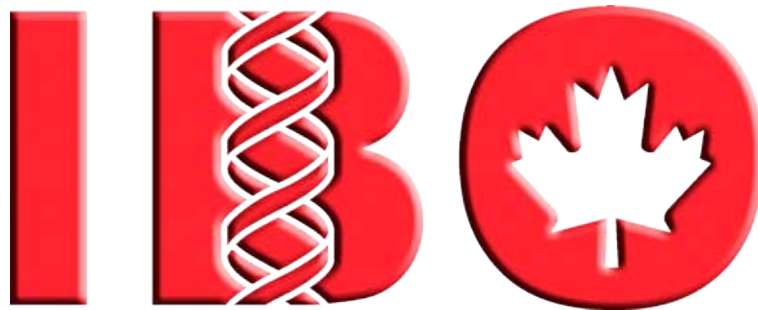


Final Report & Planning Suggestions

International Biology Olympiad



Saskatoon Canada 2007

Part One: Report (Appendices Not Included)

*A special thank you to the following people
for allowing us to use their beautiful photographs in this report:*

*Eshan Affan
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Olga Tkachenko
Janewit Wongboonsin
Yan Yu*



Students at Wanuskewin

“The IBO has made me aware that, although we live in different parts of the world, with different customs and traditions, perhaps we are not as different as we seem in terms of the academic world. Academics, especially the sciences, is one of the things that can unite the world together. It was a great feeling to finally be able to share (albeit lame) bio-jokes with fellow bio-nerds from around the world and not be considered weird (the response I get from most other people in Canada).

It wasn't just bio that was similar between us, either. I found new friends who shared similar languages, sports/hobbies, even liked the same music (a girl from Azerbaijan loves linkin park, and so do I!!!!)!!!!!!

That said, the IBO did make me truly aware, for the first time, that the world does not just consist of my Canadian-Chinese heritage/ customs/ culture. It was definitely an eye-opening experience to see people from countries I've never even heard of (like Liechtenstein, for instance). It was just a great experience, culturally as well as academically.”

Yan Yu

Canadian Competitor and Silver Medalist



Overall impression: WOW! I was awed by the sheer magnitude of the event. I think it was quite an experience for the participants. The exams were fair, yet challenging overall, and the events for the students demonstrated a cross section of Canadian, in particular Saskatchewan, history/culture.

I have participated in IBO since 2005 (China, Argentina, Canada). These three years have given an opportunity to build up very good relationships with many colleagues from different countries. And has provided an excellent possibility to get know more about very different countries, nations, cultures. Some very good personal contacts I built up in Canada have made possible to make many proposals to improve the education system in my home country.



I was impacted in such a profound way, as I think [the IBO] was the most influential professional development for any teacher to experience. It showed how passionate people are to showcase how important biology is to young, keen students.



FOREWORD

Nearly 50 years ago, a few educators from the former Soviet Block countries started the Mathematics Olympiad, with a handful of countries participating in it. Their intention was to engage the youth, to challenge them to bring the best out of them in educating themselves. They were not confined to artificial political boundaries. The world is the playing field just like in athletics. This movement has now grown to include Olympiads in Mathematics, Physics, Chemistry, Biology, and Astronomy, to name a few. More than one hundred countries participate in these events annually. We salute their vision.

We feel very privileged to host the International Biology Olympiad as we mark the centennial of our University. Within two years after Saskatchewan joined the confederation, the pioneers established the University to educate the youth of the province. This event is our reaffirmation of that commitment.

An event of this magnitude is not done by one person, nor done by few people. Several people worked in different capacities, quite often in more than one role, to contribute to its success. The list is too long to thank everyone personally so I will choose a few. The collaboration with Mr. Gerry Bonsal and Dr. Joanne Post of Saskatchewan Institute of Applied Science and Technology, Saskatoon was very rewarding in this endeavor. Dr. Lynda Haverstock, former Lieutenant Governor of Saskatchewan offered unwavering support first as Honorary Patron and later as honorary Chair of the IBO-2007. Ms. Irene Mikawoz of Natural Sciences and Engineering Council of Canada (NSERC), Winnipeg Office has been a stalwart supporter of this event. Ms. Andrea Regier, Drs. Peta Bonham-Smith, Geoff Hughes and Bernie Juurlink offered indispensable academic support. Mrs. Linda Misanchuk contributed to this event in various capacities, coordinating many essential, non-academic components of this event. Dr. Karen Tanino took on the thankless job of fund-raising. Mrs. Vanessa Ross Young, as coordinating manager of this event, had the very difficult task of overseeing these academic professionals to get things done. I owe all these people a big "Thank You". Several organizations provided financial support and they too are gratefully acknowledged.

Welcome to Saskatoon.

Welcome to the 18th Biology Olympiad, IBO-2007.

Chary Rangacharyulu
Coordinator IBO 2007





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I remember sitting around the fire at Wanaskewin taking turns singing campfire signs in different languages and thinking "Wow."

I remember the excitement, and the pride, I felt when my team members were called to receive their medals.

I remember 200 groggy "Good mornings" in 30-ish different languages at breakfast.

[Participating in the IBO] has make me seriously consider a career in biology and also to look into applying for top overseas universities as I saw how I compared to other students aiming for these. It has given me more confidence and is a great thing to put on my cv. It was great to have an opportunity to represent my country and walk under our flag in uniform as this was an experience I never thought I would have.



I learned a lot more about Biology and my interest in Biology grew. The IBO offered me the opportunity to experience life in Canada which was a very valuable experience. I met many people from many countries and I believe that that was the part I enjoyed most in the IBO.

**Section
1**



**General
Planning**



INTRODUCTION

The International Biology Olympiad is a scientific competition celebrating some of the world's most talented high school students. Beginning as a competition between Czechoslovakia and Poland in 1985, since 1990 the IBO has been coordinated from the head office in Prague under the auspices of the United Nations Educational, Scientific and Cultural Organization (UNESCO). Each of the approximately 60 member countries may select the four top performing students in their national competition to compete at the international level. This distinguished event, which focuses on promoting excellence in biological science and fostering cultural awareness among the world's youth, is held in a different member country annually. Scientists and academic professionals from each country act as jury members to negotiate these challenging comprehensive examinations. The IBO provides an opportunity to learn about the educational practices and curriculum throughout the world. This is useful information when trying to encourage educational reforms in jurists' home countries.

IBO-2007 was the first time in the IBO's history that the competition has been held in North America; Canada will not likely have this opportunity again for another 50 years. Saskatoon, Saskatchewan was honoured to host this prestigious event July 15 to July 22, 2007. The University of Saskatchewan housed the participants and examinations while the jurists facilitated the examinations from the Saskatchewan Institute of Applied Science and Technology (SIASST), Kelsey Campus. By all accounts, the event was a success. Though there were some logistical issues in presenting the examinations which will be discussed further, the statistics support a reasonably designed exam.

During the Olympiad, students are required to solve biological problems and perform biological experiments, thus testing their inventiveness, creativity, reasoning skills and knowledge of biology. Although the prime focus of the Olympiad is on academic competition, the students from participating countries to interact with each other and with the local community in a variety of social, recreational and cultural activities. This report includes brief description of the social activities for IBO 2007.

Canada's bid to host the event was presented to the International Coordinating Committee at the International Biology Olympiad held in Minsk, Belarus in 2003. "We made a pitch to showcase our city. We wanted to showcase the University of Saskatchewan in its centennial year. We wanted to demonstrate that our city is international. It is youth-oriented. It is biotechnology based. We are a vibrant research community," says Chary Rangacharyulu, Coordinator of IBO 2007. The bid proposal was accepted, and the next four years were spent preparing.

The IBO 2007 Local Organizing Committee is composed of 15 volunteers, academic and non-academic, professionals and entrepreneurs from the Saskatoon community who head up or are members of one of its subcommittees. His Honour the Honourable Dr. Gordon L. Barnhart, the Lieutenant Governor of Saskatchewan, is our Honourary Patron and The Honourable Dr. Lynda Haverstock as our Honourary Chair. The IBO-2007 also worked closely with its title sponsors, the University of Saskatchewan and the Saskatchewan Institute of Applied Science and Technology,

to stage this event. To complement the Organizing committee, the subcommittees, each with three to eight members, were responsible for the different requirements of IBO 2007 such as fund-raising, registration, transportation and accommodation, social events and ceremonies, examinations, and volunteer recruitment. Volunteers played an integral role in the staging of this event, particularly as hosts of individual teams and in conducting the examinations. To recruit the estimated 200+ necessary volunteers, we partnered with secondary and post secondary educational institutes, student body associations, and local cultural organizations.

Countries that were potential IBO candidates (those in italics were unable to participate): *Afghanistan*, Argentina, *Armenia*, Australia, *Austria*, Azerbaijan, Belarus, Belgium, *Bolivia*, *Brazil*, *Brunei*, Bulgaria, Canada, China, Chinese Taipei, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, India, Indonesia, Islamic Republic of Iran, *Ireland*, Japan, Kazakhstan, Republic of Korea, *Kyrgyzstan*, Kuwait, Latvia, Liechtenstein, Lithuania, Mexico, Moldova, Mongolia, *Mozambique*, *Nepal*, Netherlands, New Zealand, *Nigeria*, Pakistan, *Peru*, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, *Tajikistan*, Thailand, *Trinidad and Tobago*, Turkey, Turkmenistan, Ukraine, United Kingdom, United States of America, and Vietnam.



BY THE NUMBERS

49 countries competed plus 1 observing country
192 total participants
Average of 3.9 participants per country
158 jurists facilitated the examinations
Countries sent from 1-20 jury delegates, average 3.16 per country (2.8 excluding outlier)
First time observers: Italy
First time competitors: France and Lithuania (Peru and Bolivia were also eligible)
Total budget for event: \$600,000
Total number of volunteers: over 200 though more were needed



CORE COMMITTEES

Without the hard work and dedication of a small group of committed volunteers, the 18th Annual International Biology Olympiad would not have been possible. Though we worked a great deal as a collaborative team, each person's contribution was critical to the event's success. To our volunteers: thank you once again for the long hours and tireless optimism you devoted to our goal of bringing the IBO to Canada.

Administration

The core organizing committee was chaired by Dr. Chary Rangacharulu of the University of Saskatchewan. As the chief event coordinator for the program, he managed all long term logistical planning, oversaw the progress of all committees, directed budget expenditures, and to assisted or advised the various committees as necessary. During The week of the IBO, his primary duties were to asses and respond to any unexpected circumstances as they arose and to assist any committee as necessary. Post IBO, Dr. Chary was responsible for finalizing the budget and coordinating the release of the final reports.

Vanessa Ross Young joined full time in December 2006 as Coordinating Manager. Her primary responsibility was to act as an administrative assistant Dr. Rangacharyulu in day to day preparations, to facilitate communications and activities between committees, and to anticipate and adjust for any logistical issues as they arose. She also assisted various planning committees as necessary. During the IBO, her responsibility was to assess and respond to any unexpected circumstances as they arose, to prepare certificates based on the corrected registration information. Post IBO, Mrs. Ross Young prepared the final reports and sponsor recognition for all interested parties.

Ellen Fritz worked as the Assistant to the Coordinating Manager and as the primary Volunteer Coordinator. Primary activities included the majority of volunteer recruitment, coordination, and training as well as basic administrative assistance. During the week of the IBO, Ms. Fritz also acted as the Head Team Guide. Her role will be further elaborated in the volunteer section.

Examination Committee

Chief of Examination Committee: Dr. Geoff Hughes both directed and oversaw the activities of the various exam committees throughout the preparation process. During the IBO itself, Dr. Hughes was primarily responsible for chairing the exam portions of the jury meetings. The practical and theoretical examinations were broken into subcommittees as outlined in the examinations section of the report.

Fund Raising Committee

Responsible for all private, government and ngo (non-governmental organization) fund raising activities and the marketing of the event itself. Dr. Karen Tanino was chair of this 4 member committee. Fund raising for the IBO was a primary activity, this committee was very active throughout all stages of the IBO planning.

Communications and Marketing

The communications group was responsible for promoting the IBO to potential sponsors and volunteers as well as media relations, newsletters, and other mass communications. Though the group membership was dynamic, Mrs. Vanessa Ross Young was primarily responsible for coordinating these activities.

Transportation, Activities

Mrs. Linda Misanchuck planned all transportation, social activities, and excursions. This includes, but is not limited to, the Wanuskewin experience, Prince Albert National Park excursion, jury tours through rural Saskatchewan, the dance, and all event transportation including arrivals and general bussing. She was also responsible for all food and beverages throughout the week.

Ceremonies

The Opening and Closing Ceremonies were under the direction of Dr. Geoff Hughes. A private event coordinator planned and prepared the entertainment portion of both events.

Jury Room Logistics

Mr. Gerry Bonsal and Dr. Joanne Post were the primary contacts for any and all jury centered planning involving SIAST including, but not limited to, coordinating all jury sessions, planning and providing all necessary jury materials and equipment including computer and other IT services, exam management (security and photocopying), as well as providing food and beverages on campus.

Registrations Committee

Doug Macdonald, Jane Lamothe, and Dr. Khysar Pasha oversaw the registration activities including preparation, distribution, and collection the registration forms, assignment of participant numbers, database management, and supervision over all financial matters associated with registration. Please see the registrations section for further details.

Web Site Management

Doug Macdonald was responsible for the web site and associated mailing lists.

Honorary Members

We were pleased to have His Honour the Honourable Dr. Gordon L. Barnhart, the Lieutenant Governor of Saskatchewan, as our Honorary Patron and The Honourable Dr. Lynda Haverstock as our Honorary Chair.

Recommendation

Additional core committee members plus their accompanying subcommittees would be ideal to allow each person to focus more fully on their designated tasks. Ideally, we would have had additional members leading subcommittees in communications, marketing, recruitment, ceremonies, and examinations.



GENERAL TIME LINE

Please note: This time line captures the most significant events only. The planning committee met at minimum of once a month for the majority of the planning period and with greater frequency as the IBO approached. Between planning committee meetings, the other committees were also active. Please refer to the appropriate sections of this report for more detailed information including detailed exam time line available in the examinations section.

Fall 2002: The concept of bring IBO to Canada was formed

Winter 2003: A small bid committee was created and began to put together a proposal, University of Saskatchewan becomes title sponsor and host, goal to host in the University of Saskatchewan's centennial year 2007

July 2003: Successful Bid proposal accepted by the IBO organization at the Minsk IBO, a skeleton steering committee formed

Fall 2003: First CBO training camp preparations began, Accommodations for the jury and students booked for IBO-2007, Fund-raising began

Jan. 2004: Dr. Lynda Haverstock joins as Honorary patron

April 2004: First Canadian Biology Olympiad (CBO) camp held

Summer 2004: First Canadian participation in IBO (Australia), Chief examiner of IBO-2007 identified.

Winter 2004: Saskatchewan Institute of Applied Science and Technology (SIAST) assumes responsibility over jury room planning

April 2005: Second CBO camp and first junior camp held

July 2005: Second Canadian participation in IBO (China)

Summer 2005: Chairs of examination committees identified, Fund-raising (2nd round)

April 2006: Third CBO camp and second junior camp held

Summer 2006 : Third team from Canada at IBO (Argentina), Fund raising round 3

Fall 2006: Exam subcommittees formed

Dec 2006: Coordinating Manager hired full time to manage day to day planning tasks and coordinate information and activities between committees

Jan 2007: Volunteer awareness campaign begins and continues to keep an IBO presence on campus, media remains lukewarm, Pre and Post conference tourism packages set up with travel agency, Progress: 36 countries confirmed, 55 eligible plus new observers

Feb 2007: Media awareness campaign increases, Administrative assistant hired on a casual/part time basis to assist with preparations, Invitations sent to participants to assist with Visas (Round 1), Fund raising continues to be a priority, Registrations forms finalized

March 2007: Volunteer database created to track volunteer needs, student security and legalities are assessed, CBO hosted in Winnipeg, MB, Invitations sent to embassies and participants to assist with Visas (Round 2)

April 2007: Registration complicated by questionable registration attempts by two countries, Invitations sent to embassies and participants to assist with Visas (Round 3)

May 2007: Administrative assistant begins full time employment, Volunteer Recruitment increases in priority, volunteer training guides created, invitations sent out to dignitaries for Opening and Closing ceremonies, Ramada fully booked for preIBO accommodations

June 2007: begin scheduling volunteers, still sending many Visa letters, supply lists finalized and ordered, fund raising phone campaign, official cut off for registrations, Progress: We have registered 52 participating countries plus 1 observing country; 3 countries sending regrets, 2 countries interested in observing but not yet registered and 7 member countries whose status is unknown. For individual numbers, we have 189 competitors, 2 guests, 5 observers, 45 deputy leaders, 50 leaders, 2 unclassified people plus around 20-25 registered countries with participant numbers to be determined.

July 2007: Media interest begins, Finalized team guides, begin series of training sessions, bag stuffing, some registrations still trickling in after official deadline, registration books printed, many detail oriented projects finalized in last two weeks before event as registrations finalized (lab sign in sheets, name tags, etc). Three countries cannot attend due to financial or Visa difficulties, withdraw registrations.



REGISTRATIONS

Overview

Our registrations committee was responsible for compiling and distributing all registration information to the participants and the committees planning the event. To achieve this, their duties included:

- Maintaining a contact database of primary contacts for all member countries
- Creating and distributing the registration materials (see appendix for registration forms)
- Compiling completed registration information into an online database
- Assigning each registrant a 4 digit code (see note below)
- Making updates and corrections to the database as necessary
- Creating and distributing specific information to various committees
- Receiving and accounting all registration fees

Note: 4 digit country codes - All participants are identified through a numbered 4 digit code. The first two digits (ranging from 11-72) were assigned to each country alphabetically. The third digit reflects the capacity of the participants: 1 for competitors, 2+ for jurists and other observers. Finally, the last digit distinguishes the individual (eg. Student 3 from Argentina was 1113). These numbers were important for maintaining anonymity during marking of the exams and to ensure that students from the same country did not compete in the same examination rooms. Lab coat color coding and examination room assignments both relied upon the final student number (ie. all student 3's wrote in the same exam room and wore the same lab coat color to distinguish them).

Visa Applications

Starting in early February, formal letters of invitation were sent to all available IBO contacts. In March, a second round of letters was sent out to the participants with another sent to their appropriate Canadian embassy. During this time, several countries and the majority of the embassies were also sent electronic copies of the invitations. A third round of invitation letters went out to all unconfirmed recipients and their respective embassies by mail, email, and fax in April. Despite our many efforts, several countries reported not receiving their invitations until numerous attempts were made. In two cases, we eventually sent the documents by courier.

Local Registrations

Registrations opened the first day of the IBO. Upon arrival, Team Leaders registered their teams at the IBO registrations desk in the lobby of the hotel they were staying in. During this process, the registrations team ensured all forms and monies were received in full from every team as several countries preferred to pay their registration dues in cash upon arrival. In addition to providing receipts for all transactions, they also provided the jury members with their registration materials. The hotel personnel were responsible for registering the IBO guests in their rooms.

For student registrations, team guides met their team either at the airport or at a location on campus and assisted them with their luggage. From there, they took their team to their designated

registrations area where the Team Guide registered their team, picked up the registrations materials, obtained the room keys, and distributed all materials accordingly.

The registrations bags were tagged and labeled with the name, number, and size information of the participant. The student bags were arranged in separate areas on campus by expected arrival time then alphabetized by country. All bags contained the following items: a white IBO tee shirt (in specified size), registration book, color coded lanyard, name tag with pocket map/schedule and room key holder, pen, pencil, map of campus, note pads, plus a variety of goodies from our sponsors. In addition, students also received calculators, erasers, and color coded, size specific lab coats.

Recommendations

The invitation letter process for Visas was more complicated than expected as it was extremely difficult to confirm contact with many of the embassies and often faxing was unsuccessful. Emailing the documents was generally more successful for us. Lastly, 4-6 months after initial mailing, we are still sporadically receiving returned letters. It is critical for host countries to ensure their contact database is as accurate as possible.

At its inception, the IBO was small, but as it has grown to include potentially 60 countries and, if current trends hold, over 400 people. We feel there is a need for a more standardized and efficient process for registrations. We recommend that IBO coordinating center consider taking over primary registration responsibilities from the host centers as we had issues with validity of the groups applying and with creating an accurate database of contact information. These matters are interrelated as we had two questionable country registrations - one member was on the contact sheet and apparently his membership status was in question, and another country attempted to register a second team by someone other than the primary contacts. Though we were in contact with the Coordinating Center on several occasions for counsel and they were very forthcoming, the "questionable" member remained in contact with us via email and telephone for almost 8 months. This created several issues for the local committee, especially given that this member had already obtained several authorized visa invitations and paid all registration fees in full. Given the personnel investment of the local committee in dealing with matters beyond the scope of our local event, we recommend the IBO coordinating center to send the host country a list, including contact information, of the **approved** members along with their completed registration forms. By doing this, only those people fully approved to register will be planned to attend and then contacted by the host committee. Lastly, by funneling all registration through the coordinating center, the host committees may have stronger repercussions for countries who do not pay their fees in full. Many countries prefer to pay in cash upon arrival and, though the vast majority have paid in full, we had one country with hotel fees outstanding.



ACCOMMODATIONS

As Per IBO regulations, students and jurists must be separated during deliberations to maintain exam security. To allow this, students were housed at the University of Saskatchewan campus residences, close to the examinations, and the jury stayed at the Ramada Golf Dome, which is walking distance from SIAST. Jurists stayed in pairs in hotel rooms with two double beds and were given the option of upgrading to a private room for a nominal cost. The students were separated from their jury members after the Team photos at the Opening Ceremonies. They were allowed brief contact after the lab exams at Wanuskewin, then were again separated until after theory exams were completed. As the location of the accommodations was critical to logistical success of the IBO, these were booked several years in advance and the official dates of the IBO scheduled around their availability.



TRANSPORTATION

Whenever possible, we moved participants in bus fleets. However, as a cost saving measure we sometimes shuttled buses between nearby events. Though this did allow for staggered departure times, student supervision was more complicated and it was necessary to have a supervisor at both the sending and receiving end of the shuttle. If possible, it would be simpler to move everyone at once instead of shuttling them as people were frustrated having to wait both for the shuttle and again at the destination for the other delegates and early buses were not necessarily full when they left.



VOLUNTEERS

This project relied almost exclusively on the power of volunteers. Because we had a prescreening system built in, we tended to have good quality volunteers. Generally speaking, a host country will likely need far more volunteers than initially imagined - we did a thorough volunteer inventory, confirmed each volunteer, overscheduled for certain positions, but once events began, we realized we were still short on volunteers. We recommend to have a surplus of volunteers available at all times to be responsible for unplanned jobs that arise. Please see the appendices for a preliminary draft of our volunteer needs database. This should not be considered a definitive list as many positions were added during the week and a great deal of the exam related volunteer needs were filled through the examination committees as these tended to be specialized positions.



RECRUITMENT

We recruited volunteers in several phases as outlined below. Though we were able to fill all the general volunteer roles we felt we needed during the planning phase, we had difficulty getting quality team guides willing to commit for an entire week. The major weakness in our volunteer recruitment was poor student marketing. Initially, most of our target population either did not recognize the IBO or were misinformed about its scope. A major suggestion for country's whose culture is more sports than science oriented is to ensure that the volunteers understand what an IBO experience is like; most students we spoke to felt that as non-scientists, the IBO had little to offer them as a volunteer. As much as possible, we have tried to build the "life" of the Olympiad into this report to give future hosts some marketable items as the sociocultural value of the IBO was absolutely critical for us when recruiting quality volunteers.

Volunteer Recruitment Suggestions

- Set up booths and talk to people at different events (career fairs, science fairs, education fairs). Ensure you take down the name and contact information of interested people, don't just give them your contact information even good volunteers forget to contact
- Target groups most likely to be interested in the event: though we did have a strong showing from our Biology students for the science related events, the majority of our quality volunteers were recruited from political studies, international students societies, religious studies, language studies, education students, and first year students wanting to experience campus before classes begin
 - Target students who are already leaders or volunteers: local student councils (such as high school student government), local volunteer groups, most Universities have a volunteer database in one of their offices, students who are trained as campus tour guides
 - Tailor all media to highlight the key drawing points from each group and, where appropriate, make sure they know the IBO is an enjoyable experience for nonscientists. For example, language students would be interested in the opportunity to practice their second language with a native speaker while education students might be interested in learning about educational systems in other countries
 - If you have access to a campus wide delivery system, sending targeted emails to each group your committee has identified
 - Posters & any other press materials
 - Go into classrooms and talk to potential volunteers. This was especially effective when we sent younger, enthusiastic representatives

Lastly, it is significant to note that while our volunteer campaign began in January, the majority of our quality volunteers did not commit until late June as, until then, they were unsure if they had the time available to volunteer. This was especially true for long term commitments such as Team Guides or for difficult to fill time slots such as late nights in the jury room.

I have heard many comments from team guides and I would agree with this statement: it was the best experience of my life!



TEAM GUIDES

A variety of volunteer positions are outlined in the volunteer database included in the appendices. Most are self explanatory or specific to IBO 2007. We believe the most critical volunteer for the success of the Olympiad during the week of the IBO is the Team Guide as they maintain the schedule and are the key contact people for the students. The general expectations for a team guide are outlined specifically in the Team Guide Training Manual that is also in the appendices. Below is a list of information that is not included in the Manual.

The **idealized** team guide is between the ages of 19-25. Below this age, it was our experience that as a Team Guide, they are risky. Often younger than the people they are trying to supervise, their authority may not be respected due to their age or they may lack the confidence or experience to lead their peers. Above 25 years of age, the Team Guide is more likely to not “connect” with the students and, instead being a guide or ambassador, is more likely to behave like a boss or leader. It should be recognized that this is a purely cultural preference as some countries may prefer a strong authority figure as a Team Guide. This was not our goal. Also, we had several fantastic Team Guides whose ages were outside of this max/min spectrum and some less enthusiastic ones who were within the age limits. The **ideal** team guide speaks English and the language of the host (also English in our case) with great fluency and may also speak the language of their team as well. Lastly, the gender of the **ideal** Team Guide may be relevant to certain countries so please be aware of cultural norms.

Our team guides varied from 17-28 years of age. All of our team guides submitted an application, needed to pass an informal screening of their English speaking skills, and were required to submit proof of a clear criminal record. Beyond this, any applicants that did not seem to fit as a Team Guide were placed elsewhere. Applicants that were acceptable but were below 18 years old also needed to provide a letter of consent from a parent and a letter of reference from a teacher or other professional.

Due to the issues discussed in the recruitment section, we had difficulty obtaining enough qualified team guides to allow for one guide per country. Instead of lowering our expectations on team guide quality, the steering committee opted to pair countries together, thus allowing some of the believed stronger team guide to manage two teams. The overall thought was twofold:

1. That the student competitors were generally responsible and it wasn't unreasonable for an adult to supervise up to 8 other adult or nearly adult students.
2. This would allow for greater social interaction between the various competitor countries. Indeed, we received several comments from experienced IBO participants that teams seemed to interact earlier at IBO-2007 than at previous IBO's; some attributed this to the pairing of the teams.

The solution of having one team guide manage two teams did present the logistical challenge of pairing up countries for compatibility while still providing a meaningful cultural experience. Whenever possible, we tried to pair teams up across language groups so that they would still

mingle with other teams while respecting the history between the two cultures (ie, if Canada were to be paired, they would not likely be paired with the USA). A very successful example was the pairing of Team Argentina with Team UK under the guidance of Team Guide Megan Bagley. Very soon into the IBO, they renamed their group Team Megan. In general the pairings were well researched however, we did end up pairing the Pakistan Team with an Indian Team guide without recognizing the history between these cultures. Though it was initially a sensitive situation, the pairing ended up being very positive by the end of the week as evidenced by the various reports we received.

The Team Guides were led by one Head Team Guide who was very knowledgeable of the IBO organization as she was also the volunteer coordinator and administrative assistant. This knowledge was extremely useful when briefing the Team Guides and responding to the day's activities. As customary, during the week of the IBO all Team Guides reported to the Head Team Guide any and all unusual events or circumstances. In addition, team guide meetings occurred at least once a day to deconstruct the days' events and prepare for tomorrow's activities.

Though the Team Guides were ultimately led by the Head Team Guide, during the week of the IBO four responsible Team Guides were selected and given additional responsibilities. These Leader Team Guides were responsible for larger groupings of students and were in tight communication with the Head Team Guide. Two prime examples of their duties were to casually mentor the other Team Guides in their area and to coordinate student movement groups between examinations.

Suggestions

Based upon our experience, we have two primary suggestions. First, given the general success of the team pairing, we recommend this approach for future IBOs as we feel it does generally improve student socialization. However, it is more logistically sensitive and its success is highly dependant on having strong Team Guides with excellent leadership qualities. It is not recommended in situations when the Team Guides are not as experienced. Secondly, though we recommend that the Head Guide be very fluent in the organization of the local IBO, it was unfavorable for us to be missing our volunteer coordinator for IBO week. Lastly, it may have been beneficial to have a second Head Guide.

I was personally very much impressed by the strong involvement of Saskatoon population. You could feel very the hospitality of many local people. I decorated our front door with Saskatchewan wheat heart - which is a nice symbol to express your and my hospitality. Our students were very happy and liked the campus.





GENERAL HELP

A preliminary list of necessary volunteers can be found in the appendices. Please consider this list preliminary though as several volunteer positions were added or adjusted throughout the week and the majority of the specialized volunteers necessary for examinations were recruited by the examination committees themselves. Also, despite planning an over supply of volunteers for all major activities, we still found ourselves short on volunteer support in some areas, especially in difficult to fill time slots.

General volunteer training was 2 hours long and consisted of reviewing the attached volunteer manual, a slide show of IBO activities and personnel, a description of main volunteer jobs, a review of sign in procedures, and campus tours as necessary. Team guides received an additional 2 hours of team guide specific training.

Recommendations

In total, we utilized a minimum of 200 volunteers throughout the week of the IBO. This number is difficult to determine as we tried to respond to changing volunteer needs as they arose. It is recommended that the planning committees ensure that the committees requesting volunteers are as specific as possible in the number of volunteers necessary and give a detailed outline of their task, training expectations, and time commitment expected. When scheduling volunteers, expect these positions to fluctuate in both job description and, more significantly, in number of volunteers needed. Secondly, our volunteer coordinator acted as the Head Team Guide during the week of the IBO. Though it was useful to have a Head Team Guide who was extremely knowledgeable of the local planning, it was a definite disadvantage to not have a dedicated volunteer coordinator.



I think the Canadian program appeared understaffed and that led to some issues however, considering how few people were involved in it, I'm amazed at how well planned and organized the week was. They obviously had some dedicated people.





The lab exams were awesome; it was the first time I used centrifuges, vortexes, light photospectrometers, and the like...

Having to work with colleagues from so many different and diverse countries unavoidably made an impact on me. Primarily, it was obvious that science can unite people towards common goals that can be shared and which are beyond technical boundaries which stupidly people impose upon themselves.



I think I did my best. Since the IBO 2007 gave me a springboard for the future, I am going to work harder especially in my studies.

**Section
2**



**Jury &
Exams**



OVERVIEW

Chief of Examination Committee: Dr. Geoff Hughes both directed and oversaw the activities of the various exam committees throughout the preparation process. During the IBO itself, Dr. Hughes was primarily responsible for chairing the exam portions of the jury meetings. The practical and theoretical examinations were broken into the following subcommittees, each consisting of 2-4 members:

Classical, Population and Molecular Genetics SubCommittee

Chaired by Dr. Peta Bonham-Smith

Animal Anatomy, Systematics and Ecology SubCommittee

Chaired by Mrs. Andrea Regier

Plant Anatomy, Morphology and Physiology SubCommittee

Chaired by Dr. Geoff Hughes

Biochemistry and Cell Biology SubCommittee

Chaired by Dr. Bernard Juurlink

Each subcommittee was responsible for preparing the practical and theoretical exam questions for their subject, compiling material and personnel requirements, presenting their proposed examinations to the jury, and ensuring all examination preparations relating to lab materials, personnel, and room set up are complete.

A basic day by day review of the examination and jury room process can be found in the report from the 17th Annual International Biology Olympiad.

Recommendations

Though our examination committee would have greatly benefited from a dedicated statistician as recommended in the IBO handbook, our primary recommendation is that the positions of Jury Chairman and Chairman of the Examinations Committee be held by different people. Each of these positions has a heavy workload and, as we discovered to the detriment of the operation of the Jury Room, cannot be handled successfully by one individual. Whereas the Jury Chairman's role remained always within the Jury Room, the Chairman of the Examinations Committee was often required to be elsewhere to address issues related to the running of the exams. In our situation, this was frequently not possible since one person was performing both roles.



PROPOSED TIME LINE

2006

September 30: Subject area subcommittee core membership finalized (other members may be added later on an ad hoc basis). Meeting schedule and time lines specific to each subcommittee determined by the subcommittee chairperson.

October 15: Each committee has finalized the subject areas to be covered in the practical exam it is responsible for.

October 30: Basic outline of tasks, and techniques required, for each practical exam determined. Preliminary list of materials, equipment and lab assistance required for each practical exam (referred to subsequently as the resource list) prepared.

November 15: First draft of exam paper and marking scheme for each practical exam prepared. Resource list revised

November 30: Revisions to first draft of practical exam paper and marking scheme completed. Revised drafts circulated to members of the other subcommittees.

December 5, 6: 2-hour meeting on each date of all subcommittee members to review all practical exam papers and marking schemes.

2007

January 5: Practical exam papers and marking schemes revised as needed on basis of the December 5, 6 discussions. Revised exam papers and marking schemes sent to exam assessment resource people for review.

January 31: Arrangements to trial the practical exams by February 28 finalized.

February 28: Practical exams trailed.

March 15: Practical exam papers and marking schemes revised as necessary on basis of the trialing. Revisions sent to exam assessment resource people for final review. Practical exam resources list finalized.

April 30: Theoretical exam questions submitted by countries have been reviewed by the appropriate subcommittees and potential questions for use identified. On the basis of this review; each subcommittee will have developed a set of their own questions as well, particularly to cover off areas missed by the submitted questions (will try to have exam development and assessment resource people available for consultation).

May 1: Arrangements have been made by each subcommittee to ensure the plant and animal material needed for the practical exams will be available the week of July 16.

May 15: Each subcommittee has finalized arrangements ensuring that all chemicals and equipment needed for their practical exam will be in place for the exam. Also, it will begin developing of a work plan for setting up their exam room for each group of students.

May 31: The first drafts of the theoretical exam paper, the answers to the questions and the exam answer sheet have been prepared by each subcommittee. The drafts of the exam papers and the question answers have been sent to the assessment resource people for review and revision.

June 15: Theoretical exam papers, exam answer sheets and answers to the questions have been finalized. Where feasible, Russian, Spanish, French and Mandarin translations prepared. The work plan for setting up for each practical exam finalized and tested. Personnel arranged to mark the practical exams.

July 1: All exam papers, student answer sheets, correct answers, and marking schemes ready for printing.

July 16: Subcommittee members attend Jury Session on the practical exams.

July 17: Students write practical exams. Subcommittee members and support staff present in their exam room. Personnel in place to mark practical exams.

July 18: Subcommittee members attend Jury Session on the theoretical exam.

July 19: Students write theoretical exams.



As a jury member you almost feel as part of a big family. It is an excellent opportunity to discuss the subject of biology which is being taught differently in different parts of the world. The exchange of opinions is important for everyone in a world threatened by climate change and other environmental impacts - not least invasive species.





LOGISTICS

PreExam Student Briefings

Before the examinations, students were given the option to view the lab examination rooms. The purpose of these visits were to familiarize the students with the basic exam protocol. While this was a very useful practice for some students, we feel the experience could be improved by allowing one jury member to attend these sessions with their team to explain the significance of the equipment and the procedural expectations to the students in their native language.

To ensure fairness, all exams are expected to require no verbal direction from invigilators and the only exam material available to students is the material within their exam package as provided by their jury members. These are IBO guidelines and are still relevant in situations where the students did not receive what they feel is accurate information in their packages - IBO has a specific protocol in place to address academic issues. Students need to be aware of these protocols. This became an issue, especially during the theory examinations, as students were not aware of these procedural expectations. It is strongly recommended that students are advised in writing or by their jury members that academic questions are not appropriate as students had a number of questions about their jury-approved examinations and were very insistent our invigilators assist them. We also recommend a very specific training session for all personnel involved in supervising the examinations as our personnel were not adequately prepared to address these issues.

Exam Movement

As per IBO rules, every effort was made to ensure students had no contact with other labs between examinations and during movement between exam rooms. Our movement plan was practiced with groups of students during the visits to the labs before the examinations. Four lead Team Guides were assigned a lab group and were in contact with each other during all movements to allow flexibility - this became important once the Plant exam was running behind schedule and students could not be moved at their designated times.

Exam Security

Part of the IBO regulations is for students and jury to be segregated during deliberations to ensure exam security and that student access to outside communication be limited. Since exam security is an important consideration and its specific logistics are currently left to the discretion of host countries, we recommend that the IBO Coordinating center update the exam security/black out policies to reflect current technologies. Specifically, a policy of cameras (and camera phones) in the jury room during blackout times needs to be established and, in unison, the ubiquity of student wireless internet access via cell phones and personal lap tops should be considered.



EXAM MOVEMENT

1. Presentation to jury: Final copies of exams were submitted to head examiner and loaded onto memory sticks that were serial numbered by country. At the beginning of deliberations, each country received their memory stick as well as a hard copy of each examination.
2. Review and approval of exam by jury. Translation of exam occurs as an ongoing during review process.
3. Translated copy of exam sent for printing. A tracking sheet ensured that the location of the exam was known at all times, please see the appendices for a copy of the Exam Log Sheet. The photocopy area held four computers with printers to accept exams on memory sticks and five photocopiers to enable rapid exam turnaround.
4. Hard copy of exams returned to country for proofing and verification (this step is repeated until exam is verified).
5. Four copies of verified exam printed and returned to country. Country gives final check then places exams in appropriate envelopes, seals and signs each envelope.
6. Envelopes collected in exam bins at SIAST according to the section each student is in.
7. Exams for the correct sections delivered to appropriate exam rooms. Invigilators place exam envelopes on student desks.
8. Students sign into exam room. Exams are written then collected by invigilators and submitted to appropriate personnel for grading.
9. Marking of practical exams occurs while next section writes the exam and marked exams placed in appropriate bins, collected in the IBO University office, then delivered en masse to the IBO office at SIAST. Theory exam papers returned unmarked to SIAST for computer marking.
10. Random checks of marking done at SIAST
11. Student marks entered into data base for statistical analysis.
12. Each student's exam paper copied for distribution to the country's team leader prior to discussion of marking and review of student marks.
13. Student marks discussed and medal cut off points decided.



EXAM SUGGESTIONS

During examinations we suggest students both sign in to accept their exams and to sign out when they have completed the examinations. Inform the invigilators to ensure these sheets are utilized. It is also advisable to have invigilators count exams and sign the tally sheet before submitting the written exams for grading.

Though we experienced problems in some deliberation areas as addressed below, overall our exam flow was both efficient and effective. The use of serial numbered memory sticks to distribute and maintain each country's digital copies of the examinations was especially useful. The only drawback we experienced with this approach occurred because of insufficient communication between exam committee members - one of the final versions of the examination presented to the jury was replaced with a more up-to-date "final" version which resulted in confusion from multiple copies. Communication errors were also present in the statistical analysis. We suggest to ensure they have a clear communications protocol in place between the various exam committees as the volume of conflicting material is both frustrating and time consuming to organize if people are inconsistent. Protocol to consider: which computer is used to house all exam marks, naming of files as they are modified, protocol for updating mark adjustments.

It became apparent during the review of the theoretical exams that although certain procedures (e.g. the reuse of previous exam questions), were well-understood and expected by long-time Jury members, these procedures were not known to members new to IBO nor were they all detailed in the IBO Operating Procedures. As well, a complete set of previous exam papers was not available to this IBO's Examinations Committee. Consequently errors that could have been avoided were made in the preparation of the theoretical exams. We recommend that the IBO Operating Procedures be reviewed, and revised as necessary, to ensure that they contain all guidelines and expected practices for the selection of exam questions and the conduct of exams. As well, it would be desirable for each country hosting the IBO to be provided with a complete set of previous theoretical exam papers.

It would be helpful to have a dedicated computer operator for the main jury computer during the discussion of the examination questions. It may also assist countries if exam changes were available in Microsoft Office's Track Changes mode so that it is clear what sections of the exam need to be adjusted in their final translated versions.

Lastly, we concur with the recommendation that a statistician be responsible to maintain and update all exam scores into a single database, to calculate t-scores and other information necessary for award of medals, and to evaluate of the quality of the exams. An understandable concern of the Jury was the difficulty encountered in calculating the final t-scores. If a suitable communications protocol for updating exam scores and a dedicated statistician were in place, these could have been prevented.



STATISTICS

EXAM SUMMARY STATISTICS – IBO 2007

Marks	Practical Exams								Theoretical Exams			
	Animal Biology		Plant Biology		Biochemistry		Genetics		Exam 1		Exam 2	
	Raw scores	%	Raw scores	%	Raw scores	%	Raw scores	%	Raw scores	%	Raw scores	%
Maximum possible	63	100	77	100	44	100	43	100	99	100	53.5	100
Maximum	62.6	99.4	74.0	96.1	44.0	100.0	39.0	90.8	92.5	93.4	50.5	94.4
Minimum	18.3	29.0	17.5	22.7	12.0	27.3	7.0	16.3	34.6	35.0	14.0	26.2
Mean	49.2	78.2	59.3	77.1	36.7	84.1	22.8	53.2	69.9	70.6	38.2	71.3
Standard deviation	8.7	13.8	9.9	12.8	6.7	15.1	5.7	12.9	11.2	11.3	7.2	13.5
CV (%)	17.6		16.6		18.0		24.2		15.9		18.9	

MEAN SCORE
DISCRIMINATING INDEX

73.1%
19.1

71.0%
17.4

Contrary to the statistics, students generally commented that the practical exams were more challenging than the theoretical examination. The practical examinations were generally very well done and the final exam average was in line with Canadian standards for exam difficulty. Though student performance in each content area was different and generally higher than expected, the overall exam difficulty was suggested to be comparable to the Belgium Olympiad. Concerns that the theoretical exam was not sufficiently challenging overall may be due to cultural differences in expectations of a target average though these are valid concerns for the practical exams given the overall difficulty of the genetics portion. An average of 69% with a bell curve distribution is a typical Canadian educational standard but other countries may have different targets.

A per question analysis of the theory exam is located in the appendices.



The theory exams were better than expected, because there were so many multiple choice questions... but the practical lab exams were a few of the most challenging biology exams. Its interesting how the more you know about a subject, the more you realize that there is still so much to learn about it...and the deeper you go into a specific field, the harder it is to be more specific. This was true for me particularly for my genetics lab exam, during the gene-sequencing and counting the beans to determine the genetic inheritance pattern tasks. I still have much learn regarding molecular genetics :-)

DISTRIBUTION OF THEORETICAL EXAM QUESTIONS BY SUBJECT AREA
IBO 2007
(before Jury revision)

Subject Area	Recommended distribution (%)	No. of questions	% distribution	Over/under	Mark value of questions	% distribution	Over/under
Cell Biology	20	30	24	+4%	42.5	23	+3%
Plant Anatomy and Physiology	15	19	15	=	37.5	20	+5%
Animal Anatomy and Physiology	25	34	27	+2%	39.5	21	-4%
Ethology	5	2	2	-3%	4	3	-2%
Genetics and Evolution	20	24	20	=	42.5	23	+3%
Ecology	10	7	6	-4%	11.5	6	-4%
Biosystematics	5	9	7	+2%	9	5	=

DISTRIBUTION OF THEORETICAL EXAM QUESTIONS BY SUBJECT AREA
IBO 2007
(after Jury revision)

Subject Area	Recommended distribution (%)	No. of questions	% distribution	Over/under	Mark value of questions	% distribution	Over/under
Cell Biology	20	26	25	+5%	35.0	23	+3%
Plant Anatomy and Physiology	15	18	18	+3%	31.5	21	+6%
Animal Anatomy and Physiology	25	25	25	=	31.5	21	-4%
Ethology	5	1	1	-4%	4.0	3	-2%
Genetics and Evolution	20	21	21	+1%	36.0	24	+4%
Ecology	10	4	4	-6%	7.0	5	-5%
Biosystematics	5	7	7	+2%	7.5	5	=

RECOMMENDATIONS

Beyond the basic manpower issues identified and other recommendations noted in this section, we have two recommendations to improve the general operations of IBO examinations:

Our primary recommendation is for an International committee be established to discuss exam questions and logistics before the official start of the Olympiad. We recommend a floating committee that includes at minimum: two exam committee members from countries who have previously hosted an IBO, two members from future IBO host countries, and the Chief Examiner of the current host country. As the IBO is a highly complex event, it would be ideal to draw upon the experience of previous hosts in a more productive capacity than is currently practiced.

Lastly, IBO Regulations need to be reviewed by jury members and more emphasis put on maintaining these regulations. We had a number of instances with countries not performing up to their expectations and this added unnecessary complications. Some examples include: failure of countries to submit exam questions or fulfil other member obligations, translation issues (incomplete translations in exams plus one country completely neglected to translate the exam into their native language despite the repeated requests of their students who were not strong English speakers), or the acceptable practices of exam inspectors to name a few.



I think we have to prepare much better the exams. The 3 last years let me the same impression. English spoken delegations don't think in Do not English spoken delegations.



As always the jury-meetings were quite chaotic. There is certainly room for improvement, but it is very difficult, because each country has its own proposal for changes.

Its interesting how the more you know about a subject, the more you realize that there is still so much to learn about it...and the deeper you go into a specific field, the harder it is to be more specific. This was true for me particularly for my genetics lab exam, during the gene-sequencing and counting the beans to determine the genetic inheritance pattern tasks. I still have much learn regarding molecular genetics :-)



It was really interesting to be walking around the Bowl in the late afternoon and to see all the participants mingling together to study even if it was an international competition.

**Section
3**



**ACTIVITIES
& EVENTS**



JURY SCHEDULE

Sunday, July 15 Afternoon 8:00 p.m.	Tours of the Canadian Light Source at the University Orientation & Reception at SIAST
Monday, July 16 10:00 a.m. 2:00 p.m.	Opening Ceremonies at TCUPlace Prepare practical exams at SIAST
Tuesday, July 17 1:45 – 9:15 p.m.	Wanuskewin
Wednesday, July 18 8:30 a.m. – 12:00 p.m. 1:45 – 6:00 p.m. As necessary	Prepare theory questions at SIAST Continue with theory questions at SIAST Continue with theory questions at SIAST
Thursday, July 19 9:30 a.m. 11:00 a.m. – 4:00 p.m. 5:00 – 6:00 p.m. 7:15 p.m.	Review practical test results at SIAST Tours of Rural Saskatchewan Supper with students at Marquis Hall Continue exam results (if necessary) IBO Coordinators' meeting at SIAST
Friday, July 20 10:00 a.m. – 12:00 p.m. 2:00 p.m. 5:00 – 7:30 p.m.	Review theory exam results at SIAST Continue exam results (if necessary) Approval of medal awards at SIAST Supper: Taste of Saskatchewan
Saturday, July 21 10:00 a.m. – 12:45 p.m. 2:30 – 4:30 p.m. 6:00 – 7:15 p.m. 7:00 – 8:30 p.m. 8:30 p.m. – 12:30 a.m.	Western Development Museum Awards Ceremonies at Circle Drive Alliance Banquet at Marquis Hall Farewell Reception at Convocation Hall Dance & Recreational Activities at Marquis Hall
Sunday, July 22 All day	Shuttles to Airport



STUDENT SCHEDULE

Sunday, July 15	
Afternoon	Tours of the Canadian Light Source at the University
7:30 – 8:45 p.m.	Science Olympics
Monday, July 16	
10:00 a.m. start	Opening Ceremonies at TCUPlace
3:00 – 4:30 p.m.	Visit labs at the University
Rest of evening	Study & Free Time on University Campus
Tuesday, July 17	
8:30 – 10:00 a.m.	Practical Lab Exam 1
10:30 a.m. – 12:00 p.m.	Practical Lab Exam 2
1:00 – 2:30 p.m.	Practical Lab Exam 3
3:00 – 4:30 p.m.	Practical Lab Exam 4
5:00 p.m. departure	Wanuskewin for overnight
Wednesday, July 18	
7:30 – 11:30 a.m.	Wanuskewin
Rest of day	Study & Free Time on campus
Thursday, July 19	
9:00 – 11:30 a.m.	Theoretical Exam – Part 1
1:30 – 4:00 p.m.	Theoretical Exam – Part 2
5:00 – 6:00 p.m.	Supper with students at Marquis Hall
6:00 – 9:00 p.m.	Free Time
Friday, July 20	
6:30 a.m. – 5 p.m.	Prince Albert National Park
Rest of evening	Free time
Saturday, July 21	
7:30 – 9:00 a.m.	Mentorship Breakfast
10:00 a.m. – 12:30 p.m.	Western Development Museum
2:30 – 4:30 p.m.	Awards Ceremonies at Circle Drive Alliance
6:00 – 7:15 p.m.	Banquet at Marquis Hall
8:30 p.m. – 12:30 a.m.	Dance & Recreational Activities
Sunday, July 22	
All day	Shuttles to Airport



SUNDAY

Arrivals

Teams that notified the registration committee of their arrival times were greeted at the airport and transported to their destination primarily by committee members. Since many teams arrived before the official start of the IBO and the Ramada was unable to accommodate them all, several teams stayed at alternate hotels. Teams that arrived on Sunday were greeted by their Team Guides then the jury was shuttled to the Ramada for registration while the students were taken to the University with their Team Guide.

Tours of Canadian Light Source Synchrotron

A synchrotron produces extremely bright light -- millions of times brighter than the sun -- by using powerful magnets and radio frequency waves to accelerate electrons to nearly the speed of light. This infra-red, ultraviolet and X-ray light is shone down beamlines to experimental stations where scientists can select different parts of the spectrum to “see” the microscopic nature of matter, right down to the level of the atom. The CLS is one of only a handful of “third-generation” synchrotrons in the world. This new 2.9 GeV synchrotron light source is state-of-the-art and is one of the best available internationally. All participants were offered the option of touring our nation’s synchrotron. As an optional event, it was difficult to predict how many people would participate and many more people than expected wanted to take the tours. Though we tried to accommodate everyone, the Light Source has strict policies on the number of people allowed per tour. We suggest future planners do not provide optional activities without circulating a sign up sheet to gauge member interest before planning the event.

Science Olympics

Students participated in a science based socialization activity. Randomly grouped students were to use cheese and chocolate to determine the wavelength of a microwave oven by measuring the distance between melt points. This proved to be a successful activity as our main goals were met: students enjoyed themselves and they began to mingle with their fellow competitors. Some feedback suggested that while they did enjoy the event, a Biology focused activity would have been preferable.

Welcome Reception

While the students were enjoying their Science Olympics, the jurors attended a welcome reception hosted by SIAST.

PLEASE NOTE: Since the primary focus of the IBO is the student and the main audience this report is jury members, the activity section will be focused mainly on student activities.



MONDAY

Opening Ceremonies

In keeping with IBO tradition, many teams dressed in their native costumes or in team uniforms for the ceremonies. Before entering the stage area, teams assembled beneath the IBO banner for official team photos with their flag. After the photo was complete, each team brought their flag to center stage escorted by a Canadian Mountie in full dress uniform and stood beneath a slide depicting their country, flag, team member names, and location of their country on a map.

Saskatchewan's population is made up of immigrants, descendants of immigrants, and of First Nations and Métis peoples. Its motto "From many peoples, strength" inspired a series of slide shows demonstrated how the cultures of these "many peoples" have contributed to the Saskatchewan culture of today. The keynote speaker for this event was former Lieutenant Governor of Saskatchewan, the Honourable Dr. Lynda Haverstock. Other speakers included Mr. Don Atchison, mayor of Saskatoon; U of S President Peter MacKinnon; SIAST president Bob McCulloch; Provincial MLA Minister the Honorable Judy Junor, Minister of Crown Investments Corporation of Saskatchewan, Minister Responsible for the Status of Women; Dr. Hans Morelis, Chairman of the IBO Coordinators; the Minister of Human Resources and Social Development Lynne Yelich; and Her Excellency Mrs. Ingrid Iremark, Ambassador of Sweden to Canada. The Opening Ceremonies marked the official separation of student and jury, from this moment until after the lab exams are complete, they are to have no contact with each other.

Concern: There was a flurry of activity surrounding the presentation of the Chinese Taipei flag. We wish to honor all of our guests as appropriately as possible. As a committee, we highly recommend a decisive guideline be put in place to avoid similar situations in the future.

Student Lab Visits

Visits to labs were informal and an optional event for the students. Team Guides were split into 4 sections and were to practice the lab route they would be directing during the exams. This allowed them to familiarize themselves with the route and protocol involved to ensure that students would not contact other exam groups during examinations. To ensure that students get the full benefit of the lab tours, we suggest that future tours allow for one jury member to accompany their team through the lab set ups to translate and explain the necessary equipment.

Jury Session

Jurists preparing lab exams, see examination section for further details.

Free Time

Students were given free time in the evening. Though most studied, several students did not. We suggest to have an informal social activity available close to the sleeping place set up for the students who were not interested in studying - we were fortunate to have Guitar Hero (an interactive music based video game) set up in the student lounge. It was enjoyed all week.



TUESDAY

Lab Exams: Please refer to exam section

Wanuskewin

Throughout the afternoon and evening, the participants, jurists, team guides, and other volunteers were immersed in Aboriginal culture. Guided interpretive hikes, a mock buffalo hunt using traditional weapons, tipi raising, aboriginal games and a visit to the museum were some of the activities offered. Students also entertained themselves playing soccer. The participants were broken into 10 tribes to accommodate the scheduled activities; we suggest to keep the groups larger in an expansive excursion like Wanuskewin as many students were not interested in remaining with their small assigned groups to participate in structured activities.

The Pow Wow featured approximately 20 native dancers who demonstrates a range of dance styles, four drum groups and a narrator to explain the meaning and significance of the dancing and singing. The performance continued over a two to three hour period to enable all of the IBO participants to view the dancing and singing. Following this celebration, the students enjoyed traditional storytelling around a campfire. Some camps shared traditional songs from their home country around the campfire, others star gazed. Students stayed overnight in tipi camps as part of the Summer Tipi Village Experience. To commemorate the above experience, IBO participants were invited to make their own dream catcher to keep as a souvenir.

Wanuskewin Heritage Park has provided the IBO with a pamphlet detailing the spiritual significance of the Tipi and the planning committee has taken the initiative to have it translated into Spanish, French, German, Chinese, Arabic and Russian. These documents were provided to our guests and to Wanuskewin, the Federation of Saskatchewan Indian Nations (FSIN, the original distributors of the document), and any other interested organizations free of charge for their future use. Please see appendices for copies of this document.



Different countries, different nations, cultures, traditions - it makes you rich and teaches to tolerate the differences between cultures. (it is extremely important for students). The culture program was richest in China, rich in Argentina and pure in Saskatoon.

The Wanuskewin activities were exceptionally well received, especially the pow wow. Several people commented that they would have been pleased to view the pow wow all afternoon instead of participating in the other activities. Sleeping in tipi camps was a very unique opportunity for many students though there were some objections to sleeping outdoors on the ground. Alternative sleeping arrangements were provided for students with health issues or strong cultural objections.

Reflecting on the success of the Wanuskewin event, we have two additional suggestions. Firstly, ensure you collect all room keys before you take the students on overnight excursions as many were lost and needed to be replaced. Secondly, the planning committee had a great deal of discussion as to the most appropriate time to take the students to Wanuskewin as we recognized that having an overnight trip with unusual sleeping accommodations between exams could potentially cause problems. Given the richness of the event, we felt it was worth the effort and tried to balance this potential issue by giving the students the following day unplanned. Based upon the feedback gathered from personal conversations and from the post IBO questionnaires, the placement of the activity between the exams was preferred by the great majority of people contacted. We recommend that if future planners decide to do a similar event, they may wish to ensure that the remaining day is largely free time and, if at all possible, return students to their regular accommodations as early as possible the next day.



I was deeply impressed by Wanuskewin Heritage Site and enjoyed the time we spent there tremendously, the cultural programme AND nature: We observed beavers in the river at sunset, the wild flowers and not least the birds were impressive in the atmosphere of serene tranquility...





WEDNESDAY

Free Time

Once students returned from Wanuskewin, they had the remainder of the day as free time to sleep, study, or socialize on campus.

Jury Theory Deliberations

Please see examination section for details



THURSDAY

Theory Exam

Please see exam section for details

Jury Rural Saskatchewan Tours

The jury had a choice of three different guided tours of rural Saskatchewan. Volunteers from local nature organizations offered the interpretive guiding during the tours. These tours were generally well received though some felt they were a bit long. Tours averaged about 3 hours including a picnic lunch.

Free Time

Students and jurists were reunited for supper and free time was given to the students for the evening. Most students chose to go shopping downtown.

Jury Deliberations

Please see exam section for details



I remember thinking it was amazing that these students could be so academically gifted as well as great people and thinking the international scientific community was going to be in great shape in a couple of years.



FRIDAY

Prince Albert National Park (PANP)

Students had an early start on Friday to prepare for their trip to PANP. Prince Albert National Park is an approximately 3 ½ hour drive north of Saskatoon. As students traveled from Saskatoon to the Waskesiu town site in the Park, the landscape changed from plains to parkland to boreal forest. The park features a white pelican nesting colony, a herd of plains bison, and author and conservationist Grey Owl's cabin. Students were split into 4 main groups and visited several stations including the nature center, museum, lunch at the beach, and the hiking trails. This event met with somewhat mixed reviews, the majority of feedback was quite positive and students would have happily spent the entire day exploring the wilderness, but a few reported they felt it wasn't structured enough to be worth the long trip (all previous excursions and events were very structured activities). Some felt they spent too much time indoors and others felt they spent too much time outside. Despite a handful of poor reviews, we consider it a successful activity based upon the feedback from the students.

Jury Deliberations

See exam section for details

Taste of Saskatchewan

Jurists were shuttled to the river banks to feast at Saskatoon's annual food festival, Taste of Saskatchewan. At this event, a wide variety of local restaurants prepare smaller portions of their signature dishes, many of which are uniquely Saskatchewan. Live vocal, dramatic, and dance entertainment also greeted our guests. Though the shuttle system again received poor feedback, the jurists quite enjoyed the gustatory experience and cultural experiences offered at Taste of Saskatchewan.

Free Time

Students returned from PANP for supper than had free time for the remainder of the evening. The highlight of this evening was an informal student awards ceremony as nominated by the Team Guides and a gift exchange. Vasileios Papadogiannis of Greece and Peter Lidinsky of Slovakia were awarded official Canadian flags as the MVP's of the students. The Team Guides and other participants signed their flags. Though I do not have a complete list, other awards included Team Ukraine as Most Stylish, Philipp Oertle as Best representative from Liechtenstein (he was the only representative, all other teams had 4 members), Most Creative Nickname to PingPong (Janewit Wongboonsin), plus several other awards. After the awards, the team guides and participants exchanged small gifts and email addresses. Though the creative awards ceremony was not an official event and was only discussed briefly before the IBO, it still remains the highlight of many fond student memories and emphasizes the need to allow for free time for the students to pursue fun activities.



SATURDAY

Mentorship Breakfast

Breakfast began with short speeches (approximately 15 min in total). After breakfast, the students were able to meet with mentors from the University of British Columbia, the University of Saskatchewan, and the Natural Sciences and Engineering Research Council of Canada. Based upon the feedback received, the students who spoke to the mentors found the event beneficial but most students were unable to meet with mentor. To allow for a more successful event, a ratio of 1 mentor per table is recommended.

Western Development Museum

The Western Development Museum in Saskatoon features a replica Boomtown showing what a typical Saskatchewan community was like in 1910. Recommendations are to have less time wandering around museum and more time with jury members.

Closing Ceremonies

The closing ceremonies of the IBO held two primary goals: to distribute the awards to the students and to officially close the IBO by passing the trophy to India, the host of IBO-2008. Though there was more live entertainment than prepared slides at these ceremonies than at the Opening, the overall impression of the Closing Ceremonies was not generally favorable. The primary comments were that the presentation of the awards needed more structure and personnel needed to be more thoroughly briefed on their duties regarding the awards presentation.

Dance

The Dance was a unanimous success. While most students thoroughly enjoyed socializing and dancing to a wide variety of international music, a variety of board games were provided for students not wishing to dance. The dance was scheduled to end at midnight; this was a good choice as most students were exhausted and quite ready to go back to residence.





SUNDAY

Departures

Buses shuttled people between the airport, University, and Ramada Hotel as necessary



SUMMARY

The social activities were remarkably successful events overall and continue to be the highlight of student discussions. Save the closing ceremonies, all events were generally very well planned and well executed. The few logistical issues that did arise as noted within the document would likely have been prevented with more volunteer support.



[The IBO] really showed that there was not much difference between people all over the world in the sense that people everywhere are hard working and fun individuals. Holding a grudge or being prejudiced against a certain group is pointless because there are good and bad in every group. Especially at the dance we danced to music from all over the world and it gave such a sense of unity it didn't matter that we didn't understand the lyrics or didn't know about the dance of that culture we were all out there just to have fun.



I remember sitting in the hallway on the second floor of Rez taking my first ever Greek lesson.

I remember sharing a bathroom with 75 teenage girls...



I remember the difference between awkward, tentative hellos on Sunday and emotional, heartfelt good-byes a week later.

**Section
4**

International Biology Olympiad



Saskatoon Canada 2007



**Post
IBO**



CLOSING COMMENTS

Though the IBO proper ended as a success on July 22, 2007, many activities remained after everyone went home. Volunteers needed to be shown appreciation for the countless hours they dedicated to making this event a success. In addition to creating and compiling information for this comprehensive final report, reports to a variety of sponsors needed to be completed. Lab materials needed to be sorted and donated to local schools. Sponsors needed to be recognized for their important contributions. As of November 2007, our Media group is still compiling information and interviews to produce a documentary of the 18th Annual Biology Olympiad. We will email the team leaders we have on file and post news on our web site when it becomes available.

As Canada is relatively new to the Olympiad scene, most of the general public was unsure of what to expect and they commonly underestimated the Olympiad. The common misconception was that the Olympiad was a stuffy, boring, work oriented event. After the IBO, we heard many astonished comments from people who came forward to say they wish they'd understood the scope of the event before hand as they felt they missed an important opportunity. Though we realize that this is largely a cultural issue from a country more apt to celebrate a national hockey player than a national scholar, a very strong suggestion is to promote your National level Olympiad as much as possible in the years preceding your opportunity to host. This promotion is especially important after your national students compete at the International level in other countries. Had more people been aware of the Olympiads and what types of interactions usually occur there before fund raising and volunteer recruitment began in earnest, we likely would have experienced fewer difficulties in both areas.

As the IBO has grown from 6 countries to potentially 60, the needs and materials are more complicated. It is only after hosting an IBO that you come to realize just how many details need to be addressed. We highly recommend the Coordinating Center create a follow up committee for future planners to allow current and future hosts to benefit from the collective experience of previous hosts. This is most especially necessary for jury and examination protocols as detailed in the exam section. We suggest creating a detailed handbook for coordinating countries that thoroughly outlines the processes, considerations, and preparations necessary to host a successful IBO as merely observing other IBOs doesn't prepare you for the depth of detail required to host one without the guidance of previous hosts. This in itself is a mammoth undertaking, with this report we tried to build upon the solid foundation of experience offered in Argentina's report. Again, a huge thank you to Argentina for providing us their report.

Lastly, we wish to thank everyone for their contribution to the Olympiad, it was an honor to be a part of an event of this significance. For those interested in passing the information along to their students or in joining yourself, there is an internet group on the social networking site Facebook called "IBO 2007 - 18th International Biology Olympiad". There are currently over 100 members (mostly competitors and volunteers), 3 videos, over 800 photos, and a discussion board.

We hope you have found the information provided in this report by our team to be helpful.



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Thank you to the following organizations for their support of the 18th Annual International Biology Olympiad:

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