



8th International Junior Science Olympiad (Durban, 1 - 10 Dec 2011)

Participants of the 8th International Junior Science Olympiad could be the future global leaders; this was the message that was reiterated by speakers during the opening ceremony of the IJSO which took place at George Campbell High School in Durban. This is an event for 15 year olds.

Attending the opening was South African Deputy Minister of Science and Technology Derek Hanekom, eThekweni Municipality Speaker Logie Naidoo, President of the IJSO Professor Masno Ginting and Chairperson of the Local Organising Committee Robin Naidoo.

The opening emulated what South Africa was really about, with gumboot dancers and Zulu dancing all showcasing the different cultures that represent South Africa. All participating countries each had an opportunity to represent their country by parading their national flags.

"We hope that in the next couple of days you will be able to learn from each other. This is an opportunity for us to understand each other's culture and remember that we are united in diversity," said Hanekom.

Hanekom said the Olympiad was a wonderful platform to stimulate young people to be involved in the science world.

"You can become great scientists and teach us different ways of doing things. One of you sitting here might find the vaccine for HIV/Aids. You all have the potential; all you need to do is believe in yourself."

An enthusiastic Ginting told the delegates that they were all winners in their countries.

"No matter what the outcome, you are the best in your countries. If some of you receive medals that will be a good achievement. If you don't get anything there is no need to feel bad, the important thing is that you took part in the event. I wish you all the success. You are the leaders of tomorrow."

Speaker Logie Naidoo said it was wonderful that the IJSO took part during the United Nations International Conference on Climate Change (COP 17). *"You are here during an exciting time in the City of Durban. You will be able to engage in discussions on Climate Change perhaps come up with creative ways of recycling and renewable energy."*

The Department of Science and Technology sponsored the event to the amount of R1.68m and eThekweni Municipality (hosts) covered the rest of the costs along with smaller sponsors, like Anglo American who also contributed.





Day 1

Faces filled with excitement, fatigue and nerves appeared during the arrival of different students who landed in Durban to take part in the much anticipated 8th International Junior Science Olympiad.

Students from 40 International countries have arrived in Durban to take part in the Science Olympiad. The eThekweni Municipality as the host city was proud to be part of a project that encourages the youth in the field of science.

Mayor, Councillor James Nxumalo said the IJSO was a brilliant platform for students to share knowledge and be able to network formally and informally while engaging in fulfilling events that will give the delegates an opportunity to explore the warm beautiful City of Durban.

Azmat Ryskulbekov of Kazakhstan, 15, a Grade 10 pupil said that he had a great trip he also pointed out that he was familiar with some of the countries events.

"I love this country because of the International icon former President National Mandela. I wish I could meet him. I know that this country also hosted the Fifa World Cup last year. I am mostly excited to see the ocean for the first time," said Ryskulbekov. He said he was confident that his country would do very well as they spent a lot of time preparing.

The delegates brought a buzz to the air where the registration was being held. One could see that they cannot wait to sit down and write their first exam.

Another Student Emmanuel Azuh, 15, from Ghana who was smartly dressed in a black suit said this was the first time that he had traveled to a different county.

"Before coming here we watched a documentary about Durban, this showed me that this City was very beautiful especially the beaches. It is also the first time that we are taking part in an event such as the IJSO we are very confident that we will do well in the exams."

Day 3

The common words that were used by participants to describe the first examination of the 8th International Junior Science Olympiad (IJSO) was "tricky and easy".

"The exams were very easy; the tests given to us for preparation were more difficult. I really enjoyed writing the first examination," said Jeremy Magdaong from the Philippines.

Participants started the day by heading to the University of KwaZulu-Natal to write their first paper which consisted of Biology, Physics and Chemistry. The City of Durban was hosting the IJSO where 40 countries had gathered to take part in the event.

An excited Eva Jouson of Estonia who could not wait to write her second paper who also said the first examination was easier than expected. *"The exams were not too difficult but I found some of the exercises a little tricky especially physics. Overall the examination was not too difficult,"* said Jouson.



Day 3 (cont.)

Vinuri Chandana Attygalla of Sri Lanka said he enjoyed the biology section of the paper.

"I guess the studying together twice a week and the homework that was given to us must have paid off. Today's examination was not too difficult the biology section was easy but chemistry was a bit difficult."

The participants ended the day by relaxing at the beach with some of the students seeing the ocean for the first time. Ryshulbekov Azmat of Kazakhstan who described the exam as normal since he had taken the time to study every day said, going to the beach was the best way to relax after the exams.

"This is a good way for us to unwind especially since it is the first time that I see the ocean. It is really great," said Azmat. Dorah Boikanyo of team South Africa also described the examination as good and bad with biology a little challenging. She said even though she was from South Africa but she was seeing the ocean for the first time.

Day 4

Participants of the 8th International Junior Science Olympiad (IJSO) spent the fourth day of the event relaxing and having fun at uShaka Marine World. This is where they got a chance to see what Durban was all about.

The day started with students from 40 countries taking a walk from the Coastlands Hotel to uShaka Marine Wet n Wild. The eagerness and the excitement was written on the faces of the students with most of them quickly slipping into their swimsuits and enjoying all the activities that uShaka Marine World had to offer.

On Saturday participants of the IJSO wrote their first examination at the University of KwaZulu-Natal which consisted of Biology, Physics and Chemistry. The City of Durban was hosting the IJSO.

The delegates quickly scattered all over uShaka's Wet n Wild with some visiting the aquarium, watching the dolphin and seal show others could not get enough of the water rides.

"My favourite section of uShaka Marine World was the aquarium. This is the second time that I get to visit one. I also could not get enough of the slides and swimming in the pools. Today was such a fun day," said Czech student Anna Bielakova. It was clear that even though the water rides were popular to all students but seeing sharks, octopus and sea tortoise swimming in the aquarium must have been their highlight.

Callum Shaw of Kenya did not seem to be bothered by the heat but focused on the new friends that he had made.

"It's great making new friends especially in a place like this because we are all having fun. The heat does not bother me because I am from Kenya and it is also very hot there. Otherwise I am having a good time."

Slovakian student Max Karel was not worried by the examinations that were still to come he was more focused on what uShaka Marine World had to offer.

"I did most of my studying at home. I am very confident about my next exam. Right now I am focusing on having fun. We have aquariums in my country at the Zoo. UShaka Marine has the biggest aquarium that I have ever seen. I had such a good time," said Karel excitedly.



Day 5

A day that started off with anticipation for completing the second examination of the 8th International Junior Science Olympiad (IJSO) ended off with students getting to know more about Climate Change.

Students taking part in the event started their day by writing their second exam at the University of KwaZulu-Natal. Before the exam started, students were seen sitting in groups trying to pin down last minute details of what awaited them.

The students were writing examinations which consisted of Biology, Physics and Chemistry as part of the IJSO hosted by the City of Durban. Durban is also playing host to the COP 17 Climate Change taking place at the Inkosi Albert Luthuli International Convention Centre (ICC).

After the exams some students seemed relieved that the examinations were over and others indicated that the exams were somewhat easy.

Ghanaian student Mohammed Ruhayatn said he was very surprised by the examination because he thought it would be difficult. *"I was very shocked to find that the examination was not that complicated, it was just okay. I was expecting something more difficult. I really enjoyed the Chemistry and Biology paper it was easy,"* said Ruhayatn.

Piangrawee Santivongskul of Thailand said the exam was difficult especially the Biology and the Physics section. *"I think I also had limited time to finish my exam."*

The delegates were then moved to the Climate Change Response Exhibition situated in the central business district. This is where different companies and countries were exhibiting products and innovations regarding climate change.

Estonian student Kristel Roots said: *"It was very exciting to be here during COP 17 it's good to have such exhibitions for people to acquire knowledge on climate change. My favourite part of the exhibition was seeing the stand that represented the Cradle of Human Kind as it taught us alot about history,"* said Roots.

Marce Carnaghi of Argentina who was viewing the Nissan Leaf Electric Car said it was a wonderful idea to have such a car.

"This is such innovation. This is really an original concept to have car that does not affect the environment badly. We are learning so many things in this exhibition."

Mrs Pandor, Ronel Mitchel Vice Chairperson IJSO 2011 (eThekwin Municipality) and Prof Masno Ginting (Indonesia) President of the IJSO





Day 6

Students taking part in the 8th International Junior Science Olympiad did nothing but enjoy the African sun and viewed wildlife at Tala Game Reserve on the sixth day of the event.

The day started off early with students being driven to the game reserve. Some of the students who are from 40 different countries had never seen a live zebra or a rhino.

Excitement was filled in their faces the minute they climbed on the vehicles provided for game drives. None of the students seemed frightened by the wild animals; in fact they made sure they got all the wildlife action in the digital cameras they were carrying.

Seeing water hogs, hippos and bushbucks was not the only thing that amazed the students, but they also got a chance to take part in Zulu dancing with a group that was performing at the game reserve.

The Zulu dancers that were giving the performance kept smiling as they saw the students attempting to do the African dance with shields and spears.

The students have been in Durban for six days and wrote their second examination on Monday.

Ellen Le Bas of Ireland said she had fun taking part in the Zulu dance because it was different to her culture.

"In our country there are only cows and sheep it was really exciting to see wild animals. The traditional clothes that were worn by dancers were really unique."

Chinese student Yang Tsung Shan said it was so exciting being in South Africa that he was not even missing home.

"Seeing the wild animals and taking part in the Zulu dance was wonderful at this stage I don't even want to go back home," joked Tsung Shan.

The atmosphere of the day was particularly relaxed with students stating that they were not worried about the practical examination for the next day and they had fun exploring how South Africans live.

Day 7

The completion of the final examination was welcome with a spirit of jubilation by students taking part in the 8th International Junior Science Olympiad in Durban on Wednesday.

Students ended the competition by doing a practical examination which consisted of experiments at the University of KwaZulu-Natal's Westville Campus.

Limyong Hui of Singapore said the final examination was challenging with chemistry and the biology being easy.

"The Physics calculations were difficult otherwise I am really happy to have completed my exams."

A thrilled Australian student Abigail Kelso who could not hide the facial expression of relief said she was really happy that she no longer had to study but could now enjoy the beauty of South Africa. *"My team and I put much effort in studying prior to coming to this event. This really helped because I found the Chemistry and the Biology section quite easy."*



Day 7 (cont.)

Once the exam was completed students got to play around with fun science experiments with Dr Megan Govender who is a Senior Lecturer at the University of KwaZulu-Natal.

Govender presented some fun and interesting experiments that students seemed to have enjoyed. Others got on stage and assisted Govender with his experiments.

Kasparas Vasiliauskas of Lithuania who could not get enough of Govender's fun experiments said the show was a lot of fun. *"The show was great, I learned to think out of the box and be more creative when it comes to science."* This was echoed by South African student Lian Devenish who added that it was important to explore with science and be more open minded.

eThekweni Mayor, Cllr James Nxumalo, hosted the students for a civic reception to celebrate the end of exams.

Day 8

The spirit of the 2010 Fifa World Cup was alive again as participants of the 8th International Junior Science Olympiad took a tour of Moses Mabhida Stadium.

When the students arrived at the stadium they made their way to purchase the Vuvuzela which is known as being a vital instrument for spectators during soccer games.

The loud instrument was blown by several students such that a person on the outside would have thought a soccer match was taking place at the stadium.

The City of Durban was hosting students from 40 countries who were taking part in an Olympiad which consisted of writing examinations in Biology, Physics and Chemistry. Durban is also playing host to the COP 17 Climate Change taking place at the Inkosi Albert Luthuli International Convention Centre (ICC).

Last year South Africa was hosting the 2010 Fifa World Cup.

Students ended their exams on Wednesday, 7/12/12 by doing a practical examination which consisted experiments at the University of KwaZulu-Natal, Westville Campus.

Kamran Kerimov of Azerbaijan said it was the first time that he had seen such a beautiful stadium. *"The beauty of the stadium even made me buy a soccer ball. I also enjoyed going on the Sky Car Durban is so beautiful up there."*

Kazakhstan student, Dinay Shairpove said he wished he could have been at the stadium during the World Cup as the beauty of the stadium must have had an impact on all tourist who attended the event.

"The beauty of the stadium left me speechless. It is such a wonderful experience to be taking this tour," said Shairpove.

After the tour students then went to Gate Way Shopping Theatre to buy a couple of souvenirs for family and friends. On Wednesday night students celebrated finishing their exams in true South African style by having a braai. Different countries got to showcase their traditional attire. Other students performed songs and dances that represented where they came from.



Day 9

The 8th International Junior Science Olympiad ended on a high note with South African Minister of Science and Technology Naledi Pandor bidding farewell to participants of the event.

Pandor said events such as the IJSO were important as they bring an interest to young people to go into the study of science.

"Events such as these are important. All of you are aware and concerned in the decline of young people who have an interest in science and mathematics. Olympiads are a means to encourage young people to become scientist, engineers and more. Without science we would not understand how our world works. It is therefore critical that we create an interest in science in young people," said Pandor.

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The team from Chinese Taipei could not hide their excitement after being the top performing team in the Olympiad. Hsu Shiuan –Hao who was one of the top three highest performing students could not contain his excitement.

"It feels really good to have been part of the top three students. My team and I put a lot of effort in preparing for the event. I was very surprised to be one of the top performers I am sure our parents will be very proud of us," said Hao.

The top performer of the Olympiad Russian students Agnur Maksutov said he did not expect to be one of the top achiever.

"I know that my family will be very surprised when I tell them I won. They might even think it was because of sheer luck." He said, he would like to become a scientist one day and specialise in the field of biology. "I will never forget South Africa I had a great time. The nature and the wild life were amazing. In my country we do not have such beautiful trees."

Students from different countries received 64 bronze medals, 41 silver and 20 gold medals. South African students received five bronze medals during the event.

Prof Ginting with the Top Achiever, with Robin Naidoo at the podium (Chair of IJSO 2011)





Address by the Minister of Science and Technology, Naledi Pandor MP, at the International Junior Science Olympiad awards ceremony, George Campbell School of Technology, Durban, 9 December 2011

The Programme Director;

Prof (Dr) Masno Ginting, President of the International Junior Science Olympiad;

Committee members of the International Junior Science Olympiad;

Mayor of the eThekweni Municipality, Cllr. James Nxumalo;

Mr Robin Naidoo, Chairperson of the Local Organising Committee for IJSO 2011;

Distinguished members of the Scientific Committee;

Team leaders and their deputies;

Students from all participating countries;

Teachers and Parents;

Ladies and Gentlemen:

I'm delighted to be here at the closing ceremony to see who will win the 8th International Junior Science Olympiad (IJSO).

Olympiads stimulate interest in science. They encourage young people to become scientists, to become physicists, chemists, biologists. They encourage youngsters to choose science as a career and that choice assists all of us to develop and prosper.

In a very real sense an Olympiad shapes lives. It's something you never forget. It's something you dream about both before winning and after winning. It gives you a wonderful sense of satisfaction.

I'd like to congratulate Professor Masno Ginting for his vision in establishing of the Olympiad 8 years ago.

First, he convinced Indonesia to support the IJSO idea. Then, he convinced South Africa to host this prestigious event this year, at which some 42 countries are represented.

Under the leadership of Mr Robin Naidoo, the Local Organising Committee has been instrumental in making the 8th IJSO on our soil a success.

The Municipality of Durban is to be congratulated for hosting the event, while the Scientific Committee of the IJSO is to be applauded for its work, which includes preparing the Olympiad questions.

I'm sure a lot of research has to go into this critical aspect of the Olympiad so that learners from different learning backgrounds compete on an equal footing.

I hope the Olympiad questions and associated tasks not only tested your knowledge depth of biology, chemistry and physics but also helped you to think creatively.

I'm impressed by the manner in which the IJSO is configured, particularly its focus on the 15 year olds and younger.

Usually most of the activities that are intended to stimulate young people's interests in sciences accommodate learners who are in their later years of schooling.

Sometimes it's a question of not realising how much such an approach disadvantages the process of building a pipeline for the development of science, engineering and technology professionals.

If the learners are introduced to exciting and challenging science at an earlier age, it is likely that more of them could be attracted to science-based careers than it is currently the case.



Address by the Minister of Science and Technology, Naledi Pandor MP, at the International Junior Science Olympiad awards ceremony, George Campbell School of Technology, Durban, 9 December 2011 (continued)

The IJSO is designed in such a way that it helps learners to achieve what some experts refer to as a shift from “memory-based learning to thinking-based learning”.

More similar activities are needed to prepare young people for future science and technology careers.

The 8th edition of the IJSO took place in this city of Durban, South Africa at the same time as the COP 17 Climate Change Conference.

Cop 17, as we are all aware, brought together countries to tackle the challenge of climate change.

Although this conference includes both countries' leaders and experts on the subject, delegates do not necessarily have all the right answers for the challenges brought about by climate change.

I believe that the young and talented science learners present here today will find some better solutions in the near future.

Enhanced by the hospitality that Durban and its people offer, there is no doubt that the experience will remain in your minds for years to come.

However, I would like to encourage you to look at the potential study opportunities that South Africa offers in science and technology.

South Africa has some state-of-the-art research infrastructure.

A case in point is research infrastructure for astronomy, which has made our country an international astronomy research destination.

I would be delighted if some of you returned to this country to use these facilities to explore the universe as part of your postgraduate studies.

We also have research councils that are the envy of the world. The Council for Scientific and Industrial Research, the Agricultural Research Council, the Medical Research Council, Council for Geosciences and MINTEK are ideal places to start your science careers and progress to world-renowned researchers and scientists.

Science and mathematics olympiads and competitions are not just for learners.

They are also for us in government. Olympiads and similar competitions are central to the implementation of our Youth into Science Strategy.

The Strategy is part of our work to build, at school level, a pipeline for the development of the country's science, engineering and technology technicians and professionals.

Like most other countries in the emerging world, South Africa needs to train more researchers in science and technology.

I would like to congratulate all the participants for qualifying to take part in the IJSO.

A special word of congratulations to the winners, your effort and hard work has been rewarded with this recognition. I wish you well with furthering your studies and sincerely hope that you will follow a science career.

Please remain in contact with the friends you have made here in Durban.

Let me conclude by wishing Iran well as its representatives here today receive a baton to host the 9th IJSO in 2012.