil Aba, Beril Aba

Puppet Shadow Play: *Karagöz and Hacivat*

*Karagöz*

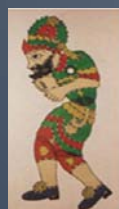
Karagöz and Hacivat, which involves two-dimensional figures as puppets, casting its shadow on a screen, has had an important place not only in today's modern Turkey, but it also had great popularity and a large audience during the Ottoman Empire. It is one of the four main theater traditions that have survived for many centuries. These are: the "folk theater", the "popular theater, the "court theater", and the "western theater" traditions. Karagöz and Hacivat together with Storyteller are typical examples of folk theater.

Turkish shadow theater appears to be the product of a historical process whereby the Mameluke-derived shadow play technique was taken over by the Turks from a technical point of view only in the sixteenth century. Turkish shadow theater borrowed movements, postures, and costumes of the Ottoman shadow theater along with human actors such as Ottoman jesters and grotesque dancers both of which had been in existence long before the advent of shadow theater.

In all dialogues between Karagoz and Hacivat, one immediately notices that Hacivat always makes use of a flowing language full of prose rhyme, while Karagoz uses the language of the ordinary man-in-the-street, not highly educated.

This contrasts artificiality with simplicity and is the first satire to attain these differences.

This contrasts artificiality with simplicity and is the first satire to attain these differences.

*Hacivat*

Accidental discovery of first antibiotic: penicillin

Chance factor (or shall we say 'destiny'?) had played a significant role in Alexander Fleming's life. Although he had never thought of it before, with his brother's suggestion he studied medicine. Later on, he wanted to be a surgeon but his friend persuaded him to be a bacteriologist. While studying on materials against bacteria, he did his first chance discovery in 1922. He noticed that bacteria did not reproduce in some parts of the petri dish. He told people around him that it was contaminated with his nasal fluid as he had a cold and a running nose at the time. After that he found that also teardrops

stopped the growth of bacteria. He called the active material in such liquids as "lisozim". Six years later, in 1928, he was working on staphylococcus bacteria. He took a vacation leaving the vessel uncleaned. When Fleming was back, he noticed that bacteria around fungus had not reproduced. He extracted the material from the mushroom and called it penicillin.

Following Fleming's footsteps, Dr. Paine in 1930 cured infectious eyes of four patients, but he did not publish this. Florey and Chain injected penicillin and streptococcus to mice and found that mice did not die. Florey gave penicillin to a policeman suffering from an eye infection. Policeman was about to heal, yet they ran out of penicillin and the patient died.

Since then, millions doomed to die due to infection were saved by penicillin obtained from fungus.

turkish cuisine

MEATBALLS

Meatballs ('köfte' in Turkish) are finely minced meat mixed with spices, onions and other ingredients, shaped by hand, and grilled, fried, boiled or baked and are named according to the cooking method, ingredients or shape. Usually the meatballs contain egg yolk and some crumbled bread and a range of spices: cumin, oregano, mint powder, red or black pepper powder with onion or garlic.



ROSTO KÖFTE (ROASTED MEATBALLS) IS COOKED IN THE OVEN AND SERVED WITH PUREE

MERCİMEK KÖFTE
LENTIL MEATBALLS



IZGARA KÖFTE (GRILLED MEATBALLS)



KADINBUDU KÖFTE
(LADIES' THIGH MEATBALLS) IS MINCED MEAT MIXED WITH COOKED RICE AND THEN FRIED



ÇİĞ KÖFTE (RAW MEATBALLS), PREPARED WITH POUNDED WHEAT AND RAW MINCED MEAT AND VARIOUS SPICES



İÇLİ KÖFTE

A visit to Eymir Lake



Lessons in Turkish

Ocak	January
Şubat	February
Mart	March
Nisan	April
Mayıs	May
Haziran	June
Temmuz	July
Ağustos	August
Eylül	September
Ekim	October
Kasım	November
Aralık	December

Today's Weather

Lowest 17
Highest 32
Humidity 20

Emergency numbers

Police 155
Fire 110
METU Medical Center:
Day 210 4960
Night 210 4972

Happy Birthday

Shokboz Wan Muhammad
Zulfailev Wan

Tajikistan Mongolia



13 JULY WEDNESDAY

PROGRAM

MENTORS

7:00 Breakfast
9:00 Transfer to Buses
10:00 Excursion in Beypazarı
13:00 Transfer to METU
14:30 Reunion Party
16:00 Transfer to Hotel
16:30 Marking
20:00 Dinner
23:00 Happy Hour

STUDENTS

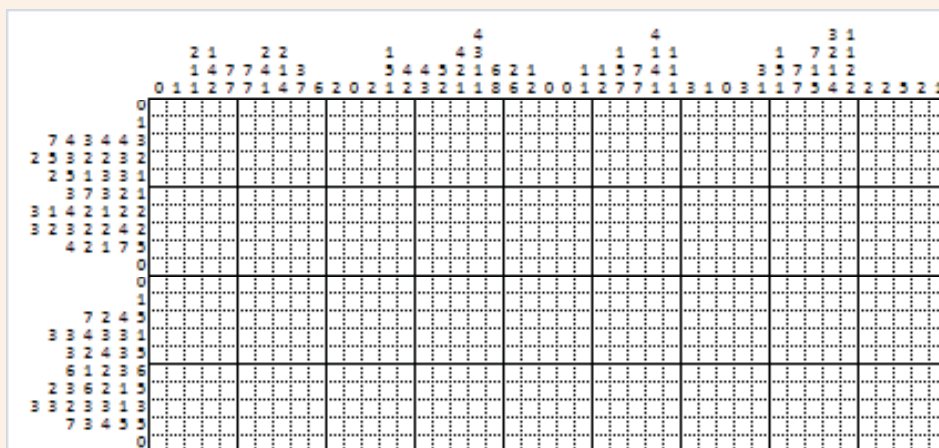
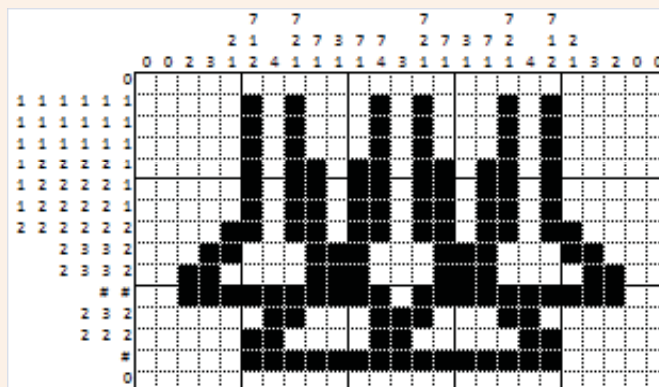
7:00 Breakfast
8:30 Transfer to METU High School
9:00 Theoretical Exam
14:00 Transfer to Festival Area
14:30 Reunion Party
18:00 Transfer to Dorms
21:00 Dinner
22:15 Happy Hour: Rock Concert

Beypazarı



nonogram

Solution of
the previous puzzle



contact details

43^d IChO Office
Department of Chemistry
Middle East Technical University
Ankara 06531 Turkey
Tel +90 312 210 3203
Faks +90 312 210 3200
Email: icho2011@metu.edu.tr
Web www.icho2011.metu.edu.tr

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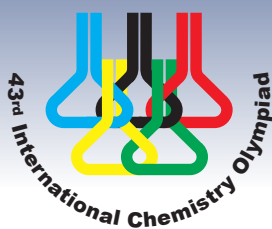
2011 Ankara, TURKEY



catalyzer

Editor : Ayfer Toppare
Graphic Design : Idil Aba, Beril Aba

2011 Ankara, TURKEY



CATALYZER

future through chemistry

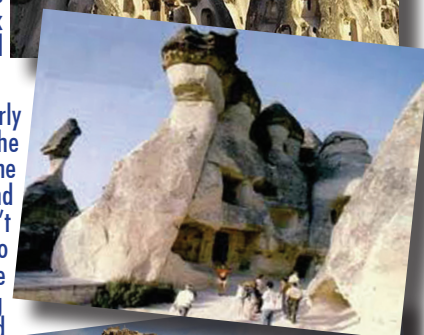
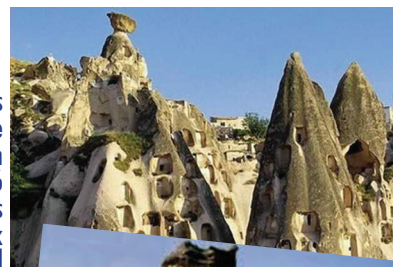
no: 8 july 15, 2011

Cappadocia

Cappadocia lies in eastern part of Central Anatolia. It is situated on a high plateau over 1000 meters in altitude. The plateau itself is pierced by volcanic peaks the tallest of which is Mount Erciyes, near the city of Kayseri with a height of 3916 meters. In the region a large tableland from the volcanic tufas was formed and together with the erosion of the Kizilirmak River and wind over ten thousands of years there appeared the chimney rocks, which are a wonder of the nature.

Another significant point about Cappadocia is about the early settlements there. The first Christians who escaped from the persecution of the Roman Empire in the second century B.C. came to Cappadocia and settled here. They hid in the underground cities whose gates were made in such a way that they couldn't be easily observed. Thus, these first Christians were able to escape from the persecution of the Roman soldiers. Because they had to stay in the underground cities for a very long time without going out, they improved these underground cities by adding provision rooms, ventilation chimneys, wine production places, churches, abbeys, water wells, toilets and meeting rooms.

Cappadocia which is in our days one of the most important tourism centers of Turkey is visited every year by hundreds of thousands of tourists coming from all parts of the world.



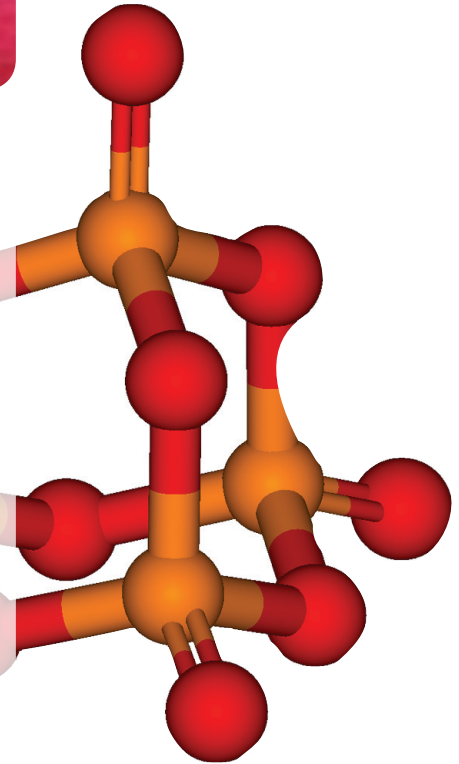


invention of phosphorus



Phosphorus was invented in 1866 by an alchemist named H. Brand by chance. H. Brand left human urine in a vessel for several months, and boiled and condensed the vapor produced. The condensed matter then became a paste. When night came and all were dark, the paste started glowing brightly. Since it glowed, the name phosphorus was given after the Greek word "light containing". Phosphorus later started to be produced from animal bones.

Strange as it may sound, R. Boyle had discovered, as early as in 1680, that when tree branches dipped in sulfur were rubbed against paper, the tree branch caught fire. However, because sulfur was expensive, he could not put this invention into practical use.



turkish cuisine

BÖREKS

Börek is the general name for salty pastries made from layers of handmade or ready dough. Depending on the fillings, the shape and the type of cooking, several types exist in Turkish kitchens. To name some, çiğ börek (raw börek), kol böreği (arm börek), fincan böreği (coffee cup börek), gül böreği (rose börek), sigara böreği (cigarette börek), talaş böreği (sawdust börek), exist. Preferred fillings are cheese, minced meat, spinach and potatoes.



GÜL BÖREĞİ



SÜSLÜ
BÖREK



TALAŞ BÖREĞİ



FİNCAN
BÖREĞİ



SİGARA BÖREĞİ

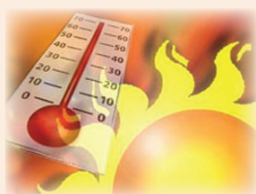
SU BÖREĞİ



Practical Exam and the Reunion Party Afterwards



lessons in turkish



Hava nasıl? What's the weather like?

Güneşli Sunny

Güneş Sun

Yağmurlu Rainy

Yağmur Rain

Bulutlu Cloudy

Bulut Cloud

Sıcak Hot

Ilık Warm

Serin Cool

Soğuk Cold



today's weather

Lowest 18

Highest 33

Humidity 23

emergency numbers

Police 155

Fire 110

METU Medical Center:

Day 210 4960

Night 210 4972

15 JULY FRIDAY

PROGRAM

MENTORS

7.00 Breakfast
9.00 Transfer to Buses
10.00 Excursion in Beypazarı
13.00 Transfer to METU
14.30 Reunion Party
16.00 Transfer to Hotel
16.30 Marking
20.00 Dinner
23.00 Happy Hour

STUDENTS

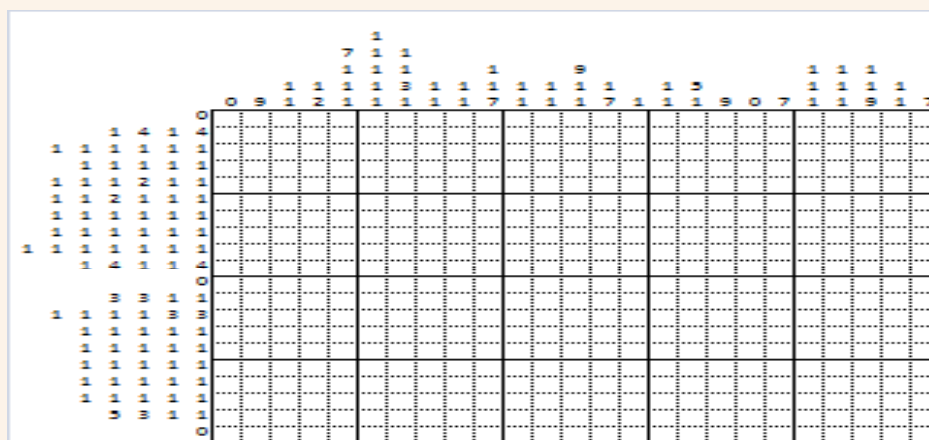
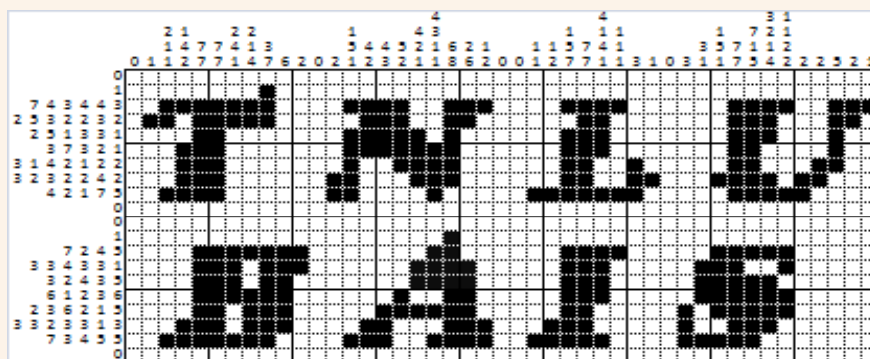
8:00 Breakfast
9:00 Transfer to Cappadocia
13:00 Excursion in Cappadocia
18:00 Arrival at Hotel
19:00 Transfer to Restaurant
19:30 Dinner
21:30 Transfer to Hotel
22:00 Party at Hotel Disco



Cappadocia

nonogram

Solution of
the previous puzzle



contact details

43^d IChO Office
Department of Chemistry
Middle East Technical University
Ankara 06531 Turkey

Tel +90 312 210 3203
Faks +90 312 210 3200

Email: icho2011@metu.edu.tr
Web www.icho2011.metu.edu.tr

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JAPAN-ICHO2010

2011 Ankara, TURKEY



catalyzer

Editor : Ayfer Toppare
Graphic Design : İdil Aba, Beril Aba

2011 Ankara, TURKEY



CATALYZER

future through chemistry

no: 9 july 16 , 2011

Istanbul

Istanbul, once known as the capital of capital cities, has many unique features. It is the only city in the world to have land on two continents, and the only one to have been a capital during two consecutive empires — one Christian (Byzantine) and the other Moslem (Ottoman). Once the capital of the Ottoman Empire in 1453, Istanbul still remains the commercial, historical and cultural pulse of Turkey, and its beauty lies in its ability to embrace its contradictions. Ancient and modern, religious and secular, Asia and Europe, mystical and earthly all co-exist here hand in hand and side by side.

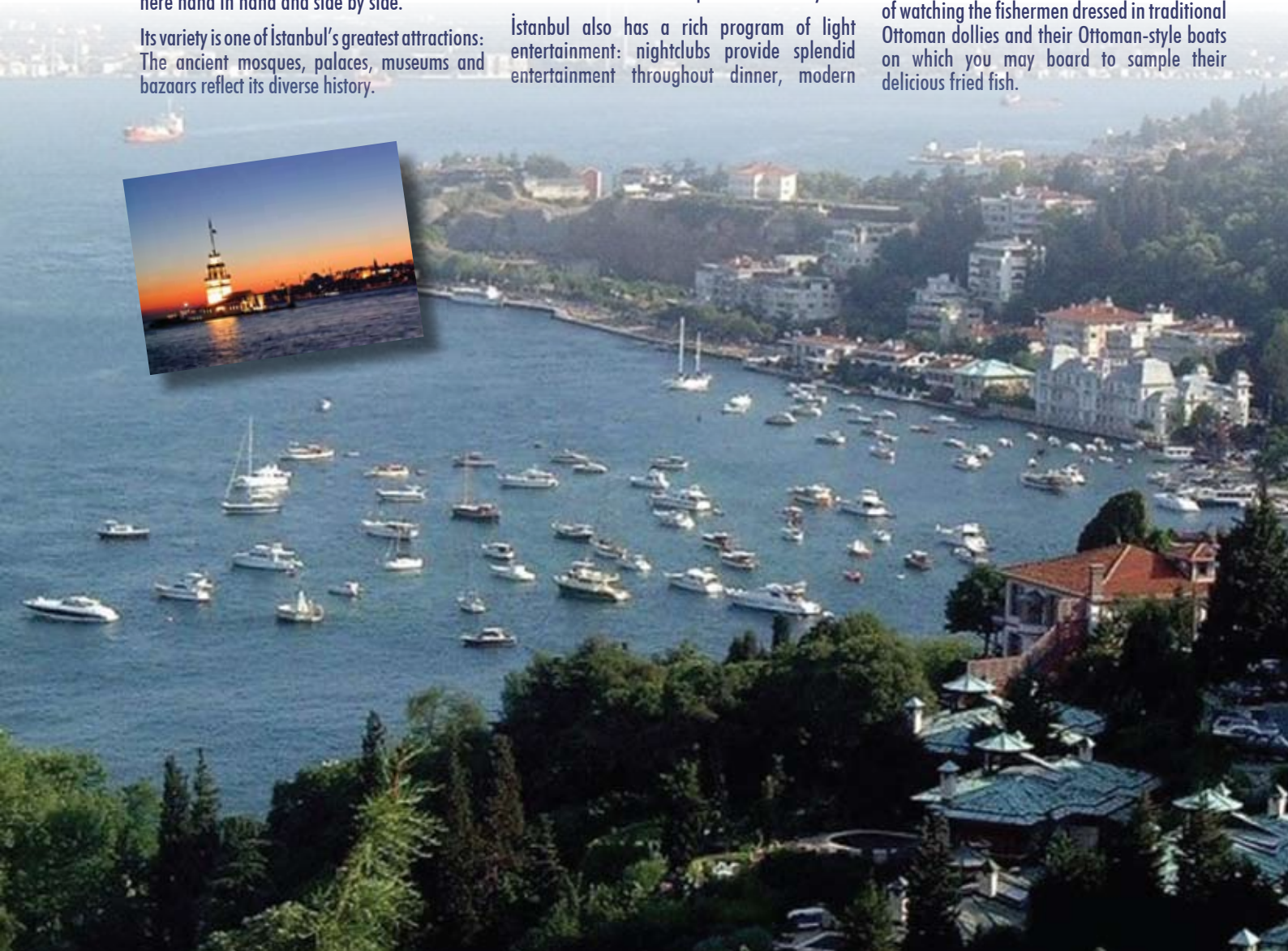
Its variety is one of Istanbul's greatest attractions: The ancient mosques, palaces, museums and bazaars reflect its diverse history.

The thriving shopping areas buzz with life and entertainment. The serene beauty of the Istanbul strait, Princes Islands and parks bring a touch of peace to the otherwise chaotic metropolis.

Among its many attractions, Istanbul is an international art and cultural center hosting famous artists coming each year from all over the world. Hands-on experimental and theoretical opportunities for adults and children of various educational levels, participating in the International Film Festival, enjoying classical music, operas, operettas, ballets, films, concerts, exhibitions and conferences all contribute to the cultural palette of the city.

Istanbul also has a rich program of light entertainment: nightclubs provide splendid entertainment throughout dinner, modern

discos, cabarets, and jazz clubs, restaurants in restored Byzantine and Ottoman buildings which offer a unique setting for an evening out. Do not miss the fish restaurants, for snacks and seafood specialties, especially the opportunity of watching the fishermen dressed in traditional Ottoman doliies and their Ottoman-style boats on which you may board to sample their delicious fried fish.



don't LEAVE istanbul without...

- seeing two of the master pieces of religious art: Süleymaniye Mosque and Sultanahmet Mosque,
- visiting Hagia Sophia and Museum, Topkapı and Dolmabahçe Palaces,
- having a ship voyage at Bosphorus and Prince Islands,
- watching Istanbul panorama from Galata Tower and Pierre Loti,
- following exhibitions, world-famous artists, concerts of all types, art and cultural activities,
- experiencing entertainment life,
- visiting Ortaköy bazaar on the Bosphorus,
- having a horse-cart tour at Büyükdada, where no motor cars are allowed,
- eating fish on either side of Bosphorus or Beyoğlu district, yoghurt in Kanlıca, and trying special desserts in Beyoğlu,
- buying carpets, handmade rare jewelry pieces, leather clothes in Kapalıçarşı and Turkish delight, baklava, pastırma and desserts in Mısır Bazaar,
- Shopping in mega shopping centers that sell haute couture pieces.

Sultanahmet Mosque



Hagia Sophia



Galata Tower

Büyükdada



Kanlıca



Beyoğlu

Kapalıçarşı



turkish cuisine

FISH AND SEA FOOD

Turkey is surrounded by seas on three sides and naturally a large variety of fish exists on her coastline. There are several ways of cooking fish: grilled, fried or cooked slowly by poaching with lemon and parsley.

Pilâki is fish cooked in oven with various vegetables, including onion. In the Black Sea Region, it is usually fried after dipping it in corn flour. Eating fish as cold, smoked, dried, canned, salted or pickled are among other alternatives one can try.

PİLAKİ

Popular sea fish in Turkey include: anchovy, sardines, bonito, gilt-head bream, red mullet, sea bass, swordfish, turbot, white grouper, etc. Other sea foods consumed in large amounts are mussels, squids, shrimps and oysters

WHITE GROUPE

GİLT HEAD BREAM

OYSTER

TURBOT

SHRIMP

SQUID

MUSSELS

ANCHOVY

Mentors in İstanbul



Lessons in Turkish

..... ister misin?

Would you like to.....?

..... nasıldı?

How was the?

Nereye gidiyoruz?

Where are we going?

Saat kaç?

What time is it?

Saat

It's

Seni seviyorum

I love you

Ben de

Me, too



Today's Weather

Lowest 16

Highest 31

Humidity 22

Emergency numbers

Police 155

Fire 110

METU Medical Center:

Day 210 4960

Night 210 4972

16 JULY SATURDAY

PROGRAM

MENTORS

7:00 Breakfast
6:00 Arbitration - Marking
12:00 Lunch
18:30 Dinner
20:00 4th Jury Meeting-Business
21:30 Happy Hour

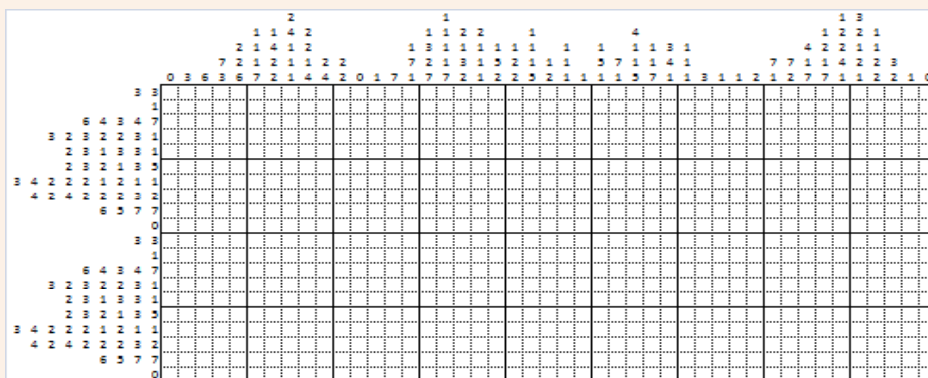
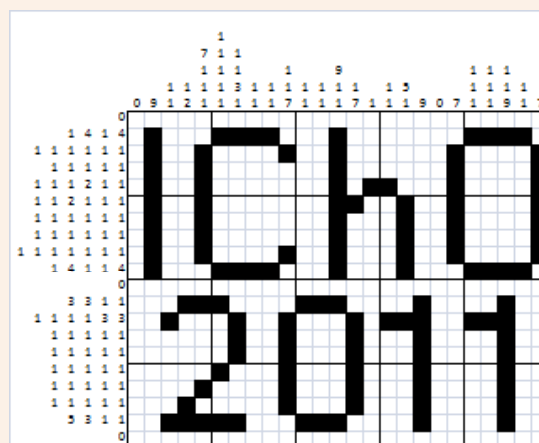
STUDENTS

7:00 Breakfast
9:00 Excursion in Cappadocia
12:00 Lunch
15:00 Transfer to Ankara
19:00 Dinner
21:00 Happy Hour: Music



nonogram

Solution of
the previous puzzle



contact details

43^d IChO Office
Department of Chemistry
Middle East Technical University
Ankara 06531 Turkey

Tel +90 312 210 3203
Faks +90 312 210 3200

Email: icho2011@metu.edu.tr
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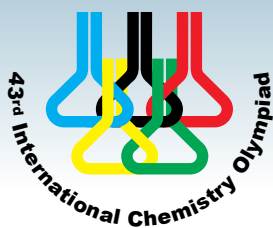
2011 Ankara, TURKEY



catalyzer

Editor : Ayfer Toppare
Graphic Design : Idil Aba, Beril Aba

2011 Ankara, TURKEY



CATALYZER

future through chemistry

no: 10 July 17, 2011

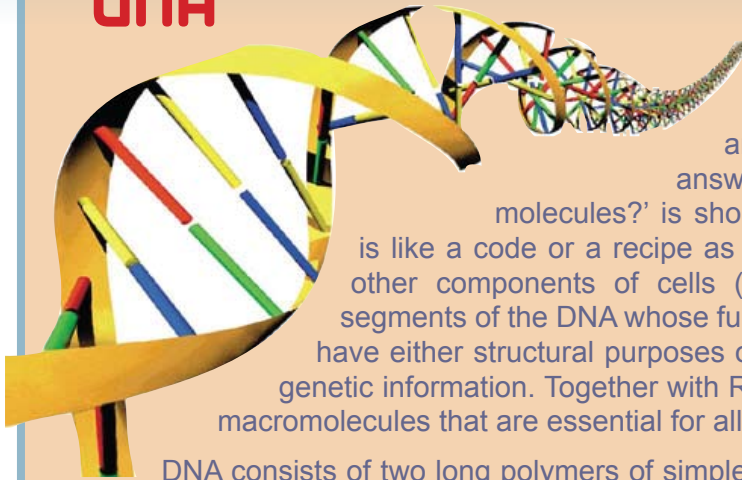
*For Chemistry for a better future,
for sharing and caring*

43rd time together...



IChO 2011 Ankara, Turkey

dna



Deoxyribonucleic acid or DNA as it is commonly known is a nucleic acid that contains the genetic instructions used in the development and functioning of all known living organisms. The answer to the question 'What is the main role of DNA molecules?' is shortly 'the long-term storage of information'. DNA is like a code or a recipe as it contains the instructions needed to construct other components of cells (such as RNA and proteins). Genes are the segments of the DNA whose function is to carry this genetic information. Others have either structural purposes or else are involved in regulating the use of this genetic information. Together with RNA and proteins, DNA is one of the three major macromolecules that are essential for all forms of life.

DNA consists of two long polymers of simple units called nucleotides, with backbones made of sugars and phosphate groups joined by ester bonds. These two strands run in opposite directions to each other and are therefore anti-parallel. Attached to each sugar is one of four types of molecules called nucleobases or shortly bases. It is the sequence of these four nucleobases along the backbone that encodes information. This information is read using the genetic code, which specifies the sequence of the amino acids within proteins. The code is read by copying stretches of DNA into the related nucleic acid RNA in a process called transcription.

Because DNA collects mutations over time, which are then inherited, it contains historical information. By comparing DNA sequences, geneticists can infer the evolutionary history of organisms. Finally, to illustrate some uses of DNA in technology one should mention bioinformatics, genetic engineering, forensics, history and anthropology.

turkish folk dances

Folk dances have different characteristics based on region and location and are generally engaged in during weddings, journeys to the mountains in the summer, when sending sons off to military service and during religious and national holidays.

There are many different types of folk dances performed in various ways in Turkey, and these reflect the cultural structure of each region. The bar in Erzurum province, the halay in the East and Southeast, the hora in Thrace, the horon in the Black Sea Region and spoon dances in and around Konya are the best known examples of these.



ZEYBEK: colorfully dressed male dancers, called "Efe", symbolize courage and heroism.



HORON: performed by men only, dressed in black with silver trimmings. The dancers link arms and quiver to the vibrations of the kemence, a primitive type of violin



SPOON DANCE: performed by gaily dressed male and female dancers clicking out the dance rhythm with a pair of wooden spoons in each hand.



SWORD AND SHIELD DANCE: performed by men dressed in early Ottoman battle dress, who dancing to the sound of clashing swords and shields without music.

A large collage of 25 photographs showing a group of young people, mostly students, participating in various activities during a cultural exchange program in Turkey. The photos depict them dancing, playing games, posing for group photos, and interacting with local people. Some photos show them in traditional Turkish attire, while others show them in casual clothing. The background of many photos is the interior of a cave with ancient rock art.

lessons in turkish

Boşver

Never mind

Kesinlikle

Definitely

Tabii!

Of course!

Şimdi

Now

Sonra

Later

Asla

Never

Belki

Perhaps



today's weather

Lowest 16

Highest 32

Humidity 26

EMERGENCY numbers

Police 155

Fire 110

METU Medical Center:

Day 210 4960

Night 210 4972

17 JULY SUNDAY

PROGRAM

MENTORS

7:00 Breakfast
6:00 Free Time (Shopping)
12:00 Lunch
14:30 Transfer to METU-KKM
15:00 Closing Ceremony, METU-KKM
18:30 Transfer to JW Marriott Hotel
19:00 Farewell Dinner
23:30 Transfer to Hotel

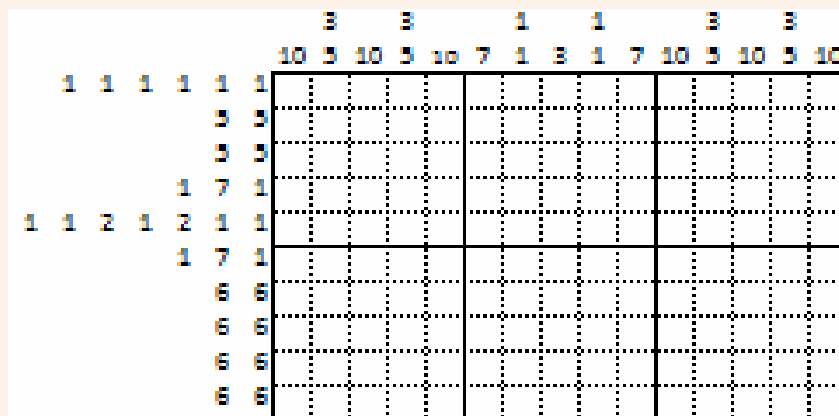
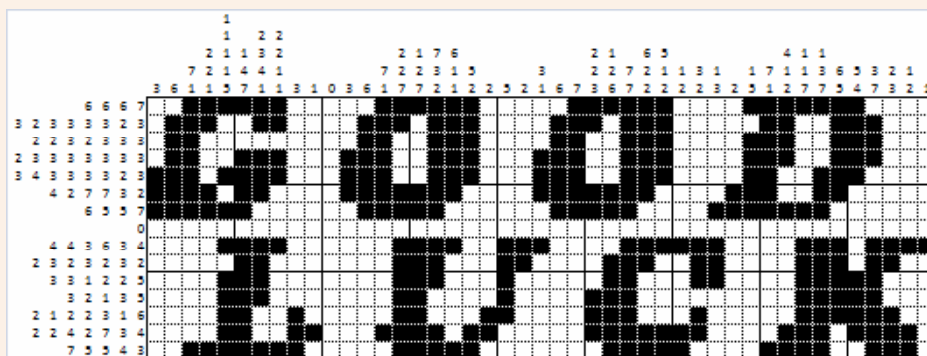
STUDENTS

7:00 Breakfast
6:00 Free Time (Shopping)
12:00 Lunch
14:30 Transfer to METU-KKM
15:00 Closing Ceremony, METU-KKM
18:30 Transfer to JW Marriott Hotel
19:00 Farewell Dinner
23:30 Transfer to Hotel



nonogram

Solution of
the previous puzzle



contact details

43^d IChO Office
Department of Chemistry
Middle East Technical University
Ankara 06531 Turkey

Tel +90 312 210 3203
Faks +90 312 210 3200

Email: icho2011@metu.edu.tr
Web www.icho2011.metu.edu.tr

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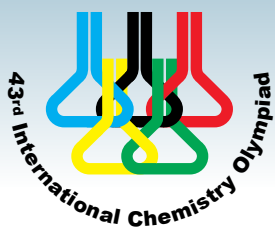
2011 Ankara, TURKEY



catalyzer

Editor : Ayfer Toppare
Graphic Design : Idil Aba, Beril Aba

2011 Ankara, TURKEY



CATALYZER

future through chemistry

No: 11 July 18, 2011



Congratulations All Medal Winners!



Thank You All Participants !

HIGHEST GRADE IN PRACTICAL EXAM

Franta Petrouš, 40/40
Czech Republic

HIGHEST GRADE IN THEORETICAL EXAM

Xie Jiaxin, 60/60,
China

GOLD MEDALS

- Diptarka Hait, India
- Maxim Kozlov, Russia
- Kirill Petryukov, Russia
- Soejima Tomohiro, Japan
- Abylay Shakhizadayev, Kazakhstan
- Joe K. Tung, United States
- Tanawat Attachaipanich, Thailand
- Ondra Hák, Czech Republic
- Dravyansh Sharma, India
- Guillaume Fraux, France
- Martin Rieu, France
- Reza Javidi Dasht Bayaz, Iran
- Franta Petrouš, Czech Republic
- Steven Song, Canada
- Jiraborrirak Charoenpattarapreeda, Thailand
- Florian Berger, Germany
- Filip Vranjesevic, Croatia

- Yongbeom Kim, Korea
- Stephen Haniel Yuwono, Indonesia
- Joses Grady Nathanael, Indonesia
- Konstantin A. Borisov, United States
- Yang Xiao, China
- Jaewon Choi, Korea
- Makbule Esen, Turkey
- Yujin Im, Korea
- Gergo Salyi, Hungary
- Guo Qingyun, China
- Xie Jiaxin, China
- Ali Asghar Aghajani, Iran
- Gong Zongping, China
- Ilya Ustinovich, Russia
- David Edey, United Kingdom
- Hyunsuk Lee, Korea

SILVER MEDALS

- Janis Briska, Latvia
- Marcus Tobias Olivecrona, Sweden
- Oscar Kivinen, Finland
- Anton Arkhypov, Ukraine
- Yauhen Aniskevich, Belarus
- Julia Tšeglakova, Estonia
- Kurihara Saori, Japan
- Serafim Buiuciu, Moldova
- Eziz Naryyev, Turkmenistan
- Boonyakiat Thammasate, Thailand
- Vlad Bacauanu, Romania

- Jonathan Lay, Australia
- Sebastian Gogg, Austria
- Petr Louša, Czech Republic
- Davi Rodrigues Chaves, Brazil
- Peter Hall, Australia
- Maria Helena Budnik, Poland
- Alimatun Nashira, Indonesia
- Ulugbek Barotov, Tajikistan
- Tayyab H. Shah, United States
- Amir Peyman Delparastan, Iran
- Georg Krause, Germany

- Lorenz Lindenthal, Austria
- Toshiki Ishii, Germany
- Uratani Hiroki, Japan
- Louis Breyton, France
- Richard Liu, Canada
- Dominykas Sedleckas, Lithuania
- Dominik Stefanko, Slovakia
- Tudor Balan, Romania
- Alexandru Sava, Romania
- Thushan Hettige, Australia
- Saito Hayate, Japan
- Smarak Maity, India
- Guo Xiuzhen, Singapore
- Luciano Barluzzi, Italy
- Ivan Kumanyaev, Russia
- De-Hung Chen, Chinese Taipei
- Marek Buchman, Slovakia
- Miras Bekbergenov, Kazakhstan
- Shuoli Liu, Canada
- Eziz Kulyyev, Turkmenistan

- Máximo A. Peré Schroeder, Argentina
- Melody Guan, Canada
- Pham Dang Huy, Vietnam
- Ladislav Hovan, Slovakia
- Emre Erten, Turkey
- Elmer H. Tan, United States
- Yu-Ting Kuo, Chinese Taipei
- Chew Hong En, Singapore
- Tran Thi Ngoc Quy, Vietnam
- Lim Yuan Zhi Martin, Singapore
- Furkan Cetin, Turkey
- Paweł Włodarczyk, Poland
- Mikhail Kavalchuk, Belarus
- Attila Sveicz, Hungary
- Tsao Wei-Huang, Chinese Taipei
- Eszter Sarolta Pos, Hungary
- Andhika Tangguh Pradana, Indonesia
- Seet Hua En Ian, Singapore
- Tas Yusoontorn, Thailand
- Nichola Parker, United Kingdom

BRONZE MEDALS

- Matthew Knox, Ireland
- Oleg Borodin, Ukraine
- Vytaute Maciulskyte, Lithuania
- Maria Grant Valeria Alpizar, Costa Rica
- Michelle Frei, Switzerland
- Joonas Herranen, Finland
- Eva-Lotta Käsper, Estonia
- Maciej Maciej Malecki, Sweden
- Jade Fai Leung, New Zealand
- Ganbadrakh Batnasan, Mongolia
- Achim Leo Burger, Austria
- Anastasia Dosca, Moldova
- Thomas Kendell Lund, Denmark
- Ludovic Scyboz, Switzerland
- Mariam Ahmed Uqaili, Pakistan
- Leandro L. Missoni, Argentina
- Tilen Potisk, Slovenia
- Andy Gengyu Chen, New Zealand
- Cindy Viridiana Peto Gutierrez, Mexico
- Ragnheiður Guðbrandsdóttir, Iceland
- Alejandro Jesus Castro, Peru
- Alpo Turunen, Finland
- Stefanos Tyros, Greece
- Verónica Muller, Argentina
- Moises Maestro López, Spain
- Michael Michelachvili, Israel
- Edi Topic, Croatia
- Dmitrijs Jevdokimovs, Latvia

- Philipp Koeck, Austria
- Christos Anastassiades, Cyprus
- Katarina Čermelj, Slovenia
- Andrea Melani, Italy
- Enkhbat Myagmar, Mongolia
- Jorge Nelson Trevejo, Peru
- Matias E. Gutierrez Suburu, Argentina
- Michał Piotr Ociepa, Poland
- Karolis Goda, Lithuania
- Katrina Sepp, Estonia
- Reinaldo Martin Roman Pardo, Cuba
- Martin E. Walderhaug, Norway
- Tabata Amaral Claudia de, Brazil
- Shakhboz Zulfaliev, Tajikistan
- Guillermo Arturo Carranza, Peru
- Roman Kucera, Slovakia
- Georgijs Trenins, Latvia
- Kailun Wang, New Zealand
- Raul Bruno Machado da Silva, Brazil
- Erik Hans Hiltunen, Sweden
- Matthieu Rummens, France
- Raymundo Esquer, Mexico
- Joona Rissanen, Finland
- Lizaveta Durovich, Belarus
- Maja Petek, Slovenia
- Nejc Petek, Slovenia
- Ivan Palazzo, Italy
- Szymon Piotr Rzeźwicki, Poland

- Yklym Bolmammedov, Turkmenistan
- Thomas Joseph Fellowes, New Zealand
- George Silvian Baltac, Romania
- Tetyana Druzenko, Ukraine
- Vo Duy Viet, Vietnam
- Douglas Buisson, United Kingdom
- Anant Pushkar, India
- Vladimir Dolzhenkov, Kazakhstan
- Petro Kuzmenko, Ukraine
- Syed Muhammad Saad Imran, Pakistan
- Daan van de Weem, Netherlands
- Andreas Ohligschläger, Germany
- Taivo Pungas, Estonia
- Petar Antoan Karazapryanov, Bulgaria

- Aliaksei Krautsou, Belarus
- Pinar Selina Dogan, Turkey
- Erfan Shirzadi, Iran
- Pham Minh Duc, Vietnam
- Jacob van Hengst, Netherlands
- Lachlan Vom, Australia
- Wei-Chen Huang, Chinese Taipei
- Emilis Bruzas, Lithuania
- Aneta Pospíšilová, Czech Republic
- Tzof Shay Peled, Israel
- Vladislav Kamysbayev, Kazakhstan
- Balint Batki, Hungary
- Tim Seynnaeve, Belgium

HONORABLE MENTION

- Albert Soto Company, Spain
- Amna Rashid, Pakistan
- Kristina Smokrovic, Croatia
- Ling Xiao Chun, Malaysia
- Kyriakos Grammatikos, Greece

- Stelios Chatzimichail, Cyprus
- Ida Gjerlevsen Nielsen, Denmark
- Nadav Orion, Israel
- Abdul Mohamad, United Kingdom
- Luis Vargas Felipe Huertas, Costa Rica



contact details

43^d IChO Office
Department of Chemistry
Middle East Technical University
Ankara 06531 Turkey

Tel +90 312 210 3203
Faks +90 312 210 3200

Email: icho2011@metu.edu.tr
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