



“I was afraid they’d have a terrible Irish accent”
Guides about their IChO experience
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No Stephen King among the charming Americans
But the charming Stephen Ting is there for you
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Talking to himself on chemistry issues
That’s what Lev Chugaev used to do
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Go, my friend, go!



Paintball organizers didn’t speak very rich and flexible English, so the Olympians had to orientate afield basing on the brief instructions of “Go” and “My friend”. Despite this and the adverse weather they seemingly coped.

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Today is gonna be the day | *Catalyzer’s tips on a Russian-style day*

8.00-8.30 Breakfast	Catalyzer has always acquainted you with Russian cuisine. Today let’s see how other countries influenced it. For instance the sausages came here from Germany, so the Germans can easily recognize the russified version of Bratwürstchen, while Americans might see it as a hot dog deprived of the bun.
9.00-14.00 Transfer and recreation in “Kwa-Qua Park”	To get a black belt in Kwa-Qua-parking (the name comes from Russian version of the frog’s “ribbit-ribbit”), you need to pass at least four tests: the «Wild River» downhill, the enclosed «Black hole» chute, the «Cyclone» sheer aquadrome and, finally, Russia’s unique water supermountain «Tsunami». After that, you can relax in the beach area and get your bruised body massaged in the jacuzzi.
15.00 Lunch	What else came to Russian menu from other countries: Apple strudel from Austria; Polish sauce for fish from Poland; «Viennese» meatballs from Austria; Eclair cake (éclair) from France. See at lunch.
14.00-18.00 Free time	If you have an opportunity to get to Moscow, be sure not to miss the metro. It’s believed to be the world’s most beautiful underground. Go down and see for yourself! What else you should try to see in Moscow: Ostankino Tower – the fifth highest building in the world (540 m), the Arbat pedestrian street , Moscow’s oldest tree (600 years old) in Kolomenskoye park, the largest Ferris wheel in Eastern Europe (73 meters) at the VDNKH, Russia’s largest temple of Christ the Savior . Those who remain in the hotel, we invite you to Catalyzer Lounge: we’ll teach you the popular games of «Mafia» and «Dixit».
20.00 Dinner	What else came to Russian menu from other countries: Greek salad from Greece; Croissants from France; Buffalo chicken wings from the USA. See at dinner.

Go, my friend, go!

The only people who felt like making friends were obviously the organizers. Others looked resolute and merciless. 20 teams were formed for a life-and-death fight.

First the teams got the camouflage with colored sleeve markers and the helmets. "Here are the bulletproof shields for girls! – **Anton Sinitsky** was shouting. – Every single girl should wear a protective vest... And every married girl too!". Then the guns were handed out ("Hold them straight, don't turn them over!") and the troops were let out onto the battlefield. American **David Liang** went out wearing a white coat. "I just want to preserve the memory of IChO, so I'll take these stains home."

No one could distinctly explain how the teams were formed: whether the delegations were united randomly or they have chosen each other on purpose. Did USA, UK, Estonia unite to



form a NATO paintball army? How come Peru and Slovenia joined Pakistan, Turkmenia and Uzbekistan?.. Some military alliances were absolutely incredible, and Catalyzer's correspondents were watching the battle realizing that IChO must be the only place in the world where Singapore-Malaysia-Lithuania-Norway-Kyrgyzstan, or Sweden-Ukraine-Saudi Arabia can

make war shoulder-to-shoulder.

The team of Greece and Cyprus had the amazing winning spirit:

- Do you have a military strategy?
- Er... No.
- Is any of you good at shooting?
- Not really.
- So what are you guys gonna do?
- Well... improvise.
- Do you think you'll win?
- No idea.

But there was a different team that could be recognized by loud team yelling. They had a strong leader, a political belief and a plan:

"We're a communist team if you look at our red sleeve markers", – said Argentinian **Nicolas Del Grosso** on behalf of the whole team of Mexico, Costa Rica,

Argentina and China. Not everyone seemed to be sharing this political view, but Nicolas as a strong military leader was unexceptional: – "We're going to spread all over the field and shoot everyone! We'll take the high places, and... – suddenly he started sounding suspiciously like a guide and the team began giggling: – There are a lot of high places here, because Moscow, you know, is standing upon seven hills, cause seven is a lucky number, like Constantinople, so we're taking these hills and then go doooooown, that's our plan!"

The first battle started about noon and since that it was impossible to understand anything. The whole world began running about, shooting, shouting and hiding in ambush. Some were showing exceptional fighting techniques, but we couldn't identify them because helmets and face shields were forbidden to take off.



We only could recognize those who got shot and left the field. When **Mona Koder** from Sweden decided to take a maneuver on all fours and crawled into nettel thicket (which obviously is something uncommon for a Scandinavian country, although very familiar for every Russian kid) she ran out screaming and worrying why she'd got blisters on her arms. Russian observers calmed her down: it's safe and even good for health.

To the end of the game a big group of "deadmen" crowded to support the alive. The most active **Salman Allahmadi** from Saudi Arabia was running back and forth all along the fence and commanding.

Women were the only people to have maintained the human form. The three girls sitting together belonged to different countries – and different teams.

"We're playing for the red team, – **Paula Borovik** and **Priscila Vensaus** from Argentina said, – while **Marah** is with the green-orange one." "And I'm not going to shoot them even for fun! – claimed the beautiful but soldierlike Israeli **Marah Zubi**. – Because they are my friends and I love them!"



Guide in light



Ksenia Morugina, Team of Greece

Languages: Greek (modern and ancient), Lingua Latina, ancient Slavic

Education: Moscow State University,

Faculty of Philology

"I like studying foreign cultures because it's the best way to know your own culture, if you're able to compare. And it refers to language skills too. Philology is a complex science: we learn art, literature, languages and so on".

About guide's job: "I don't feel it's my work. It's like having active rest: we practice our language, have excursions every day, and my group has helped me discover chemistry. Amazing pastime!"

About the team: "**Georgios Karagkiaouris** and **Ioannis Stavroulakis** are always hungry, because of that they are always going somewhere

We pay due attention to IChO participants and mentors, but there are people who always stay out of sight. They are our guiding light, they help and protect and solve problems and know everything and they're just nice people who got here quite by chance. At last Catalyzer talks to IChO guides.

and getting lost. In the Planetarium they got lost because they needed to buy water, and I was in real despair. **Petros Fountas** is a good backgammon player. **Georgios Kotzampasis** is the youngest one, but he is a god at chemistry!"

Team about Ksenia: She is very nice and helpful and she speaks very good Greek! We can easily understand her.



Ksenia Tserkovskaya, Team of Ireland

Languages: English, Hebrew, Arabic, Aramaic.

Education: Department of Jewish studies, Institute of Asian and African Countries.

Here because: senior guide Rodion Panin invited to guide a team because she knows Hebrew, but there were so many people who spoke it, that Ksenia was given the Irish team.

About the team: "They are just great. The amazing thing is that they all somehow learn Russian. And they all have the same problem: they can't pronounce Russian "bl", it sounds like "oy". **David** started reading Russian letters very quickly. He must have seen them before he came here. **Pearse**, when he hears me speaking Russian, turns to me and says: "Het!". **Zach** amazes me. He's a drummer in his own music band back home, he seems very lively and talkative on Facebook, but has said a word here! I have no idea why, maybe he was



A Country in Brief

The USA

Every day Catalyzer picks a random delegation and goes to meet the team.

The team works together cohesively because guys have a lot in common. One thing is that they all consider each other... charming. One of their favorite songs is "American Pie". "I can still remember, how that music used to make me smile," – the American team sings every now and then in a perfect unison.



Team about David Lu Liang: David plays soccer and talks very fast. He always wears very nice sunglasses, they make him look very charming.

He definitely has a sense of humor and he is nice to talk to.

David on his attitude to chemistry: I like chemistry so much because I understand it and it's really interesting. At first I was a bit frustrated about studying it, but I was lucky to meet a very talented teacher, he involved me in chemistry, and now



I see how great it is!

Team about Rungpeng Liu:

A charming and personable young man. Actually he studies a lot but when he has spare time he likes playing Frisbee. He really likes "Crime and Punishment" by Dostoevsky. He is very good at finding material that might come up at the exam. "When I was preparing for the IChO I predicted several problems!"

Rungpeng chooses his favorite substance: Uranium-235 because I like its color, it looks like a yellow cake.

Rungpeng chooses the most typical American of his team: America has so many cultures... but I'd say it's Stephen. He is a leader. Stephen is well-socialized, he is always looking for different experiences. He's good at motivating us as a team, which is one of the most typical American traits.



Team about Stephen Ting: he is so nice and happy, and cheerful. And Stephen is definitely good as a teacher. There are few people in the world that can explain better than he does.

Stephen on chemistry education in the USA: chemical education in our country is quite... broken. In fact, chemistry is not popular at all. Sometimes it seems to be something Americans don't want to do but they are forced to. We start studying chemistry quite late, at the age of 16. We all agree that one of the main problems is memorizing, because you don't actually need that, even if you remember everything, you can't succeed until you really understand it. Chemistry is not about memorizing things, it's about thinking. So there is definitely a huge gap between what chemistry actually is and how it's taught at the USA. Unfortunately, many people take chemistry only because they need to pass an exam to



a medical program or something like that. It's not popular as a passion...

Team about Saaket Agrawal: we think he is a typical Indian American in many ways: he is loud; he



is good at organic chemistry – and really creative. His chemistry knowledge is strong. And we think he is the strongest member of our team. Besides, he enjoys playing word-games.

Saaket invents a new substance: It would smell nice, because I always enjoy inhaling the vapors of everything I make :)

nervous. **Alast** is the real scientist. He's very curious. He rarely talks, but he knows ancient Greek and I remember he was eager to see Lenin in the Mausoleum. He likes leaving us. So there's a side of him that seems mysterious and fascinating".

About chemistry: "It's definitely not my cup of tea. I studied in a humanitarian class at school. We had a nice chemistry teacher, very lively and kind, but I just didn't feel like going with it".

Understanding each other: "I was afraid I wouldn't understand their accent, but it turned out the Republic of Ireland speaks usual English, unlike Northern Ireland. Still, sometimes two of my guys start speaking Irish, then neither I nor the other two understand a word. Besides I don't understand them when they speak about chemistry, I just fall out".

What was useful: "They teach me colloquials.

For instance they may say "half six" which means "6:30"; I didn't know it could be put this way. And new words. Sometimes I point at something and ask – guys, what do you call that? They say: it's dill. I've got a lot of language practice with them and I'm thankful for that. When I come back I'll go and pass IELTS exam, I feel now I can".



Siranuysh (Anuysh) Badalyan,

Team of Armenia

Education: Chemistry faculty, Yerevan University, master's degree in MSU.

Job: works in a Semiconductors Laboratory, deals with nanocrystalline semiconductors, synthesis and properties. **Languages:** Armenian (native), Russian, English

About the team: "My guys are smart and active and very different. On the first day they suddenly started playing "Pantomyme" and "Contact" and still play all the time. **Vahe** is 17 and he's going to enter faculty of

biochemistry in Yerevan. He's very responsible, though for some reason it takes him about an hour to get ready for breakfast, so I have to wake him up at 6 a.m. **Hrachya** is serious and reserved, but surprisingly cheerful when in a company. He always takes photos like a Chinese tourist. **Vardges** is rather a biologist, than a chemist, he has won an International biological olympiad last year. He's going to enter biochemistry in New York this year.

Olgert's short name is Ogo and our bus loves mocking at it. Ogo always makes pictures in weird positions. In Tsvetnoy boulevard he climbed up a clown sculpture and we took photo of him sitting on the clown's nose"

About chemistry: It's my job, but I can't talk to kids about it, it's the rules of the Olympiad. And it's good, they'd better have rest"

What was useful: What's new for me is working with big groups, previously I only did it with 3 to 5 students, here I have 4 of my kids, 28 from other delegations and 7 guides! It's a good experience.



Chemical structures on stamps

Part 2

Many organic compounds contain stereo centers and must be drawn with regards to correct stereochemistry. A good example is a 2005 Austrian souvenir stamp sheet that contains a stamp honoring Carl Djerassi (1) – an Austrian-born American chemist. The sheet features his portrait and enantiomeric steroid molecules with correct stereochemistry. The sheet was the first of its kind: the face in the background was composed of microscopic chemical formulae, enantiomers of the steroid.

The history of the present-day chemical nomenclature is counted since 1892 when an International conference in Geneva took place. The Swiss stamp (2) marks the centenary of this event (will you try and give a systematic name to the molecule shown in the stamp?).

Philately is not just a hobby. It's a rapid and efficient way to disseminate information, increase curiosity and attract attention to a specific subject like chemistry. In this respect, chemical mistakes deserve special attention. In philately mistakes aren't rare either in the stamp design,

or in printing. The reason for the former is simple: designers are not chemists, neither are the postal service officials, and sometimes they do not check the stamps carefully. Printing errors are always welcomed by stamp collectors because such errors make stamps exclusive and, hence, more expensive. For example, the inverted overprint on a stamp can increase its value by several thousands times. Chemistry mistakes are interesting from educational point of view – it's always fun to discover a mistake and discuss its origin. Try and find mistakes on the stamps (3), (4), (5), some are obvious, others are not.

And the final comment: no stamps have yet been devoted to chemistry Olympiads. Mathematics and physics were luckier in this respect – see (6) and (7). We tried to issue a Russian stamp devoted to IChO-2013 but failed due to bureaucratic barriers. Looking forward to see it in the near future!

Vadim Eremin,
Chemistry Professor, MSU

Meet Russian Chemists



Lev Chugaev
(1873-1922)

Contribution to chemistry

In 1899 developed the "xanthogenic" method of converting alcohols into hydrocarbons (Chugaev's reaction). In 1902-1907 suggested a quantitative method of defining mobile hydrogen atoms in organic compounds (Chugaev-Tserevitinov method). He has made a great contribution to the chemistry of complex compounds: in 1906 he established that the most stable of them contain 5- or 6-membered rings in their inner sphere (Chugaev's rule).

Was the first to synthesize pentamine compounds of tetravalent platinum (Chugaev's salt) and the carbene organometallic complex (1915). Discovered analytical reactions detecting nickel (Chugaev's reagent) and osmium.

Interests

Throughout his adult life Chugaev was engaged in science 24/7, considering all other activities useless and revealing the complete failure to adapt to normal life.

Fact

Visitors coming to meet Chugaev used to wait at the door for a while because they heard him talking to someone. In fact Chugaev had a habit of talking to himself, discussing the issues of chemistry.

Quote: "The theory is easy to build, you now try to do at least something experimentally!"

Exercise.

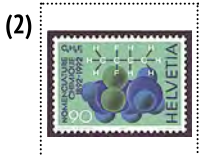
What molecules are shown on stamps (1), (5)?

What are they used for?

Answers in the next issue.



Austria, 2005



Switzerland, 1992



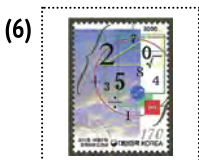
Mexico, 1973



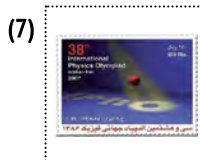
Monaco, 1986



USA, 2008



Korea, IMO-2000



Iran, IPhO-2007

Happy Birthday!



Oskar David Henriksson is 19 today! Catalyzer wishes him the **Fe** nerve, the **W** persistence, the **He** independence and an **Au** IChO medal.

Ads

MASCOT DAY

Does your team have a mascot? Take it with you and come to the hotel lobby at 4 p.m. today altogether: we'll be making a photo collection! A bientôt, your French delegation.



MOSCOW IS A PUZZLE

If you wonder how our participants spend their free time look at the picture. The masterpiece was made by the teams of New Zealand, Israel, Spain, Finland, Belarus, El Salvador, Turkey, Pakistan, Serbia, Azerbaijan, Romania and Kyrgyzstan. With such strong line-up the work took no more than a gap between breakfast and lunch, although the puzzle consists of 1000 pieces (brought by Rodion Panin, Azerbaijan team guide).



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Science For A Better Life



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