Faculty Report: Development of Speech, Language, and Hearing Science Student Exchange Program in Italy

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Proposal title: Development of Speech, Language, and Hearing Science Student Exchange Program in Italy
Country/ies visited: Italy
Institution visited: Politecnico di Torino, Torino, Italy
Dates of travel: 9/16/11-9/26/11
Number of student participants: 0
Previous IP proposals submitted and grants awarded
(list titles, countries and dates): Establishment of Speech, Language, and Hearing Science Student Exchange Programs In the United Kingdom; Glasgow, Scotland; 11/25/08-12/1/08
Speech, Language, and Hearing Science Student Exchange Programs in the Scotland; Glasgow and Edinburgh, Scotland; 2/19/10-3/1/10
Have all required reports been submitted? Yes
Other funding for this activity available/applied for:

Proposal Abstract (75 word maximum):
This proposal requests support for travel to a university in Torino, Italy to develop an exchange program that includes either coursework or research experience in speech, language, or hearing science. Contact has been established with two faculty members of the Politecnico di Torino university and there is interest in developing a research exchange with a focus on cochlear mechanics. There is also a possibility of coursework in biomechanics, but that needs to be developed.
Travel report:

I. Opening/overview of intentions/activity
This proposal was designed to develop a research practicum student exchange program at the Politecnico di Torino in Torino (Turin), Italy and this exchange can be one of the first programs specifically developed for students within the School of Speech, Language, and Hearing Sciences (SLHS) at San Diego State University (SDSU). Specifically, the research component is directly tied to Dr. Peter Torre’s Recreational Noise Exposure and Hearing Loss Laboratory at SDSU. The proposed program will most likely involve graduate students in the Joint (SDSU/UCSD) Doctoral Program in Audiology (AUD). As part of this AUD program, students complete a research project, which is a project similar to a Master’s Thesis. Although the AUD program is essentially a year-round academic program, the goal of this visit was to see if a research laboratory could be established in time for a student to collect data during the summer session.

II. In preparation for the trip abroad
Dr. Sandra Dulla, Assistant Researcher within the Department of Energetics (Dipartimento di Energetica) at the Politecnico di Torino (sandra.dulla@polito.it) and I completed multiple Skype calls to establish which of her colleagues would be interested in collaborating on a research project. Because there is no equivalent of hearing scientists or even audiology at Politecnico, it took some time to determine the researchers we needed to contact. At the suggestion of one of my current collaborators, we contacted one of the researchers whose interests are in biomechanical engineering. The possibility of this collaboration would allow us to use data generated either in a laboratory set up at Politecnico or generated within my laboratory at SDSU, then those data to develop and test mathematical models for noise exposure susceptibility.

A separate component that took place before I left was discussing with my research collaborator, Dr. Sumitrajit Dhar, if there was a possibility of establishing a data collection system at Politecnico. Without taking cost of the system into consideration, Dr. Dhar and I had decide whether or not having a computer system in Torino was a better option than packaging the raw data from our laboratory in such a way that the researchers in Politecnico would be able to utilize it. We decided that the specific components of the computer system (i.e., iMac computer, ER2C microphone, amplifier, etc.) could be purchased and simply shipped to Politecnico, if it was determined during my visit that there would be enough space allocated for the computer system. And in the preliminary discussions between Dr. Dulla and I, it was determined that there might be sufficient laboratory space; but this would definitely have to be finalized once I was there and could observe the potential space during my visit.
III. Upon arrival/specific activity

September 16, 2011 – Arrived in Torino, Italy. I arrived later than expected on Friday afternoon and my brief visit to the university that I had planned for this day was cancelled.

September 17-18, 2011 – Nothing scheduled for the weekend.

September 19, 2011 – I began my visit by meeting with Dr. Dulla and she took me on a brief tour of the university. Recall, that the Politecnico di Torino is the engineering-specific portion of the university and the remaining portion of the university, called Università degli Studi di Torino (University of Turin), is located in a different section of Torino. As a result, the campus is relatively small (considerably smaller than SDSU), so if this exchange is established, then a student should have less of a burden getting used to this campus. Dr. Dulla took me to the library and I spoke with a library assistant. University of Turin system as a whole has a substantial amount of electronic journal subscriptions. This is an important consideration because of the fact that this will be predominantly a research exchange and access to electronic material will be important for students.

We had our initial meeting that included Dr. Dulla, Dr. Gianluca Ciardelli, and I. The focus of the discussion was how our individual research interests can be merged into a single project. Because Dr. Ciardelli only had limited availability for that day, he stepped out of the meeting, but a couple of his graduate students stayed because of the possibility that they might be involved in the project. The remainder of the meeting was spent discussing what was the optimal space needed to house this laboratory. An important fact that was brought up was that there was a not any sound-treated room available for this project. That would be the best case scenario, but not a complete requirement for the laboratory to be established at Politecnico. A quiet room or area would suffice. It was decided towards the end of this meeting that finding potential locations for the laboratory space would be the first priority of the next day’s events.

September 20, 2011 – Dr. Dulla and I met to discuss what laboratory space might be available to set up the research equipment. She knew of three potential spaces that we were going to evaluate. The first consideration was whether or not there would be adequate space for a sound-treated room (this would be the optimal scenario for the equipment, but not a requirement) but if not, then a space somewhat isolated from any potential background noise. The first location definitely had the physical space but it was shared and it seemed that from my brief time in that room, that the research being conducted would create too much background noise for the testing I was proposing. A second consideration was the possibility of electrical interference from other equipment. The laboratory equipment that I have as part of my laboratory utilizes a very sensitive microphone system which, unfortunately, can measure unwanted electrical activity if the room, or measurement area, is not properly insulated. And along with the background noise potential, the first location had a substantial amount of computer systems that could affect the measurements we are proposing. The second location was too small for any of the equipment that we
needed to complete this research so we moved on quickly to the final space. The third space was, at the time, empty and away from any hallway so the background noise would be minimal. But it did not have the space available to include a sound-treated room so the timing of data collection would be important because it would have to take place during a quiet portion of the day. So at this point, there was a potential space available for the research proposal the follow-up discussion would be what equipment would be available from Politecnico and what equipment would have to be purchased for this laboratory.

September 21, 2011 – The discussion centered on what additional equipment would be needed to support this research proposal. There was a high likelihood that a Macintosh computer would be available from a researcher at Politecnico. The remaining equipment (i.e., microphone, amplifier, and signal generating device) would all have to be purchased because that equipment is unique to the measurement system that Dr. Dhar and I use for our research. Once we understood what equipment was needed, we began discussions on how many students would be included in this research project. From the SDSU standpoint, it would have to be a graduate student that would have a strong mathematical background. The modeling equations proposed by Drs. Dulla and Ciardelli are very sophisticated and although the SDSU graduate student would not be responsible for generating and testing these equations, the hope is that they could contribute and be involved in those models. There would also be a Politecnico graduate student organizing the data after it was collected. These data would then be used to support the model proposed by Drs. Dulla and Ciardelli.

September 22, 2011 – We only met briefly in the morning to discuss potential funding options for this research proposal. Our goal was for each research group, SDSU and Politecnico, to submit funding applications for at least start-up costs for equipment and pilot data collection. Also, we generated some very specific research questions so there could be an easy transition to research presentations and publications and the development of more long-term funding.

September 23, 2011 – Departed Torino, Italy

IV. Conclusion, recommendation, and next step?
After the visit, I was very optimistic that this research collaboration/exchange would be established. The researchers at Politecnico were extremely enthusiastic about getting involved in a research area that was not familiar to them. I believe that because they could relate to noise exposure, it helped to foster their interest in the research proposal. There would be no language barrier, at least within the university setting, so that would benefit the SDSU student because they will most likely not have an Italian language background.

Since returning approximately four weeks ago, the space that was open and the preferred location for the proposed laboratory had to be allocated to other Politecnico researcher. Dr. Dulla assured me that her and her colleagues are working on finding another location feasible for this research. And since Dr. Dulla was with
me when we were evaluating the spaces, she is completely aware of what is needed for the laboratory. After speaking with her recently, I am confident that she can evaluate additional locations and make the necessary conclusions. Furthermore, I still believe that this research exchange is moving forward, but it just may take a little than expected.

V. Additional Information
None.

All information should be sent to The Office of International Programs via e mail:

oip@mail.sdsu.edu