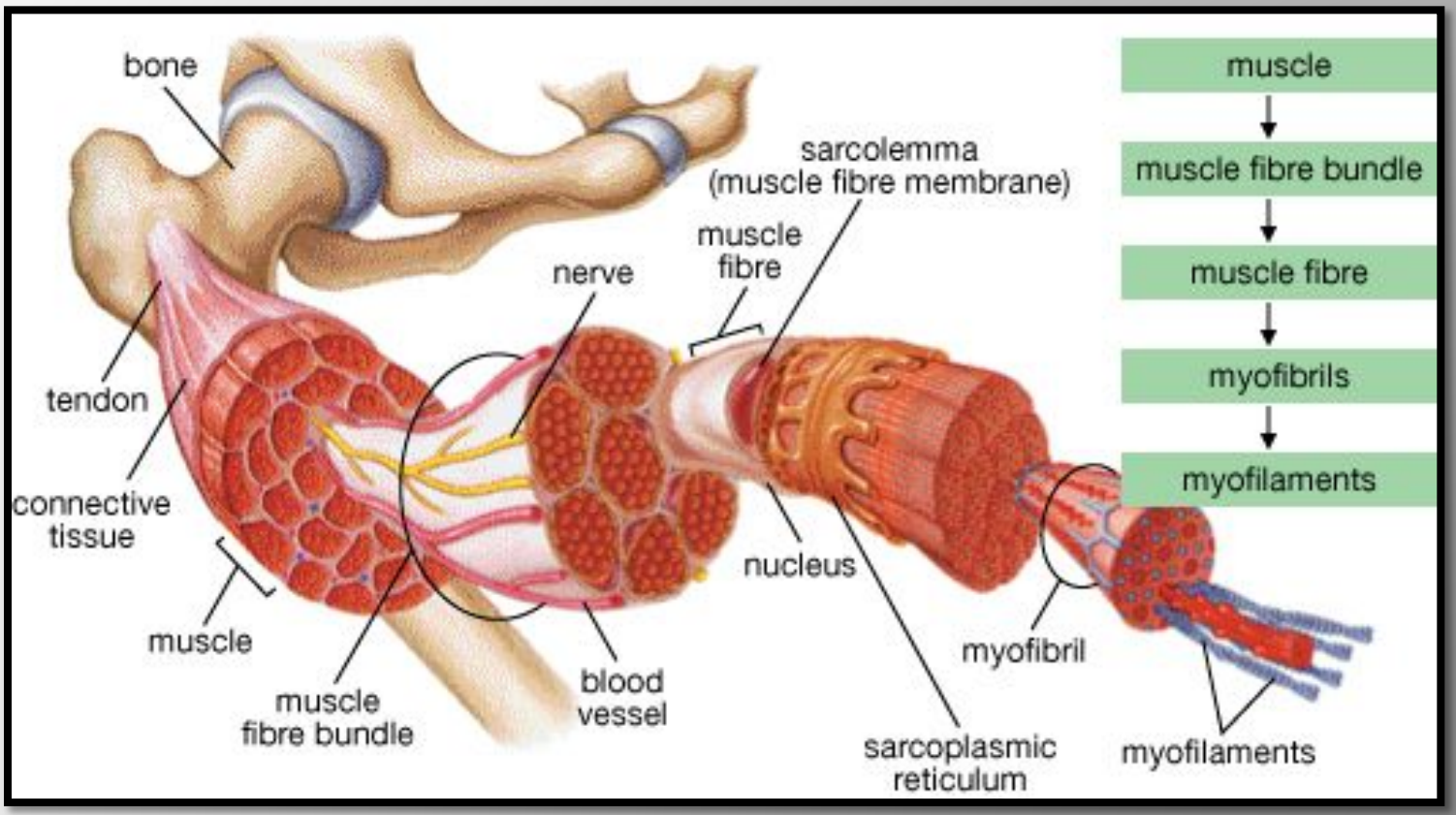
Summer Research at Semmelweis University Medical School

Budapest, Hungary

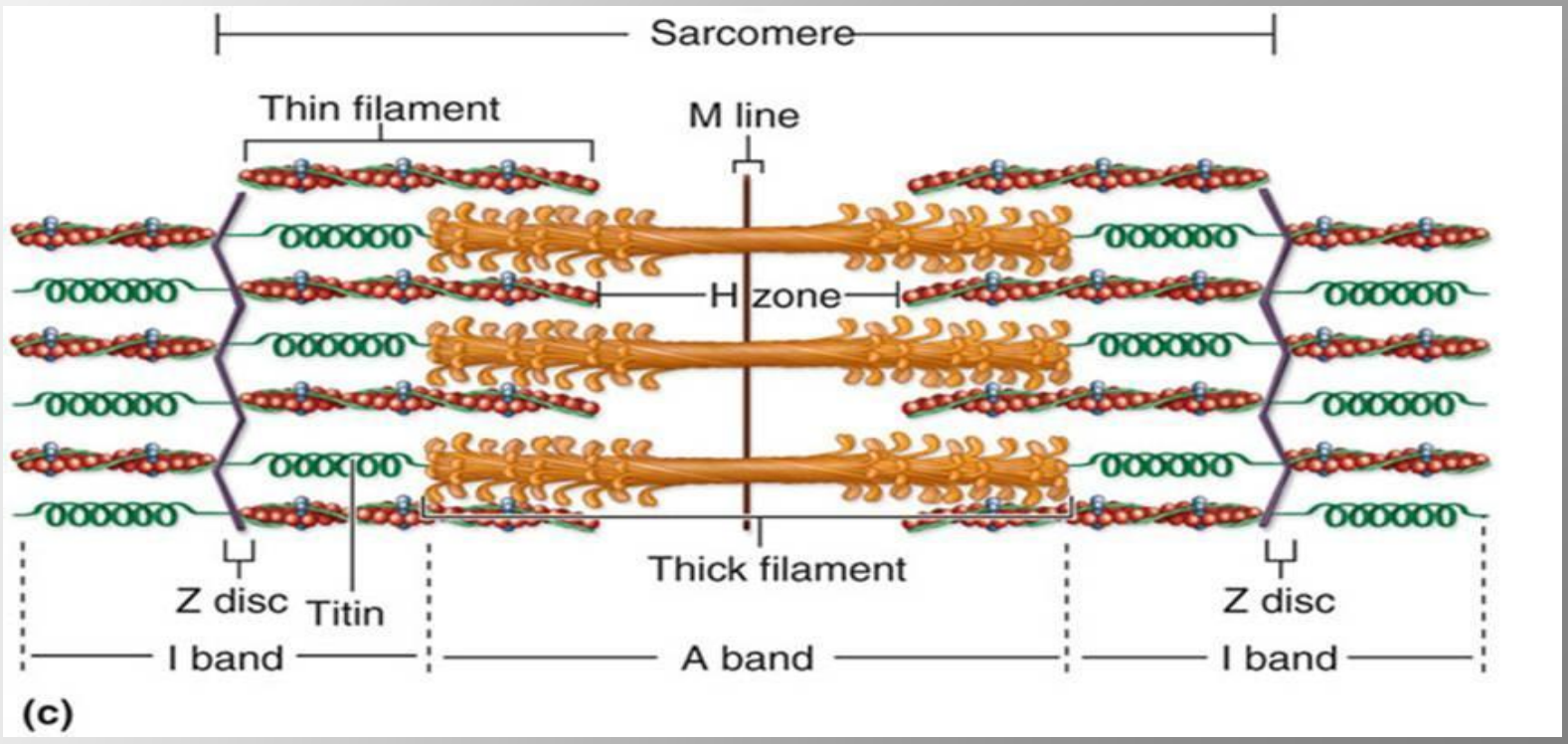
Gianna Geil, class of 2017

The Research Project: Nanomechanics of the Giant Protein Titin

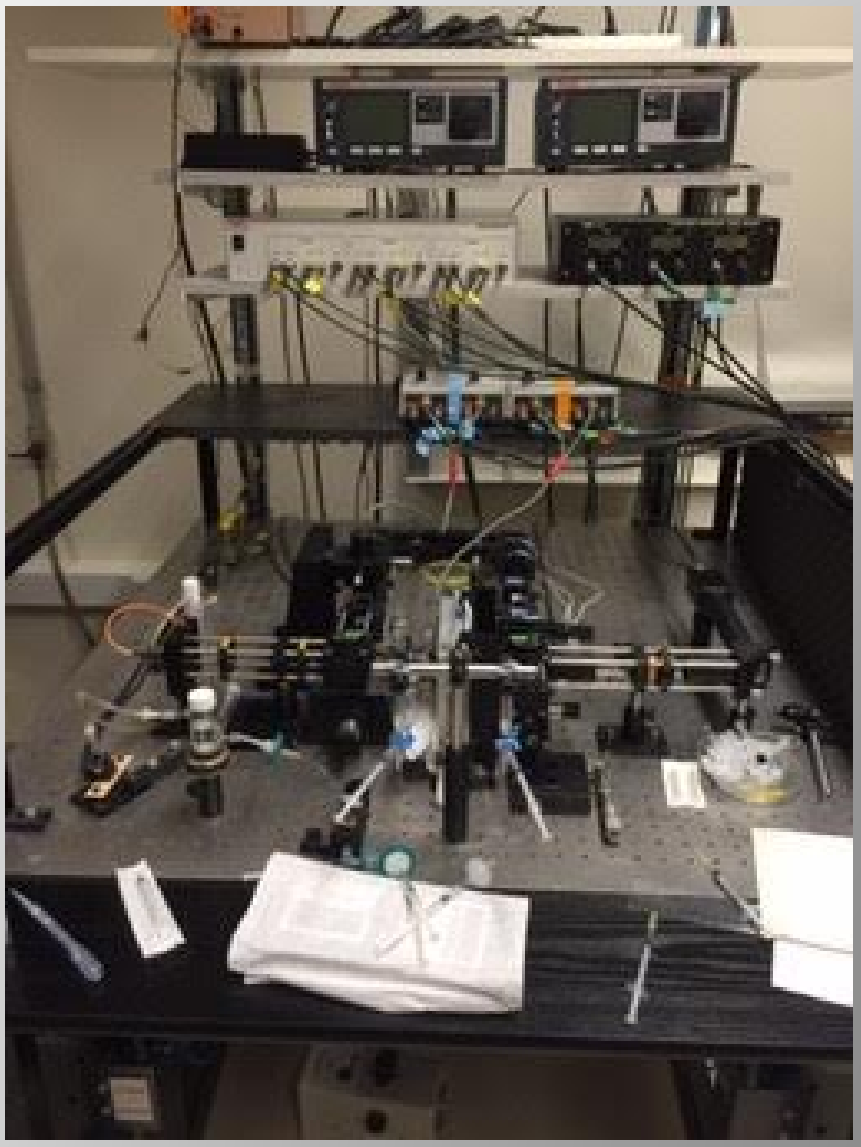


The Research Project

- study the unfolding and re-folding process of the muscle protein titin by stretching with optical tweezers
- Titin is a linear molecule composed of many globular domains and unique sequences
- Titin is responsible for generating passive muscle force

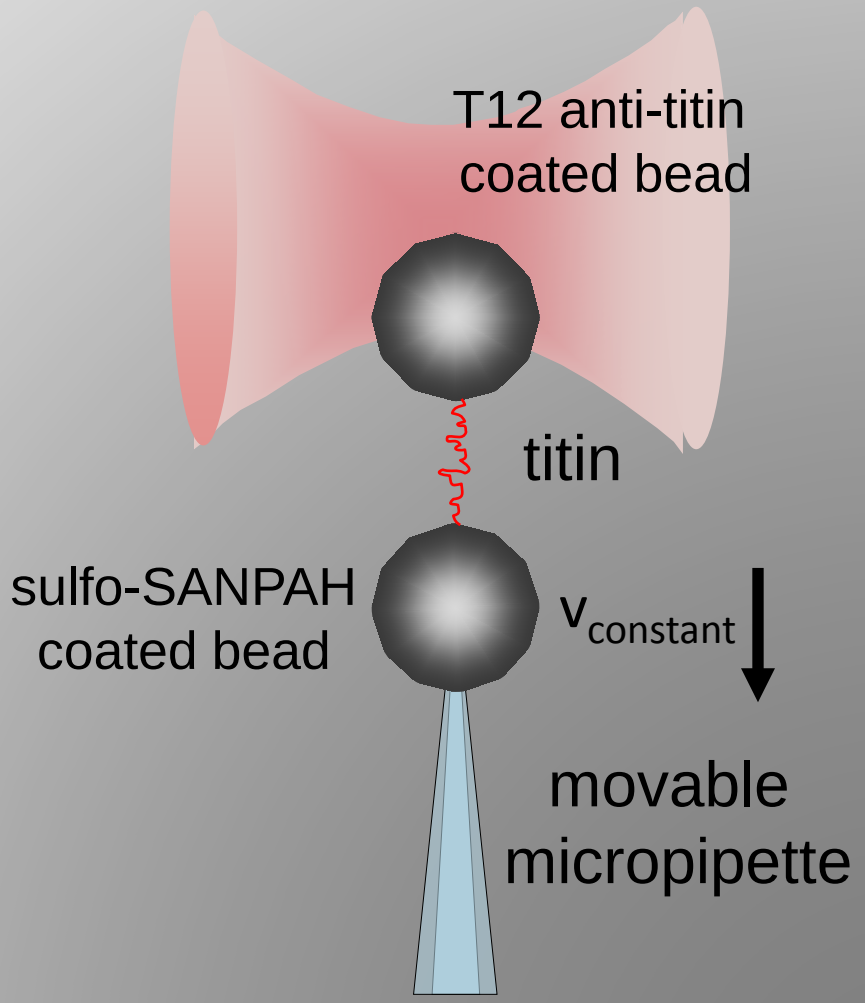


The Optical Tweezers



The Optical Tweezers: How it Works

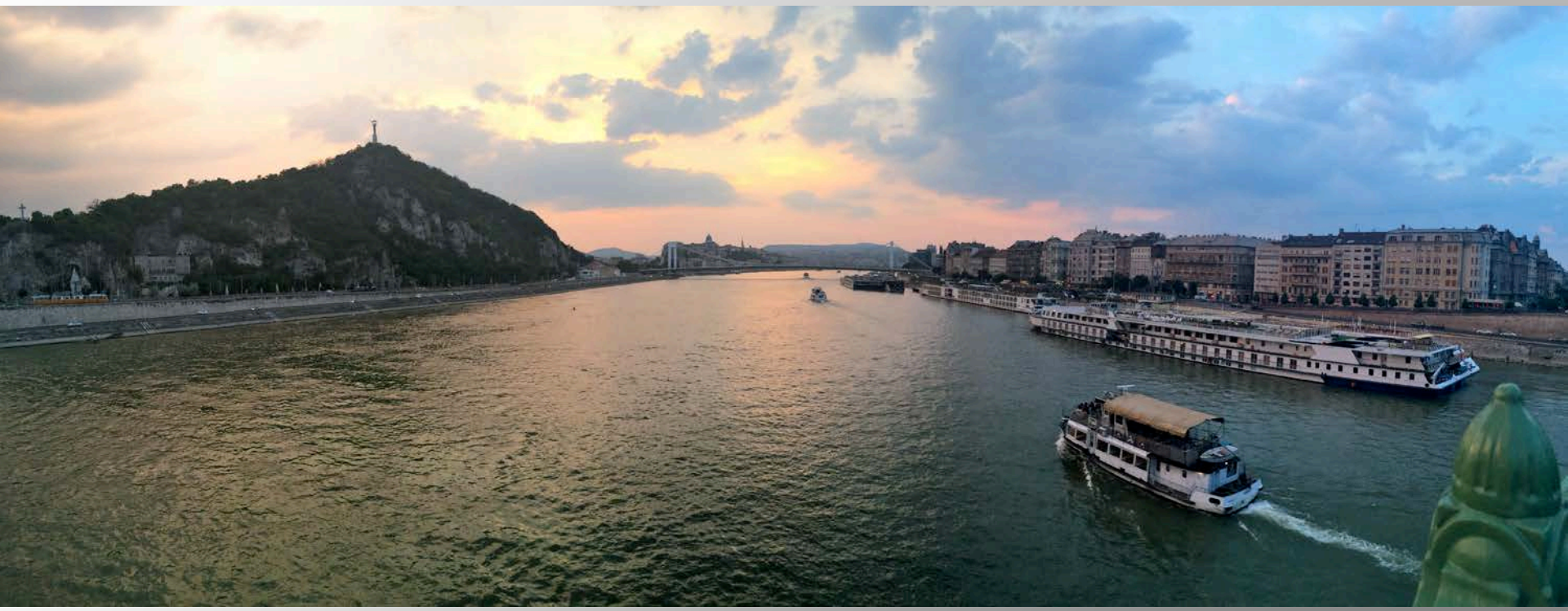
- By catching a single titin molecule between two beads we were able to stretch and release the molecule with nanometer precision
- The molecule will unfold during the stretch phase and re-fold during the release



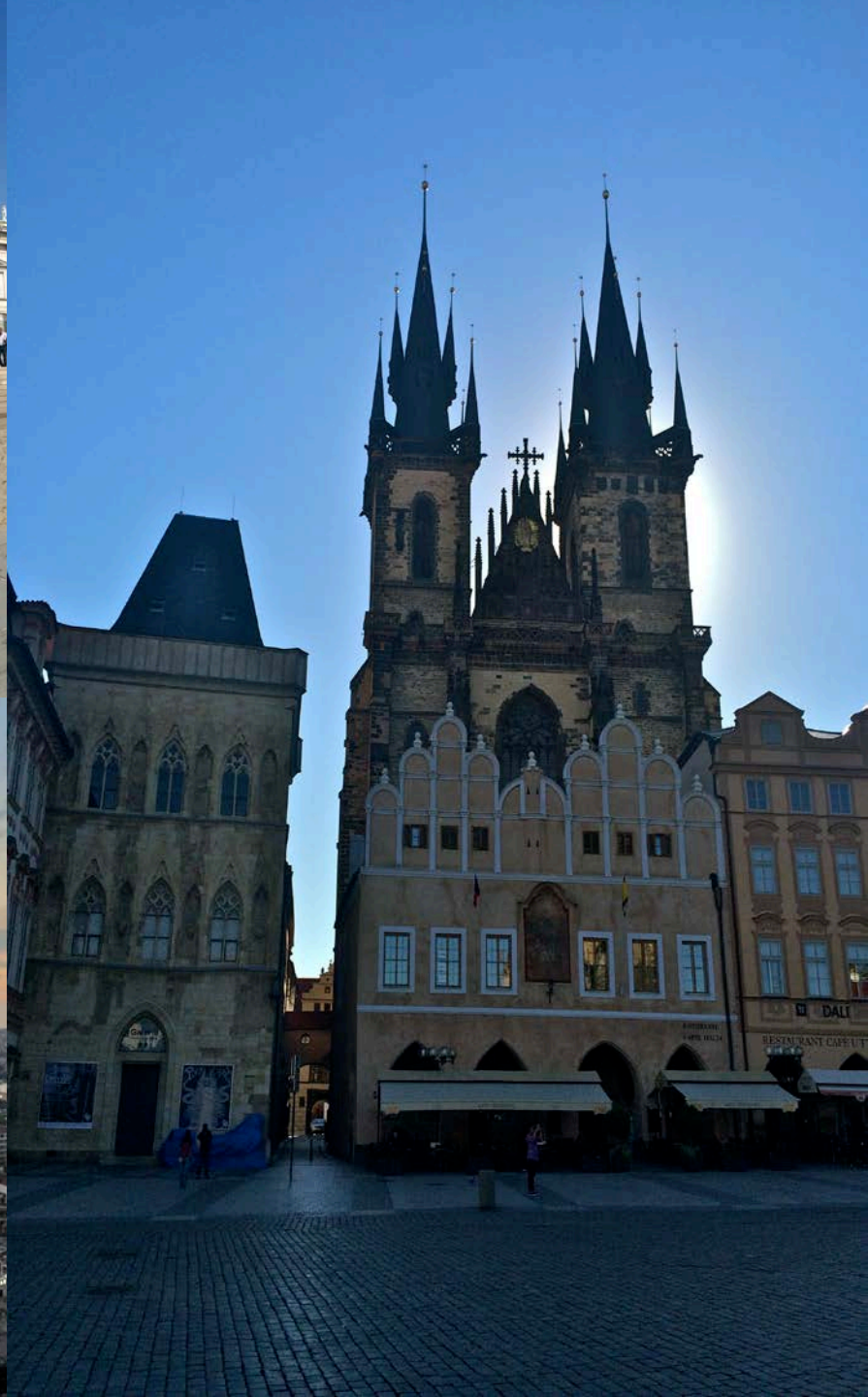
Most Rewarding Aspect

- I was able to experience working in a laboratory environment with top scientists in their field of research
- Had the opportunity to see and use state of the art technology in an interesting project
- Not only was work rewarding but the mentors were welcoming and accepting creating a wonderful environment both in the lab and out of it

Budapest became my home for the summer…



Although I had the many opportunities to travel…



Impact to the University

- The project I was a part of is in its initial stages: I assisted in gathering initial data through active involvement in the project
- The information we accrued during the summer will provide a base for my mentor to build off of as the project continues

My Future Academic Choices

- I had never considered pursuing research after college until I completed this internship. Now that I have experience in a laboratory setting I am considering a research job before attending medical school.

Concluding thoughts

- This was an incredible internship and given the opportunity I would encourage any student to accept this placement
- Travel and/or work abroad are a priceless experience for anyone
- I learned how to live on my own and was immersed in many different cultures throughout the summer