



# NEWSLETTER

of the 17th International Olympiad in Informatics, Poland 2005

## Happened on this day

- 1896: a dial telephone was patented
- 1913: a pilot parachutes himself from an aircraft for the first time (France)
- 1977: Voyager II is launched for its journey to the outer planets of our system

## Yesterday: the IOI'2005 is open!

The column of more than 10 busses passed through the outskirts of Nowy Sącz. Everybody got out, found their seats and the ceremony began with a slight delay. On a sunny afternoon of August 19th, the 17th IOI was finally officially opened.

The host of the ceremony was prof. Jan Madey, the Spokesman of the IOI'2005. He introduced the speakers of the first, inevitable part of the event: Janusz Wysokiński — the representative of the President of Poland, Antoni Józef Wiktor — the President of Nowy Sącz, Krzysztof Pawłowski — the Rector of WSB-NLU, Spyros Bakogiannis — the President of the IOI IC and Stanisław Waligórski — one of the founders of the IOI. The cup for the winner, founded by the President of Poland, was presented to motivate you. When Krzysztof Diks, with the shortest speech of the evening, opened the Olympiad, a round of applause followed.

After the presentation of the teams, the artistic part followed. Sądeczanie, the folk song & dance group, were the greatest attraction of the afternoon in the Sports and Recreation Hall. Their spectacular show was welcomed very warmly.



Presentation of teams

## FIRST CONTEST DAY

### CONTESTANTS

7.00 - 8.15	breakfast
8.30 - 13.30	contest
13.30 - 15.30	lunch
15.30 - 17.00	results, appeals
18.30 - 19.45	dinner

### LEADERS

8.30 - 9.45	breakfast, GA Meeting 3, Q&A session
13.30 - 15.30	lunch
15.30 - 17.00	results, appeals
18.30 - 19.45	dinner
20.00 - 21.00	GA Meeting 4

### GUESTS

8.30 - 9.30	breakfast
9.30 - 19.00	excursion of choice (Karpatian Region or Auschwitz)
19.00 - 20.00	dinner

## WWW — Sport

When	Where	What
13.30-22.00	Campus, next to building G	various sports
all day	Dormitories at John Paul II Street - basement	Table tennis
18.20 or 19.20	Swimming pool, booking required. Call: 0-506-863-592 to book.	Forty entries for each hour.

## WEATHER FORECAST

It gets warmer

morning		20°C / 68°F
afternoon		24°C / 75°F
evening		18°C / 64°F

## Quotation of the day:

If it wasn't for C, we would still be coding in PASAL, BASI and OBOL

## Yesterday: practice session

The long expected moment, when the contestants sat at the IOI computers for the first time, has come. As far as we know from the technical team, there were no serious problems with the equipment, but they already know we don't keep secrets so they wouldn't tell us, if anything went wrong anyway. The contest site in the browsers got quickly replaced by e-mails and WWW. The contestants were replaced by other team members. Do not get used to it, please.

Our favourite IOI participant was the one that occupied computer No. 178. The word 'occupied' is not a mistake, since he was sitting on the main unit. Canmuu has already participated and scored medals in many International Olympiads, both in Mathematics and Informatics. Now he leads the Canadian team towards victory. Will he be allowed in the computer rooms during the competition today? 'The regulations allow small mascots. He is relatively small as for a moose, so he should be allowed to enter.' — says the team. We don't agree — a genius like this might hack the contest system.

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## Spot the difference

The first of the two pictures below was taken on August 16th. The second one comes from the practice session yesterday. Can you tell at least 10 differences between these two photos?



## Who is who



**Tomek Czajka**  
Leader of Poland 2  
Participant of previous IOIs



**Canmuu, a moose**  
Super-leader of Canada

## Today: start of competition

Today will be a very exciting day — the competition begins. The tasks have been already translated and they are waiting for you in the competition rooms. The computers are warming up while the gym is, hopefully, cooling down. Snacks are being prepared for you to have during the coding session. Everything has been made to make sure that you see the green colored 'Correct' grades in the afternoon. Now it is all up to you...

Calm down your nerves, do your best with the tasks and have fun.

**Good luck!**



## Ringo Howto

See [ringo.org.pl/irf/rules.html](http://ringo.org.pl/irf/rules.html)



*Recommended catch*

Some of you may have wondered what this strange rubber circle (a torus, to be more precise) is, part of your backpacks' contents. If you didn't know it before, it's alright. The *ringo game* was first played in Poland in 1959 and is much better known here than elsewhere. Believe it or not, there is an international federation, tournaments, and very precise rules (the web page given above includes a 50-paragraph long rules description!).

First of all, remember not to: bite, eat, scramble or disassemble your ringos. It does not substitute

your ringos. It does not substitute your ringos. It does not substitute your ringos. It does not substitute your ringos.

footballs (although we saw some of you try). Attempts to turn it into a necklace can be pretty painful, too. Apart from that any new, original usage is welcome (see photo).

Inserting a short video presenting the game in here is not possible. Those who know *frisbee* may find it similar. With the official rules, teams play against each other on a volleyball-like court, but let's move on to freestyle. You throw the ringo between each other, standing in a circle. How to throw? Try to make it fly in a close-to-horizontal position. Do you know how an UFO aircraft rotates when it hangs above earth? The ringo must be put into similar rotation to fly far — a quick ankle movement ensures that.

Now you have probably split into two groups: those who new the game before, and those who did not understand the above description. Never mind. Ask the guides.



*Good idea, but not for everybody*

## How it began?

Poland was chosen as the host of IOI'2005 four years ago during the Olympiad in Tampere, Finland. When you organize an event as large as this, it is reasonable to start early. Multiple visits to the school over the 4 years by the organizing committee were made to decide on the exact location of all activities.

The dormitories at John Paul II Street were... well... not quite complete four years ago. Krzysztof Diks remembers the moment when he was standing on an empty field, being solely ensured that the dormitories would arise on time. And indeed they did.

What decided about the location? Mainly it was the size of the campus, sufficiently large to have everyone living not too far from the central point. No less important was the fact that there are many interesting sightseeing options around.

## The IOI'2005 received great support from:

- *The President of Nowy Sącz*
- *Town Guard, Police, Fire Guard*: watching our safety
- *Local Transport Company*: free of charge bus line 101
- *Sport and Recreation Hall*: location of the opening and closing ceremonies
- *State Higher Vocational School*: provided most guides
- *Educational-Cultural Society Sokół*: stage installation for our ceremonies

## Translations

Yesterday the translations began after we had sent this issue to print. Therefore there is nothing we can tell you about it. However, we are almost certain that one of the leaders found it hard to come to terms with the function keys in his keyboard.



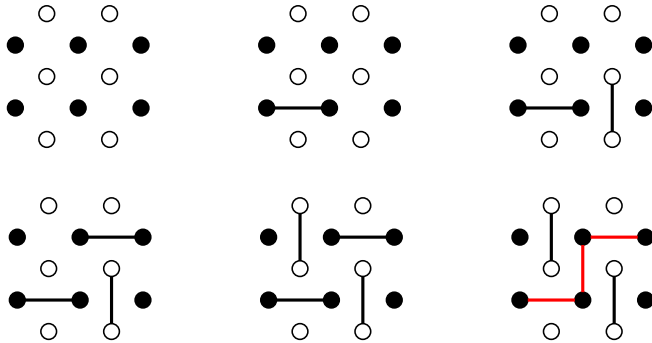
# ENTERTAINMENT

## Paper & Pencil Game: Pipelayer

It is a game for two players. The board consists of two sets of dots (black and white) which form two rectangular grids. One side of the rectangle should be longer by one than the other side and the two grids should be offset from each other, as shown in the picture. One of the most popular dimensions is 7\*6 and 6\*7.

The players take turns by connecting two neighboring (horizontally or vertically) dots. You can only connect the dots which belong to your grid (black or white). You are not allowed to connect two dots which are separated by a line connecting other dots.

The target is to make a connection between two sides of a grid which are more distant from each other. In the example the player who owns white dots tries to connect the top with the bottom and the player with black dots tries to connect the left side with the right side.



A sample pipelayer game. Black wins.

**Yesterday puzzle's solution: Hats:** It should be easy for the 101 participants, especially those who have heard about error-correcting codes. The one used here is simple parity check.

There is a strategy that grants certain survival to 29 persons. Here is how it works: the one who stands at the end of the row will count the number of white hats he sees. He says 'white' or 'black' depending on the parity of that number (and dies with 50% chance). Knowing this parity, the number of white hats in front and the answers of the servants behind, each servant can compute his own hat's color.

It is more than obvious that no strategy can save all 30 servants.

**Extra question:** what if there are more than two hat colors?

## Rush hour — The Challenge

You have now become more or less familiar with the Rush hour puzzle. Here is a challenge you can face now. It is connected with the game, but is much more demanding than just solving one puzzle after another. We would like you to *invent* new Rush hour cases.

The task is to propose a board that requires a large number of moves to be resolved. By a move we understand changing the position of one car by any distance (the rules of rush hour apply). You may use any of the vehicles (12 cars, 4 trucks) placed on the board in any position. Try to make the sequence of moves needed to solve your puzzle as long as possible.

Submit the puzzles, along with the number of moves you claim they require, in the newsletter room until 5pm on Monday. The best (i.e. hardest to solve) boards will be published and made subject to verification by others for another day. You may then look for shorter solutions to the presented puzzles, and the ranklist will be updated if such one is found. In the end there will be prizes, but let us keep it a surprise for now.

The contest is open. Invent hard puzzles and make others sweat. Good luck!

**Happy birthday to:** *Majed Alqabandi* from *Kuwait* on his 17th birthday.

## Rush hour

How do you like the Rush hour puzzle? If it appeals to you, here is another one to solve.



Today's puzzle comes from [www.igoweb.org/~wms/rushHour](http://www.igoweb.org/~wms/rushHour)

## Polish your Polish

- a task - **zadanie**
- a program - **program**
- excuse me - **przepraszam**
- where are? - **gdzie są**
- snacks - **przekąski**
- excuse me, where are the snacks? - **jeść!**