Psychology Honours: Research Thesis Assessment Report

Student name:	Angus Leung
Project Title:	Integrated Information Φ in Flies Is Reduced Under Anaesthesia
Comments: This section is provided to the student. Use additional page if required.	

	Please note the weighting of marks for each section

1. Abstract	**5%**

Well structured abstract.
Uses "channel" without definition.
Doesn't describe what timescales are considered (and uses phrase "larger timescales")
Doesn't summarize results quantitatively (what is "moderately correlated"?)

2. Literature Review and Statement of Hypotheses	30%

Excellent writing and clear coverage and explanation of relevant concepts. This is particularly impressive given the difficulty of the content described.

Avoid phrase "gives uncertainty to".
Not enough background to motivate hypothesis that "MIP unidirectional cuts from the centre of the brain to the periphery would be more likely during anaesthesia than cuts from the periphery to the centre".
Could better motivate other hypothesis, e.g., that "Φ* and Φ would be positively correlated" (have such studies been done?)

3. Method: Research Approach and Study Design	10%

Discretizing on median ensures ~equal number of 0s and 1s. Does this bias the phi estimation (i.e., is phi sensitive to the relative 0s and 1s)? What does other work do? Justify assuming a fully connected network for MIP. What does other work do? No labels on Fig. 4B (define TPM, EMD). No explanation of EMD – what it does/why. The student clearly has thorough general understanding of what is being done, but could be better presented Psych audience.

4. Results	15%
Psych audience needs terms like heteroscedasticity explained. Could do a better job of contextualizing results in terms of what they mean for the aims/hypotheses. Can't expect the audience to appreciate this from just presenting results without any guidance. Bonferroni correction should be introduced/explained in methods.	
5. Discussion and Conclusion	**20%**
Nice to say that it's the first to compute latest phi on a biological system – but better to also preview/emphasize what the results mean, tell us about consciousness, etc. Overall very well written, discussed, with clear logical structure of arguments and well reasoned interpretations.	
6. Critical Thinking/Synthesis	**10%**
Very impressive at honours level for a very difficult topic.	
7. Referencing	**5%**
DOIs are inconsistently formatted	
8. Presentation and Organisation	**5%**
Explanatory figures helped a lot.	4.5
9. Other Comments	**0%**
Total numerical mark	**/100**

FOR INFORMATION : Indicative scores for Monash grades

H1 80+	H2A 70-79	H2B 60-69	H3 50-59	Fail <49

Name of examiner: Ben Fulcher

Signature: | Date:22-10-2017

Submit examiners reports to kelly.atkins@monash.edu by November 6th, 2017