Satellite Communications and I

Sky Perfect JSAT Mizuho Aoyagi

Since I was a girl, my yearning is Space. And since certain point I started to think seriously to become a person who works with Space. One day when I was a senior year high school student, an advertising catalog was in my post. This changed my entire life.

Speaking of my senior year of high school, it is the time when I needed to decide my carrier. I found the advertising catalog at such a timing that made me think once again about my carrier plan in my room by myself.

By the way, my grade in the high school was not good or not bad but the average. However, my dream was huge. So my carrier plan and my grade did not match forever and I spent for a long time to think about this issue.



Author and Satellite Control Antenna @ YSCC

I look into the advertising catalog for a while and thought a little bit. After that I decided a certain thing and went over to my parents who are enjoying their holiday.

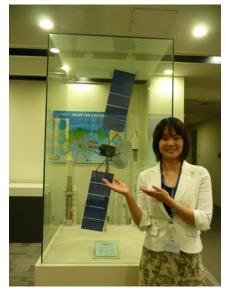
"I want to study abroad!!"

The advertising catalog that was in my post at my best timing was about "U.S.A. overseas education". Speaking of U.S.A., their native language is English. And English is my very weak point. But even so, I wanted to go study abroad. Because this was the only chance for me to come true my dream. My dream, it was an engineer who involves with the satellites. At that time, my dream was not yet definite but I was very much excited with the words of "satellite" and "engineer".

In order to become a satellite engineer, I need to study about satellite first. This is obvious but for me it was a great challenge. The universities where I can study about satellite were all top levels in Japan. That means I could not possibly be accepted with entrance exams at that time. This was why I had been thinking about my carrier plan and my grade and could not find an answer. However, because of this advertizing catalog, I finally found the way to study about satellites. According to a rumor, to be accepted by a university in U.S.A. was relatively easy but graduating a university was

hard. So I thought if I could enter a university then there was a possibility that I can make it through. As a matter of reality, I repeated entering and graduating the college, the university and the graduate school, I realized that to be accepted by university was moderately hard and graduating was harder. This was my honest impression.

While I was studying abroad, I joined AIAA and it was a good opportunity to know the great success of engineers around the world. However, because of professor movement, I did not have a chance to take a lecture of satellites/space during undergraduate student. Therefore, my plan to go back to Japan after graduating the undergraduate school was not became a reality. As a consequence, I went to the graduate school to study satellites/space. And after a great struggle, I finally was able to graduate.



Author and satellite model

When I saw the light at the end of tunnel to graduation, next step was finding employment. I typed "Satellite" to find the corresponding company by using the internet search function. Result was two companies, which are JSAT and SCC. One of the two companies, SCC was not recruiting at that time. So the company I wanted to be accepted became only one.

However, JSAT recruiting has already ended. Knowing this I sent an E-mail to JSAT: my background, my strong will for joining the company. The response came soon. "Please try again at the next opportunity...". This means I could not become a satellite engineer at least for a year. But one week later, I received an E-mail from JSAT. They at least wanted to listen my story. I was very excited

and have let my parents knew this opportunity. I went back to Japan during vacation and had some interviews. After that, gratefully I was accepted as a last member of the new recruits.

After accepted by JSAT, time went by very fast, the two companies of SCC and JSAT, merged to one company as Sky Perfect JSAT. Currently, I am a member of the Satellite Operations Division Engineering & Operations Group.

The members of the satellite operations division are working in the building called YSCC (Yokohama Satellite Control Center), not the headquarters office in Akasaka



With predecessors

Tokyo.

YSCC is currently operating 12 satellites including consignment satellites. Operation consists of Engineers who analyze the data and controllers who monitor the satellites for 24 hours a day. Engineers are about 30 people, but female engineers are only 3 people, even if including satellites controllers there are only 5 females. I feel that the satellites operation is the male place of work.

The work of the members of Engineering & Operation group are analyze and evaluate the data, attend the satellites events, maintain procedures, interface with satellite makers and so on. Among these, since I am in charge of the power subsystem, eclipse seasons are the one of the biggest satellite events, also to me it is the busiest seasons in a year.

During the eclipse seasons, there are the times when sun, earth and satellite align and the satellite is in the shadow. In such a time, solar arrays can not generate the power from the sun, so the satellite uses batteries instead. As the satellite goes into the shadow, the temperature of satellite itself becomes suddenly drop and when satellite comes out from the shadow, the temperature suddenly up. Even under these severe conditions, the satellite needs to be steady state.



The initiation member of 2005

Therefore we check the satellite condition by collecting data of before and end of the eclipses. If problem occurs it require a prompt action. Also if anomaly happens, sometimes we need to get in touch with satellite makers directly on the phone to solve the anomaly. At such a time taking interface with the satellite maker is one of my important tasks.

I have been involving 3 BUS (satellite category) and total of 5 satellites. Among them, most standing out in my memory is the experience of launch of Lockheed Martin

Corporation satellites, JCSAT09 and JCSAT10. Before the launch, we needed to study about these new satellites beside the other satellites work. Moreover, these two satellites were launched around the same time, so it was very busy period of time. At the day of launch, I was watching the rocket through TV with my heart racing with excitement. When we finally saw the real satellite data at YSCC I remember that I was very impressed.

My carrier began with an advertizing catalog. It made my dream come true and now I am a satellite engineer. I will continue studying day by day and try my best to do stable operation for satellite communications.