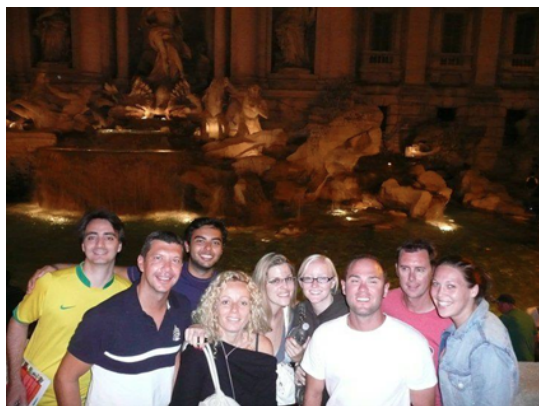


Student's Research Adventure - 2011

Aeen Asghar in Sweden - The Sheet of Ice



For the past three months, I have had the honor of working among some of the leading scientists working towards a cure for Type I Diabetes. As the Principal Investigator of the Clinical Islet Transplantation Consortium and the Nordic Network for Islet Transplantation, Dr. Olle Korsgren was responsible for isolation of human islets from the pancreas from all Nordic countries. Located in Uppsala, Sweden at Uppsala University (the oldest university in Scandinavia), Dr. Korsgren's lab is involved in many projects centered on cell transplantation.



Islets of Langerhans are mainly composed of insulin producing β -cells. Using allo-transplantation of islets, the type I diabetic recipient will be able to gain insulin independence. Islet auto-transplantation is used as a treatment for chronic pancreatitis. In this procedure the patient receives his/her own isolated islets back after a

pancreatectomy. My project focused on alternative sites of islet transplantation. While the liver is the current accepted site of transplantation, it is not an ideal site as the graft loses functionality over time. Studies have shown that the muscle and the omentum would be better alternatives.

I was specifically interested in the relationship between graft function and the number of islets transplanted into the muscle in a mouse model. There are many work intensive steps from isolating the islets, to transplanting them, and finally removing the graft for assessment. The assessment includes histological staining for insulin, caspase-3, and pimaimadizole along with insulin ELISA. The results from the histological assessments gives us insight into the health of the graft in terms of cell death, while the ELISA gives information about the grafts functionality by measuring insulin content.

The post-doc that I was assigned to was Johan Olerud. Johan had recently joined Dr. Korsgren's lab in the Rudbeck building. Previously, he had worked at Bio-Medical Consortium (BMC). By the time I arrived in Uppsala, we were both new and unfamiliar with Rudbeck. Due to the nature of my study and animal availability, Johan and I bounced back and forth between BMC and Rudbeck. The research groups at BMC were experts at in vivo studies and transplantations. Thus I learned essential techniques at BMC and acted as the new "expert" at Rudbeck. Although I had recently learned how to isolate islets using the gradient method and injection of islets into the abdominal muscle, I was in charge of training some new medical students. I went from being a newbie to the "expert" within a week.



Aside from difficulties dealing with two labs, the biggest challenge was the fact that summers in the Scandinavian countries is vacation season. In Sweden, employees receive 5 weeks of mandatory vacation time. Since the Swedes experience brutal and dark winters, everyone saves their vacation time for the summer. The weather is truly amazing with temperature ranging between 60^o-80^o F. The days are also extraordinary long with only few hours of twilight, representing nighttime. I often walked into BMC (largest building in Uppsala) and found the building completely deserted. In one case, a washing buffer needed was out of stock because the person in charge of ordering was on vacation. Such issues hindered the progress of my project, yet it gave me an opportunity to familiarize myself with the culture and the people of Sweden.



Prior going to Sweden, I had read that the Swedes are often reserved and that they have a sheet of ice in front of them. Once you break the sheet of ice, they are one of the nicest and loyal people in the world. This proved true when I met fellow lab members. It took about a month of making small talk and socializing, until I became good friends with a group of medical students and PhD students. The last month of my stay in Sweden was amazing, my project was making progress and I had was in with the Swedes. According to Johan, I am one of the few people who attempt to become friends with the Swedes in lab as most international students stay within their own groups.

BRAVO! gave me one of the best summers of my life by combining scholarship, traveling, and cultural enrichment. Although, the project has been delayed and the data could not be gathered before my return, the bridge I have created between Dr. Rilo and Dr. Korsgren's groups will prove beneficial to future collaborations. I would like to thank all those who contributed to this amazing experience including: **Carol Bender, Dr. Horacio Rilo, Dr. Olle Korsgren, Dr. Johan Olerud, and Renee Cercone.**

[Undergraduate](#)^[1]

Department of Chemistry and Biochemistry at The University of Arizona
P.O. Box 210041, 1306 East University Blvd., Tucson, AZ 85721-0041
Phone: 520.621.6354 Fax: 520.621.8407

[UA NetID Login](#)

Source URL (retrieved on 01/12/2013 - 6:04am): <http://www.chem.arizona.edu/undergraduate/asghar2011>

Links:

[1] <http://www.chem.arizona.edu/taxonomy/term/11>