Presentation of Nanocompetition & Specific Results

NTSE Poster Competition aimed at encouraging the students (aged 14-18) to produce projects with regard to Nanotechnology. The participants had an opportunity to form their team with up to two friends. They selected a topic in nanotechnology about current and the possible future applications from given topics:

- Health (nanocosmetics)
- Environment (nanoparticles with antibacterial properties and nanoparticles used for purifying water and air)
- Nanotechnology used in Sport equipment
- Nanotechnology used in electronic devices

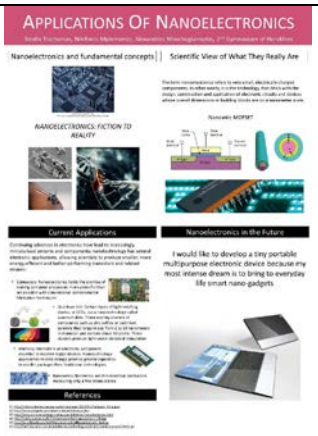
They made a first-class research and collected information, photos and images. The NTSE posters were designed about current applications in daily life and creative ideas/innovations for the future of nanotechnology in 300 words, A1(59 cm x 84 cm) in size with a clear title. 145 posters were uploaded to Virtual Lab web site in six countries (BG, DE, EL,IT, RO& TR) until 15 March 2013. The statistics about the number, age range of the competitors in NTSE Poster Competition:

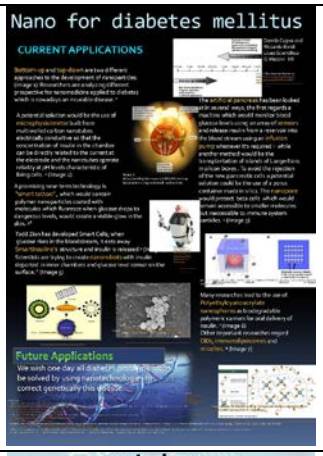
	BG	**EL**	**IT**	**RO**	**TR**
The students between 13-15	**0**	**17**	**0**	**28**	**9**
The students between 16-18	**19**	**10**	**44**	**0**	**70**
Number of the competitors	**19**	**27**	**44**	**28**	**79**
Number of the posters passing the content evaluation	**12**	**13**	**9**	**15**	**51**
Number of the posters in Antalya	**7**	**6**	**6**	**6**	**14**

The examination period was initiated on 16th April 2013 and finished on 19th April 2013. The aim of the evaluation is to ensure a fair assessment of the NTSE project posters produced by the students involved in the competition. All partners were in charge of poster evaluation and NTSE posters were evaluated in two steps by a committee comprised of international group of scientists with expertise in nanotechnology. First selection was done according to the criteria in the RUBRIC below.

Percentage distribution	***Criteria***	***Points***
60%	*Clarity of Content*	*18*
20%	*Clarity of Design*	*6*
20%	*Online voting*	*6*
1st SCORE		*30*
ANTALYA SCORE (EXTERNAL SCORE)		*20*
TOTAL SCORE		***50***

To be a finalist in APMAS 2013 Congress, 135 selected posters were voted online in the networks they are linked with (Facebook, twitter, google+, etc) and announced on our Virtual Lab.
Following the online voting 40 posters were exhibited in APMAS 2013 International Congress in Antalya (http://www.apmas2013.org/) and all posters were evaluated during the Congress by the scientists externally. All national winners chosen from partner countries were announced on our Virtual Lab and all winners were awarded to take part in the International nanoscience camp in the city Balchik, Bulgaria between 29th of June and 7th of July.

Name, School	Poster
Nationality and Name of Student TR - Furkan SATIŞ **Name of School** ACARKENT DOGA HIGH **Poster Title** Nanomedicine	
Name of Student GR - Stratis TRACHANIAS, GR - Nikiforos MPLEMENOS, GR - Alexandros MOSCHOGIANNAKIS **Name of School** 2nd Gymnasium of Heraklion, Crete **Poster Title** Applications of Nanoelectronics	

Name of Student IT - Davide CAGNO **Name of School** Liceo Scientifico Mazzini Napoli **Poster Title** Nano for of Diabetes Mellitus	
Name of Student BG - Victoria T. TRENDAFILOVA **Name of School** National High-school of natural sciences and **Poster Title** Nanotechnology Used In Electronic Devices	
Name of Student RO - Dogaru GABRIELA **Name of School** Liceul de Arte “Bălaşa Doamna” **Poster Title** Nanotrchnology In Sports Equipment	

PROFILE OF TURKISH POSTER COMPETITORS

In total 79 students - 31 female and 48 male- attended NTSE Poster Competition from more than 20 different schools. 51 posters were successful in content evaluation and they were exhibited on our Virtual Laboratory to be voted online. 23 of these 51 posters were about health and nanocosmetics, 4 of them were about nanotechnology used in sport equipment, another 4 of them were about environment and 20 of them were about nanotechnology used in electronic devices and all other kinds of areas such as agriculture and textile. 14 posters passed the semi-final stage to go to Antalya Apmas, International Advances in Applied Physics and Material Science Congress, on 24 April 2013. These posters were also voted in Antalya and the winner of the poster competition is the 10th grade student from Acarkent Doga High School.

No	Name-surname	School	Title
1	ABDULKADİR UZUN	SAKARYA DOĞA	NANO-TECH FILTER
2	AHMET ÖMER KADER, ARDA EGE ÖZTÜRK, MUHAMMED ÇİFTÇİ	DOGA COLLEGE	WHEN DREAMS MEET REALITY
3	ALİCAN TUNÇ, ÇAĞRI BOZKURT, DAMLA BUSE ÇAKIR	DOGA COLLEGE	NANOPARTICLES
4	ALİNDA EZGİ GERÇEKER	ATAŞEHİR DOĞA	NANOTECHNOLOGY IN FABRICS
5	ALPER ŞEKERCİ,MEHMET BERK SOFUGİL,DENİZ ŞAFAK ÇELİK	ACARKENT DOGA HIGH	NANOARMOR POSTER
6	ANILCAN ERCİYES	DOGA COLLEGE	NANOCLOTH
7	ARDA SU GÜRŞEN	BOSTANCI DOGA	THINK SMALL
8	ASYA KADIC	KARTAL DOGA HIGH SCHOOL	STRONGER NANOFIBERS
9	ATA MADENOĞLU	ÜSKÜDAR DOĞA HIGH	I'M SMALL BUT I CAN DO BIG WORKS
10	ATA YAĞIZ NART, BERA ERDENAY ALTUN	DÜZCE DOĞA	TITANIUMDIOXIDE NANOTUBES
11	ATAHAN VURAL	ACARKENT DOGA HIGH	NANOTUBES POSTER
12	AYŞE BERİL HERAL	ÇANKAYA DOGA	NANOTECHNOLOGY AND NANOMEDICINE
13	BATUHAN KOÇHAN, KAAN MERT, AYKUT CANER ALİ	DOGA COLLEGE	MOLECULAR NANOTECH
14	BEGÜM ÇINAR, CEYDA KÖSE	DOGA COLLEGE	NANO-MEDICINE
15	BERKAY SANDIKÇI	ÇEKİRGE DOĞA	NANOTECHNOLOGY IN MEDICINE WITH NANOROBOTS
16	BİRCE	HALKALİ DOGA	TEXTILE ENGINEERING
17	CEM KADIRGAN	ACARKENT DOGA HIGH	NANOTECHNOLOGY IN SPORT
18	CEREN İŞLEKLİ	DOGA COLLEGE	NANOTECHNOLOGY IN CANCER TREATMENT
19	CEYHUN PİRNAZ, YUSUF BERK CAN, YUSUF MERT ÖZTEKİN	DOGA COLLEGE	NANOTECH&CANCER
20	DENİZ TETİK	ATAŞEHİR DOĞA	NANO LIFE
21	DERİN AKYEL	ACARKENT DOGA HIGH	A BRIEF INTRODUCTION TO NANOTECHNOLOGY
22	EDA YASAN	30 AĞUSTOS KIZ TEKNİK VE MESLEK LİSESİ	NANO MUSCLE
23	EGE CUCUMAK	ÇEKİRGE DOĞA HİGH	NANOCOSMETICS
24	ELİF GÖKMAN	ÜSKÜDAR DOĞA	MY LITTLE NANO-HEALTH

		HIGH	
25	ELİF KURT-BÜŞRA TAŞOĞLU-SELİN DEMİREL	ÇEKİRGE DOĞA HİGH	GREAT EFFECT FROM NANOCOSMETICS
26	ELİF PALACIOĞLU	SAKARYA DOĞA	COLOR CHANGING HAIR DYE
27	EMİNE ADIBELLİ	30 AĞUSTOS KIZ TEKNİK VE MESLEK LİSESİ	NANO MIRACLE
28	EMRE YÜCEL, GÖKTUĞ YALÇINTEPE, ONAT TAŞKIN	DOGA COLLEGE	NANOMATERIALS INSIDE OUT
29	FIRAT İPEKOĞLU	DOGA COLLEGE	TIMES OF CHANGE
30	FURKAN KARADENİZ, YİĞİT ATA TÜRK,	DOGA COLLEGE	NANO-FUTURE
31	FURKAN SATIŞ	ACARKENT DOGA HIGH	NANOMEDICINE
32	GÜLŞAH LİVATYALI	ÜSKÜDAR DOĞA HIGH	BEAUTIFYING NANOTECHNOLOGY
33	GÜN CELİL AKIN	ACARKENT DOGA HIGH	NANOTECHNOLOGY IN SPORT
34	GÜNEŞ BÜYÜKGÖNENÇ	DOGA COLLEGE	YOUR HEART IS SAFE WITH NANOTECHNOLOGY
35	HATİCE ÇANKAYA, YAĞMUR NİSA DURSUN	AYDIN DOĞA	THE ELIXIR OF YOUTH
36	ILKE BOLUKBAS & NIHAN AKCAN	USKUDAR DOGA	APPLICATION OF NANO TECHNOLOGY ON SPORTSWEAR
37	KAAN SAYIN	HACI RAHİME ULUSOY MARİTİME TECHNİCAL	BUCKY AIR CLEANER TUBES
38	MAZLUM DOGUKAN AKYOL	BEYKENT DOGA	NANO MEDICINE
39	MEHMET YILDIRIM	BOSTANCI DOGA	NANO TECHNOLOGY IS EVERY WHERE
40	MERYEM BÜYÜK	USKUDAR DOGA	21ST CENTURY HEALTH CARE REVOLUTİON
41	MUHSİN KÜREKÇİ	ÜMRANİYE ANADOLU IMAM HATİP LİSESİ	OPTIC TWEEZERS
42	ONDER CAKİOGLU	USKUDAR DOGA	NANO COSMETICS
43	ÖMER FARUK ORHAN	MALATYA DOGA	COMING SOON TO A DENTIST NEAR YOU
44	ROBIN YILMAZ	DOGA COLLEGE	NANOELECTRONIC
45	SEHER AKDAS	MALATYA DOGA	NANOTECHNOLOGY IS IN SPORT NOW!
46	SELCAN ÇINAR YILDIRIM	KURTKÖY DOĞA	NANOTECHNOLOGY APPLICATIONS
47	SELEN DEFNE DEMİRALP	HALKALİ DOGA	NANOBIOTECHNOLOGY
48	SELİN YILMAZ	SAKARYA DOĞA	SHILI

49	SEVVAL MELİS KOC	HALKALİ DOGA	NONLINEAR OPTICS
50	UMUT TAÇYILDIZ	SAKARYA DOĞA	SMART TOP
51	YİGİTHAN CAVUSOGLU	USKUDAR DOGA	NANO-DYE TECHNOLOGY

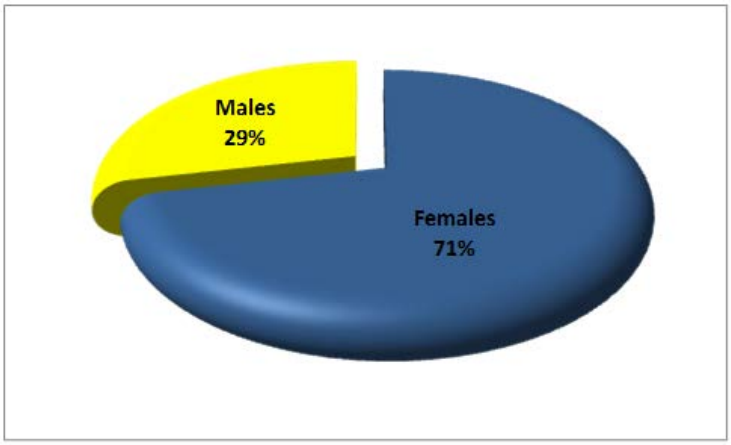
Table 1: 51 posters created by Turkish students and the name of their schools

Nanocompetition in Romania

The NTSE Romanian Team was involved in dissemination the Nanocompetition information and conditions at the level of schools from the south region of Romania. Different discussions with teachers and students took place in order to explain which are the minimal conditions of a poster in order to pass the national evaluation stage. In addition, the evaluation process of posters at international level was presented. The NTSE project dissemination materials have been spread at level of lower and upper secondary school from Dambovita County.

Profile of Romanian Poster Competitors

In total 28 Romanian students from the secondary school attended NTSE Poster Competition. The gender distribution of participants is presented below:



Concerning their age, all of the competitors were between 13 and 15 years old. After the national evaluation, 15 posters were successful regarding the content evaluation and they were uploaded and exhibited on the NTSE Virtual Laboratory to be voted online.

Poster no.	**Name and surname**	**Title of poster**	**Organization/School**
1	Dogaru Gabriela	*Nanotechnology in sports equipment*	Liceul de Arte "Bălaşa Doamna" Târgovişte
2	Dragomir Raluca; Mihai Raluca; Vancea Carmen	*A chance for life – A 3rd millennium miracle*	Şcoala "Vasile Cârlova" Târgovişte

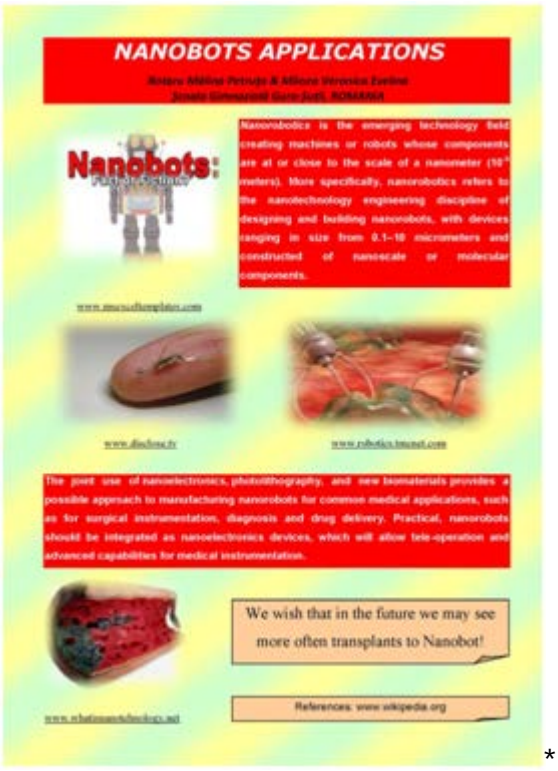
3	Rotaru Mădălina Petruţa; Mîinea Veronica Evelina	*Nanobots Applications*	Şcoala Gimnazială Gura-Şuţii
4	Vlăduca Andreea Gabriela	*Nanotechnology and medicine*	Liceul de Arte "Bălaşa Doamna" Târgovişte
5	Căpraru Gabriela; Nănescu Ionela	*Do you know what hides behind perfection?*	Şcoala "Vasile Cârlova" Târgovişte
6	Sularia Andreea; Ştefani Diana	*Nano-technology in Medicine*	Şcoala "Vasile Cârlova" Târgovişte
7	Andrei Bianca; Chiricu Miruna	*Smart materials using Nanotechnology*	Şcoala "Vasile Cârlova" Târgovişte
8	Nănescu Mihail; Roşu Lavinia; Iordache Flavia	*Divinity vs. Nanotechnology*	Şcoala "Vasile Cârlova" Târgovişte
9	Călin Maria	*Nanorobotics - gate to future*	Liceul de Arte "Bălaşa Doamna" Târgovişte
10	Bălan Andreea	*Nanotechnology - health and cancer researches*	Liceul de Arte "Bălaşa Doamna" Târgovişte
11	Toma Adriana Maria; Nedelcu Adriana	*Nanorobotics*	Şcoala Gimnazială Gura-Şuţii
12	Vişan Florentin Sebastian; Petre Robert Constantin	*Nanotechnology in medicine - nanorobots*	Şcoala Gimnazială Gura-Şuţii
13	Avram George Laurenţiu; Barbu Petrică Mirel	*Nanotechnology*	Şcoala Gimnazială Gura-Şuţii
14	Veseliu Andrei Alexandru; Niţă Alexandru	*Applications of carbon nanotubes*	Şcoala Gimnazială Gura-Şuţii
15	Toma Adriana Maria; Toma Marian Cosmin	*Silicon Nanotubes*	Şcoala Gimnazială Gura-Şuţii

Table 1: Posters created by Romanian students and uploaded in the NTSE Virtual Lab

The topics chosen by the Romanian students were related to application of nanotechnology in health, cosmetics, robotics, electronics and sports equipments. One of the interesting idea presented in a poster made by students from 8th grade from "Vasile Cârlova" School

Târgovişte was the relation between Divinity and Nanotechnology. Six of the total 15 Romanian posters passed the national evaluation and the semi-final stage to go and be exhibited and evaluated by the scientists who participated to International Advances in Applied Physics and Material Science Congress, that took place in Antalya, on 24 April 2013. After the vote process from Antalya the Romanian winner of the poster competition was Dogaru Gabriela, a 9th grade student from Liceul de Arte "Bălaşa Doamna" Târgovişte. In the following table the six posters that participated to the international evaluation in APMAS Congress are illustrated.

Name and surname	**Title**	**Poster**
Dragomir Raluca; Mihai Raluca; Vancea Carmen	*A chance for life – A 3rd millennium miracle*	 *
Dogaru Gabriela	*Nanotechnology in sports equipment*	 *

Rotaru Mădălina Petruţa; Mîinea Veronica Evelina	*Nanobots Applications*	 *
Vlăduca Andreea Gabriela	*Nanotechnology and medicine*	 *

Căpraru Gabriela; Nănescu Ionela	*Do you know what hides behind perfection?*	 *
Sularia Andreea; Ştefani Diana	*Nano-technology in Medicine*	 *

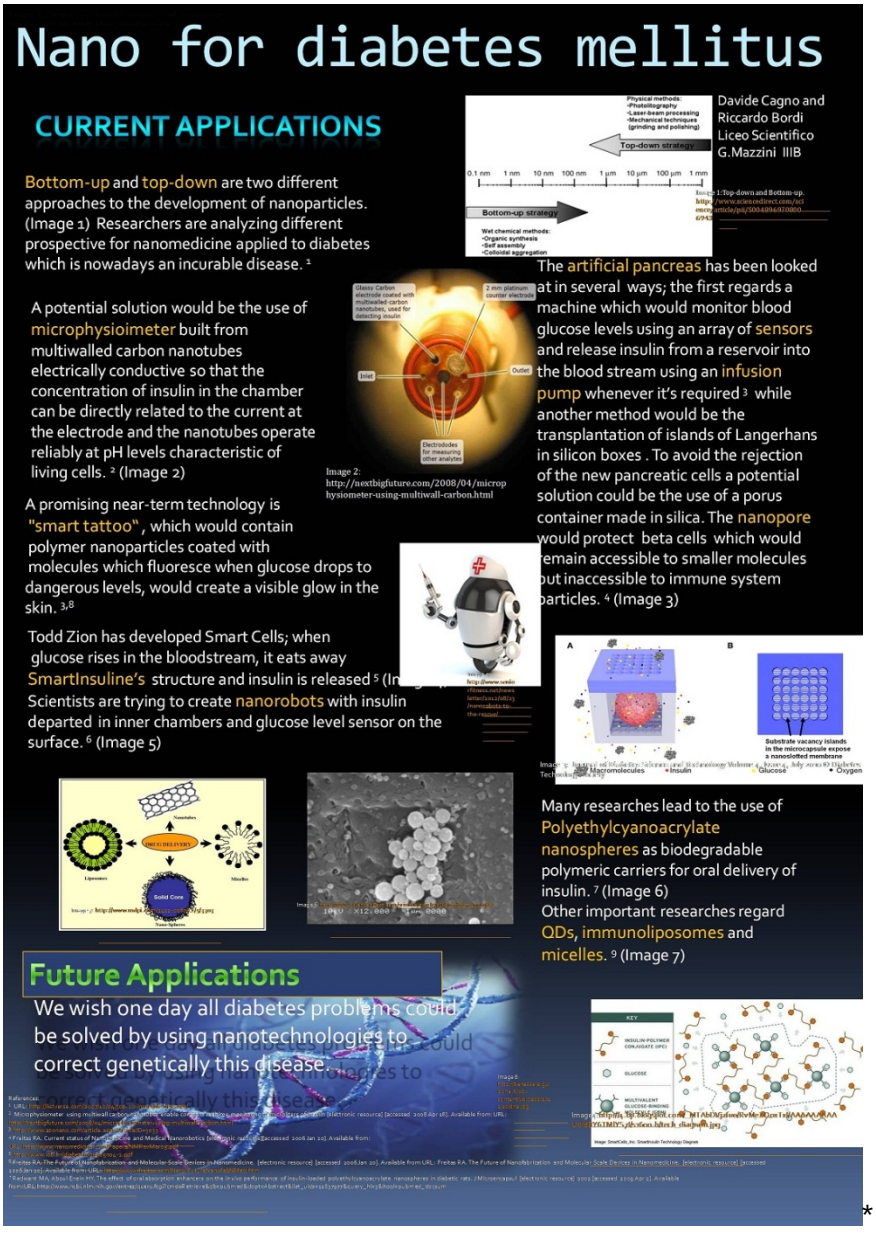
Table 2: Romanian Students' Posters selected for international evaluation by the APMAS Congress Participants in Antalya, Turkey

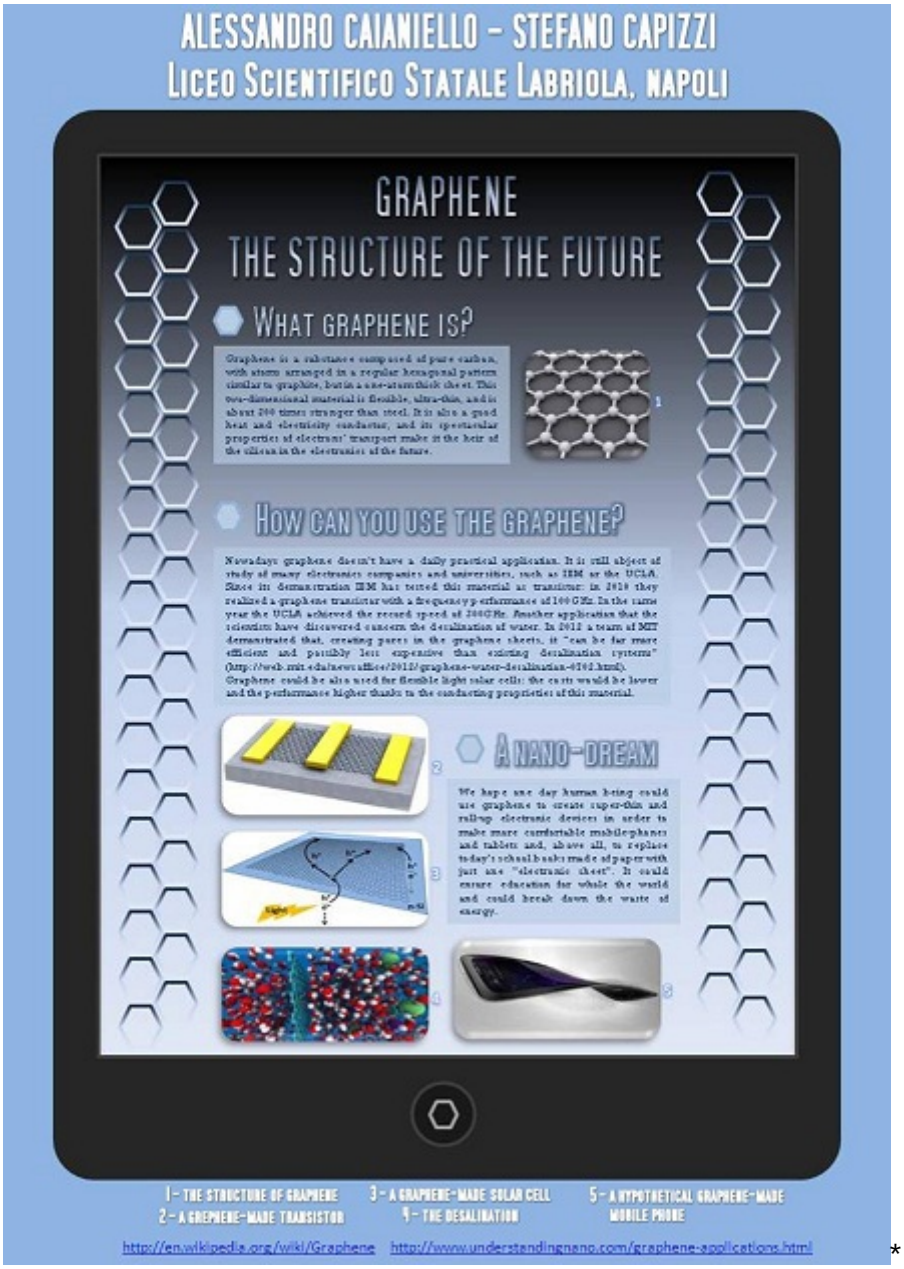
Nanocompetition in Italy

An important milestone of the project regarded the Poster Competition, in which high school students (13-18 y.o.) were invited to express their creativity in the production of a poster related to Nanotechnology. The poster should have addressed some common topics, like including scientific facts, the students' opinion and vision of a future use of that branch of nanotechnologies they selected. Also some graphic and layout standards were suggested. To launch the competition, Fondazione IDIS organized a training course for teachers, and 21 teachers for different high schools participated. 7 schools then decided to apply for the poster competition, and after the first contact, members of Fondazione IDIS went to the different schools to illustrate the rules of the competition.

Student chose application of Nanotechnologies in Health, Environment, Leisure and Sport, Electronic Devices and Human enhancement. 44 Students participated, with a first-class research and collection of information, photos and images. The posters were designed and written in 300 words, A1(59 cm x 84 cm) in size with a clear title. 22 posters were uploaded to Virtual Lab web site and were voted by general public through a social network until 15 March 2013. 9 posters were then selected considering the content, the graphic layout, the number of votes and the respect of the rules given. Out of these 9 posters, 7 were brought to Antalya for the final selection (2 posters were not given in the appropriate paper or digital form in the due time) and the best three posters from each Country were selected, by an international jury, to take part to the Nano Camp.

The students were very happy to take part to the competition, and expressed all their creativity and enthusiasm in spite of the fact that their teachers could not help much, due to the lack of information they had on the topic. Specifically one of the winning posters required a long and well structured work by the students, who, starting from a disease affecting a schoolmate, interviewed several doctors from the main hospitals in Naples and searched through scientific papers, how Nanotechnology could help curing the disease.

Name and surname	**Title**	**Poster**
Davide Cagno e Riccardo Bordi	*Nano for diabetes mellitus*	

Stefano Capizzi e Alessandro Caianiello	*Graphene, the structure of the future*	

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Rosa Rapuano Lembo e Cristina Esposito	*How to limit addiction*	

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Table 1: Italian Students' Posters which were selected by the APMAS Congress Participants in Antalya, Turkey

Nano-competition in Bulgaria

In Bulgaria the Nano-competition was announced in December 2012 with a deadline for submission of the posters 22 February 2013. Center for Creative Training Association distributed the call for the competition with priority to 77 science teachers from all over Bulgaria, who passed the invitation to their students, to all the Regional Inspectorates of Education and to its all relevant associated partners.

CCTA received 15 posters from 20 participants (some of them work in pairs). For the posters received before the deadline Alexander Angelov (CCTA) and Kichka Minkova (Sirma Media) offered feedback on what can be improved so that the posters answer to all criteria. Only two posters were disqualified because they weren't corresponding to the topic of the competition.

The posters went through two stages of evaluation – the first stage was concerning the technical specifications of the posters and correspondence to the criteria. The creators of the eligible posters were asked to send high-resolution versions of their posters, which were later printed and exhibited during the Nano Conference in Antalya in April 2013.

The best posters were chosen by independent nano-experts who were visiting the conference by anonymous voting system.

The winner from Bulgaria – Viktoria Trendafilova and Elitsa Venchova


Nanotechnology used in electronic devices
Quantum Dots
Definition
History
Paper Batteries
Quantum Computers