

# Opportunities and challenges of eFourier analysis applications

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Working with

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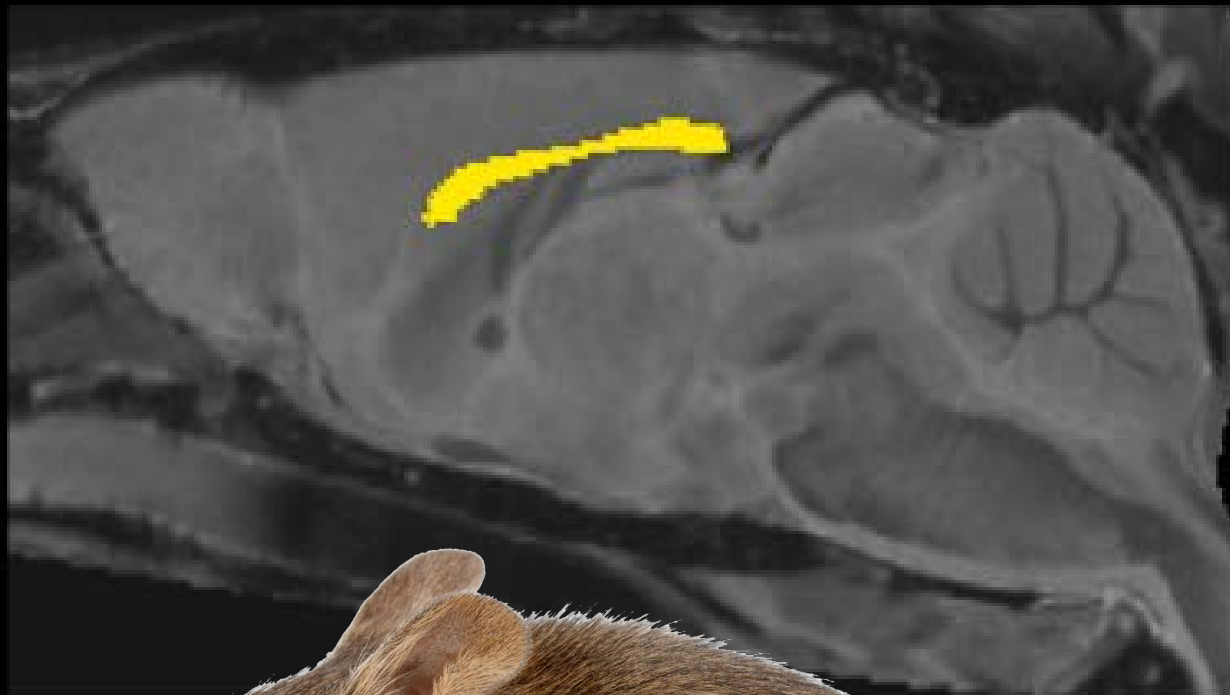
Centre for Research on Ageing, Health and Wellbeing, Research School of Population Health

ALSO

J. Scott Keogh, Emma Sherratt

Research School of Biology

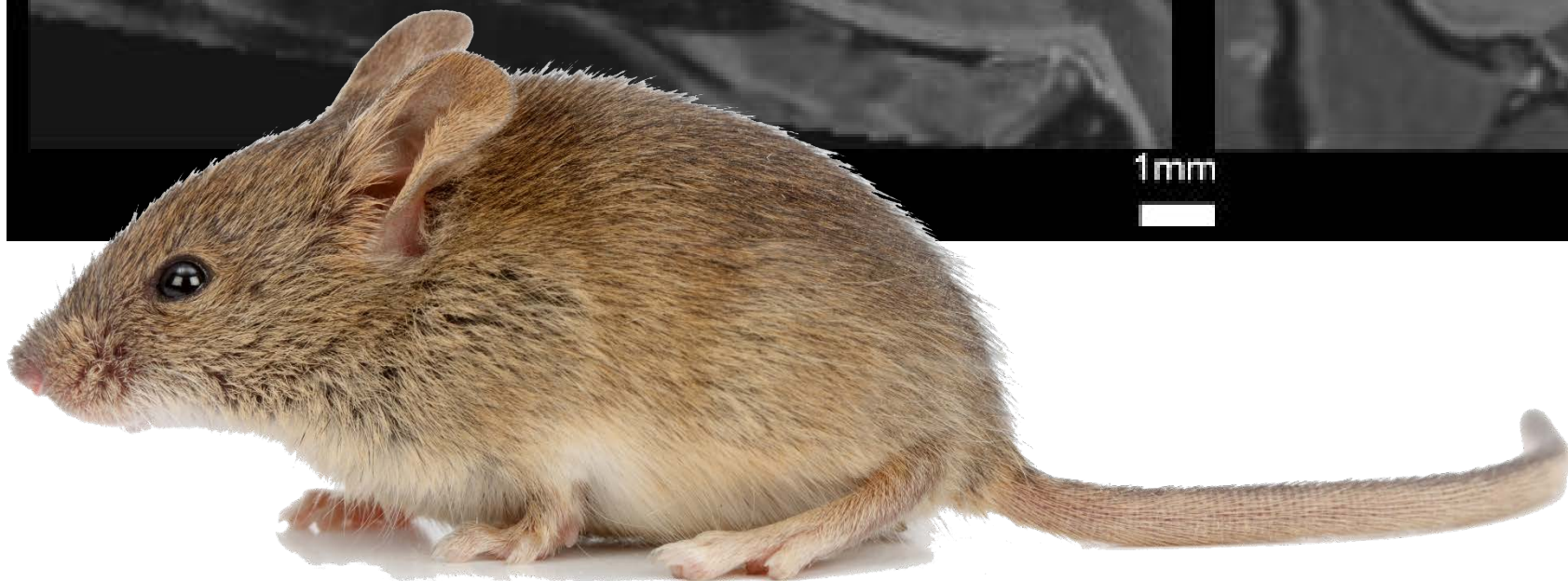
Parasagittal, nose to left

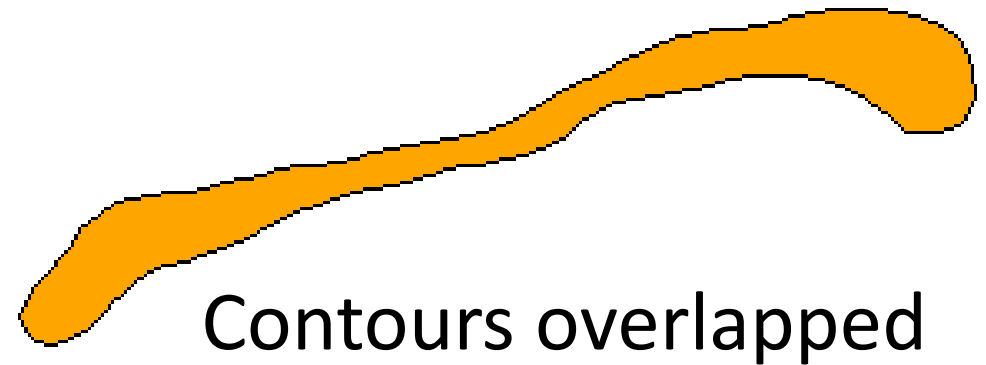
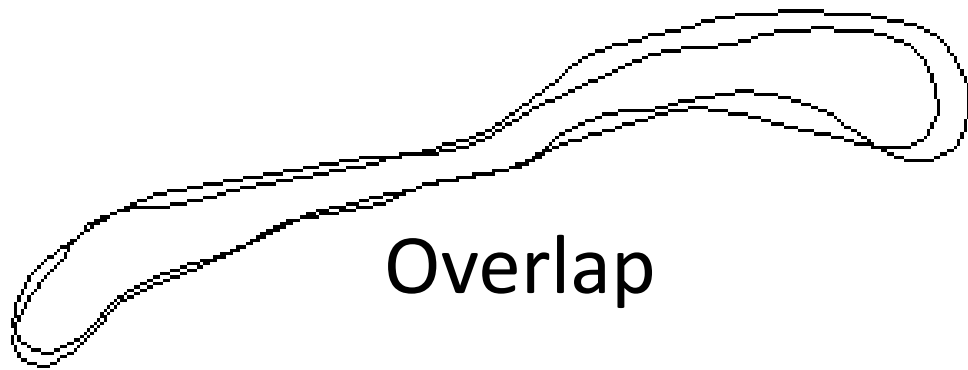
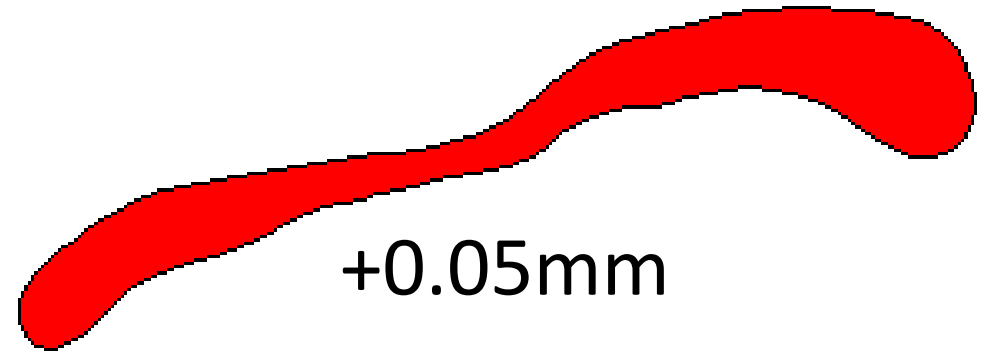
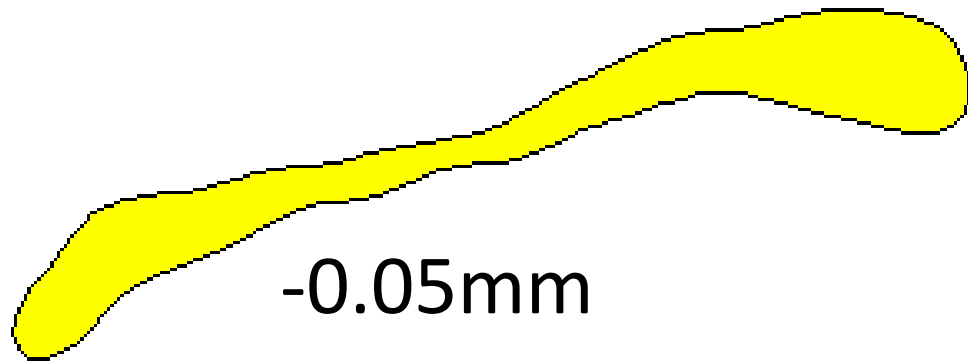


Coronal, center of brain

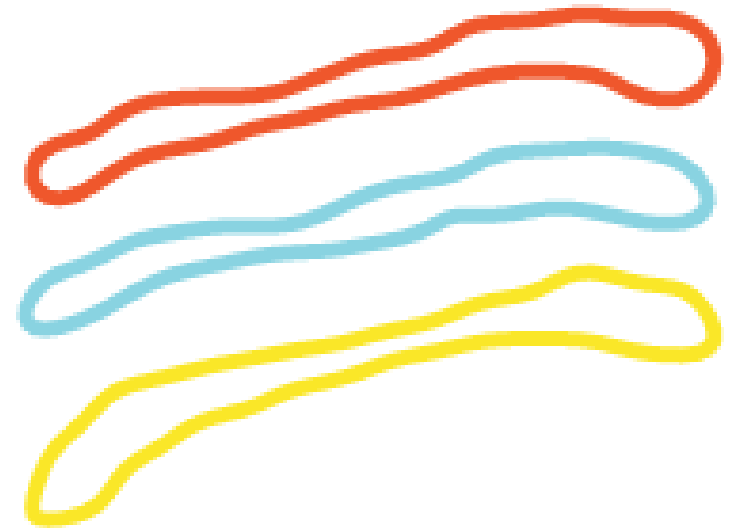
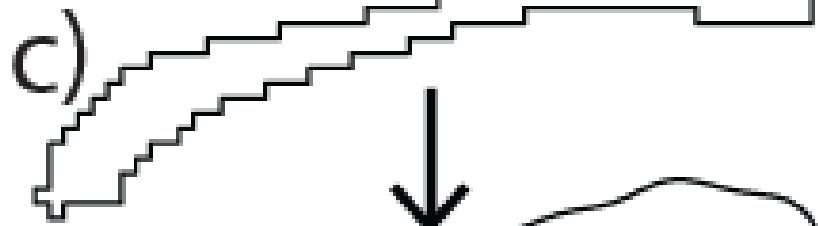
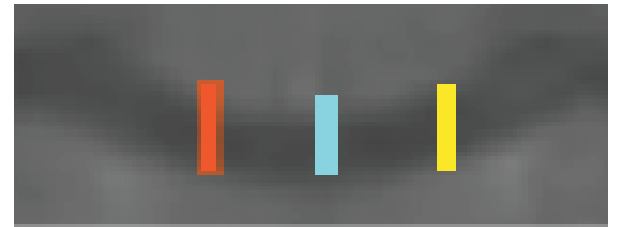
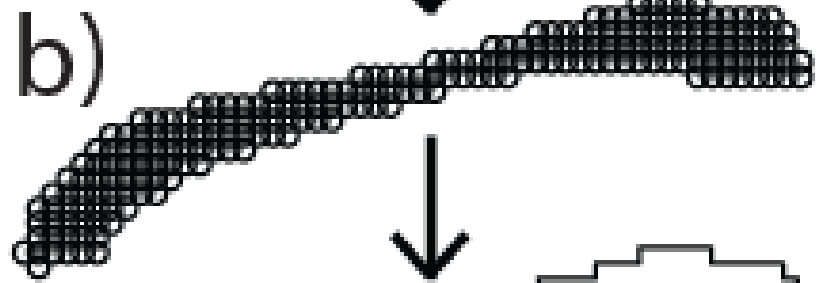
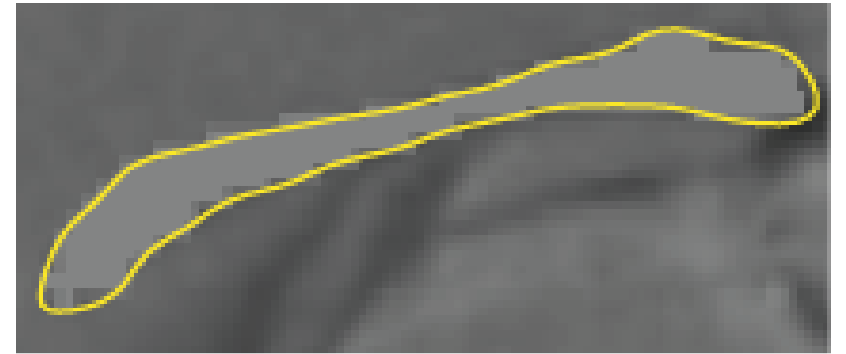
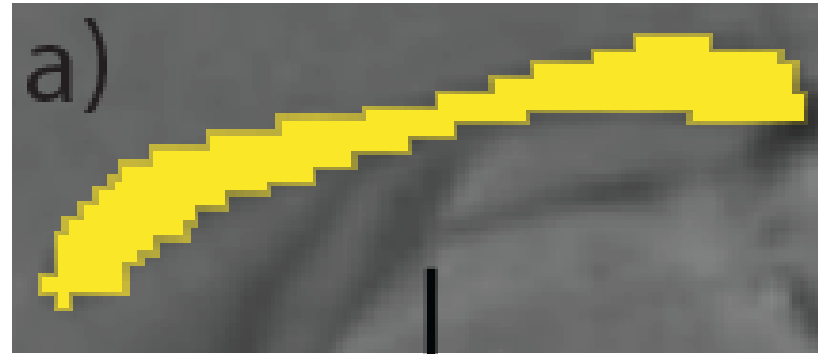
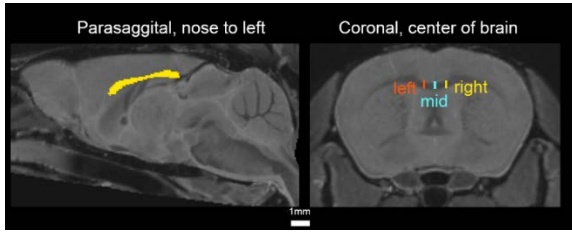


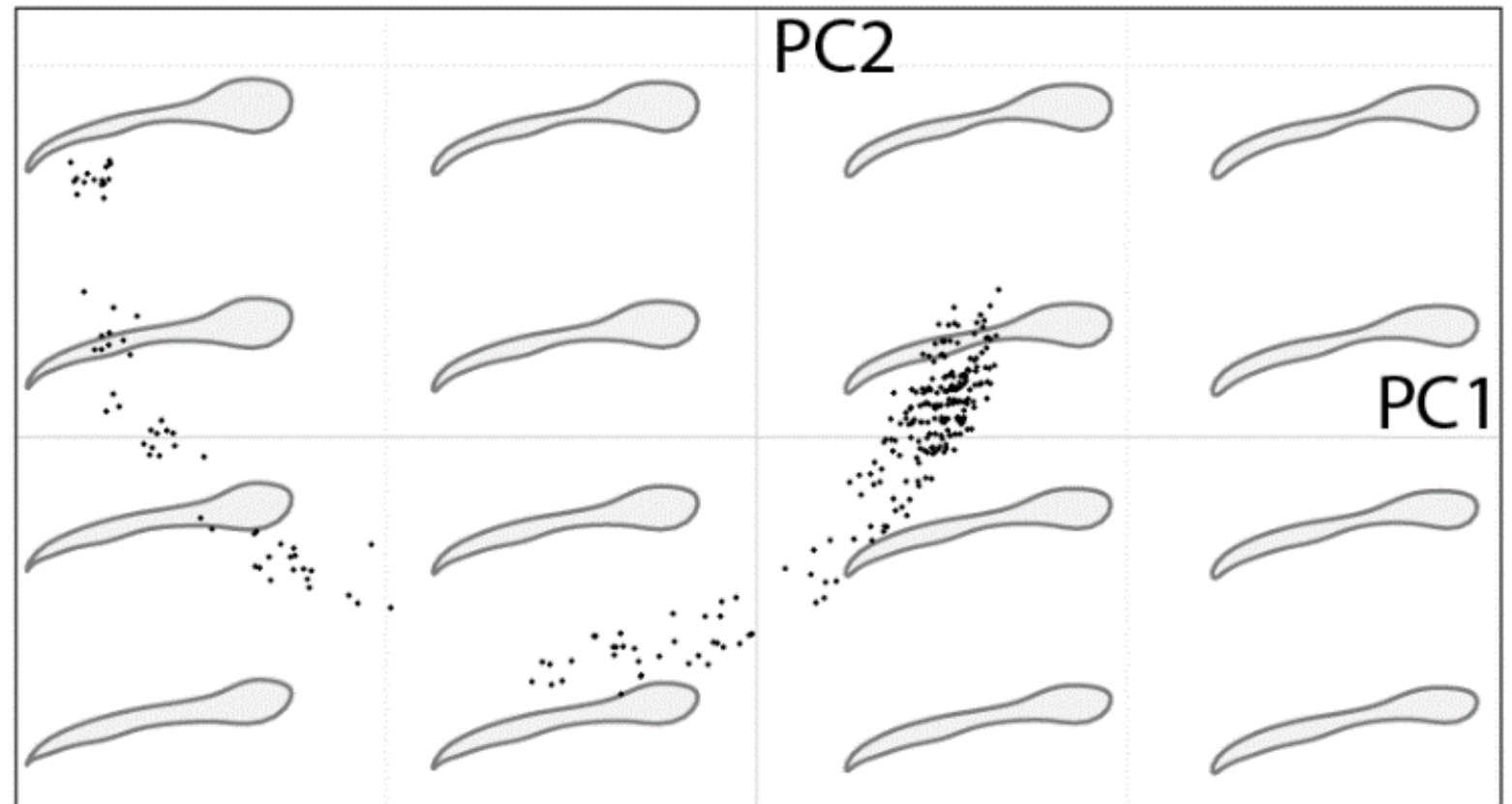
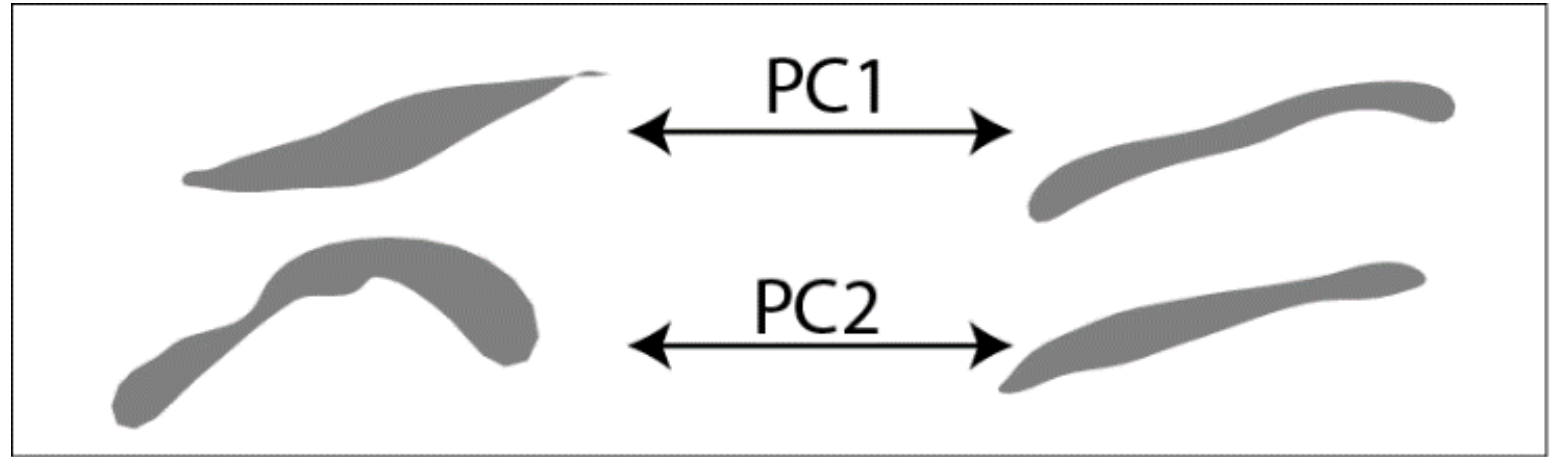
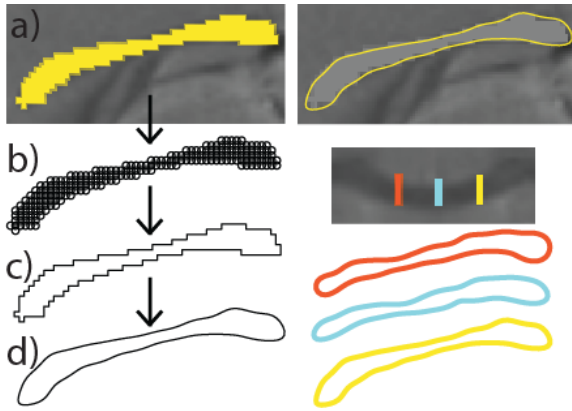
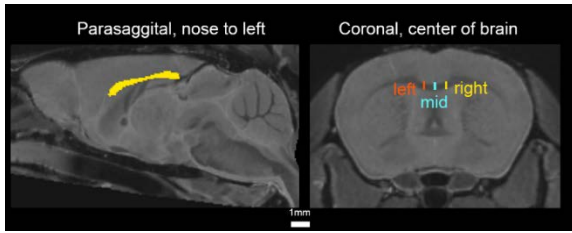
1mm

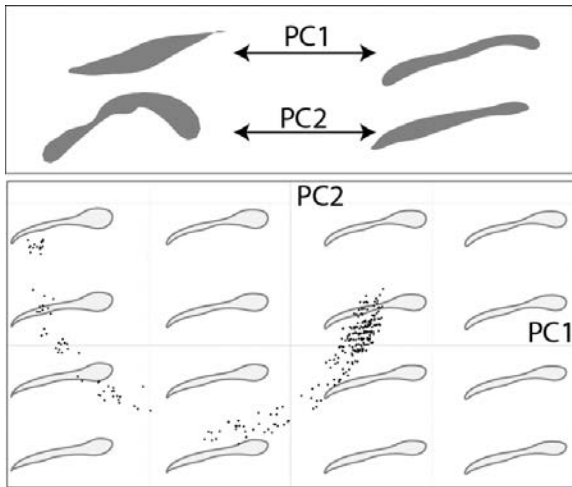
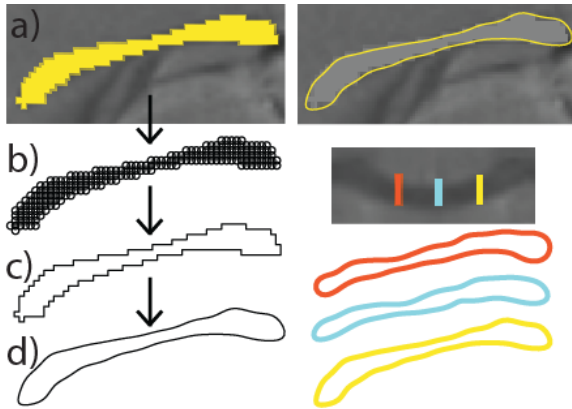
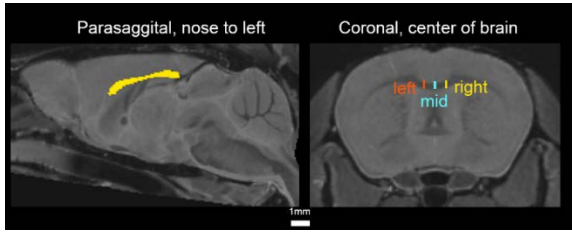




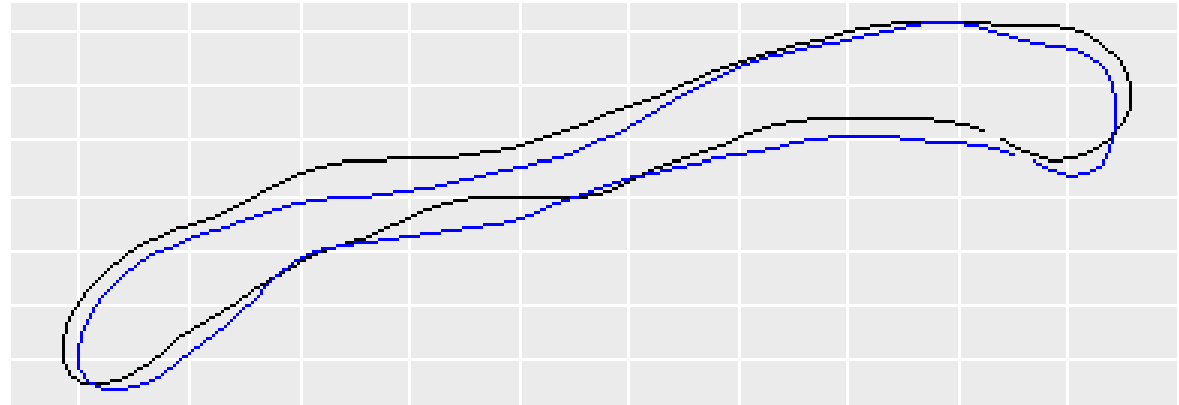
Jaccard=0.68



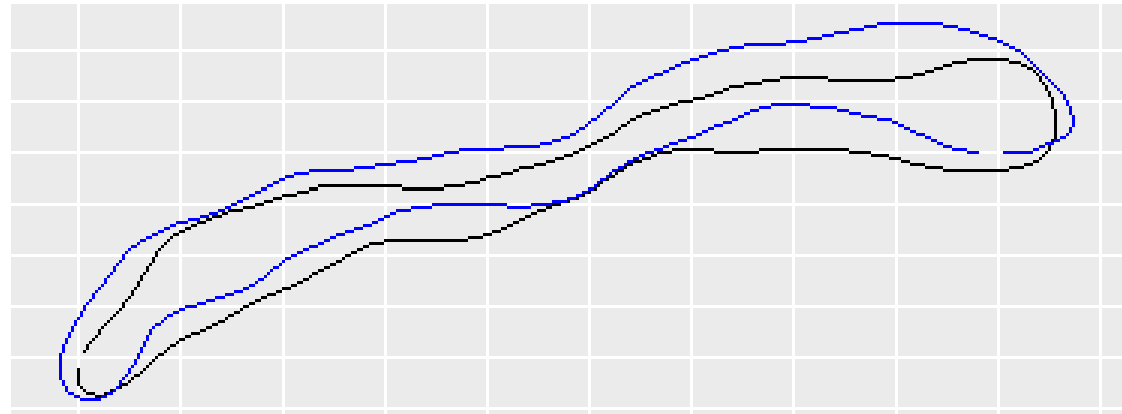




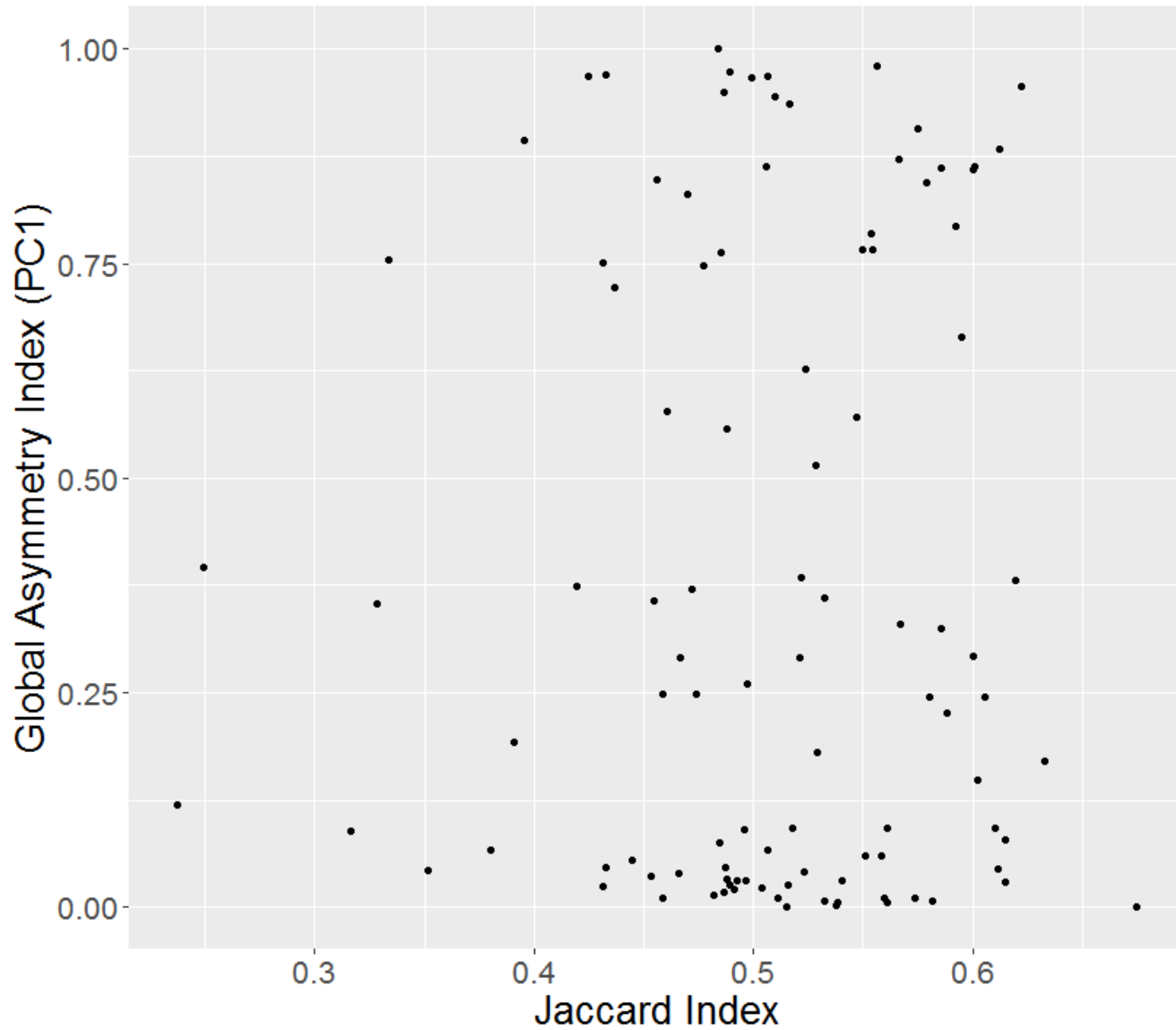
Least asymmetrical



Most asymmetrical



r=0.02



gender ~ asymmetry

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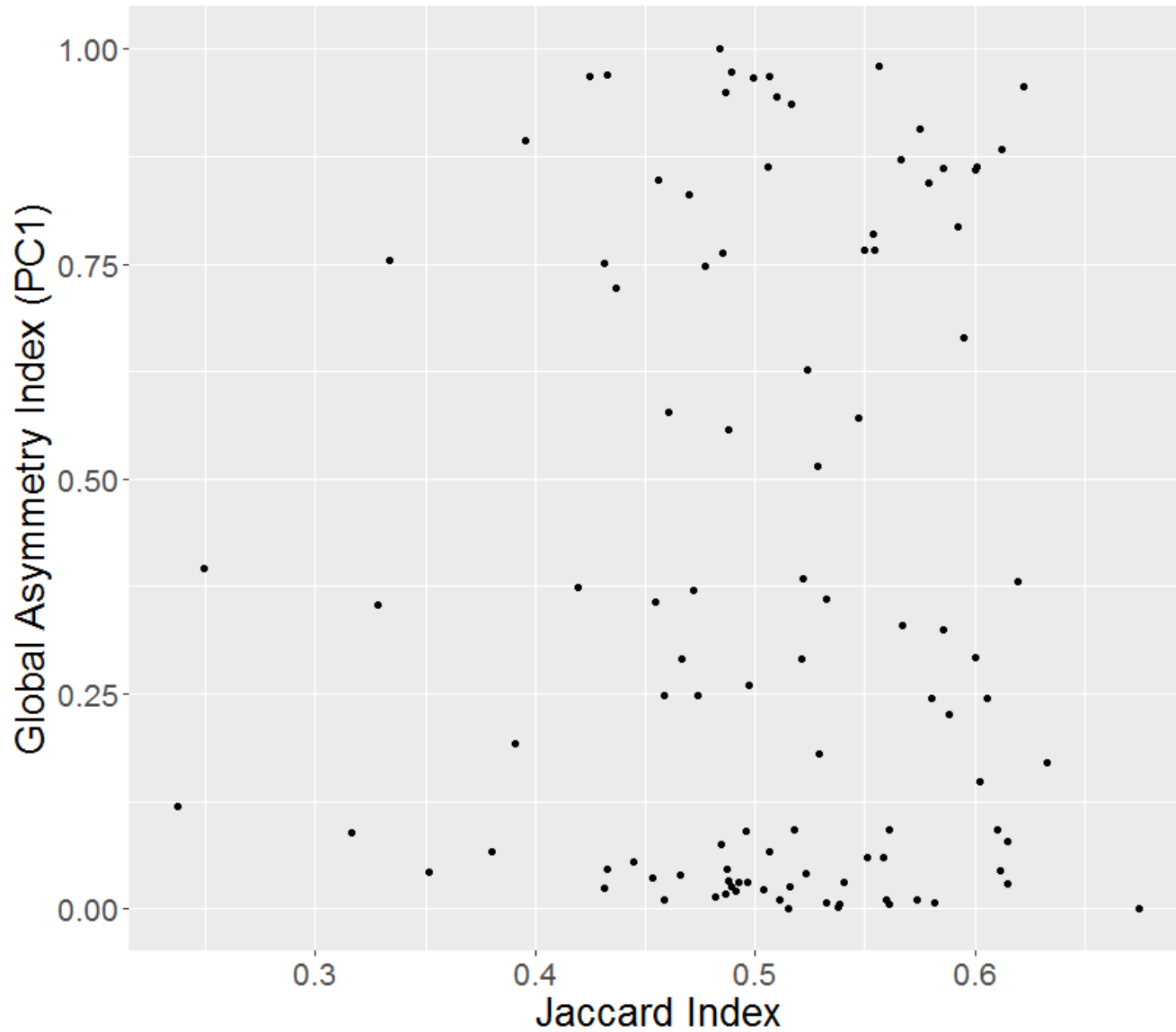
	(1)	(2)	(3)
Asymmetry (PC1)	<b>1.150*</b>		
	(0.041, 2.258)		
Constant	-0.532		
	(-1.108, 0.043)		
Observations	103		
Log Likelihood	-69.145		
Akaike Inf. Crit.	142.289		

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Note:

\*p<0.05; \*\*p<0.01; \*\*\*p<0.001

r=0.02



gender ~ asymmetry

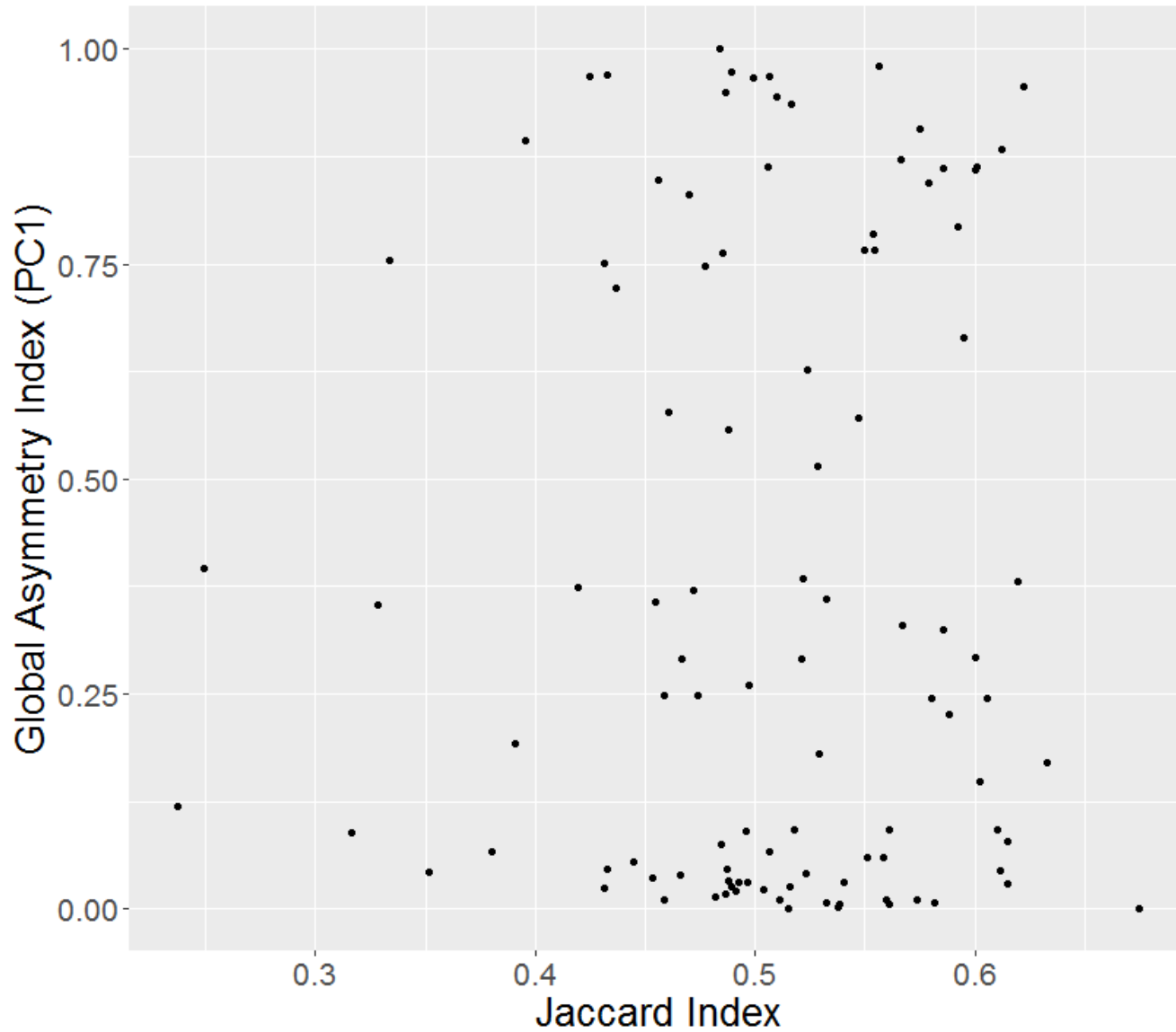
	(1)	(2)	(3)
Asymmetry (PC1)	<b>1.150*</b>	<b>1.800*</b>	
	(0.041, 2.258)	(0.411, 3.190)	
Position on PC1 (+0.5mm slice)		-5.664	
		(-11.920, 0.592)	
Constant	-0.532	-0.774*	
	(-1.108, 0.043)	(-1.424, -0.123)	
Observations	103	103	
Log Likelihood	-69.145	-67.433	
Akaike Inf. Crit.	142.289	140.867	

Note:

\*p<0.05; \*\*p<0.01; \*\*\*p<0.001



r=0.02

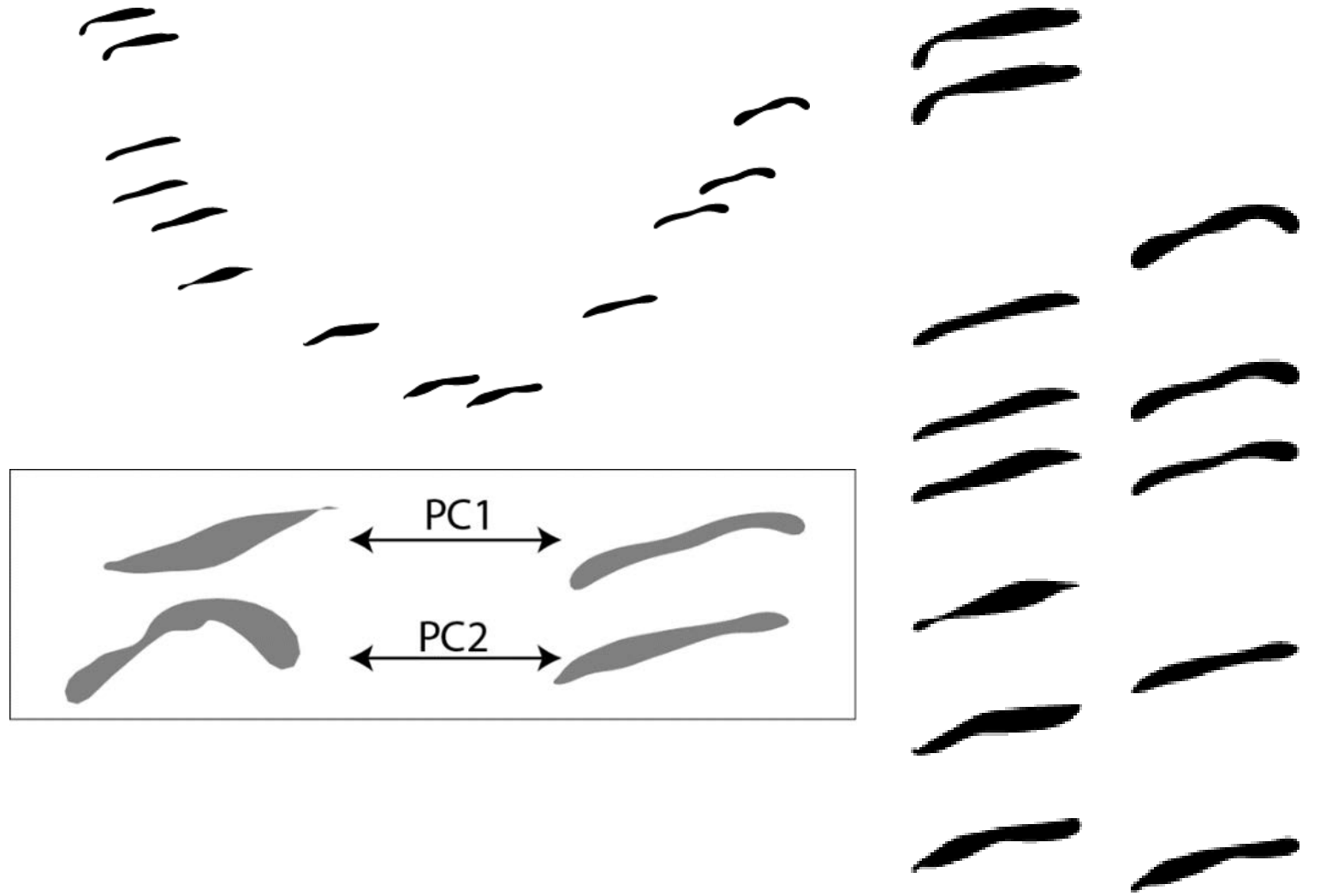
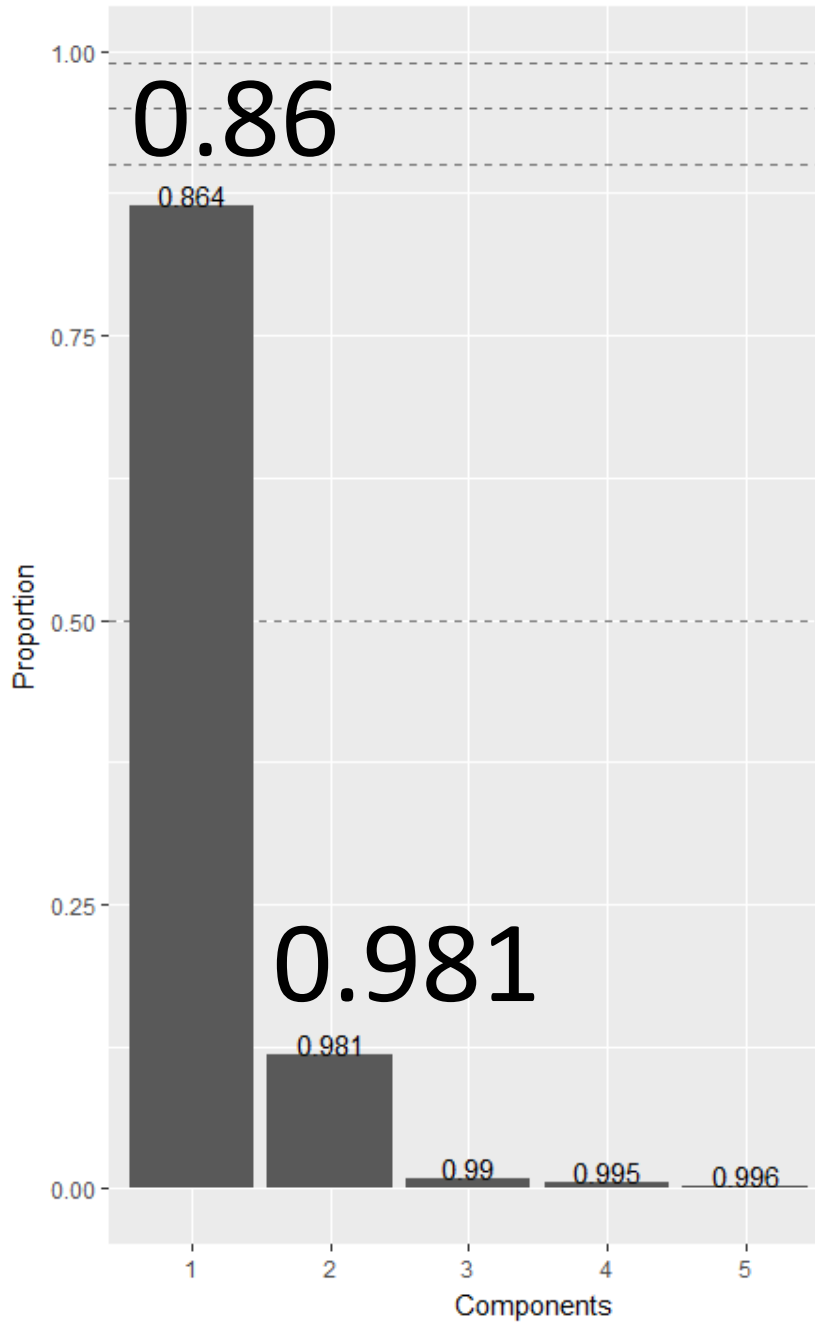


gender ~ asymmetry

	(1)	(2)	(3)
Asymmetry (PC1)	<b>1.150*</b> (0.041, 2.258)	<b>1.800*</b> (0.411, 3.190)	<b>1.829*</b> (0.427, 3.231)
Position on PC1 (+0.5mm slice)		-5.664 (-11.920, 0.592)	-5.864 (-12.231, 0.504)
Jaccard index			-1.115 (-6.143, 3.913)
Constant	-0.532 (-1.108, 0.043)	-0.774* (-1.424, -0.123)	-0.543 (-1.951, 0.865)
Observations	103	103	103
Log Likelihood	-69.145	-67.433	-67.368
Akaike Inf. Crit.	142.289	140.867	142.736

Note:

\*p<0.05; \*\*p<0.01; \*\*\*p<0.001



# Thanks!

Sawiak, Wood, Carpenter and Morton  
S. J. Sawiak, N. I. Wood, T. A. Carpenter, and a. J.  
Morton, "Huntington's Disease Mouse Models  
Online: High-Resolution MRI Images with  
Stereotaxic Templates for Computational  
Neuroanatomy," *PLoS One*, vol. 7, no. 12, 2012.



CRAHWLies



Bio buddies

