


# Immunostaining and Super-Resolution Imaging of Structures In Cardiac Myocytes

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# 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
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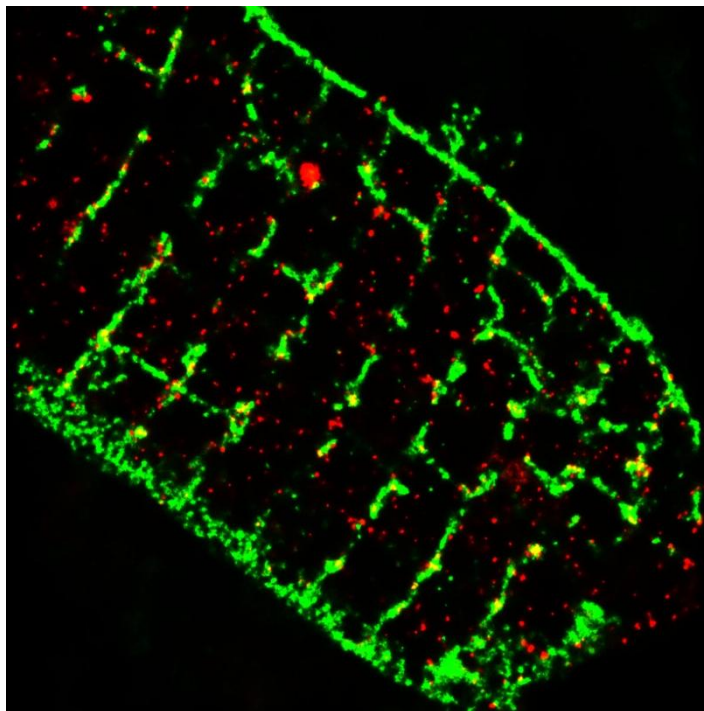
# Progress This Week



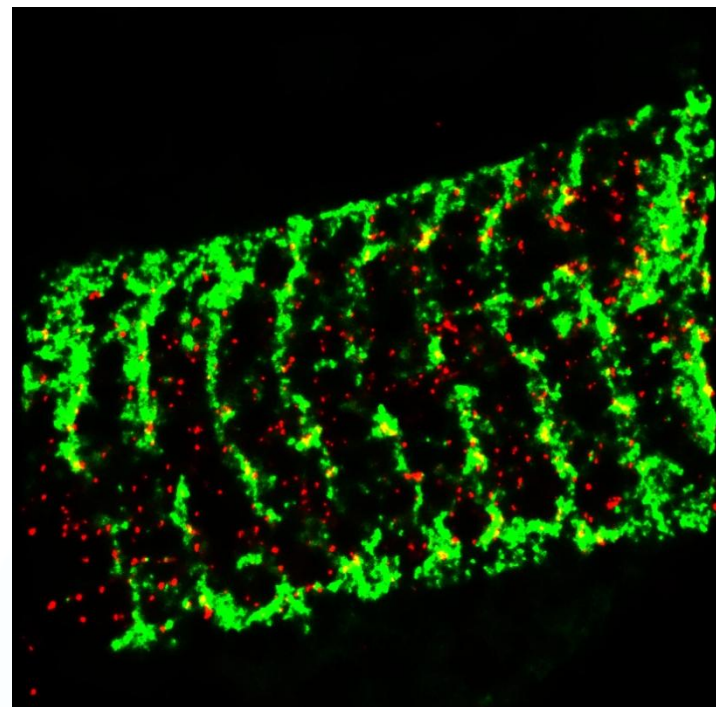
- Labeling and imaging of mouse cells for t-tubules and junctophilin
  - t-tubules labeled with antibody cocktail composed of Na/Ca exchange and Caveolin 3
  - Compared cells labeled with the antibody cocktail to cells labeled with only N/C ex or Cav 3
  - Results seem to indicate better labeling of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



N/C ex and Cav 3 (green)  
JPH (red)



Cav 3 only (green)  
JPH (red)



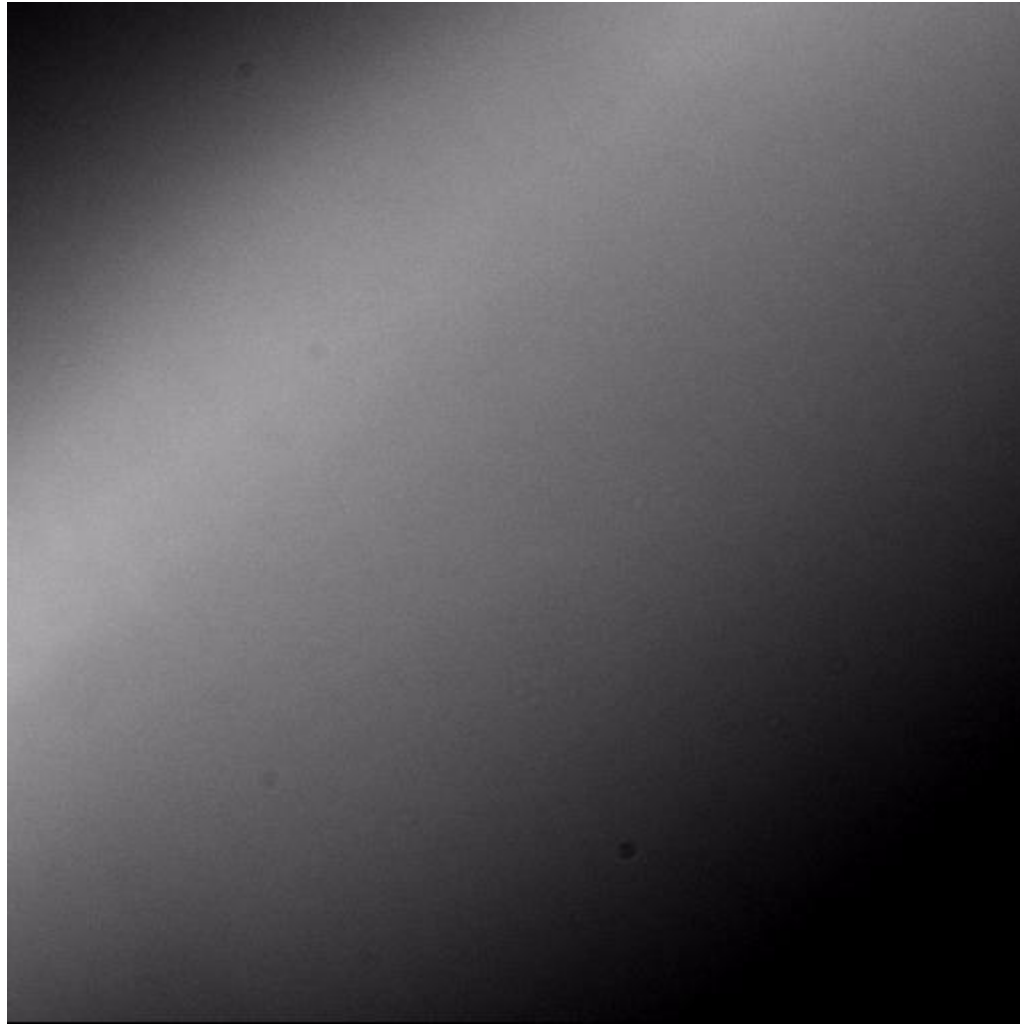
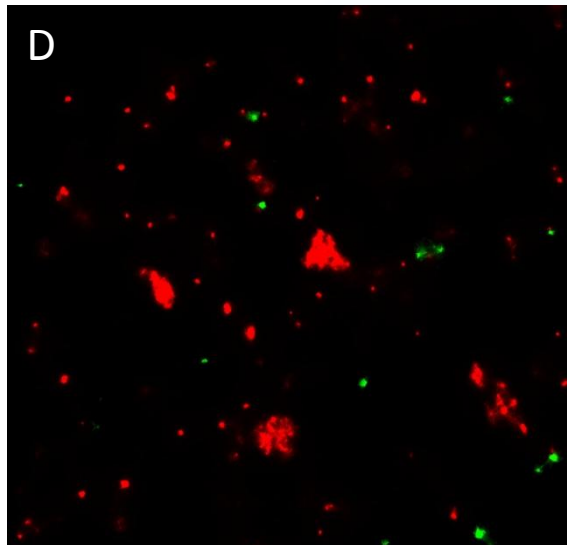
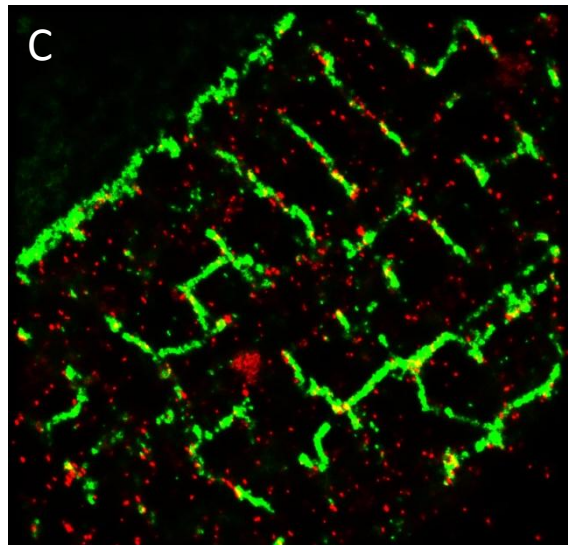
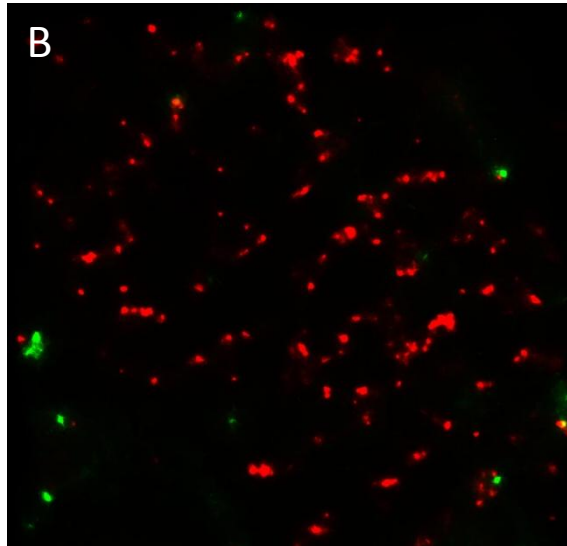
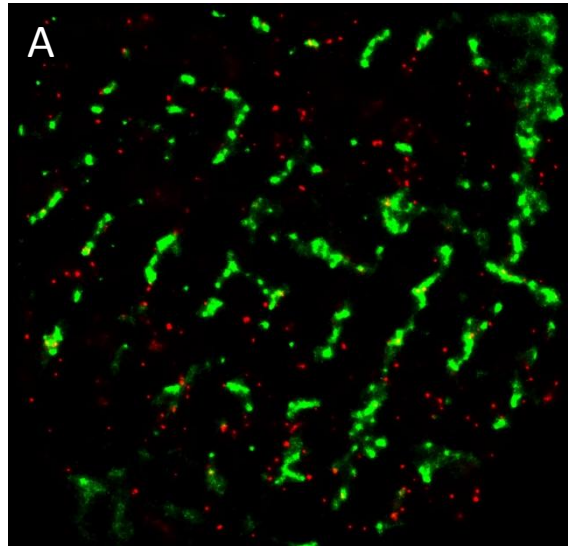


Image stack through a cell showing t-tubules labelled by antibody cocktail



- 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

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