I was not aware of the existence of research on haptics before this guest lecture. However, I realized there is a significant amount of potential in developing new technology with health benefits that could improve our society. Furthermore, the guest lecturer mentioned two experiments that align with my research interest and potential career path. I am considering going to Medical School after working for a few years as a Software Engineer and becoming financially stable. My goal is to obtain two degrees: Medical Doctor and Philosophy Doctor. I am interested in working at the intersection of Medicine and Engineering. Thus, this guest lecture directly resonated with my intellectual interests, such as programming, circuits, psychology, and medicine.

The first experiment that caught my attention was the furry animal experiment because it had touch sensors and actuators. Additionally, the researcher looked for change in human behavior and emotions, which is trying to understand the influence of haptics with human interaction. I was aware touching an animal can lead to stress relief, but the guest lecturer mentioned she was looking for how the physical interaction triggered substances in the brain that calm anxiety instead of the emotional animal-human interaction and, as a consequence, the change of the psychological state of the person. Potentially, this type of research can open the doors to creating devices used for patients who need either psychological or psychiatric help to overcome stress and anxiety issues. If the touch and temperature of an artificial fur can recreate the same effect on a human skin and brain as an animal, then those devices can be used in therapy or even during while the patient is sleeping to support more restful sleep. These furry devices will be able to provide an economically viable solution to patients who suffer depression cause by loneliness.

The second experiment I thought it was interesting is where the premature baby’s mother was channeled into the incubator at the hospital to provide a known environment to support the complete development of the baby. This is a fascinating way of taking advantage of our tactile abilities, which is completely overlooked when finding alternative approaches to medical and psychological solutions. If this type of incubator can be used for other problems, such as migraine, headaches, or muscular pain, then it has the potential of becoming a commercial product, which physical therapist can use and, as a result, solve many body pains related to daily stress or injury.

As a future medical student and researcher, I know this research can be taken a step further and not only benefit emotional states of premature babies, but also haptics can be used for quality of life improvement of terminal disease patients. An experiment that I would propose to perform if I worked in a haptics laboratory would be to recreate an adult size bed and make movements with the bed, such as the movements created with the rat robot, and deliver different temperatures to the patient’s body. Simultaneously, I could measure the levels of dopamine created in the subject’s body. Psychological factors should be numbed as much as possible, such as being hungry or creating an emotional distraction (having a television turned on while doing the experiments). Psychological factors need to be taken into account on the experiment because correlation of increase of levels of dopamine from temperature and mechanical experiments do not imply these factors create satisfaction. Finally, this methodology can be used to characterize on patients how to trigger physical satisfaction on patients resulting in a decrease of medicine consumption. As a consequence, the patient’s organism can rest from constant painkillers. If the patient has a disease, such as cancer, it would benefit the patient financially as well because that money could be spent on the other treatments.