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Nanomaterials and nanotechnology is an amazing field of study and the video completely captivated me. It is ironic how vast the field of study in nanotechnology considering the size of nanotechnology. There is some dispute on the definition of nanotechnology but it is most commonly accepted that the size of the material must be smaller than 100 nm. There are 2 types of nanomaterials called natural nanomaterials and man-made nanomaterials. Natural nanomaterials occur naturally in the world while man-made nanomaterials are made by people. Nanomaterials were used in ancient times with the oldest example being dichoric glass which is a glass that uses silver and gold to produce different colors when exposed to different levels of light. The concept of nanotechnology was first proposed by Richard Feynman when he stated his futuristic dream of microscopic machines. 15 years later, Norio Taniguchi was the first to create the ideas made by Feynman and named this creation “nanotechnology”.There are many different fields and applications that nanotechnology can take part in. For example nanotechnology used in daily products allows for the manufacturer to produce a smaller amount of nanotechnology for a cheaper price. When I think about the applications of nanotechnology makes me get really excited for what the future holds for it. In my opinion the greatest value of nanotechnology would be its application on health and the human body. Today’s nanotechnology has greatly improved diagnostics which allows for a quicker and more efficient response to a problem in someone's body, and in the near future researchers are thinking about ways to improve vaccines and deliver medicine to different parts of the body.

The scientist that inspired me was Dr. Richard Ordoñez because his work that he did in nanomaterials and how he figured out the way to solve a problem was really interesting and made me really interested in the topic. His story about the biodegradable transistor was extremely interesting because when nothing was working he thought outside the box and used honey instead of the normal water and sugar. While everyone laughed at him for his ridiculous idea it turned out that it worked and his biodegradable transistor actually became a success. I also really appreciate how he came up with the idea of a biodegradable transistor that would allow for easy disposal instead of the previously used transistors that were hard to throw away. This whole idea and process really inspires me because as you hear him talk about this crazy science stuff and when something was not working he decided to use honey of all things. It is truly amazing to me because I have honey in my house and it is funny how such a complicated issue was solved by something so simple. I also really enjoyed how the navy stepped in to help patent the biodegradable transistor. This story also really inspires me because I also want to invent something that could help change the world for the better. I think that there are many problems with the environment right now and I think that a solution to some of the problems could be in nanotechnology. In the future, I could come up with an invention using nanotechnology that could help the environment.

The future of nanotechnology and nanomaterials is amazing, there are so many applications for nanotechnology that have not even been thought about. From electronics to medicine to warfare, nanotechnology will be a crucial part for all of them. 15 years in the future nanotechnology could be invented that would help clean the environment, for example by interacting with solar panels the nanomaterials could help attract and absorb more light providing more renewable energy. But the thing I am most excited for is nanotechnology’s use in medicine. I have an idea that a nanobot that could be placed inside a patient's bloodstream and it would go and automatically scan for problems and when a problem arises the nanobot could activate and release a medicine that was stored inside it to fix the problem. The nanobot could also be programmed from the outside with a bunch of protocols that would

allow it to kill infected cells and replace it with new ones. Maybe we could figure out a way for the nanobot to cause a bloodclot if the need arises. The possibilities with it are endless and the navy could use nanotechnology to further even more research, help people that have medical needs, and even help create a better planet for the people living on it.