Proposed Research

• Super-resolution fluorescent imaging of ryanodine receptors (RyR) and microtubule structures in mouse cardiac myocytes with altered expression of protein junctophilin-II

• Compare relative positions of labeled structures to wild type samples
Progress This Week

- Labeling and imaging of mouse cells for t-tubules and junctophilin
  - t-tubules labeled with antibody cocktail composed of Na/Ca exchange and Caveolin 3
  - Compared cells labeled with the antibody cocktail to cells labeled with only N/C ex or Cav 3
  - Results seem to indicate better labeling of the t system when both antibodies are used
N/C ex and Cav 3 (green) JPH (red)

Cav 3 only (green) JPH (red)
Image stack through a cell showing t-tubules labelled by antibody cocktail
Comparison of TAC sham 2 and TAC 11 mouse cells

A, B TAC shams
C, D TAC 11

t-tubule cocktail: green
JPH: red
Future Plans

- Further high resolution imaging of mouse cardiomyocytes to visualize internal structures
Cultural Aspect

Kite day (Manu Aute) during the celebration of Matariki (Maori New Year)
Hāngi, food prepared using heated rocks in a traditional pit oven
Acknowledgments

Many thanks to:

• Gabriele Wienhausen, Teri Simas, Peter Arzberger – UCSD PRIME
• Masahiko Hoshijima – UCSD Mentor
• Christian Soeller – Host Mentor
• The University of Auckland School of Medical Sciences
• The National Science Foundation