

Mathematics and Physics Unit “Multiscale Analysis, Modelling and Simulation”,
Top Global University Project, Waseda University
Report on Study Abroad
Name: Zhaojing Xu

1. Destination

Rice University, Houston, Texas, U.S.

2. Date of stay

August 23, 2023~November 23, 2023

3. Purpose

The purpose is to extend the research regarding fluid dynamics of turbochargers and cars and to attend the course given by Professor T.E. Tezduyar.

4. Education and research activity in the destination

The course I took is “Computational Fluid Dynamics (CFD)” given by Professor Tezduyar in Rice university and Waseda University. In America, the situations that are different includes being a face-to-face course (I took professor Tezduyar’s course online due to COVID) and being able to experience American class environment. The course is a very understandable step-to-step intro to computational methods of Fluid Dynamics. It is also very inspiring to see Professor Tezduyar interacting with students from Rice University, which are delightful and very active (as you could assume) during the class.

On the other hand, I spend most of the time in Professor Tezduyar’s lab room in Ryon Hall. Here, I really dug deep into my research and learned a number of strategies on solving my problems, such as the divergency of computation when defining the spinning structure and co-interaction with steady domain, and the meshing technique on an isogeometric computer model.

5. Other comments

The first thing I want to say is I would like to thank Top Global University Project (SGU) for giving me this opportunity to study aboard for a period as long as three months. I would also like to thank Professor Takizawa, Doctor Kuraishi and professor Tezduyar for their help on not only guidance of research, but also help on life in Houston, settlement in Rice, travel issues, etc.

I would also like to thank all the members from the lab in Ryon hall, Eli, Noah and Zhaoyu. It is nice not just working with them, but also making friends and spend precious times after work. My special thanks to Eli who gives me very straight forward explanations on all the isogeometric-related knowledges.

Finally, I would like to thank Ms. Yukari Ishizaki and Ms. Sachiko Sugimoto for your most sincere help on dealing with all those troublesome traffic, visa and travel issues with us, and my apologies for being a deadline guy and all the troubles.

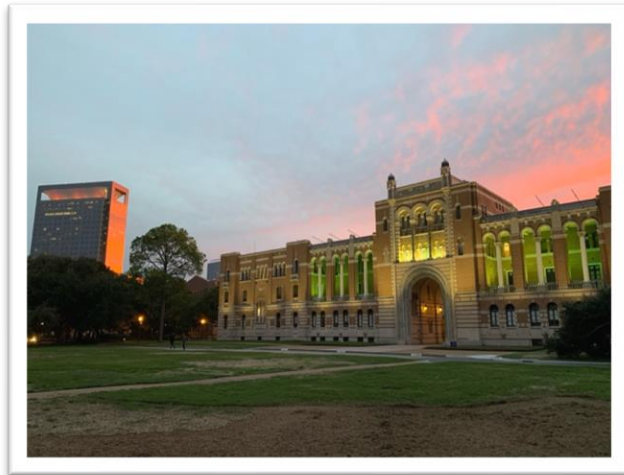


Figure 1: Lovett Hall, which is the front of Rice Univeristy.

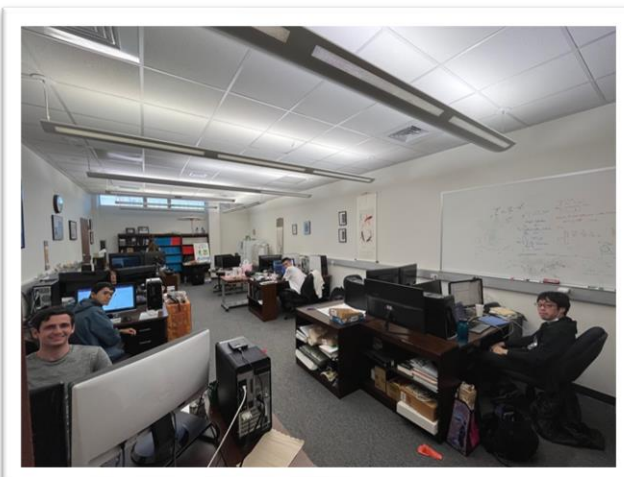


Figure 2: Everyday life in the Lab at Ryon Hall



Figure 3: Our group photo with Professor Tezduyar and Dr. Kuraishi

