

REFLECTIONS ON THE STOCKHOLM INTERNATIONAL YOUTH SCIENCE SEMINAR 2007

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Tuesday, December 4th

After traveling for more than twenty hours, Sweden's Arlanda Airport was a welcome sight for sore eyes. Met at the arrival hall by Emma and Wilson, two of the SIYSS coordinators, I was introduced to George from the USA, a charismatic individual who counts unlocking the iPhone among his many other impressive feats of reverse engineering. We were soon joined by Thierry from Switzerland and Andras from Hungary, after which the four of us shared a taxi back to the youth hostel on Skeppsholmen. Wanting to explore Stockholm, we left to roam the city, together with Sravanthi from Norway and Karen from Mexico. The guys tried some Swedish salad and pizza, while the girls stared on in amazement as they demolished twelve-inch crusts in minutes. Returning to the hostel, we were treated to a welcome dinner, and the not-so-welcome revelation that the main course was reindeer meat. Subsequently, we played some icebreakers to help us match names to faces, before retiring for the night.

Wednesday, December 5th

We began the morning with a guided tour of Stockholm. At the end of the tour, we were brought to the famous Iron Boy Sculpture, a small statue known affectionately to the Swedish as Jarnpojke. Each participant rubbed his head, indicating that we would be returning to Stockholm some day. We then headed to Stortorget, the site of the famed Stockholm Bloodbath, and were given some time to explore the Christmas market. During that time, I managed to catch up with Mitka from the USA, whom I had met at an MIT summer camp last year. Proceeding to the Nobel Museum, we had a brief presentation on the Laureate selection process. After a guided tour of the Royal Castle and a short lesson on the history of the royal family, we headed out for Swedish Evening. We were given the opportunity to try our hand at various activities, such as going for a Swedish sauna and baking gingerbread cookies. We also made lussekatt, traditional Swedish saffron buns, upon which we promptly abandoned the conventional twist and begun shaping the dough into various Greek letters, living up to our reputation as aspiring young scientists. All of us also helped in preparing the main courses, which included Swedish meatballs, vegetable gratin and breaded fish fillet. In addition, we tried glögg, a popular Swedish mulled wine. Needless to say, all of us returned to the hostel that night with full stomachs, and a greater appreciation of Swedish culture.

Thursday, December 6th

Our day started with a visit and tour of the Karolinska Institutet (KI), where we listened to a presentation detailing the work of this year's Laureates in Medicine or Physiology. The professor giving the talk took questions from the floor gamely, and I took the chance to ask about the impact that gene targeting via homologous recombination might have on the formation of the synaptonemal complex. Chatting with him over lunch, I was pleasantly surprised to find out that he knew about A*STAR and Singapore's efforts to build up our biomedical sector, even offering advice on how the latter might be achieved. After lunch, the secretary of the Nobel Assembly explained the selection process for the Laureates in Medicine or Physiology. Subsequently, we were whisked off to the press conference for Medicine or Physiology Laureates, where we got to know the Laureates slightly better through their replies to questions – we learnt about Sir Martin Evans' plans for a new house, laughed at Dr Oliver Smithies' happy gene and applauded Dr Mario Capecchi's donation of half of his prize money to the IRS. A rehearsal dinner at Hellasgården was up next, where we were instructed in the fine art of table etiquette and dancing.

Friday, December 7th

This was the day of the actual seminar, where we had the opportunity to present our research projects to the rest of the participants. While there were some projects that I had previously seen at the Intel International Science and Engineering Fair, such as Mitka's algebraic description of the String Topology Batalin-Vilkovisky algebra in formulation of the theorem with which he solved an open problem in topology and Temple's proposed model to elucidate the origin of low states based on data gathered from magnetic cataclysmic variables, there were certain projects which captured my attention, among which were Andras' spherical robot, due to my background in Robotics, and George's three-dimensional viewable volumetric display capable of 360° holographic projection.

The gusto with which some participants spoke of their projects made their passion for the respective scientific fields clear, and it was indeed heartening for me to meet like-minded individuals with an interest in research.

During lunch, I had an interesting conversation with Daniel from South Africa that started with a lively discussion about our projects, but somehow ended with an animated debate on Singaporean and South African politics. In the course of the day, I also met another Swedish friend from the MIT summer camp, and caught up briefly with him. Next, we listened to Doris Lessing's critique on how developed countries take the privilege of possessing books for granted, at the Nobel Lecture in Literature. After dinner, we had a workshop with Swedish high school students from TEND, another programme organized by the Swedish Federation of Young Scientists. Split into smaller mixed teams, we competed in building miniature maglev trains that could navigate a preset track. Talking to my teammates, I soon realized that one was the younger sister of a friend I had met at the same MIT summer camp as well, a revelation that left me pleasantly surprised. It was a contended group of youths that returned to the hostel that night; weary with fatigue, but glad for the intellectual exchange and newfound friendships.

Saturday, December 8th

In the morning, we attended the Nobel Lectures in Physics and Chemistry in the morning. Even though I was unable to comprehend most of the Physics concepts, it was an interesting experience to watch the Laureates chronicling the past, present and future of their research. After lunch, we went ice skating. Upon returning to the hostel, we realized that we had forty minutes of free time, hence a group of us decided to head to town for some hit-and-run shopping. Severely miscalculating the time taken to get there, we handed over our money in a rush and ran helter-skelter back to the hostel – only to discover later in the night that we had not received half of what we had paid for. To add insult to injury, the chocolates had all expired. International Evening was held over dinner, where each participant presented something from their countries, making for a highly entertaining experience.

Sunday, December 9th

An ethics seminar was conducted, where we had to decide and explain our opinions on various questions, such as if a sponsoring company had the right to prevent a scientist from releasing controversial results. We were also split into groups to discuss a catch-22 situation and untangle the moral dilemma. Subsequently, we headed back to Stockholm for the Nobel Committee's reception at the Nordic Museum, where I had the opportunity to speak face-to-face with various Laureates. Dr Oliver Smithies even posed a group of us a biology question which stumped us for some time, until I deduced the first answer and a quarter of the second, Karienne from Australia figured out the next half of the second answer, and Daniel from Israel came up with the last quarter. Sir Martin Evans also took the chance to share some new developments in molecular biology with us, such as pyrosequencing as opposed to traditional dye-terminator sequencing with capillary electrophoresis.

Sunday, December 10th

This was the day everyone had been eagerly waiting for – Nobel day! In the morning, most of the girls went out to have their hair done. After lunch, we spent some time taking photographs, dressed in elegant gowns and tails, before we traveled in style to the Concert Hall in limousines. There, we watched the Nobel Prize Awarding Ceremony, a lavish event where Laureates received their prizes from the Swedish King. Subsequently, we were whisked off to the Nobel Banquet in the City Hall, where we dined in the Blue Hall while entertained by a contemporary ballet, and proceeded to dance in the Golden Hall after dinner. On the stroke of midnight, we left for the Nobel Night Cap at Stockholm University. Leaving the party just before dawn, I headed back to the hostel to pack, thankful for the wonderful memories and lasting impressions.

A fitting close to the entire week, the Nobel ceremonies were both inspirational and humbling, serving as a motivation to strive harder for excellence. I would like to thank the Imperial College Alumni Association of Singapore and the World Scientific Publishing Co. for the opportunity to attend this event. The experience and memories gained are priceless, and I am exceedingly grateful to them for making this possible. I also thank the Swedish Federation of Young Scientists for organizing the week, and the Ministry of Education for their help. SIYSS has indeed been an eye-opening experience, culminating in one of the most memorable weeks of my life.