

Statement of Purpose

Tombo

My immediate objective in applying to the Aiueo University is to acquire an M.S. degree and then a PhD to better prepare for my career goal to be an acoustic engineer in the aerospace and aeronautic field. At your school I want to augment my knowledge in acoustics and study aerospace engineering to research aeroacoustics, which reduces noises generated by space vehicles or aircrafts. After receiving my degree, I want to get a position in an aerospace and aeronautic industry in the U.S. as an acoustic engineer focused on aircraft structural design.

My interest in aerospace engineering stems from when I watched and was impressed by the first "Space Class" which broadcasted in November 16 in 1992, when I was eleven years old, from the Space Shuttle, "Endeavor". Because the lecturer Mr. Mouri is the first Japanese astronaut of NASA, I got hopes that Japanese are able to join the space project equally to American. Since then my interest in this field had grown rapidly and motivated me to consider studying in aerospace engineering in the university. However, the department of aerospace engineering in University of Tokyo where I am now enrolled was not well developed then and was not suited to my interest in structural design, so that I decided to study the basic fluid dynamics in the department of mechanical engineering to acquire B.Eng. and study aerospace fields in the U.S. as a graduate student.

In the University of Tokyo, I am now attending in Fluid Engineering Laboratory. I chose this laboratory to get many experiment opportunities opposed to other laboratories related only to computational fluid dynamics. In this laboratory, I am studying and writing my bachelor thesis on "the development of noninvasive procedure on tumor with HIFU (High Intensity Focused Ultrasound)", which is the new project in our laboratory. It was great pleasure for me that I could choose this cutting edge project because I could engage in startup a project that many other students would never experience. As startup this project, I ordered the experiment apparatuses, made an experiment aquariums and piezo transducers, had many experiments, and got strong results: for example, I succeeded in taking animation of cautery process on pig liver and can get more high temperature rise when HIFU is illuminated to closed space including some micro bubbles than without them. These showed the capacity of our treatment method for which patent is now pending. Although I had never seen the entity of acoustic power or energy before I enrolled in this under water acoustics project, I was very impressed that kidney stones or anatomies are destroyed only by the acoustic power generated by HIFU, so that the interest in acoustics has rose in my mind as I go forward many experiments.

These aspects are mixed in my mind and I decided to study acoustics, especially in aeroacoustics. In your graduate program, I want to learn the both theoretical and experimental acoustics. Your having acoustics program as a separate department and wide-ranging curriculum in acoustics will suit to my interest very much and best prepare for my future. Furthermore, your holding many faculties and facilities will give me many study and experiment opportunities. These are the reasons that I choose Aiueo University for my first choice. No other institutions but Aiueo University will fit for my background and objective. I am confident that my background will allow me to contribute positively to your program.