

# THE EFFECTS OF INCREASED TEMPERATURE AND DECREASED PH ON GIANT CLAM SHELL MINERALOGY

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**MARINE  
BIOLOGY  
WITH  
PLYMOUTH  
UNIVERSITY**



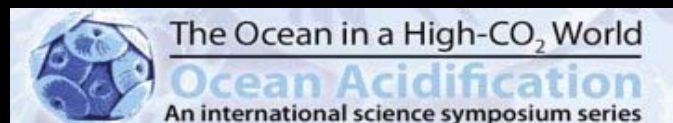


# Long-Term, Multistressor Experiment

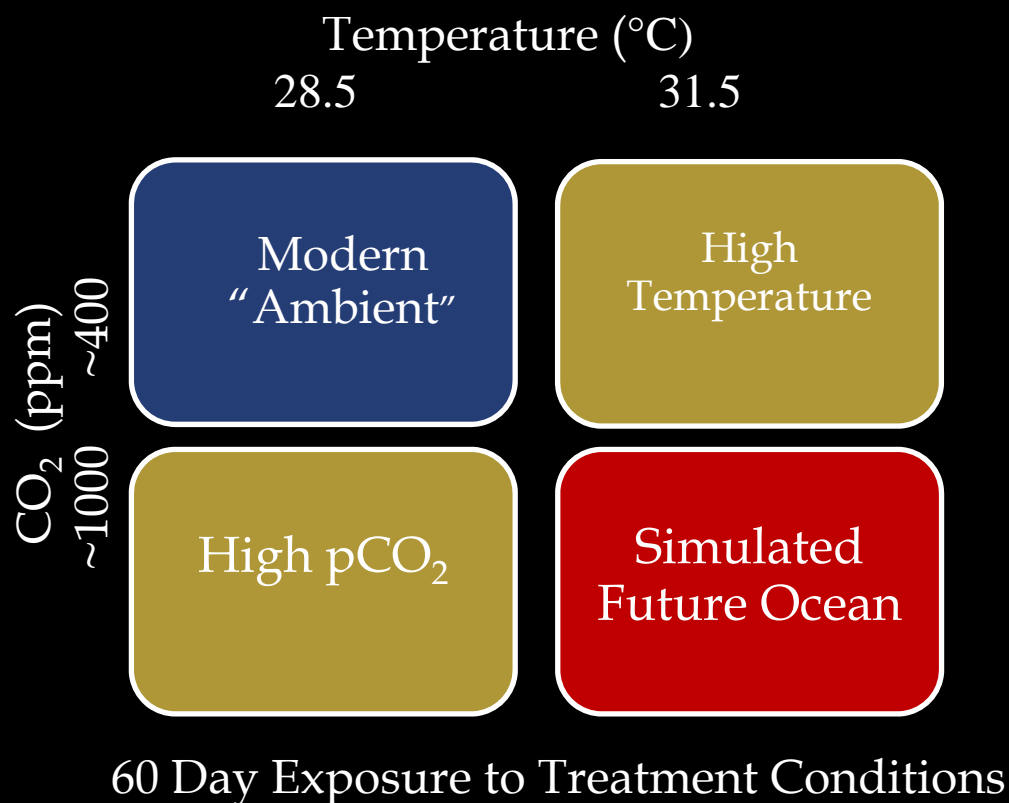
Dr. Sue-Ann Watson  
James Cook University

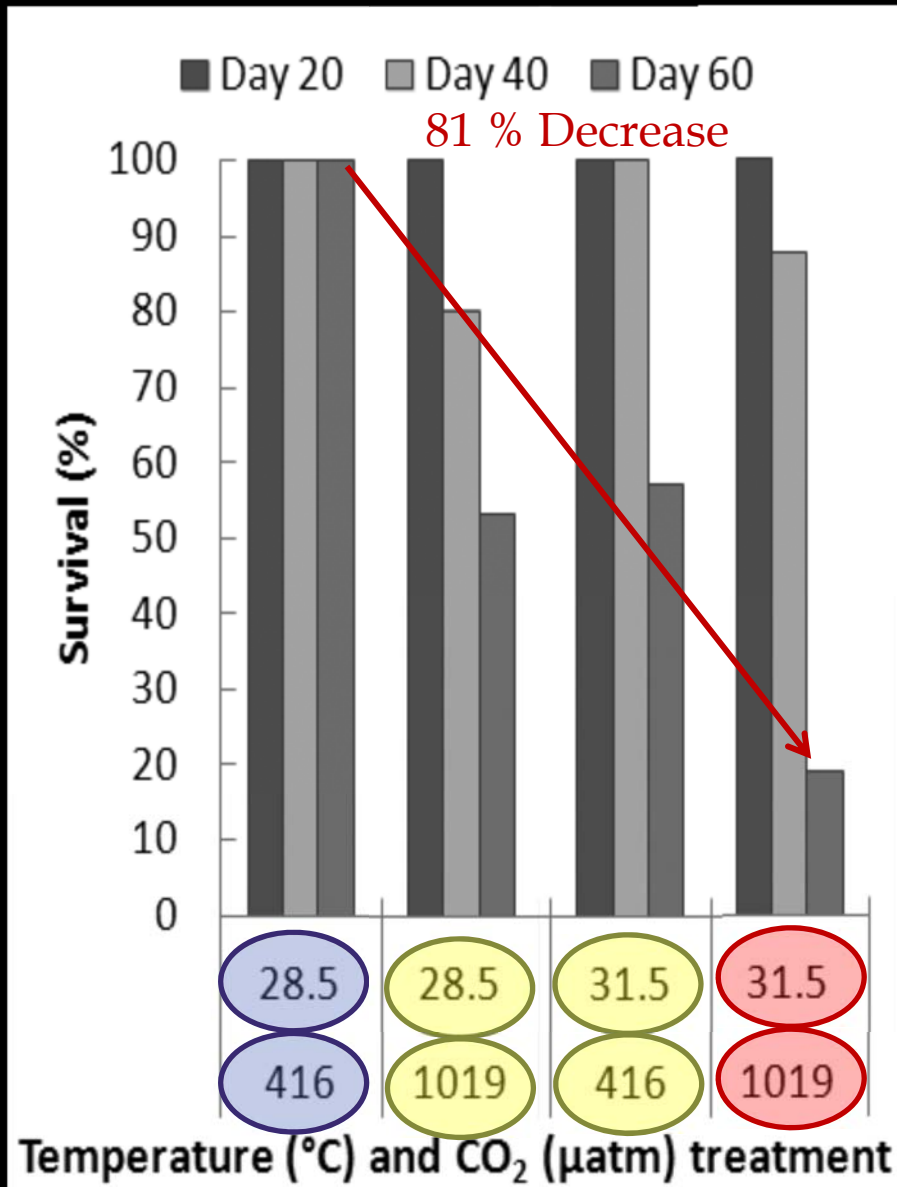


ARC Centre of Excellence  
Coral Reef Studies



*Tridacna squamosa*  
Scaled Giant Clam





- Growth  
(Linear Shell Extension and Wet Mass)
- Behavior  
(Time Spent Open/Closed)
- R and O<sub>2</sub> Production
- PS Efficiency ( $F_v/F_m$ )

Watson, S.-A., Southgate, P.C., Miller, G.M., Moorhead, J.A., and J. Knauer. (2012)  
*Molluscan Research* 32(3): 177-180.

# Analysis of Shell Mineralogy

Dr. Piero Calosi  
Plymouth University

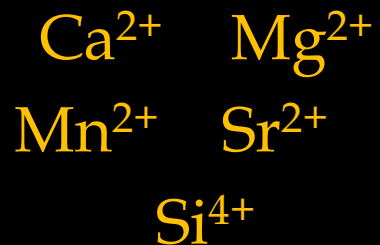
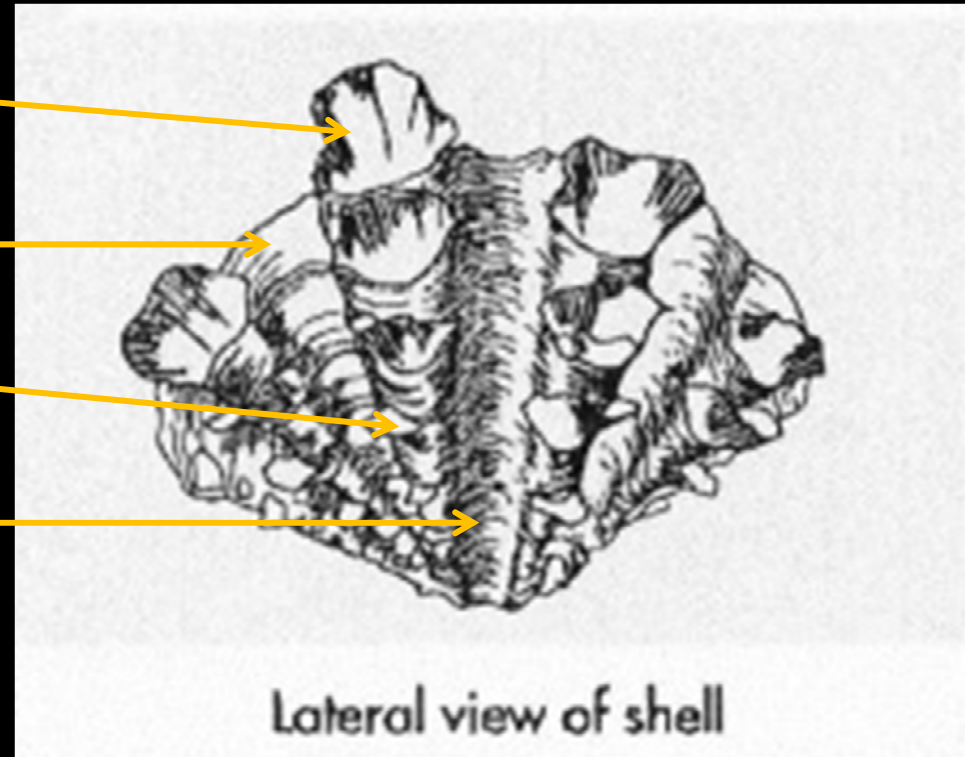


Newly Formed Scute (SCN)

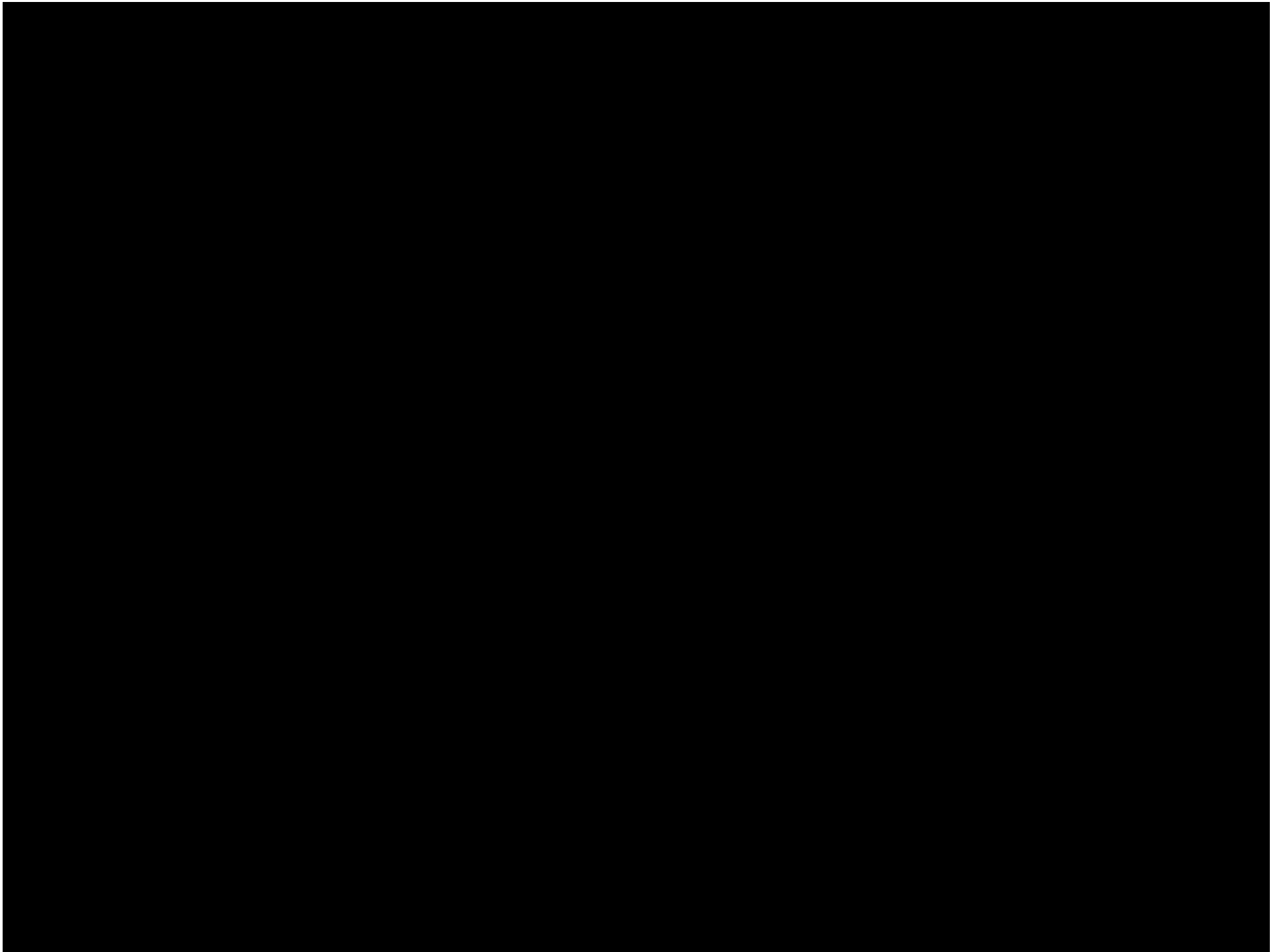
Newly Formed Shell (SHN)

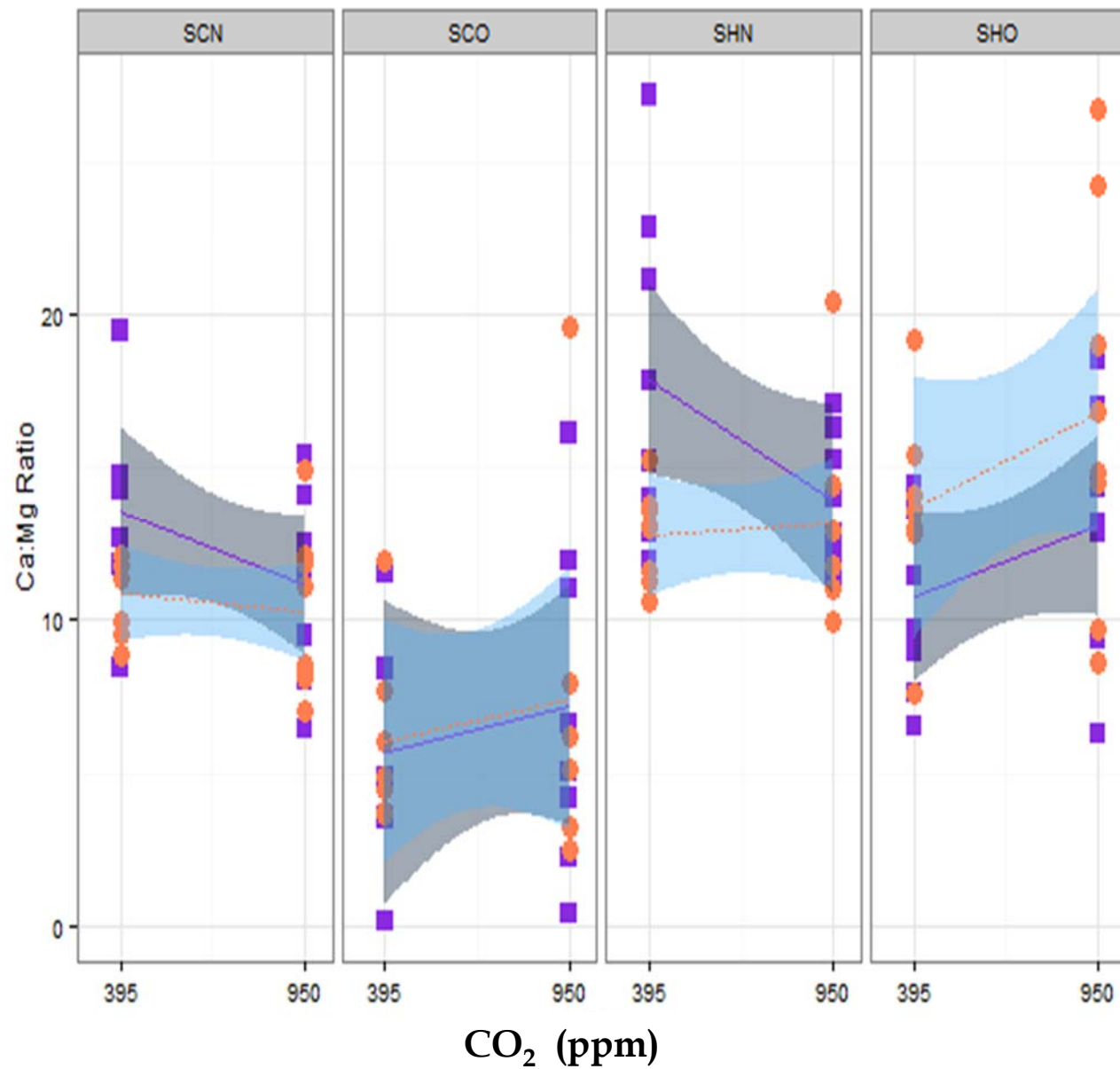
Old Growth Shell (SHO)

Old Growth Scute (SCO)



Organic Content Analysis  
C:H:N Ratios





■ 28.5°C  
● 31.5°C

### Future Work

- Transcriptomic Analysis (RNA-seq)
- Energetic Analysis (Enzyme Assays)