

## ●My Internship Experience

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My name is Thom Bohdanowicz, and I've just finished working as a student intern for the Base Technology Research Group at TOAGOSEI's Nagoya Research and Development Centre. I'm a Canadian student currently studying at the University of Waterloo, one of the largest and most well-reputed universities in the country. My current major is Nanotechnology Engineering (a mix of electrical, chemical, and materials engineering), but I am also earning a second degree in Mathematical Physics at the same time. My university has a large co-operative education (co-op) program which means I need to complete multiple work placements with companies to earn my degree, which is how I ended up finding an internship with TOAGOSEI.

When I arrived in Nagoya on September 3<sup>rd</sup>, 2009, I thought I had some idea of what to expect. It was my second time in Japan, after all, after having spent 2 weeks in Yamagata Prefecture back in 2004. I was looking forward to many things I remembered from my visit during my teenage years: the beautiful green mountains, the interesting food and drinks, and the distinct feeling that everything is new and different from everything I know. But beyond that I wasn't really sure what to expect from the next 8 months. What would my work be like? What would living in another country be like? The answers to these questions that revealed themselves during my time in Japan provided me with an incredible life experience that I'll fondly look back upon for the rest of my life.

My first few weeks in Nagoya were very exciting. I met my supervisor (Dr. Hiroshi Sasaki), and everyone I would get to work with in Nagoya, and got to start learning about the kind of research that goes on there. With the help of various people in the department I was able to spend the first month or so learning about polymer science and adhesives, which was pretty advanced subject matter compared to what I had been learning in school, but also complemented it well since I would be seeing much of this kind of science later in my degree. In the first month I found that the preparation I'd had in my first two years of my engineering degree were serving me very well and I was able to apply very much of what I'd learned while building new knowledge as well.

Over time, I was introduced to the theory of polymer mixtures and phase separations, as they were important to a project currently being worked on in the department involving unusual rheological results. After studying the theory I was able to start working with computer simulations of phase separations using SUSHI, a computer program developed specifically to simulate interfaces and phase separations. I also spent time teaching myself to program using Python. The freedom I was given in the first couple of months of the internship was really great, since it allowed me to make a contribution that reflected my interests, which isn't necessarily always how things up in North American internships. As I built up facility in running simulations, I was eventually able to start work in trying to simulate conditions that would explain results currently being seen in experiments being run by other group members. I was also able to attend and present at a small conference for users of the simulation software I was using, which was a great opportunity that I don't think I would have had working with any other company. Eventually I was able to apply mathematical models found in literature to program a prototype of a new simulation program that might be able to give better results in certain situations than the one currently being used.



In addition to simulation work, I was also very fortunate to have been able to participate in lab experiments, learning about the various experimental methods used in the industry, and how to design experiments and analyze scientific results. I'm very happy that I was able to experience the many different facets of the work and research done in the department, from individual experiments and research to group meetings presenting and

discussing results. The cohesive group atmosphere I saw within the lab was unlike anything I had seen during my previous internships, and to me, really said something about Japanese work culture.

My position with Toagosei was my 3<sup>rd</sup> internship placement, but because my previous experiences were in more North American style work environments, getting used to being and working at Toagosei seemed at first like it might be difficult. Before coming to Japan I had heard many stories about how Japanese work environments differed from North American ones, some particularly emphasizing how much more difficult it was to work in a Japanese company. I was told that in Japan I would have long work days. This was not an exaggeration. Though the scheduled work day at Toagosei ends at 4:45 pm, it appeared to be completely normal for members of my group to stay and work much longer. Sometimes until 8, sometimes until 11. Sometimes even later! I found this incredible at first, since outside of special circumstances, most people will go home when the workday ends at 5 pm in North American workplaces. Even in my last work placement in an academic environment at a national lab, it was rare to see anyone staying past 7. In getting used to putting in as much work time as my colleagues, I came to have an admiration and respect for them and their dedication to their work. I feel like working at Toagosei has allowed me to develop a stronger work ethic that will help me be a better employee in all of my future career endeavours.



Another interesting aspect of Japanese works culture I noticed was the cohesive sense of togetherness that groups within the company have. Often in North American companies, it feels like everyone is working to satisfy their own needs and goals individually. As common as it is for people to work together and in teams on projects, I feel like employees are much more motivated to work for their own benefit and advancement.

At Toagosei, I felt like even when group members were working on different things, there was still an intangible sense of cohesiveness and sharing in the group, and there always existed a collaborative spirit between employees. The sharing of ideas and results that went on in research meetings helped this as well. I suppose that this sense of cohesiveness can also partly be attributed to the fact that Japanese employees tend to stay with the same company for a very long time (if not for their entire career) whereas it's not uncommon for employees of North American companies to change jobs and companies several times during their lives for the purpose of advancing their own individual careers, often at the expense of the companies they leave. For this reason I found the Japanese work place to be in some ways more conducive to achieving better results and progress. The employees work together in spirit for the company rather than selfishly for themselves. Even outside of work hours I felt that there was a higher level of personal contact among co-workers because of company organized events and also because of the fact that so many employees live together in the company dormitory. I thought that the kind of close constant contact with your colleagues that one gets in a Japanese work environment because of the above was just fantastic, and am something whose absence I might really notice in my next internship placement.

And while my experience working within Toagosei has had a great impact on me, I only consider it to be half of my internship experience. The other half was what I was able to do outside of work hours and how I experienced the rest of the Japanese culture. I feel like I was very fortunate to have been allowed to travel and not only see some of the main attractions of Japan, but also have unique opportunities to experience things that many who come to Japan often do not. On many occasions, I've had co-workers take me on outings to places or events that allowed me new experiences. For example, I was lucky enough to be able to be brought to a local Shinto festival which allowed me to participate in a truly unique aspect of Japanese culture, helping me to appreciate what Shinto is really about.



Having Japanese colleagues with me on many of my explorations of Japanese culture, from sightseeing to restaurant outings really helped me to better appreciate finer details that I would not have been able to otherwise.

That said, I was also able to experience Japan in yet another different way away from the company and my co-workers. By getting involved in Nagoya's large and active international community I was able to see Japan from yet another perspective with a group of people who were foreigners like myself who have made Japan their home. Because this group was neither Japanese, nor of any other specific national denomination because of the variety of foreigners in Japan's international community, this also allowed me a unique cultural experience, as well as the occasional break from Japanese society to discuss, compare, and contrast certain aspects of Japanese culture with other world cultures. These kinds of discussions were always stimulating and further helped me to appreciate Japan and its special cultural place in the world.

One of the main reasons I wanted to come to Japan was because I wanted to travel and see a new part of the world, and I consider myself having been extremely successful in this goal. During my time in Japan I was able to travel as far north as Sapporo, and as far south as the remote Okinawan islands of Ishigaki and Iriomote.



I saw important sites of Japanese culture and heritage in Kyoto and Hiroshima, but also travelled to beautiful areas lesser known to foreigners such as Kanazawa, Takayama, the Tokyo Izu islands (Oshima, Nijima, and Shikinejima), and Beppu.



I got to experience world class snowboarding in Nagano and Hokkaido, was able to snorkel beautiful reefs in Okinawa, and bathe in incredible natural hot springs on the volcanic Izu islands.



The incredible variety of experiences that I was able to have over the last 8 months have become some of the highlights of my life. Unique experiences I never thought I'd have been able to experience in the next 10 years travelling the world, never mind in such a short time, and in a country 4% the size of my own! But while the fact remains that Japan is indeed a special country of diverse beauty and attractions, my conversations about my travels that I had with some colleagues and other Japanese people revealed to me that most of them had never seen or done many of the amazing things that I had done during my time in Japan. While at first I found this hard to believe, it got me thinking about the country I live in, Canada, and how incredibly little of its incredible and diverse beauty I have seen. What I've come to believe because of this is that to a certain extent, it's common for someone to take their surroundings for granted no matter where they are. This was confirmed to me through discussions with people I had met who have spent a significant amount of time in Canada. It turned out that almost all of them had seen more of my home country than I have! This is one example of how exploring Japan has actually pushed me to have a deeper appreciation for and desire to discover my own country. So not only did my time in Japan teach me to appreciate new things, but also taught me to appreciate old things as well. This has led me to the conclusion that travelling somewhere new in the world is an important experience that everyone should have, as it will enrich their view of the world immeasurably, just as my time in Japan has done for me.

If there is one aspect where I wish my time in Japan had been more successful, it is that of language. I came to Japan with a modest knowledge of basic Japanese words and expressions. And while my ability to communicate with my co-workers in

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Japanese did improve modestly over time, and overall communication in a mixture of English and Japanese was often enough for my purposes, I found myself wishing I was able to communicate more personally in Japanese so that I could better get to know my colleagues and communicate more naturally with them. But at the same time, the pursuit of a new language never comes naturally and requires a great deal of effort, and I hope that in the future I can devote such effort to learning Japanese and enhance future trips made to Japan.

I can go on forever about all of the great experiences I had during my time with Toagosei in Japan, but I think it would be best to summarize it as follows:

Toagosei gave me an incredible opportunity to not only gain extremely valuable work experience learning to work effectively in the scientific sector and develop my mind, but also see the world in a way that most people never get the chance to: from the point of view of a different culture. I will forever be grateful to Toagosei and everyone I came into contact with there who really went out of their way to help me make the most of my time in Japan. If I could go back in time, I would not need to change anything about my experience in the last 8 months.



I'd like to finish this with an enormous thank you to everyone I had the pleasure of meeting at Toagosei, both in and out of my work group, for the incredible kindness and patience you've shown me during my stay. Because of you I have nothing but the best impression of Japan to bring back to my friends and family in Canada.