

New Zealand RS&T Curriculum Vitae

PART 1

1a. Personal details				
Full name	<i>Title</i>	<i>First name</i>	<i>Second name(s)</i>	<i>Family name</i>
	Ms	Victoria	Jane	King
Present position		PhD candidate/Data Analyst		
Organisation/Employer		The University of Auckland		
Contact Address		Department of Physiology		
		Faculty of Medical and Health Sciences		
		85 Park Road, Grafton		
		Auckland	Post code	1023
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ORCID number		0000-0002-4327-5632		

1b. Academic qualifications		
2018	Masters, Physiology (First Class Honours)	University of Auckland
2016	Postgraduate Diploma in Science, Physiology (Merit)	University of Auckland
2012	Bachelor of Science, Pharmacology and Physiology	University of Auckland

1c. Professional positions held		
2023-present	Research Assistant, Physiology	University of Auckland
2022-present	Research Data Analyst, Paediatrics	University of Auckland
2019-2023	PhD student, Physiology	University of Auckland
2017-present	Graduate Teaching Assistant	University of Auckland
2018-2019	Research Assistant, Physiology	University of Auckland
2018-2019	Research Assistant, Obstetrics	University of Auckland
2015-2017	Research Assistant, Anaesthetics	University of Auckland

1d. Present research/professional speciality
<p>I have undertaken my PhD studies in the Fetal Physiology and Neuroscience Research Group (co-directors Bennet L and Gunn AJ) and with the Department of Obstetrics and Gynaecology (Stone PR). My research interests are the physiology of the fetus and in particular the circadian and ultradian rhythms in fetal behaviour. I am also interested in the fetus at risk of stillbirth and it's a <i>priori</i> detection. To this end, my work also encompasses the maternal experience of pregnancy, specifically maternal sleep, an oft-neglected circadian activity which may affect the fetus.</p>

1e. Total years research experience	8 years
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1f. Professional distinctions and memberships (including honours, prizes, scholarships, boards or governance roles, etc)	
Prizes	
2021	Velocity Innovation Challenge (social category) winners, 20 th May 2021. This prize is awarded to promising proposals by the Centre for Innovation and Entrepreneurship.
2021	Diversity Scholar. RStudio::global, online, 21 st January 2021. This prize is awarded to outstanding members of underrepresented groups at the annual RStudio conference.
2020	JD Sinclair award. This prize is awarded annually to a high-performing PhD candidate in Physiology.

- 2020** Prize: PhD presentation award. Australasian Chronobiology Society, online, 3rd November 2020. This prize is awarded to the best student oral communication.
- 2020** Prize: Research Excellence award. Australasian Chronobiology Society, online, 3rd November 2020. This prize is awarded to outstanding abstract submissions.
- 2019** Prize: Tania Gunn PhD presentation award. Fetal and Neonatal Physiological Society, Marysville, Australia, 16-19th October 2019. This prize is awarded to the best student oral communication.
- 2019** Prize: Best Junior Researcher Presentation, Fetal and Neonatal Workshop, Queensland, Australia, 15-16th March 2019. This prize is awarded to the best early PhD student oral communication.
- 2018** Prize: Junior Researcher Presentation, Fetal and Neonatal Workshop, Queenstown, New Zealand, 22-23rd March 2018. This prize is awarded to the runner-up early PhD student oral communication.
- 2017** Prize: Presentation award, Australasian Chronobiology Society, Waiheke, New Zealand, 23-24th October 2017. This prize is awarded to the best Honours/Masters student oral communication.
- 2017** Prize: Research excellence award, Australasian Chronobiology Society, Waiheke, New Zealand, 23-24th October 2017. This prize is awarded for outstanding student research.
- 2017** Prize: Wallath Prize (Biomedical), Summer Research Scholarship Programme, University of Auckland. This prize is awarded to the student with the top ranked research report in their category.

Grants and Scholarships

- 2019-2023** University of Auckland Doctoral Scholarship
- 2016-2017** Scholarship award: Summer Research Scholarship Programme, University of Auckland
- 2017-2023** PGSA Travel Grants

Invited Talks and Public Outreach

- 2022** Invited talk: RLadies, 13th April 2022. *From Me to Team: Learning to code collaboratively*. I gave a talk on the shift from solo work to working in a group environment. I presented this to RLadies AKL, the local chapter of RLadies Global, an organisation which exists to promote diversity in the R community worldwide. The audience was comprised of members of academia and industry, and experts and non-experts.
- 2020** Invited presentation: SatRdays, 22nd February 2020: *I dream of gg(plot2): visualising sleep in pregnancy with R*. I was invited to give a lightning talk about large dataset visualisation to provide group insights and direction for data analysis. I presented this at the inaugural SatRdays Auckland 2020, a conference of and for users of the R statistical programming language, held by a local chapter of the R Consortium. The audience was comprised of members of academia and industry. My registration and meal was included.
- 2019** Invited workshop: Research Bazaar, 10-12th July 2019: *Introduction to R*. I was invited to produce and lead a half-day practical interactive workshop teaching R statistical programming. I led this workshop at Research Bazaar AKL 2019, a local chapter of the worldwide Research Bazaar group promoting digital literacy in modern research. Research Bazaar aims to connect researchers across disciplines and upskill digital scholarship practices. I gave both an overview of the capabilities of R and introduced the

audience to a workflow they could implement themselves in real-time, to instil confidence that they could independently adapt it to their own research needs afterwards. The audience was mainly academic, from many different backgrounds.

- 2018-** Courses and Careers Open Day, University of Auckland. I was part of the
- 2019,** Department of Physiology team who engaged with secondary school
- 2022** students and their parents about science course opportunities and undergraduate students to advise about post-graduate courses and career opportunities in science.
- 2017** Chairperson, HealtheX Postgraduate Student Conference. Faculty of Medical and Health Sciences, University of Auckland, New Zealand. 15th September 2017.
- 2015-** Meet-A-Scientist volunteer, LENScience, Liggins Institute, University of
- 2016** Auckland. The Meet-a-Scientist programme provided an opportunity for secondary school students from around the North Island of New Zealand to spend time in special research teaching laboratories in the Faculty of Medical and Health Sciences. Students spent time undertaking experiments and got meet with students and staff from a science/health background to learn about science and medical research as a career.

Society Memberships

- 2020-present** Newborn Brain Society
- 2019-present** Fetal and Neonatal Physiological Society
- 2017-present** Physiological Society of New Zealand
- 2017, 2020** Australasian Chronobiology Society
- 2022** FMHS PGSA: Education representative
- 2020-present** R-Ladies AKL

Theses and dissertations and research reports

- 2023** Doctoral thesis. Looking for trouble: Biomarkers of fetal distress in late-onset fetal growth restriction. Submitted September 2023. Supervisor Bennet L, co-supervisor Gunn AJ, Dhillon SK. Department of Physiology, University of Auckland, New Zealand.
- 2018** Masters thesis. The effects of inflammation on circadian rhythms in the preterm fetus. Submitted March 2018. Supervisor Bennet L, co-supervisor Gunn AJ. Department of Physiology, University of Auckland, New Zealand.
- 2017** Summer research scholarship. Effect of chronic inflammation on circadian rhythms in the preterm fetus. February 2017. Supervisor Bennet L. Department of Physiology, University of Auckland, New Zealand.

Teaching

- 2023** *Mentorship, PGDipSci MEDSCI 745*
- 2017-present** *Graduate Teaching Assistant/Demonstrator*
- Postgraduate MEDSCI 743, 738
- Undergraduate MEDSCI 205, 206, 311, 317, 399
- MBChB 211
- MAORIHTH 22H
- PHARM 211
- Practical assistance in wetlab and analysis work; grading of assignments and exams; creation of grading rubric; student mentoring and postgraduate recruitment

1g. Total number of <i>peer reviewed</i> publications and patents	Journal articles	Books, book chapters, books edited	Conference proceedings	Patents
	1		8	

2a. Research publications and dissemination

Peer-reviewed journal articles

1. Lear, CA; Maeda, Y; **King, VJ**; Dhillon, S; Beacom, MJ; Gunning, MI; Lear, BA; Davidson, JO; Stone, PR; Ikeda, T; Gunn, AJ; Bennet, L. Circadian patterns of heart rate variability in fetal sheep after hypoxia-ischaemia: A biomarker of evolving brain injury. *J Physiol*. 2023 Jul 11; doi: 10.1113/JP284560.
2. Dhillon, SK; Gunn, ER; Lear, BA; **King, VJ**; Lear, CA; Wassink, G; Davidson, JO; Bennet, L; Gunn, AJ. Cerebral oxygenation and metabolism after hypoxia-ischemia. *Front. Pediatr.* 2022 Jul 12;10:925951 doi: 10.3389/fped.2022.925951.
3. **King VJ**, Bennet L, Stone PR, Clark A, Gunn AJ, Dhillon SK. Fetal growth restriction and stillbirth: Biomarkers for identifying at risk fetuses. *Front. Physiol* 2022 Aug 19; 13:959750 doi: 10.3389/fphys.2022.959750.
4. Magawa S, Lear CA, Beacom MJ, **King VJ**, Kasai M, Galinsky R, Ikeda T, Gunn AJ, Bennet L. Fetal heart rate variability is a biomarker of rapid but not progressive exacerbation of inflammation in preterm fetal sheep. *Sci Rep*. 2022 Feb 2;12(1):1771. doi: 10.1038/s41598-022-05799-3.
5. Lear CA, Davidson JO, Dhillon S, **King VJ**, Lear BA, Magawa S, Maeda Y, Ikeda T, Gunn AJ, Bennet L. The effects of antenatal dexamethasone and hyperglycemia on cardiovascular adaptation to asphyxia in preterm fetal sheep. *Am J Physiol Regul Integr Comp Physiol*. 2020; 319(6):R653-R665. doi: 10.1152/ajpregu.00216.2020.
6. Galinsky R, van de Looij Y, Mitchell N, Dean JM, Dhillon SK, Yamaguchi K, Lear CA, Wassink G, Davidson JO, Nott F, Zahra VA, Kelly SB, **King VJ**, Sizonenko SV, Bennet L, Gunn AJ. Magnetic resonance imaging correlates of white matter gliosis and injury in preterm fetal sheep exposed to progressive systemic inflammation. *International Journal of Molecular Sciences*, 2020 21(23) doi: 10.3390/ijms21238891.
7. Lear CA, Davidson JO, Dhillon SK, **King VJ**, Lear BA, Magawa S, Maeda Y, Ikeda T, Gunn AJ, Bennet L. Effects of antenatal dexamethasone and hyperglycemia on cardiovascular adaptation to asphyxia in preterm fetal sheep. *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology*, 2020 Dec 1;319(6):R653-R665 doi: 10.1152/ajpregu.00216.2020
8. Bennet L, Dhillon SK, Lear CA, van den Heuvel L, **King V**, Dean JM, Wassink G, Davidson JO, Gunn AJ. Chronic inflammation and impaired development of the preterm brain. *Journal of Reproductive Immunology*, 2018 Feb 125:45-55 doi: 10.1016/j.jri.2017.11.003

Peer reviewed books, book chapters, books edited

none

Refereed conference proceedings

1. King VJ, Dhillon SK, Lear BL, Beacom M, Lear CA, Stone PR, Gunn AJ, Bennet L. Fetal growth restriction and fetal sexes: brain versus brawn? Oral presentation, FNW 2023.
2. King VJ, Dhillon SK, Lear BL, Beacom M, Lear CA, Stone PR, Gunn AJ, Bennet L. Fetal growth restriction and fetal sexes: brain versus brawn? Oral presentation, FNPS 2023.
3. King VJ, Dhillon SK, Lear BL, Beacom M, Lear CA, Stone PR, Gunn AJ, Bennet L. Fetal growth restriction and fetal sexes: brain versus brawn? Poster

<p>presentation, QRW Medsci 2023.</p> <ol style="list-style-type: none"> 4. King VJ, Dhillon SK, Lear BL, Beacom M, Lear CA, Stone PR, Gunn AJ, Bennet L. Fetal growth restriction and fetal sexes: brain versus brawn? Oral presentation, HealthX 2023. 5. King VJ, Dhillon SK, Lear BL, Beacom M, Lear CA, Stone PR, Gunn AJ, Bennet L. Do squishy sheep have altered sleep? Development of sleep states in a new model of fetal growth restriction. Oral presentation, FNPS 2022. 6. King VJ, Dhillon SK, Lear BL, Beacom M, Lear CA, Stone PR, Gunn AJ, Bennet L. Do squishy sheep have altered sleep? Development of sleep states in a new model of fetal growth restriction. Oral presentation, HealthX 2022. 7. King VJ, Dhillon SK, Lear BL, Beacom M, Lear CA, Stone PR, Gunn AJ, Bennet L. Small and squishy: growth restriction in the chronically instrumented fetal sheep. Oral presentation (Bullivant finalist), Medsci 2022. 8. King VJ, Dhillon SK, Lear BL, Beacom M, Lear CA, Stone PR, Gunn AJ, Bennet L. Small and squishy: growth restriction in the chronically instrumented fetal sheep. Poster (accepted), Medsci 2021. 9. King VJ, Dhillon S, Galinsky R, Lear CA, Davidson JO, Gunn AJ, Bennet, L. Prolonged inflammation impairs development of normal neural circadian rhythms in the preterm fetal sheep. Oral presentation, online, PAS 2021 10. King VJ, Dhillon S, Galinsky R, Lear CA, Davidson JO, Gunn AJ, Bennet, L. Prolonged inflammation impairs development of normal neural circadian rhythms in the preterm fetal sheep. Poster presentation, online. Hershey Conference for Developmental Brain Injury 2021. 11. King VJ, Lear CA, Dhillon S, Gunn AJ, Bennet L. Investigating ultradian periodicity in the preterm fetal sheep EEG. Oral presentation, Australasian Chronobiology Society, 2020 12. King VJ, Gunn AJ, Stone PR, Bennet L. Maternal sleep in late gestation pregnancy. Oral presentation, Medsci 2020 13. King VJ, Lear CA, Lear BA, Dhillon SK, Davidson JO, Gunn AJ, Bennet L. The effect of asphyxia on the development of EEG ultradian rhythms from preterm to term in fetal sheep. Oral presentation, Fetal & Neonatal Physiological Society 2019 14. King VJ, Lear CA, Dhillon S, Gunn AJ, Bennet L. Investigating ultradian periodicity in the preterm fetal sheep EEG. Oral presentation, Fetal and Neonatal Workshop 2019 15. King VJ, Dhillon S, Lear CA, Galinsky R, Gunn AJ, Bennet L. Effect of chronic inflammation on the circadian development of fetal EEG activity in preterm fetal sheep. Oral presentation, Medsci 2018 16. King VJ, Dhillon S, Lear CA, Galinsky R, Van den Heuvel L, Gunn AJ, Bennet L. Effect of chronic inflammation on circadian rhythms in the preterm fetus. Oral presentation, Fetal and Neonatal Workshop 2018 17. King VJ, Dhillon S, Lear CA, Galinsky R, Van den Heuvel L, Gunn AJ, Bennet L. Effect of chronic inflammation on circadian rhythms in the preterm fetus. Oral presentation, Australasian Chronobiology meeting 2017 18. King VJ, Dhillon S., Lear CA, Galinsky R, Van den Heuvel L, Gunn AJ, Bennet L. Effect of chronic inflammation on circadian rhythms in the preterm fetus. Oral presentation, Medsci 2017
Patents
none
Other forms of dissemination (reports for clients, technical reports, popular press, etc)
none

