

"It's not possible for me to find the words that fairly convey the extent to which my experiences at the Nobel Prize events and the Stockholm International Youth Science Seminar have changed my life. As one of twenty four students from sixteen nations participating in the program, I realized what a priceless privilege I had been awarded. My memories of the week in Sweden will stay with me forever. After conversing with the Nobel laureates, listening to their speeches and lectures, and interacting with my peers from across the globe, I am convinced more than ever to follow wherever my heart and desire to discover leads me. Experiences such as this have enabled me to truly celebrate and explore my passion for science and technology. I am grateful to all who have enabled me to enjoy such a highly coveted and prestigious opportunity. I will never forget these days, these people, the Nobel Ceremony, the Banquet, the Ball, the Night Cap, or any other part of this trip."

I had intended to keep a journal of my experiences during the week, which got better and better as the week progressed, but I had such a packed schedule that much of the following was pieced together after I arrived back in the US:

### **Wednesday, December 4, 2002**

It was a cold December morning. After stopping by my lab at NYU in Manhattan to put in some quick last-minute design touchups (my mentor had exclaimed, when he learned I was stopping by, "You really are insane, you know that?!"), I headed to my favorite restaurant in Chinatown for a quick meal of roast pork and chicken on rice. Before leaving the area, I bought a belt from a vendor on Canal Street, an item I had forgot to pack for the coming trip. The research project was running well, my stomach was happy, I had a belt, and I was ready to go.

My parents dropped me off at Newark airport, about a thirty minute car ride from Chinatown. I met Naveen Sinha, one of my fellow Stockholm International Youth Science Seminar (SIYSS) participants with his father by the gate to our airplane. Nina Vasan, who currently studies at Harvard, and

Naveen are two of my fellow recipients of the Intel Young Scientist Award, and it was the first time we had seen each other since the International Science and Engineering Fair held in May.

Flight 904 aboard a Scandinavian Airlines Boeing 767 spent a pleasant seven hours and four minutes in the air, according to my stopwatch. I think that it was my great excitement and anticipation of the week ahead rather than the in-flight movie, *Blue Crush*, which made the time really fly by.

Arland airport in Stockholm seemed particularly peaceful, devoid of the hustle and bustle I had grown used to in New York City. It was around seven in the morning when Nina, Naveen, and I arrived in Sweden.

Just outside the baggage claim, we met two of our SIYSS coordinators, Hanna Sjögren and Sarah Amandusson. I was very glad to meet these two happy and helpful individuals, who had volunteered their time to help with the program. All of the SIYSS coordinators are students studying in university.

We learned that a fourth American student would also be participating in SIYSS this year. Mike Bradley had been selected by the Swedish Council of America to attend. Rather than waiting for his flight, which was running late from Chicago, Hanna found Nina, Naveen, and I a cab and soon we were on our way to the Af Chapman and Skeppsholmen youth hostel.

Naveen and I noticed a couple of Siemens corporation buildings along the ride, which gave us a good laugh. The previous week, both of us had decided to give up a chance to win up to \$100,000 in scholarship money at the national Siemens Westinghouse Competition, as we had been selected as two of the six national finalists. But since the

dates for the national competition overlapped with the SIYSS trip, Naveen and I chose to attend the event upon which no monetary value could be placed.

The youth hostel where I stayed is truly impressive. It's hard to miss the one-hundred year old, fully-rigged sailing ship, the Af Chapman, which houses some of the rooms and sits in the waters just off Skeppsholmen Island, where the rest of the hostel is located. Across the water is the Royal Palace, and the Grand Hotel where the laureates stay is just a hundred or so meters away.

I was greeted at the door by Patrik Thunström, another SIYSS coordinator. The other coordinators who I later met besides Patrik, Hanna, and Sarah include Helena Myhre and "King" Gustav Frisholm. Moments later, Jihye Seo of South Korea and Lucy Wedlock and Tim Smith of Australia were eagerly helping us new arrivals with our bags.

Before I left from the US, I had wondered how we would communicate. After all, we SIYSS students came from sixteen different nations. I was amazed at how bilingual and multilingual everyone seemed to be, for English was the mutual language of communication, though certainly not everyone's native tongue.

I speak decent French, and I was eager to talk to Susann Hasler of Switzerland. My Spanish is more on the obscene side though, so my later attempts at speaking in Spanish to Alvaro Narvarro of Spain were only successful so long as I was the one who was speaking. He spoke and understood English extremely well, on the other hand.

By lunchtime, more SIYSS students began to trickle in, including Eimiliya Bayramova of Russia and Cai Shan of Singapore. Patrik took us out for lunch, and I settled in quite ironically for my first meal in Sweden at TGI

Fridays American Bar and Grill. My Philly Cheese steak was not the only American commodity in town. Stockholm and the surrounding area has the highest concentration of McDonalds of anywhere in the world. It's remarkable how hard it is to drive around without spotting a few of the fast food restaurants. Also, the radio in the cab ride that I took from the airport to the youth hostel was blaring American music.

At TGI Fridays, I had difficulty staying awake, as it was really around five in the morning in US Eastern Standard Time. On the way back to the youth hostel, we considered renting skates for an hour at a nice outdoor rink for ten krona, but we decided that it was much too cold. I had around four hours of free time to spend before dinner. This passed quickly after I promptly fell asleep in my six-bed room after attempting to read a line from my European History text book. I never had time to open that book, or the other two books I brought along, for the remainder of the trip.

On awakening, I was greeted by my roommates: Naveen, Mike, Tim, Jin Zhou of China, and Matt Barnett of the United Kingdom. We ate our first dinner at the youth hostel. At this point, almost all the participants had arrived. I eventually had a chance to meet those who I have not yet mentioned, including Arnhild Jacobsen of Norway, Pawel Piotrowski and Manuel Schmitt of Germany, Vaughan Jessnitz of South Africa, Lauri Kauppila of Finland, Cara Lewis of the United Kingdom, Mercy Mulwa of Kenya, Livia Mészáros of Hungary, and Aiko Miyamura and Go Ashida of Japan, Cai Shan of Singapore, and Karolina Kannillo of Denmark. At first, everyone awkwardly stood around the tables, and after what seemed like a couple of minutes, I got so bothered that I sat down all alone,

and dragged/indicated that the two people next to me should do the same.

By the end of dinner, shyness was being overcome and we had all begun to get to know each other. After a brief meeting in the breakfast room, we all set off to sleep. We were told that we would have a week packed with activities, and free time would be rare.

#### **Thursday, December 5, 2002**

I woke at seven in the morning with the help of Mike's alarm clock, showered, and rushed to eat breakfast. Although I didn't figure out what everything was until later in the trip (including why there were two buttons on top of the toilet, ahem, bidet), I later learned that breakfast consisted of ham and cheese sandwiches, unsweetened yogurt with various jams, granolas, and cereals, oranges, flat bread, tea, coffee, chocolate milk, and various other tasty items. As a US student, I actually had the option of dining at the five-star luxury Grand Hotel, but I decided that staying with the SIYSS group would be much more fun (and convenient).

Our first SIYSS trip was to the Swedish Parliament, the Sveriges riksdag. There, we got to meet and speak with the Third Deputy Speaker, who also happened to have an engineering degree. Later, we saw her in one of the chambers of the parliament participating in a debate over the prosecution of parents who use illegal drugs. One interesting fact about the Swedish Parliament is that forty seven percent of its members are women, and many of them are young, including one nineteen year old. Walking around, I really got to experience the Swedish winter weather. It turns out that it was only as cold as it was in Connecticut in the US, just below the freezing point. The main

difference I noticed in climate was that it never got very bright, and thick clouds practically always covered the sky. I was told that the opposite occurred in the summer.

We ate lunch at the Art Café, where I had a meal of shrimp with sauce over baked potato and salad. The guys had to eat quickly, because after about twenty minutes, we went to fit our black tail tuxedos at a Swedish tailor's shop. It was also a good opportunity to ride the public bus transportation system, whose padded seats with leather head rests made them much more comfortable than riding aboard hard plastic seats in New York City.

The guys were running fifteen minutes late for a tour of the Royal Palace when we arrived outside the premises of the palace. The girls had already entered inside this official residence of his Majesty the King, though Patrik could not make contact with the girls since they had been required to shut off their cell phones. Thus, we went from entrance to entrance, searching for a way to enter the palace, though we were greeted by rather unfriendly guards with machete tipped rifles who shouted at you, "Do not cross the line!" if you came close to them.

Finally, Patrik was ushered inside by two armed palace guards, and after we guys had spent some minutes taking pictures of the angry guards, we were led to a massive wooden door. However, the security guard was unable to open the door with his key, which was a really old-fashioned sort of key, a bit larger than one's palm. By this time, we were running forty five minutes late and so made our way directly to the treasury to take a look at some palace artifacts.

After twenty minutes or so, the girls came back. Through some especially picturesque accounts from Lucy, Cara, and

especially Nina, I was able to gain a sense of the luxury of the Swedish palace. Some of the features of the palace include: a solid silver throne backed by a two and a half story high velvet canopy, a room entirely of gold and gilded items, and massive chandeliers with hundreds of candles in each of them. I do admit that I was a little disappointed at not being able to meet the royal family, especially Princess Madeleine. They, by the way, don't actually live in the Royal Palace anymore.

By mid-afternoon, we made our way to the Nobel Museum. There, we met Bengt Samuelsson, Chairman of the Nobel Foundation, who spoke to us about Alfred Nobel and gave us general background information about the Nobel Prize. The Nobel Museum, which was built only a few years ago, is designed to bring the Nobel Prize and its mission to a more generally accessible level. Its online version can be viewed at [www.nobel.se](http://www.nobel.se).

Just outside the museum was the old part of Stockholm, with narrow cobblestone streets and old-fashioned little shops. Each square had a nice Christmas tree with vendors selling holiday items and food, and we spent just over an hour walking around absorbing the surroundings (and having our body heat absorbed by the surroundings).

We ate dinner at the Kaffegillet Restaurant, which for me consisted of some sort of chicken dish and ice cream with cloud berry sauce. I apologize for the vagueness in describing food, but the truth is that I didn't know what I was eating half the time in Sweden, though it almost always tasted excellent. During dinner, I got to better know Lauri, who is actually studying in the US at MIT, Cara, who is currently at Cambridge, and Mercy from Kenya.

Back at the hostel, I was about to enter my room to sleep when I noticed a lot of noise coming from the breakfast room. There I met most of the girls watching *Moulin Rouge* on Nina's computer, and I used the opportunity to parler français with Susann. Neither the good Swiss chocolate she gave me nor the movie we were watching could keep me from drifting off to sleep. Combining staying up late to pack for the trip with major jet lag, I had been awake for much too long and decided that the fun would have to wait until I was well rested.

### **Friday, December 6, 2002**

On Friday, we departed early in the morning for the one hour bus ride to Uppsala. From the back of the bus, we noticed a beautiful sunrise, and one of the few glimpses of the sun I saw all week. Nearly everyone dozed off to sleep during trip.

Uppsala is a lively city, whose population is largely dominated by students studying at Uppsala University. It also is an important site for early Swedish history.

Our bus stopped first in Old Uppsala, where a couple of SIYSS participants, including Vaughan and Lucy, saw snow falling from the sky for the first time. That was exciting. Here we met our witty and humorous tour guide, Mikael Norrby. He showed us various historic sites, such as the Royal Mounds, where Viking kings Ane, Egil, and Adils are believed to be buried, right next to the field where the current Pope held a mass in 1988.

After a short bus ride further along, we arrived at Uppsala University in Uppsala. I was impressed by the age of all the buildings. The university itself was founded in the fifteenth century, long before the US was even a

nation. It definitely is a nice setting in which to study.

For lunch, we ate at Stockholm Nation. I'm sorry to be vague again, but I do remember that my meal had salmon in it and that I finished it all. The curator of Stockholm Nation described the Nation system of Uppsala University to us during lunch.

The Nations have a long tradition and go far back in the university's history. Essentially, students pick a Nation to be a part of, each of which are named geographically. Each nation has special meals and hosts various events, and it gives a nice atmosphere to those who would like to stay in touch with the unique characteristics of their hometown.

After lunch, we headed to the Evolutionary Biology Center, where much of the research of the university goes on, and where the Museum of Evolution and the Biology Library are also located. A professor gave us an interesting talk about evolution and the fossil record. Many of us were a bit tired from all the previous events, but when the professor whipped out his roaring, moving tyrannosaurus rex dinosaur, everyone was whipped back to alertness.

Before dinner, we had a chance to walk around Uppsala. The atmosphere is quite cheerful even at night in the cold. I noticed that the students' bikes are left unlocked, demonstrating the trust that simply doesn't exist in all of the US cities I've visited. When I stopped in a candy store with some of my new friends, the shop owner offered us some chocolate to taste even though we weren't buying anything. Later, we wandered into a nice mall, where I got to take a look at many Swedish stores.

Dinner was held in the Student Club House of Stockholm Nation, where we ate lunch. But it was certainly a big surprise to us when we entered a completely

transformed candlelit room with two elegant dining tables complete with table settings for a royal meal. The food was suitably gourmet. As it turned out, today was when we'd be learning dancing, etiquette, and table manners to prepare for the Nobel Banquet and the Nobel Ball.

It'd be difficult to list everything I learned about table manners, but here are a few hints: you must assist your table lady before seating yourself, you cannot finish eating a course before your table lady does, your knife and fork go in the four o'clock position when done eating, use tableware from the outside in, don't clink glasses when toasting, never toast with your hand in front of your glass, when making eye contact with someone else, you can make a toast to them and they must toast back within ten minutes, do not toast the host if there are too many people present, do not drink the wine from the previous course...

Another surprise awaited us. As extraordinary as it may sound, our bus driver is a nationally famous Swedish fox-trotter. Thus, we learned how to dance from the best of the best. I think that I got the hang of it after a little bit, even though I periodically mixed up my steps and frustrated my dancing partners. It was great fun, and time passed quickly. We danced until a little after eleven, and we returned to the hostel around midnight, thoroughly content.

### Saturday, December 7, 2002

Today, I slept in without breakfast. The first event of the day was a press conference with the Nobel Laureates in Physiology or Medicine at the Nobel Forum at the Karolinska Institutet. The Nobel Assembly at the institute, consisting of fifty elected members of the medical faculty, awards the Nobel Prize in Physiology or Medicine.

When it was clear that there were no questions from the press, which I found disappointing, the laureates each spoke briefly about their research and its impact. Sydney Brenner and Robert Horvitz of the US, and John Sulston of England shared this year's prize for their discoveries concerning the "genetic regulation of organ development and programmed cell death" through the study of the model system organism, *C. elegans*.

I had prepared some questions myself the night before, as I was supposed to have a chance to question the laureates during the press conference. Due to a miscommunication, though, I had to save these questions for later in the week when I would personally meet and speak with the laureates.

With still no questions coming from the press, John Sulston decided to get provocative and talk about the importance of supporting stem cell research and therapeutic cloning, and his colleagues joined him in support. Only now did questions start to come from the media.

I ate an elegant lunch at the Karolinska Institutet, which again had some sort of fish in it which tasted good, though I don't know what else I ate. We then had a tour of the labs of the institute, which were quite modern.

In particular, I got a glimpse of some living *C. elegans* in a microscope, which had aided in the discovery of apoptosis and resulted in this year's Nobel Prizes in Physiology or Medicine. The "worm community", as researchers in this field call themselves, are a very close knit bunch who pride themselves on sharing their research, unlike most fields which are growing more and more protective of their work. Many people believe, myself included, that the other fields should follow the "worm community" and take a

more cooperative approach to science research.

After a few presentations including such topics as the main biological pathways involved in apoptosis, we made our way to the Nobel Lecture in Literature. This year, the prize has gone to Imré Kertész of Hungary for his "writing that upholds the fragile experience of the individual against the barbaric arbitrariness of history". Don't ask me what the means yet, but I'm about to begin reading some of this translated work, so I'll find out.

Lauri and I stealthily made our way to the press galley, and thus found ourselves just a foot behind where the most prominent guests were seated. The entire speech, which lasted about forty five minutes, was read by Kertész in Hungarian. Luckily, I had the English translation, and noticed the talent that Kertész had for making stunning observations about the period of his life spent in Auschwitz as a persecuted Hungarian Jew. At the end of his speech, the writer received the longest applause I have ever witnessed.

Later in the evening, we received a guided tour of the Royal Academy of Science (Kungliga Vetenskapsakademien), whose committee selects the Nobel laureates. I wasn't able to learn any secret tips on how to get selected by the committee, though it apparently is a very thorough process.

The Academy will spend as much time as it takes to trace the origin of a discovery back down to the very individual who conceived it, which could include anyone, even a first year student who happens to think of a good idea and understands its implications. For the current year's selections, the Academy even sent investigators to a lab to determine in an individual was indeed the true innovator. We ate dinner at

the Royal Academy of Science, and returned back to the hostel to get a good night's sleep.

### **Sunday, December 8, 2002**

After eating a traditional Swedish breakfast at the hostel, we headed to attend the Nobel Lectures in Physics held in the Aula Magna at Stockholm University.

This year's prize was awarded with one half jointly to Raymond Davis Jr. of the US and Masatoshi Koshihara of Japan for their "pioneering contributions to astrophysics, in particular for the detection of cosmic neutrinos", and the other half to Riccardo Giacconi of Italy for "pioneering contributions to astrophysics, which have led to the discovery of cosmic X-ray sources".

Much of the lectures in Physics were beyond my current range of knowledge, though they were interesting enough to keep me awake and listening attentively. We ate lunch in the same building. Cara, Gustav, and I actually caught a glimpse of a couple of the laureates who were dining in a room next to ours, but talking to them had to wait until later.

I found the Nobel Lectures in Chemistry to be a bit more understandable, though they tended to be physics-heavy. This year's award went one half jointly to John Fenn of the US and Koichi Tanaka of Japan (only forty three years old) "for their development of soft desorption ionization methods for mass spectrometric analyses of biological macromolecules", and the other half to Kurt Wüthrich of Switzerland "for his development of nuclear magnetic resonance spectroscopy for determining the three-dimensional structure of biological macromolecules in solution".

After these lectures, we journeyed to the Royal Institute of

Technology, where we received another surprise. I was expecting another simple tour.

First, we were taught how to do the Mindy Hop. It probably looked hilarious to see me trying to swing, but I enjoyed myself completely, and added the Mindy Hop to my repertoire which already included the Foxtrot.

Next, I was able to experience a virtual reality cube that cost one and a half million US dollars to build. It was an impressive structure with some fancy hardware included. I believe that Sarah is currently working on a project that involves the high-tech cube.

We had a Christmas Smörgåsbord later in the evening. I don't recall everything that was served, but the place had a very cozy atmosphere. I do remember that the meats included venison, moose, smoked salmon, herring, Swedish meatballs, and sausages, all of which tasted great.

The Smörgåsbord was also our "get together" party, which has grown to become a SIYSS tradition over the years. Participants from each country are asked to perform a sketch, a show, a song, or anything else that represents an aspect of their nation.

Here's a run down of what I can remember from the night, which was very entertaining: Australia: Lucy and Tim poked fun at their nation's origin and sung their national anthem; Kenya: Mercy performed a song and dance native to her country; Russia: Eimiliya performed a Tartan dance; US: Naveen, Nina, Mike, and I were going to do a game show but finally settled for the improvisation song, "Doo Rah Rah"; Japan: Go sat in a chair and Aiko pretended to be his arms, and he tried to eat dinner; South Korea: Jihye sang a song in her language, and then sang a traditional lullaby with Helena, who to my surprise,

was also born in South Korea. South Africa: After stalling for a good ten minutes, Vaughan finally sang his nation's anthem which was so reminiscent of the "Eentzy Weentzy Spider" that we were able to hum along; Denmark: Karolina managed to teach a Danish dance to a bunch of us; Germany: Pawel and Manuel taught us some tongue twisters in German, and then got us to play musical chairs, which they told us was done when there weren't enough seats left in a bar; Finland: Lauri told us a ridiculous traditional Finnish story of how the world began, and if I remember correctly, the land formed from an egg shell and the goddess of the sea helped out; Spain: Alvaro played a nice song on his clarinet; Switzerland: Susann quizzed us on our knowledge of Switzerland and awarded out Swiss chocolate; China: Jin performed some taie quan doe martial arts; Norway: Arnhild shared with us some brown cheese which made me gag; UK: I can't remember what Cara and Matt did, though they mentioned something about tea time. Hanna, Helena, Sarah, Patrik, and Gustav, the SIYSS coordinators, dressed and sang traditional songs for the St. Lucia holiday.

Following these performances, Santa Claus came to town. He bore an uncanny resemblance to our Mindy Hop instructor. There were no naughty boys or girls, so all received a nice Swedish calendar and some gingerbread cookies.

Back at the hostel, we played pool and talked for a bit before settling in for the night.

### **Monday, December 9, 2002**

By Monday, many of us were surprised by how quickly the week had passed. Today was the SIYSS Symposium held at the Museum of Technology (Tekniska Museet). An approximately 180-

person audience was expected, and we were limited to an eight minute oral presentation.

My fellow American, Naveen, was the first presenter, and I gave my talk just after he finished presenting. I was a bit disappointed when I received only one question at first, but was appeased by a bit of information passed on to me by Matt and Livia. Apparently, when I had asked for questions, some Swedish girls in the audience had giggled and whispered, "Sure! How old are you? Can we have your number?" That was gratifying.

As a US student, I had been invited to attend a lunch held in honor of the American Nobel Laureates at the US Embassy. As a result, I left the Symposium during the break along with Naveen, Nina, and Mike and headed for the embassy.

It was a fancy lunch indeed, and all the American Nobel Laureates were present with the exception of Jimmy Carter, who was in Oslo to receive the Nobel Peace Prize. I have the menu with me, so I see that we ate poached fillet of halibut with orange-scented ragout of carrots, aromatic potatoes, and red wine sauce, and passion-fruit and chocolate bavaroise with fresh berries and white chocolate for dessert.

After hearing from the US Ambassador, I sat down at my table. To my left was the sister of Robert Horvitz, Nobel Laureate in Physiology or Medicine. Dr. Carol Horvitz-Nutt currently does some intriguing work on applying mathematics to the evolution of plants.

Across from me was the editor-in-chief of *Chemical & Engineering News* of the American Chemical Society, Ms. Madeleine Jacobs. It was great to hear everyone's stories about Sweden.

So as not to miss my SIYSS Symposium, I left early,

but not before chatting with Leon Lederman, the Nobel Laureate in Physics from 1988 who discovered the muon neutrino. I had spoken with him at ISEF before, so it was nice to run into him again. I confess that I also spoke with some other notable individuals, though their names now slip my mind.

After the twenty seventh SIYSS Symposium had come to a close, we headed for the Nobel Foundation's reception held at the Nordic Museum. Here, Nobel Laureates and representatives from prominent Swedish academic institutions were invited to socialize and enjoy hors d'oeuvres and drinks.

I finally had a chance to speak personally with many of this year's Nobel Laureates. At the end of his Nobel Lecture, Masatoshi Koshihara had challenged the audience to find the solution to a problem he outlined in his presentation. Since I didn't understand what the problem was, I admitted to him now that I couldn't solve it. He grinned in reply, "Don't bother thinking about it. Nobody can solve it. You'll waste your time!" Now I really want to know what the problem is.

Sydney Brenner, Nobel Laureate in Physiology or Medicine, is a particularly interesting personality, often cracking jokes and telling humorous anecdotes, and always looking at the funny side of problems. During the press conference earlier in the week, a journalist had asked what Brenner would do with the prize money, and he answered back, "I'm going to set up a fund for journalists."

I talked to Brenner for a while about the problem of miscommunication between scientists, the media, and the public, a topic which holds particular interest to me as editor-in-chief of my school paper and a

scientist. Brenner didn't seem to have a problem with this, and accepted it as a necessary shortcoming of an overall beneficial way of conveying science to the public. He also had no hesitations when it came to his new-found fame, "I'm going to use that platform!"

John Sulston, one of Brenner's fellow Nobel Prize recipients, also offered some genuinely good advice to young people interested in scientists. Don't set your mind on doing something just because other people think it's great or because that's what you think will win you the Nobel Prize, he says. Sulston believes that instead, you should do whatever interests you. He brought up the point that at the time he and his colleagues were doing their research, it certainly wasn't considered a hot field to be in, although the opposite is now true.

I especially admired Robert Horvitz, who continued to believe that the most important thing to him was his family, in particular, his nine-year-old daughter. Like Sulston, Horvitz's advice to young scientists was to, "Challenge authority!" and to lead ourselves wherever we felt we belonged. From his own personal life, he gave the example of how he studied economics and mathematics as an undergraduate student, which has little to nothing to deal with his Nobel Prize-winning research involving apoptosis (Horvitz studied biology for his Masters degree).

All of the Nobel Laureates I spoke to at the reception generally agreed that they had gained more power, had much more responsibilities and less free time, and were often regarded as an expert on everything, from hunger in Africa to peace in the Middle East.

For dinner, we walked out on an unofficial excursion to a

local food court, where I ate an interesting meal that resembled pizza, although it was nothing like Dominos.

Back at the hostel, we got a little restless, anticipating Tuesday's events, and we did some Fox-trotting, Mindy Hopping, and Waltzing until we decided it was bed time.

### **Tuesday, December 10, and Wednesday, December 11, 2002**

Tuesday was the most extraordinary and memorable day of the week. In the morning, the girls went to get their hair done. They ended up going to the same hair salon in which the hairdresser who does her Majesty the Queen's hair works.

The guys, whose hair didn't require as much attention, went to a *BBC World* filming of a debate between five Nobel Laureates from previous years. Ironically enough, the debate was mediated by a lady whose hair needed some major hairspray applications to keep a strand of hair from falling across her face, leading to various film retakes.

It was slightly amusing to see the makeup artist performing her work on the Nobel Laureates. The debate turned out to be more of a discussion, since the Nobel Laureates agreed on most of the issues. Some comical rephrasing was necessary for the cameras, such as changing "a couple of idiots in Italy" to "a particularly PR-conscious Italian scientist" in describing the man trying to clone a human being.

I ate lunch at the hostel, and noticed that for the first time during my entire visit to Sweden, the clouds had cleared and I could see blue sky. It was refreshing to see sunlight once again.

My roommates and I decided to start preparing early for the Nobel Prize Awards Ceremony. It seems that one hour

was just barely enough time for us to get into our tuxedos. Someone designed the tuxedos in such a complex way that they incorporated screws, hooks, clips, buttons, straps and all other types of fasteners. If it wasn't for the help of Tim, who had worn a tuxedo with tails before, we probably would have looked ridiculous. Finally, I was ready to practice my most gentlemanly etiquette.

In the end, everyone looked great. I was particularly fascinated by the hair extensions on the girls' hair. When a long black limousine pulled up to the hostel followed by several white limousines, we got very excited. The SIYSS coordinators had told us we'd be taking taxis, so this was certainly a step above that. After we snapped some photographs and handed over our cameras to the coordinators, which were prohibited in all of the events we would be attending, we headed for the limos. We had a little over a half hour to drive around Stockholm. I had great fun with Pawel, Lauri, Arnhild, and Jihye pretending we were royalty and waving to the crowds as we drove by. Some people waved back or took pictures.

When we first arrived at the Stockholm Concert Hall, I immediately noticed the crowds of hundreds of people surrounding the square in front of the building. They were fenced off and guarded by police. All of them were trying to get a glimpse of the guests, and there were even a few protesters present as well. When our limousines pulled up outside the hall, a crowd held back by guards of about thirty photographers and people with video cameras rolling were waiting for us.

We certainly had an impressive limo train. I felt like a Hollywood movie star, except I felt even better since I was really a SIYSS participant going to the

Nobel Prize Awards Ceremony wearing tails. The concert hall was very large, and had seating for thousands of people. It looked just like the photographs, though even grander. Our seats were particularly nice, giving us a view of the entire hall. There were even flowers that formed a pattern surrounding the stage. In between speeches and awards, the Royal Stockholm Philharmonic Orchestra performed some great musical compositions. It was a pleasure to have the chance to applaud the people who had earned such an honor.

Next, we proceeded to the Nobel Banquet in the Stockholm City Hall. I was amazed that the path we walked down was lined by hundreds of children holding candles. The room in which we dined, the Blue Hall, was built in such a way that it made me feel like I was in an outdoor court. My table, number forty one of sixty five, was several tables away from King Carl XVI Gustaf's table, but I still felt honored to be dining among laureates, kings, queens, princes, princesses, prime ministers, and everyone else present, including my SIYSS participants and coordinators.

In between each course, some of the strangest, most complex, and original entertainment I have ever seen was performed. Perhaps it's better to refer to the official photographs on the Nobel web site than to have me try to explain them to you, though I can say that the theme seemed to be love.

The three-course meal itself was highly sophisticated, including tartelette au fromage de chevre et sa garniture, filet de cerf et son jus a la cannelle, and delice de poire sur son bavarois, among others. There were well over a hundred waiters who coordinated all of their actions. During dessert, they released hundreds of gold and red heart shaped balloons, which

beautifully filled the air and remained trapped on the ceiling. After students from the Swedish universities and colleges had paid homage to the Nobel Laureates, the Nobel Laureates had made their speeches, and the guests of honor had risen and left in procession, we followed them out to dancing in the Golden Hall.

The Nobel Ball was great fun. Previous to my Nobel experience, I would have characterized myself as a wallflower when it came to dancing. However, I decided to make the most of the night, and after some awkward moments, headed for dancing. I danced with all the SIYSS girls, and even danced with Hanna and Helena. Well, danced in my own little way, that is. I must have caught the attention of the cameraman, because I apparently appeared on Swedish national television that night. I probably should first see the tape myself before telling you that.

Dancing alongside Nobel Laureates is definitely a unique experience, even if I may have been a minor annoyance at times, at one point bumping into the dancing partner of the recipient of the Prize in Economic Sciences, Vernon Smith. Then again, Kurt Wüthrich asked Jihye to dance, so I suppose we SIYSS folks were quite welcome. It's unfortunate that there weren't any women Nobel Laureates this year.

Before the end of the Ball, I had danced for the longest period of time in my life, but that was really just the beginning. I had also met some very nice Swedish students and had a great time with my SIYSS friends. It was midnight, and I was ready for the Nobel Night Cap hosted by the Stockholm School of Economics.

The Night Cap is an after party for the Laureates, students, and other distinguished guests with a reputation for extravagance and

great fun. No photography whatsoever was allowed in the night cap, so everyone felt more inclined to truly relax without the pressure from the press.

My best overall description of the Night Cap is that it passed by like a sweet dream. For sure, no two people could have had the same exact experience, but we all enjoyed ourselves. We arrived outside walking down a red carpet, and were served a hot soup. All the guests had been given maps to navigate the maze of various events taking place at the Night Cap. Towards the end of the carpet there was a sort of outdoor laboratory, where "scientists" were mixing "chemicals" and offering us the results to drink in test tubes.

Upon entering the first building, I was instantly brought back to the Medieval Times. It was rather dark and dirty in this time period, and I was eager to leave behind the jesters and local townspeople that were hanging around. I heard a lot of noise coming from above, and decided to make my way towards it. Along the way, I seemed to be passing by the French Court of Louis XIV, with richly dressed nobles who greeted me in French as I passed.

As soon as I reached the top of the staircase I was climbing, I instantly found myself in a salon straight from the cowboy Wild, Wild West. The free tequilas and other beverages would make it a drinker's paradise. I did witness a brawl or two between some cowboys, which was unexpected. I also noticed that Nobel Laureate Kurt Wüthrich had offered to share a beer with Jihye.

Up another flight of stairs, I came to the Moulin Rouge, amid La Belle Époque in Paris. Here meals were served and entertainment was staged—actually, that was the theme of the Night Cap, which was revealed amid a shower of confetti and great fanfare at the Moulin Rouge

at two in the morning: The Science of Entertainment.

Moving further upward, I found myself in a 1950s casino. I played my chips right with Arnhold and we made some good winnings, though we couldn't top off those of Lauri before we had to head to the next building shortly after two in the morning by following a candle-lined red carpet.

All of Venue Two occurred in the present day time period, and I was amazed once again by the diverse and elaborate entertainment. In the Winter Wonderland, free drinks were offered from Absolute Vodka bars built from blocks of ice cut from a river that had frozen solid further north in Sweden. I even got to drink out of cups made from ice. Live reindeer were on display with snow that had also been shipped in from further north. At one point, a woman appeared on the roof of the building, and amid sparkling pyrotechnics, sung an ancient Swedish song.

We decided to enter indoors, particularly since the girls' dresses weren't made for the Swedish winter, though the large outdoor heaters did help somewhat. First we came to the Children's Party, which wasn't exactly designed for children given the bar with free drinks. Yet the balloons, candy, and giant stuffed Winnie the Pooh Bears did create a bizarre playroom atmosphere.

I went to the Lounge with some of my SIYSS friends to rest and enjoy some hot chocolate, though I let someone else handle the beverage for me when I realized it had vodka in it. There was a really great jazz band playing in the Ballroom Dancing room, and I danced along for a song or two. Next, I made my way to the X-Box room, where I played some high tech games for about five minutes, at which point I realized I was at the Night Cap for something more social than trying

to knock out an over-muscled boxer on a computer monitor.

By around three in the morning, we had discovered where the real party was happening, at the New Year's Eve Celebration in Atlantis. The DJ was good and the people were all very excited and having a good time. At four in the morning, we counted down to the New Year (why four in the morning, I don't know), and Champaign glasses were raised. A little after an hour later, the party had officially ended. I caught a cab back to the hostel with Cara, Arnhild, and Lucy.

During the short ride, I realized how surreal the entire day had been, starting with the limo ride, through the Nobel Ceremony, Banquet, Ball, and Night Cap. I remember glancing at the clock after arriving back at the hostel, and realizing that in just under two hours I'd be on my way to the airport and to the US.

I changed out of my tails, and put on clothes of the everyday world. Tim, Arnhild, Cara, and Lucy did the same, as they would be leaving two hours after I was to leave. I woke up Naveen, who had come back to the hostel earlier on and who was now deep in slumber.

Before heading downstairs and out of the hostel, I tried to say goodbye to whoever was awake, and I bid farewell and good luck to Gustav and Patrik, just as they were about to head for bed. In the lobby of the hostel, I had a sad goodbye, and I even was a little teary eyed, for it was hard to leave these great people behind.

I had a few false departures, for Helena reminded me about the coat I had left in my room, and then I remembered that I had to give back the key card to my room. Finally, I realized that I had to go. I gave a quick hug to all the SIYSS students and coordinators awake at the time, and then took the waiting cab to Arland airport.

It seems that the Nobel experience doesn't end as abruptly as my departure did. Waiting in line to check in my luggage to Scandinavian Airlines, I saw Nobel Laureate Leon Lederman once again. On the plane, I again met Ms. Madeleine Jacobs, editor-in-chief of *Chemical & Engineering News*, and she interviewed me about myself and my experience during Nobel Week. I passed the rest of the seven or eight hour flight in sleep. Back at the airport, I greeted my parents. Before heading home, we passed by Chinatown where I had begun my journey, and I bought a drink from a street vendor. An hour's drive later, I was back in my home in Connecticut.

The experiences I had, the people I met, and the lessons I learned this week will always be in my memories. I suspect that I'll be keeping in touch with the SIYSS people for a long time to come. Early on during the week, we had made a pact that if one of us wins a Nobel Prize in the future, we'll invite everyone else to attend the Nobel events. We'll have to wait and see. ☺