IE Senior Wins Top Spot in IEEE International Poster Competition

Jasper Quach, summer BSIE graduate, and now PhD student in the Industrial and Management Systems Department recently won first place in the 2013 IEEE Power and Energy Society General Meeting, held in Vancouver, Canada in July. The conference hosted a total of 193 students from all over the globe in the poster competition, and included both graduate and undergraduate level students.

Jasper's poster, entitled "A Hybrid Maintenance Scheduling Model for Thermal Generators" was the culmination of an eight month project he has been working on under the supervision of his advisor, Dr. Bo Zeng, who was at the conference to see Jasper receive the top honor.

The project is about building an optimization model to derive preventive maintenance schedules for coal-fired generators. More specifically, this model seeks for the best time to rebuild the coal-fired generators to reduce the failure rate and increase power generation, with a minimal outage impact. Hence, the model minimizes the expected cost from power generation to meet random loads, requirements and restriction from maintenance operations, and stochastic generator failures.

When asked about winning first place, Quach replied, "This award makes me feel that my contributions are recognized, making my work even more enjoyable and challenging."

"I couldn't have done it without the support, leadership and guidance of my professor, Dr. Zeng. Also, informative discussions and professional knowledge from Brian Buckley, Operations Planning Manager at TECO Energy, are very critical for me to do the project."

"This project is just the foundation for much more. In the upcoming future, we plan to develop a more robust model that includes other power sources and incorporate it together within the electricity grid system to generate real impact. It will allow industries to make efficient decisions with the significantly reduce cost."

According to Brian Buckley, "It was a pleasure working with Jasper on this 'win-win' project where his regression model determined which parameters were significant, parsing through large amounts of our unit data."

And fortunately for USF's IMSE department and TECO, Jasper will be continuing his research on increasing the robustness of power generation by minimizing the impact of generator maintenance and replacement throughout the course of his Ph.D. program.