Student Report for the ICGPSRO NSF-Sponsored Travel Support
Brian Breitsch
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This past September I was afforded the opportunity to participate in the Joint COSMIC Data Users' Workshop via the NSF-sponsored student program. For me, the experience was a successful opportunity to delve further into the radio occultation community. The workshop was fulfilling in terms of gaining technical knowledge, understanding the current status and future state of radio occultation missions, and in networking with other scientists who use or study radio occultation.

Taking place in Estes Park, the workshop afforded a chance to truly explore and gain appreciation for the small Colorado town. Our stay at the Stanley Hotel -- an historic site and "haunted" destination for tourists -- was quite an experience in itself. I learned some interesting "haunted" facts about the rooms in which we presented our posters. In the evenings, I also explored downtown Estes, and took in the sunset views of the surrounding mountains (when it wasn't cloudy). All of this provided a refreshing context for discussions and learning.

Coming into this conference, I had a more mature understanding of radio occultation and its use in my research than in past conferences. I was able to hold valuable conversations when presenting my poster and discussing my research with other scientists. It was also fun to be able to comprehend and digest the posters of other students at the conference. In particular, I learned more about lower-atmosphere profiling and precise positioning requirements on the receiver performance side. My favorite and most valued conversation during the conference was one I had with Rob Kursinski, a well-known pioneer of Earth-based radio occultation. He was able to explain many interesting things going on in the world of commercial radio occultation, as well as a fascinating recount of his years at JPL climbing the ranks and working on the Voyager missions. I really felt the effects of an expanding knowledge web; the more I learned about different aspects of radio occultation and remote sensing, the easier it was to keep learning. All this made for a very productive learning experience.

One aspect of the conference and the field of radio occultation that I really appreciate is the international reach. I met and revisited with many scientists from Taiwan and Europe. Research and operational scientists I had met from these places taught me new things about their culture and their work. It is also interesting to see how different organizations can tackle the same projects and challenges in different ways, then compare results. A theme of the conference seemed to be the value of having these multiple weather organizations doing analyses using radio occultation. It is good to understand what the different motivations are for different groups using the radio occultation data.

Finally, perhaps the most valuable knowledge I gained from this workshop is the notice of upcoming radio occultation datasets. The Strateole-2 and other upcoming balloon experiments could provide valuable data for my work on low-elevation and occultation-geometry TEC estimation. I also learned of the specifics of COSMIC-2 launch and when to expect data to be available, as well as changes and updates in the processing. All of this will be very helpful as I continue my research and look to use radio occultation datasets for validation and comparison.

In all, the conference provided great learning and networking experiences. I am very glad I went. I am thankful to the sponsors and people in charge--in particular, Nick Pedatella, Yoke Yoon, and the National Science Foundation (NSF)--who allowed me and other students this opportunity.