Appendix A

Table 1. Two-Way (Condition x Time) repeated measures ANOVA table for Po at 21°C

Source of Variance	df	SS	MS	F	*p*
Time	4	54.6	13.6	0.952	0.4412
Condition	1	397.8	397.8	27.747	<0.0001
Time x Condition	4	189.4	47.3	3.302	0.017
Residual	55	788.5	14.3		
Total	64	1485.1	23.2		

Power of performed test with alpha = 0.0500 for Time : 0.0500
Power of performed test with alpha = 0.0500 for Cond : 0.1000
Power of performed test with alpha = 0.0500 for Time x Cond : 0.629

Table 2. Two-Way (Condition x Time) repeated measures ANOVA table for +dP/dt at 21°C

Source of Variance	df	SS	MS	F	*p*
Time	4	301.6	75.4	9.12	<0.0001
Condition	1	317.8	317.8	38.43	<0.0001
Time x Condition	4	201.8	50.45	6.1	<0.0004
Residual	55	454.9	8.27		
Total	64	1420.2	22.19		

Power of performed test with alpha = 0.0500 for Time : 0.998
Power of performed test with alpha = 0.0500 for Cond : 1.000
Power of performed test with alpha = 0.0500 for Time x Cond : 0.959

Table 3. Two-Way (Condition x Time) repeated measures ANOVA table for Po at 37°C

Source of Variance	df	SS	MS	F	*p*
Time	4	4496.5	1124.1	19.27	<0.0001
Condition	1	2918.6	2918.6	50.02	<0.0001
Time x Condition	4	2051.5	512.9	8.79	<0.0001
Residual	60	3500.9	58.3		
Total	69	12967.5	187.9		

Power of performed test with alpha = 0.0500 for Time : 1.000
Power of performed test with alpha = 0.0500 for Cond : 1.000
Power of performed test with alpha = 0.0500 for Time x Cond : 0.998

Table 4. Two-Way (Condition x Time) repeated measures ANOVA table for +dP/dt at 37°C

Source of Variance	df	SS	MS	F	*p*
Time	4	10712.5	2678.1	40.7	<0.0001
Condition	1	7801.7	7801.7	118.5	<0.0001
Time x Condition	4	3565.1	891.3	13.5	<0.0001
Residual	60	3950	65.8		
Total	69	26029.3	377.2		

Power of performed test with alpha = 0.0500 for Time : 1.000
Power of performed test with alpha = 0.0500 for Cond : 1.000
Power of performed test with alpha = 0.0500 for Time x Cond : 1.000

Table 5. One-Way (Between Treatments) ANOVA table for SR release

Source of Variance	df	SS	MS	F	*p*
Between Treatments	1	3.39	3.389	4.83	0.0389
Residual	22	15.45	0.702		
Total	23	18.84			

Power of performed test with alpha = 0.0500 : 0.4537

Table 6. Raw Data, 21°C.

Exp	Cond	Conc (mM)	PT (mN)	%initial	dP/dt (+)	%initial	dP/dt (-)	CSA
L	21	0	221.72	100	2.62	100	4.24	11.3mm
L	21	10	216.54	98	2.57	98	4.08	0.0012 g
L	21	20	211.82	95	2.49	95	3.93	
L	21	30	207.29	93	2.4	92	3.775	
L	21	50	201.35	91	2.25	86	3.58	
L	21	0	131.8	100	1.48	100	2.32	11.7mm
L	21	10	125.1	95	1.46	99	2.05	0.018g
L	21	20	120.35	91	1.45	98	1.99	
L	21	30	121.27	90	1.43	97	2.09	
L	21	50	122.75	91	1.43	97	2.13	
L	21	0	163.19	100	2.01	100	2.79	11.1mm
L	21	10	164.86	100	1.97	98	2.81	0.011g
L	21	20	164.04	100	1.93	96	2.8	
L	21	30	162.68	99	1.88	93	2.77	
L	21	50	157.96	97	1.77	88	2.62	
L	21	0	93.34	100	0.92	100	4.04	10.0mm
L	21	10	90.72	97	0.89	97	4.02	0.01g
L	21	20	89.61	96	0.87	95	3.98	
L	21	30	89.08	95	0.85	92	3.96	
L	21	50	85.4	91	0.8	87	3.64	
L	21	0	210.98	100	2.14	100	4.39	12.0mm
L	21	10	209.4	99	2.1	98	4.01	0.012g
L	21	20	209.9	99	2.06	96	3.77	
L	21	30	207.97	99	1.99	93	3.74	
L	21	50	201.25	95	1.9	88	3.74	
C	21	0	64.46	100	0.73	100	1.12	8.9mm
C	21	0	65.61	100	0.74	100	1.11	0.009g
C	21	0	66.07	100	0.74	100	1.13	
C	21	0	65.43	100	0.746	100	1.1	
C	21	0	62.91	98	0.71	97	1.035	
C	21	0	84.28	100	1.063	100	2.29	9.4mm
C	21	0	87.45	100	1.1	100	2.23	0.0086g
C	21	0	90.75	100	1.11	100	2.2	
C	21	0	92.58	100	1.115	100	2.28	
C	21	0	95.3	100	1.16	100	2.2	
C	21	0	226.91	100	2.39	100	4.56	12.0mm
C	21	0	215.4	95	2.39	100	4.28	0.012g
C	21	0	216.37	95	2.24	94	4.13	
C	21	0	219.51	97	2.31	97	4.09	
C	21	0	212.83	94	2.27	95	4.01	
C	21	0	143.66	100	2.14	100	2.98	10mm
C	21	0	149.39	100	2.22	100	3.05	0.012gm
C	21	0	147.71	100	2.19	100	3.01	
C	21	0	147.11	100	2.11	95	2.89	
C	21	0	144.56	100	2.07	97	2.78	

Table 6 (continued).

C	21	0	112.8	100	1.52	100	2.51	8mm
C	21	0	116.85	100	1.5	99	2.59	0.011gm
C	21	0	118.88	100	1.51	99	2.63	
C	21	0	119.82	100	1.52	100	2.66	
C	21	0	120.71	100	1.52	100	2.68	
L	21	0	138.2	100	1.86	100	2.52	9.5mm
L	21	10	143.9	100	1.89	100	2.69	0.011gm
L	21	20	140.97	100	1.82	98	2.73	
L	21	30	132.55	96	1.74	94	2.63	
L	21	50	136.17	99	1.7	91	2.74	
L	21	0	84.45	100	1.07	100	1.61	7.5mm
L	21	10	82.99	98	1.08	100	1.74	0.0065gm
L	21	20	80.44	95	1.04	97	1.8	
L	21	30	78.44	93	1.01	94	1.85	
L	21	50	74.22	88	0.95	88	1.89	
L	21	0	139.73	100	1.99	100	2.33	10mm
L	21	10	142.42	100	2.02	100	2.41	0.012gm
L	21	20	139.68	99	1.96	99	2.49	
L	21	30	131.42	94	1.85	93	2.37	
L	21	50	129.7	93	1.77	89	2.5	

Table 7. Raw Data, 37°C.

Exp	Cond	Conc (mM)	PT (mN)	%initial	dP/dt (+)	%initial	dP/dt (-)	CSA
L	37	0	40.21	100	0.39	100	9.71	14.0mm
L	37	10	36.97	92	0.32	82	9.48	0.01g
L	37	20	34.88	87	0.31	80	9.5	
L	37	30	33.34	83	0.3	77	9.44	
L	37	50	29.42	73	0.28	72	9.13	
L	37	0	77.72	100	1.31	100	5.29	9.94mm
L	37	10	71.39	92	1.01	77	5.22	0.012g
L	37	20	67.39	87	0.81	62	5.2	
L	37	30	64.94	84	0.69	53	5.15	
L	37	50	60.11	77	0.55	42	5.13	
L	37	0	66.43	100	0.86	100	4.73	12.5mm
L	37	10	56.29	85	0.6	70	5.59	0.012gm
L	37	20	49.79	75	0.51	59	6.03	
L	37	30	42.55	64	0.44	51	6.13	
L	37	50	34.64	52	0.37	43	6.14	
L	37	0	57.46	100	0.89	100	2.66	11.9mm
L	37	10	53.7	93	0.74	83	3.04	0.01g
L	37	20	51.04	89	0.61	69	3.72	
L	37	30	48.96	85	0.53	60	4.02	
L	37	50	45.96	80	0.43	48	4.55	
C	37	0	36.56	100	0.61	100	4.49	9.8mm
C	37	0	36.14	99	0.59	97	3.75	0.0131gm
C	37	0	36.15	99	0.6	98	3.23	
C	37	0	34.41	94	0.59	97	3.02	
C	37	0	34.28	94	0.58	95	2.61	
C	37	0	34.86	100	0.66	100	3.2	10.2mm
C	37	0	29.2	84	0.52	79	5.17	0.0123gm
C	37	0	24.95	72	0.42	63	5.33	
C	37	0	34.2	98	0.58	88	7.97	
C	37	0	35.11	100	0.6	91	5.61	
C	37	0	35.79	100	0.44	100	5.21	9.5mm
C	37	0	35.53	99	0.49	100	4.97	0.013gm
C	37	0	34.23	96	0.42	95	4.72	
C	37	0	35.01	98	0.38	86	4.48	
C	37	0	34.24	96	0.4	91	4.1	
C	37	0	61.07	100	0.86	100	6.26	9.0mm
C	37	0	56.17	92	0.77	90	7.07	0.013gm
C	37	0	51.65	85	0.7	81	7.37	
C	37	0	49.26	81	0.66	77	7.14	
C	37	0	48.27	79	0.66	77	6.64	
L	37	0	25.93	100	0.4	100	2.71	8.9mm
L	37	10	22.87	88	0.31	78	2.52	0.0087gm
L	37	20	19.98	77	0.23	58	2.78	
L	37	30	16.93	66	0.18	45	2.93	
L	37	50	13.16	51	0.14	35	2.97	

Table 7 (Continued).

L	37	0	45.92	100	0.6	100	3.48	8.56mm
L	37	10	40.56	89	0.49	82	3.48	0.0095gm
L	37	20	34.37	75	0.39	65	3.73	
L	37	30	29.24	64	0.3	50	3.92	
L	37	50	21.27	47	0.21	35	4.28	
C	37	0	29.08	100	0.42	100	2.2	9.3mm
C	37	0	28.1	97	0.4	95	3.18	0.011gm
C	37	0	26.04	90	0.35	83	2.81	
C	37	0	26.23	90	0.34	81	3.32	
C	37	0	25.61	88	0.33	80	2.41	
C	37	0	33.7	100	0.52	100	1.7	8.5mm
C	37	0	33.88	100	0.52	100	1.61	0.0126gm
C	37	0	33.68	99	0.49	94	1.53	
C	37	0	33.31	99	0.47	90	1.47	
C	37	0	33.26	99	0.47	90	1.44	
C	37	0	25.41	100	0.38	100	0.77	7.9mm
C	37	0	24.01	94	0.35	92	0.74	0.0075gm
C	37	0	23.04	91	0.32	84	0.71	
C	37	0	22.67	89	0.3	80	0.68	
C	37	0	22.02	87	0.3	80	0.67	
L	37	0	37.57	100	0.57	100	1.41	8mm
L	37	10	33.52	89	0.48	84	2.06	0.0076gm
L	37	20	28.81	77	0.39	68	2.29	
L	37	30	24.43	65	0.3	52	2.4	
L	37	50	19.08	51	0.2	35	2.29	

Table 8. Raw Data, SR Experiments.

Cond	RR
C	4.010915
C	1.798812
C	1.349067
L	1.595194
L	1.661221
L	1.411315
L	1.390837
C	2.046075
C	1.56585
C	1.892249
C	1.853323
C	2.704931
C	3.263058
C	1.575929
C	5.203922
L	1.579613
L	1.666288
L	1.914611
L	1.579652
L	1.79981
L	1.896976
L	1.909444
L	1.722845
L	2.289666

Vita

Espen Spangenburg grew up in Fairfax, VA. He spent his life playing various sports, being cultured by his parents and always being in the wrong place at the wrong time. College became a reality after his parents got angry and introduced him to a no-nonsense stopwatch wielding tutor. When he finally realized that school was actually fun, he decided to attend Virginia Tech, where he planned to pursue engineering.

Those plans changed rather quickly, when he realized math wasn't so complicated in high school. He found direction when he took Exercise Physiology, and decided that this field has vast opportunities for him to pursue.

The author is now planning to pursue a doctoral degree in Exercise Physiology at Virginia Tech, unless the PGA tour calls him first. His goal is have an impact on people, like those who have crossed his path in last few years. Hopefully in a few years, Espen will be found teaching at the university level and pursuing his love of science.