The background of the slide is a photograph of a large body of water, possibly a lake or a wide river, with a forested mountain range in the distance. The water is calm, and the mountains are covered in dense green vegetation. The sky is a pale, hazy blue. The text is overlaid on the upper half of the image.

# Advancement of Chagas Disease Treatment Through the Identification of Potential Natural Product Targets in the *Trypanosoma Cruzi* Proteome

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## Rationale

Chagas disease, (American Trypanosomiasis), is a tropical disease linked to *Trypanosoma cruzi*, a protozoan parasite infection which can be spread via triatomine insects and contact with bodily fluids. Approximately 8-10 million people in Latin American countries have Chagas which is most prevalent in rural areas. Current drugs, Nifurtimox and Benznidazole, are effective treatments for the disease in acute phases, but are limited in the chronic stages and display detrimental side effects. Further research and annotation of the *T. cruzi* proteome is critical in polypharmaceutical advancement or repositioning of existing drugs .

## Proposed Research

- Identification of natural products that might be effective against Chagas through the screening of the natural based drug library against the surface proteins Transialidase and GP63 of the *T. Cruzi* proteome.
- Search for similar binding sites across the *T. Cruzi* proteome and determine if identified natural products display similar affinity

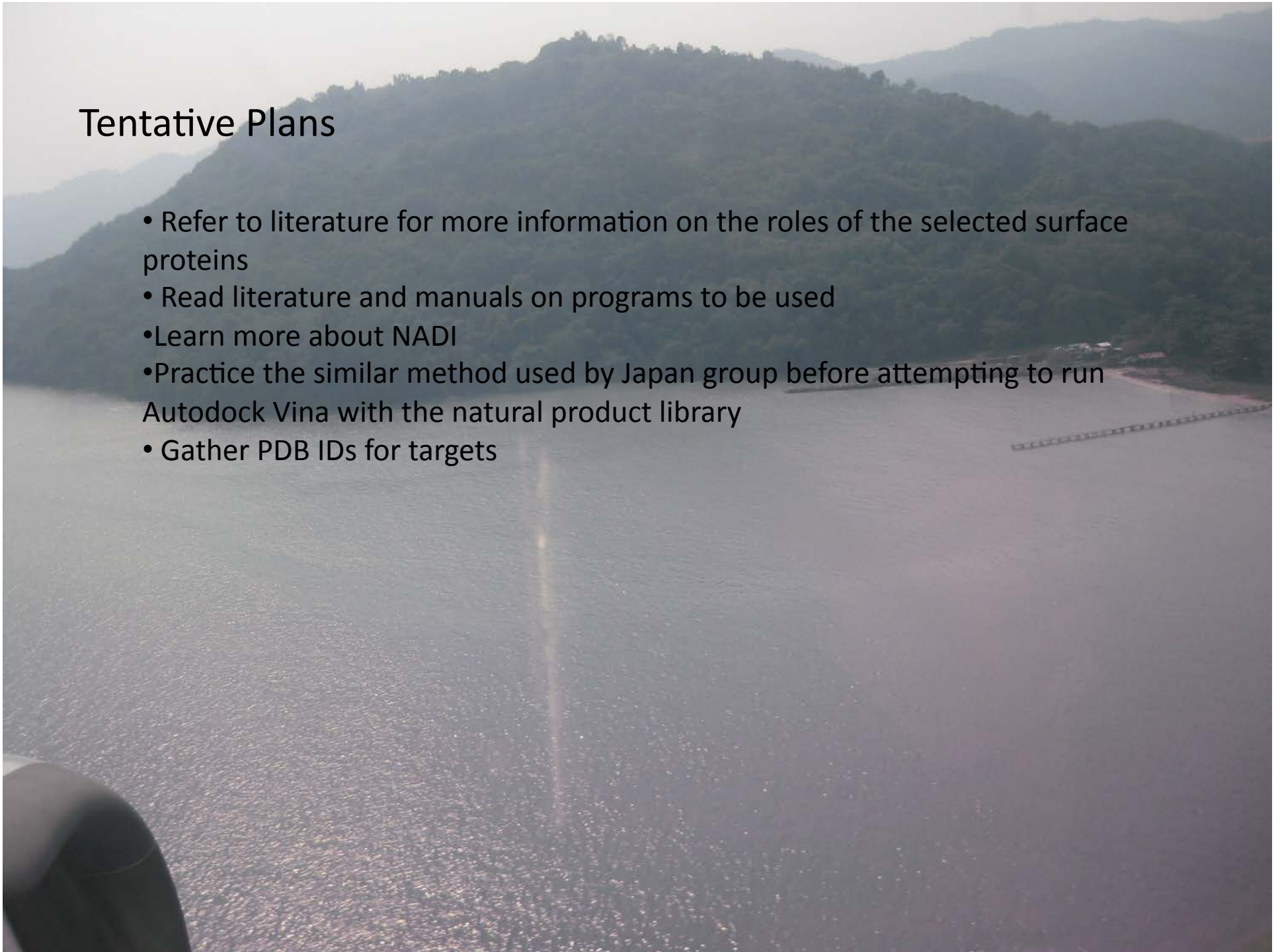


## Progress

- Familiarized with SMAP, Autodock Vina, PuTTY and Linux programs
- Preparation of *T.cruzi* proteome on SMAP through PuTTY
- Learned about Dr. Habibah Wahab's lab methodology and explored wet laboratory preparation of compound extraction from common natural products in Malaysia
- Got a general idea of what lab members are working on and their expertise on computation programs
- Met with Dr. Wahab and discussed possible mentors during her leave
- Reviewed literature

## Tentative Plans

- Refer to literature for more information on the roles of the selected surface proteins
- Read literature and manuals on programs to be used
- Learn more about NADI
- Practice the similar method used by Japan group before attempting to run Autodock Vina with the natural product library
- Gather PDB IDs for targets





## Cultural Aspect





