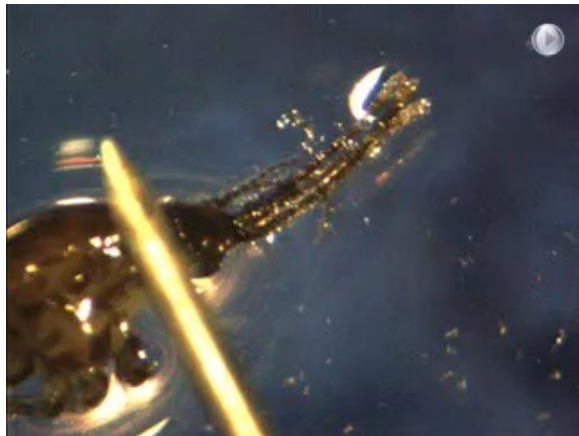
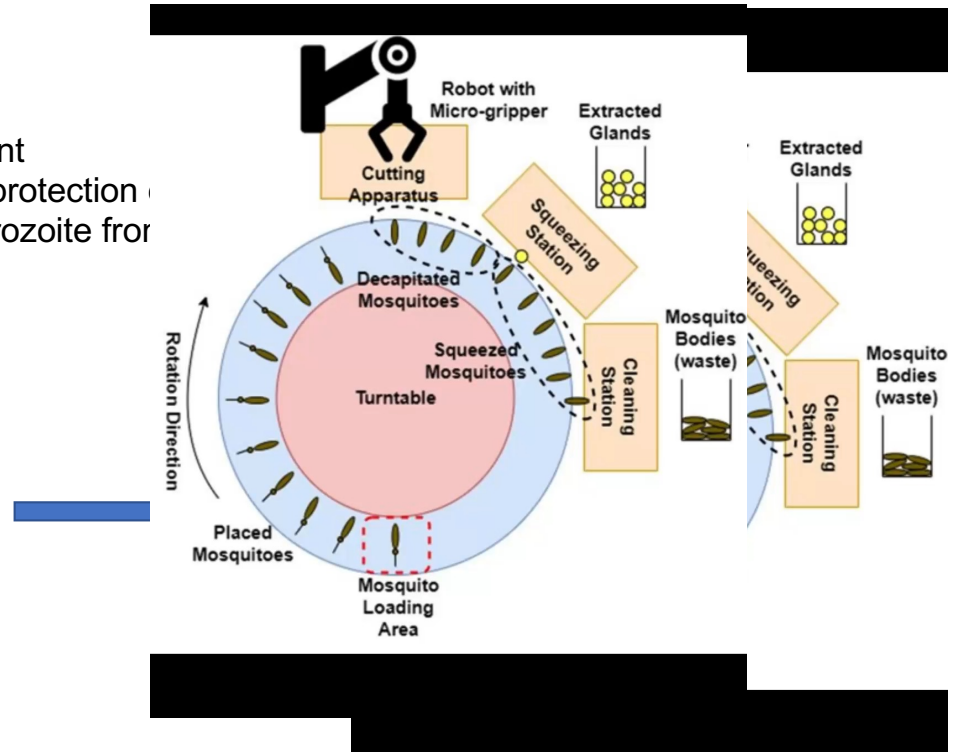


Sanaria Robot Background

- Need for a reliable Malaria vaccine coverage is urgent
- Sanaria Inc.'s malaria vaccine can improve malaria protection
- **Key step in vaccine production:** extraction of Sporozoite from salivary glands



Current Manual Dissection Process



Under development: Automated Dissection Process

Project Goal: Develop an autonomous mosquito microdissection system to automate process

- Minimal operator intervention
- High accuracy
- High throughput

Sanaria Robot Call For Students

Upcoming Hardware Tasks

- Design and manufacture gland collection system
- Redesign and manufacture mosquito squeezing station
- Design for new actuation in subsystems

Needed 1-2 students with mechanical engineering background

- Skills: CAD, additive and subtractive manufacturing processes, mechatronics

Upcoming Software Tasks

- ROS integration of computer vision (CV) tasks
 - Integrate already implemented classical image processing (IP) and deep learning-based CV methods into dissection workflow
 - Review and improve already implemented CV methods in terms of efficacy and speed
 - Develop system to regularly evaluate CV methods based on existing image database
 - Maintain software and architecture documentation
 - Required: C++, Python, ROS, Git, knowledge of IP/CV concepts
 - Good to have: IP and DL-based CV coding experience, SQL