

**Report on 4<sup>th</sup> International Robotics Festival-Olympiad for the students and teachers of ORT network and partner schools in the CIS, Baltic States and Bulgaria**

**April, 21-24, 2013, Kiev, Ukraine**



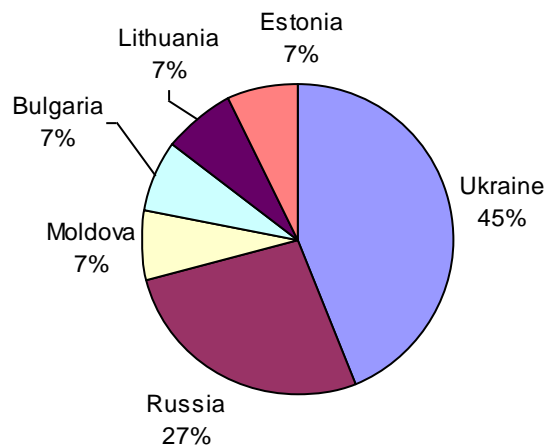
Robotics Festival-Olympiad for the students and teachers of ORT network and partner schools in the CIS, Baltic States and Bulgaria was held April 21-24, 2013 on the base of Kiev ORT Technology Lyceum (Principal – Yuriy Kinkov).

42 students and teachers (See List in Application 1) from Bulgaria, Lithuania, Moldova, Russia, Ukraine and Estonia came to Kiev in order to measure their strengths, share their experience and to discuss vital questions of teaching Robotics course at School (See Program in Application 2).

12 teams from Sofia, Dnepropetrovsk, Zaporozhye, Kazan, Kiev, Kishinev, Odessa, Chernivtsi, Samara, Moscow, Tallinn and Vilnius were participating in the 4th International Robotics Festival-Olympiad for the students and teachers of ORT network and partner schools in the CIS, Baltic States and Bulgaria. Conjoined with the students’ competition there was the training seminars for teachers – teams’ supervisors organised.

**Countries’ Breakdown:**

- Moldova – 3;
- Russia – 11;
- Ukraine – 18;
- Bulgaria – 3;
- Lithuania – 3;
- Estonia - 3.



The main aims of the Festival-Olympiad were the following:

- To increase the technology education level at the ORT centres;
- To develop creative abilities of teachers and students;
- To motivate for studying course “Fundamentals of Robotics” ;
- To promote Technology education at schools-participants;
- To develop inter-subject cooperation and inter-subject connection of Computer Science, Technology, Maths and Physics.

## Robotics Olympiad for Students

There were 12 teams from Sofia, Dnepropetrovsk, Zaporozhye, Kazan, Kiev, Kishinev, Odessa, Chernovtsy, Samara, Moscow, Tallinn and Vilnius participating: Moscow ORT Technology School (Gymnasia # 1540), Dnepropetrovsk "Levi Yitzchak Schneerson" Ohr Avner School #144, ORT Vilnius Sholom Aleichem Jewish School, ORT Tallinn Jewish school, Sofia 134 "Dimcho Debelianov" Hebrew and English Language School (Lauder - ORT School), Kiev ORT Technology Lyceum, Odessa ORT Secondary School # 94, Zaporozhye ORT "Aleph" Jewish Gymnasium, Kishinev ORT Technology Lyceum, Kazan ORT "Mishpahteinu" Secondary School # 12, Samara ORT Secondary School # 42 "Gesher" and Chernivitsi ORT Specialized School #41.

According to the rule every school participated at the project should be represented by 1 team of 2 students. Candidates had been chosen by the in-school stage of Robotics competition.

First day participants visited All-Ukrainian Robotics Olympiad and had a city tour accompanied by Kiev ORT Lyceum teacher Irina Fridman.

On the opening ceremony of the Olympiad participants were welcomed by the Kiev ORT Lyceum Principal Yuri Kinkov and special guests, including head of J-Sport Camp Darina Priovalenko. Audience was pleased with the performance of all students of the Lyceum.

Program of the contest included the following competitions:

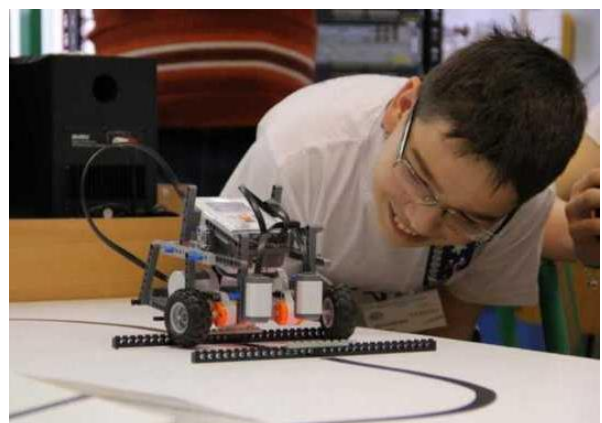
- "The rope pulling"
- "Tanki-Banki"
- "Walking robots"
- "Biathlon"
- "Pyramid"
- "Triathlon"

Second day there were 2 stages –“Triathlon” and “The rope pulling”.

**"Triathlon"** (a competition for the lines' passage): the robot, moving from the base camp on the black line, is to capture the ball and overcome all obstacles to return with him to the base camp. On the track set a variety of obstacles: the slide, breaks, bends and barriers.

### Winners:

- 1 place – Dnepropetrovsk "Levi Yitzchak Schneerson" Ohr Avner School #144
- 2 place – Kiev ORT Technology Lyceum
- 3 place – Zaporozhye ORT "Aleph" Jewish Gymnasium



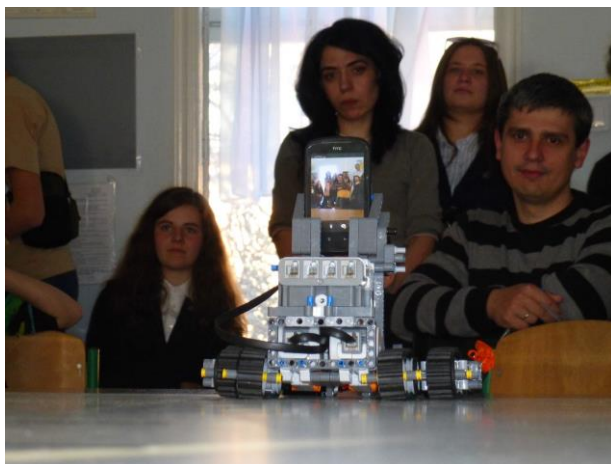
**«The rope pulling»:** robots of teams-competitors are placed on the same line and secured with a special rope. The robot has to drag the robot-competitor to the central black line.

**Winners:**

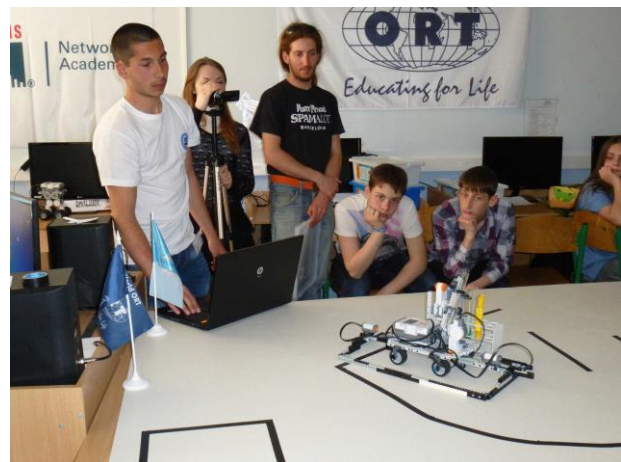
- 1 place– Sofia 134 "Dimcho Debelianov" Hebrew and English Language School (Lauder - ORT School)
- 2 place – Kishinev ORT Technology Lyceum
- 3 place – Moscow ORT Technology School (Gymnasia # 1540)



At the end of the second day of Olympiad the traditional contest of creativity took place. The theme of this year was "Robots in science". Creative projects was provided by the teams of Sofia 134 "Dimcho Debelianov" Hebrew and English Language School (Lauder - ORT School), Kiev ORT Technology Lyceum, Odessa ORT Secondary School # 94, Zaporozhye ORT "Aleph" Jewish Gymnasium, Kishinev ORT technology Lyceum. Team of the Kiev ORT Technology Lyceum (Elena Krasnova and Anastasia Sbodnyakova, supervisor – Irina Usatenko) was recognized as the winner, representing the model of "swimming" robot for discovering and researching of sunken objects.



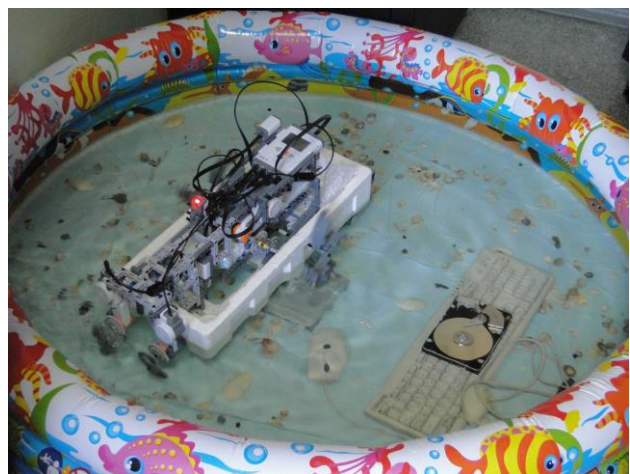
**Zaporozhye ORT "Aleph" project**



**Sofia 134 "Dimcho Debelianov" project**



**Odessa ORT Secondary School # 94 project**



**Kiev ORT Technology Lyceum project**



In the third day the main ranking was held:

**«Tanki-Banki»:** robot should for 1 minute to push all cans outside the white circle as possible without dropping them, and stop.

**Winners:**

- 1 place – Dnepropetrovsk "Levi Yitzchak Schneerson" Ohr Avner School #144
- 2 place – Odessa ORT Secondary School # 94
- 3 place – Zaporozhye ORT "Aleph" Jewish Gymnasium



**«Walking Robots»:** teams had to build a model of a walking robot, which then during the competition with other robots had to travel a distance of 2 meters.

**Winners:**

- 1 place – Samara ORT Secondary School # 42 "Gesher"
- 2 place – Odessa ORT Secondary School # 94



**«Biathlon»:** robot, moving from the base camp on the black line should move can to the 1<sup>st</sup> zone of, then go without moving obstacles zone "Slalom" (part of a complex meandering path), arriving in the 2nd zone, the robot has to grab 1-2 cans and bring them to the base camp.

**Winners:**

- 1 place – Zaporozhye ORT "Aleph" Jewish Gymnasium
- 2 place – Chernivitsi ORT Specialized School #41
- 3 place – Moscow ORT Technology School (Gymnasia # 1540).



There were experts of Prolego company (official Lego representative in Ukraine) presenting new Lego Mindstorms EV3 set and Robot Football competition for teachers and students. Dmitry Kondratenko told about the novelty that should replace the previous Lego Mindstorms ( NXT) sets at ORT schools, describing

its equipment, specification and software. Students were able not only to get to know about the new set but to see Snake Robot and Dog Robot as well.



In conclusion of the competition there was **“Pyramid”**: for the shortest time the robot should lay down a pyramid of 3 rings, moving along the black line path from the starting point to the base of the pyramid.

**Winners:**

- 1 place – ORT Tallinn Jewish School
- 2 place– Dnepropetrovsk "Levi Yitzchak Schneerson" Ohr Avner School #144
- 3 place – Zaporozhye ORT "Aleph" Jewish Gymnasium



The winner of the competition was determined by the sum of points in each of the types of competitions in each age category.

**1 place** – Zaporozhye ORT "Aleph" Jewish Gymnasium: Jacov Nepomnyashchii and Maxim Senik. Head: Alexey Kurgan

**2 place** - Dnepropetrovsk "Levi Yitzchak Schneerson" Ohr Avner School #144: Vladislav Korzhenko and Andrew Yavtushenko. Head: Natalia Goshkador.

**3 place** – Kiev ORT Technology Lyceum: Elena Krasnova and Anastasia Sbodnyakova. Head: Irina Usatenko



**1 place - Zaporozhye ORT "Aleph" Jewish Gymnasium**



**2 place – Dnepropetrovsk "Levi Yitzchak Schneerson" Ohr Avner School #144**



**3 place – Kiev ORT Technology Lyceum**



**Igor Kot (Odessa) – laureate of Beatrice Wand Polack Awards**

Winner team was awarded by prizes:

1<sup>st</sup> place - Zaporozhye ORT "Aleph" Jewish Gymnasium - Samsung Galaxy Tabs 2 7.0.

2<sup>nd</sup> place - Dnepropetrovsk "Levi Yitzchak Schneerson" Ohr Avner School #144 - PocketBooks A7

3<sup>rd</sup> place - Kiev ORT Technology Lyceum - ImpPADs 2113.

They also were delivered with medals and diplomas.

All the participants received honours letters from ORT and USB drives.

During the awarding ceremony teacher of ICT and Technology of ORT Odessa school was awarded by Beatrice Wand Polack Awards grant for being this year laureate.



## Seminar for Robotics teacher

Within the frames of Olympiad the training seminar for teachers was organised. They were able to share their experience and to discuss new facilities and developments in the field of Robotics teaching at school.

Viatcheslav Fialo (Kazan) and Galina Brusnitsynsa (Yekaterinburg) told about [the all-Russia conference on methods of teaching Robotics in general and additional education \(ORT was among the organisers\)](#).

Participants of [Robottraffic 2013](#), taking place on the base of Technion (Haifa, Israel), told about their experience of participating in this competition.



Then Igor Kot the teacher of ORT Odessa School provided workshop on preparing to MamaRobot competition and Deputy Principal of Kiev ORT Technology Lyceum Sergey Dzuba did so on using Arduino platform.

On seminar's results its participants provided some recommendations to Olympiad's organisers.

[Applications](#)