

New Zealand RS&T Curriculum Vitae Template

PART 1

1a. Personal details				
Full name	<i>Title</i>	<i>First name</i>	<i>Second name(s)</i>	<i>Family name</i>
	Mr	John	Francis Kennedy	Smith
Present position		PhD candidate		
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
Work telephone		Mobile	+64-212984275	
Email	JFK.Smith@auckland.ac.nz			
Personal website (if applicable)				
Orcid number	0000-0001-5555-5555			

1a. Academic qualifications		
Year	Qualification	University/institute
2019	PhD, Beeology	University of Auckland
2015	Masters, Physiology	University of Auckland
2013	BSc (first class honours)	University of Auckland

1c. Professional positions held		
Year	Position	University/Institute
2019-	Research Assistant, Dept Physiology	University of Auckland
2016-19	PhD Student, Dept of Physiology	University of Auckland
2017-	Undergraduate teaching assistant	University of Auckland

1d. Present research/professional speciality
<p>My research interests focus on the microbiome of the bee and in particular the unique honey bee, <i>Apis mellifera</i>. My studies have focussed on how mechanisms within the bee gut that determine the production of propolis; a combination of nectar and honey with tree and plant resin. Propolis can have antimicrobial properties and my studies have examined the effects of propolis on bee and human health. In particular I have studied the efficacy of propolis for dermatitis. Further, my research has evaluated the ecological factors determining the quality of the antimicrobial properties of propolis including the human farming and use of pesticides</p>

1e. Total years research experience	4 years
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1f. Professional distinctions and memberships (including honours, prizes, scholarships, boards or governance roles, etc)

Prizes and awards

2019: **Prize:** Best student oral presentation prize. BEE2 Conference, Auckland, 25-28th March, 2019. This prize was sponsored by the NZ Bee Society and

is awarded to the best presentation (oral or poster) reporting research with the potential to improve both bee and human health.

- 2018:** **Prize:** Best student oral presentation prize. Australian Physiological Society Annual conference, Sydney, Australia, 12th-15th December, 2018. This prize was for the best oral science communication given by a late-stage PhD student.
- 2018:** **Prize:** Auckland Medical Research Foundation Outstanding Emerging Researcher prize. HealthEx Post-graduate Student Conference. University of Auckland, Auckland, New Zealand, 15th September, 2018. This prize is given to the best student oral presentation in all categories (biomedical, clinical and public Health).
- 2018:** **Prize:** Best doctoral oral communication prize, Biomedical category, HealthEx Post-graduate Student Conference. University of Auckland, Auckland, New Zealand, 15th September, 2018 (see conference abstract #2).
- 2016-19:** **Scholarship award:** Barbara Basham Doctoral Scholarship. Auckland Medical Research Foundation.
- 2015-16:** **Scholarship Award:** Summer Research Scholarship, The University of Auckland.

Academic engagement/service

- 2019 **Invited:** To be a panel member to debate hot topics in the field of Propolis is a compound produced by bees thought to fight infections, heal wounds. Bee Compounds in Health, Satellite meeting, Medical Sciences congress, Queenstown, 3rd-5th September, 2019.
- 2019: **Invited:** Judge for student poster prizes, HealthEx Post-graduate Student Conference. Faculty of Medical and Health Sciences, The University of Auckland, Auckland, New Zealand. September 19th, 2019.
- 2018- **Elected:** Post-graduate student representative, Faculty of Medical and Health Sciences Board of Research, The University of Auckland
- 2018-19 **Elected Chair:** Faculty of Medical and Health Sciences post-graduate society.
- 2018-19: **Member:** Organising committee for the 2019 Bee2, BeeSkin conference. This is the annual New Zealand conference for the application of apiculture in science and medicine.
- 2018-19: **Department student representative:** organising committee for Brain day. A university of Auckland Centre of Brain Research (CBR) sponsored public event. This is an all-day event for the public to come learn about neuroscience and the work undertaken by the CBR, with invited local community groups to talk to, children's activities, and a series of talks by academic speakers.
- 2017- **Member:** Faculty of Medical and Health Sciences post-graduate society.

Journal reviewing

- 2018-19 **Invited:** reviewer for the Journal of Beeology. Publons documented (www.publons.com)

Society Memberships

- 2018: Dermatology Society of Australia and New Zealand
2017: Physiological Society of New Zealand
2016: NZ Bee Society

Theses, dissertations and research reports.

2020: PhD thesis. The bee microbiome and propolis: Impact on human and bee health and model for evolution and ecology of host-microbe interactions. Submitted December 2019. Supervisor Moran NA, co-supervisors Scott JJ, and Budsberg KJ. Department of Physiology, The University of Auckland, Auckland, New Zealand.

2015: Summer research studentship. The role of propolis in treating dermatitis. November 2015. Supervisor Moran NA, co-supervisors Scott JJ, and Budsberg KJ. Department of Physiology, The University of Auckland, Auckland, New Zealand

1g. Total number of peer reviewed publications and patents	Journal articles and reviews	Books, chapters, books edited or authored	Journals edited	Perspectives, commentary, letters	Conference proceedings published / other	Patents
	3	1	0	1	1 11 others	0

2a. Research publications and dissemination

Peer-reviewed journal articles
<ol style="list-style-type: none"> 1. Smith JFK, Moran, NA, Scott, JJ, Budsberg KJ, Blunderbus KN, Holmes S, Crick, F, Read H. Unique honeybee (<i>Apis mellifera</i>) hive component-based communities as detected by a hybrid of phospholipid fatty-acid and fatty-acid methylester analyses and application to deteriorating eczema. PLoS ONE, 2020, 22, e0121697. doi: 0.5555/journal.pone.0229449. 2. Martinson VG, Smith JFK, Danforth BN, Minckley RL, Moran NA. A simple and distinctive microbiota associated with honeybees and bumble bees, and the role of bee glue in GI tract repair. J Immunol, 2018, 49, 619–6. doi: 0.4049/jimmunol.1401928. 3. Langille MG, Scott JJ, Zaneveld J, Caporaso, JG, Smith JFK, McDonald D, Budsberg KJ, Moran NA. Predictive functional profiling of microbial communities using 16S rRNA marker gene sequences. Br J Dermatol, 2017, 88, 333-42. doi: 10.1111/bjd.18946.
Book chapters
<ol style="list-style-type: none"> 1. Martinson VG, Smith JFK, Danforth BN, Moran NA. Honeybee and bumble propolis – applications for biomedicine. Chapter 5, pages 333-342. In: Biomedical applications of Mellifera. Editors: White EE, Back DC. Springer, New York, 2019, ISBN 977-1-5555-2121-5.
Books edited or authored
None
Journals edited

None
Perspectives, commentaries, letters
1. Moran NA and Smith JFK . The sustainability of bee byproduct harvesting for biomedical discovery. Commentary. <i>Microorganisms</i> , 2019, 43, 4957-8. doi: 10.3390/microorganisms8055543.
Published Conference proceedings
1. Martinson VG, Smith JFK , Danforth BN, Minckley RL, Moran NA. Distinctive microbiota associated with honeybees and bumble bees, and the role of bee glue in GI tract repair. <i>J Immunol</i> , 2017, 46, Issue S2, 13. Special issue, abstracts of the 42 nd Annual International Bee-2 Immunology conference. Auckland, New Zealand, 25-27 th June, 2017. doi: 0.5555/jimmunol.1124567.
Refereed conference abstracts
<ol style="list-style-type: none"> 1. Smith JFK, Moran, NA, Scott, JJ, Budsberg KJ. Novel methods for free fatty acid analysis of <i>Apis Melifera</i> compounds. Bee2-Beeskin Conference, 23rd-25th April 2019, Sky City Conference Centre, Auckland, New Zealand. <i>Prize winner of best student oral presentation.</i> 2. Langille MG, Scott JJ, Smith JFK, McDonald D, Budsberg KJ, Moran NA. Bee pollen microbial content detected using 16sRNA marker gene sequencing. Bee2 Conference, 23rd-25th April 2019, Sky City Conference Centre, Auckland, New Zealand. 3. Smith JFK, Budsberg KJ, Scott JJ, Moran NA. Immunological responses to propolis in patients with severe eczema. Australian Physiological Society annual conference, 2nd-5th October, 2019. <i>Prize winner of best student oral presentation.</i> 4. Budsberg KJ, Scott JJ, Smith JFK, Moran NA. Gastrointestinal uptake of propolisA2. Australian Physiological Society annual conference, 2nd-5th October, 2019, Sydney, Australia. 5. Smith JFK, Moran, NA, Scott, JJ, Budsberg KJ. Novel methods for free fatty acid analysis of <i>Apis Melifera</i> compounds. HealthEx, Post-graduate Student Conference, September 17th 2019, Faculty of Medical and Health Sciences, Auckland, New Zealand. 6. Smith JFK, Moran, NA, Scott, JJ, Budsberg KJ. Novel methods for free fatty acid analysis of <i>Apis Melifera</i> compounds. New Zealand Physiological Society Annual meeting, Medical Sciences Congress, 3-5th September 2018, Queenstown, New Zealand. 7. Smith JFK, Moran NA, Scott, JJ, Budsberg KJ. Propolis and GI microbiota. New horizons in biomedicine workshop, Medical Sciences Congress, 4th September 2018, Queenstown, New Zealand. 8. Moran AN, Scott JJ, Smith JFK, Budsberg KJ. Bee sustainability; new ways forward. New horizons in biomedicine workshop, Medical Sciences Congress, 4th September 2018, Queenstown, New Zealand 9. Smith JFK, Grubbs, KJ, Moran, NA, Scott, JJ, Budsberg KJ. Characterisation of bacteria isolated from the stingless bee, <i>Heterotrigona itama</i>, honey, bee bread and propolis. HealthEx, Post-graduate Student Conference, September 15th 2018, Faculty of Medical and Health Sciences, Auckland, New Zealand. <i>Winner of the best oral presentation (biomedicine) and Auckland Medical Research Foundation Outstanding Emerging Researcher prize.</i>

10. Grubbs, KJ, **Smith JFK**, Moran, NA, Scott, JJ, Budsberg KJ. Characterisation of bacteria isolated from the stingless bee, *Heterotrigona itama*, honey, bee bread and propolis. Propolis conference, 22nd – 24th June 2018, Washington DC, USA, Medical Sciences Congress, 31st August-2nd September 2018, Queenstown, New Zealand.
11. **Smith JFK**, Martinson VG, Danforth BN, Minckley RL, Moran NA. A simple and distinctive microbiota associated with honeybees and bumble bees, and the role of bee glue in GI tract repair. Medical Sciences Congress, 3-5th September 2017, Queenstown, New Zealand.

Patents

None

Other forms of dissemination (reports for clients, technical reports, popular press, etc)

Invited talks

Local/national

1. **Smith JFK**. *Bee spit and wax – a surprising cure for skin and gut*. Department of Physiology, Otago University, 12th October, 2019. Invited department talk. Airfare and accommodation paid.
2. **Smith JFK**: *Propolis and GI microbiota*. Panel presentation, New horizons in biomedicine workshop, Medical Sciences Congress, Queenstown. Accommodation paid.
3. **Smith JFK**. *The positive impact of winning HealthEx*. The Faculty of Medical Health and Science, University of Auckland. 7th September 2019. Invited faculty talk about how I used my Auckland Medical Research Foundation Outstanding Emerging Researcher prize.
4. **Smith JFK**. *Bee glue- what is and why you will want it*. Department of Physiology, The University of Auckland, 9th May 2018. Invited department research talk.

International

5. **Smith JFK**. Unique honeybee (*Apis mellifera*) hive component-based communities as detected by a hybrid of phospholipid fatty-acid and fatty-acid methylester analyses and application to deteriorating eczema. Department of Physiology, Sydney University, Sydney, Australia, 11th December, 2019. Invited international department research talk. Accommodation/meals paid.

Publicity

1. **2019**: *Bees and our health, a surprising role for bee spit*. Radio New Zealand interview about my Phd thesis studies on Propolis in biomedicine. First broadcast April 2019. <https://www.rnz.co.nz/>
2. **2018**: Auckland Medical Research Foundation (AMRF) Spring newsletter. Press article written about my proposed PhD studies and my Auckland Medical Research Foundation HealthX Emerging Researcher Award for my talk entitled: *Bee surprised - the healing effects of bee glue*. Both PhD and prize were sponsored by the AMRF.

Grants

1. **2019:** Lottery Health New Zealand. Equipment grant: Spectrophotometer. Maron AN (PI), **Smith JFK**, Daniels B. \$60,000. Grant number LH25555
2. **2019:** NZ Bee Society. Student travel grant. **Smith JFK** (PI) To attend New horizons in biomedicine workshop New Zealand Medical Sciences Congress, NZ Science Week. Queenstown, New Zealand. 2nd September, 2019. \$1000.
3. **2019:** School of Medical Sciences, Faculty of Medical and Health Sciences, University of Auckland, PhD write up bursary. \$5000
4. **2019:** Physiology Society of New Zealand (PSNZ). Student Travel Grant. **Smith JFK** (PI) to attend the PSNZ meeting at the New Zealand Medical Sciences Congress, NZ Science Week. Queenstown, New Zealand. 3-5th September, 2019. \$500
5. **2018:** Physiology Society of New Zealand (PSNZ). Student Travel Grant. To attend the PSNZ meeting at the New Zealand Medical Sciences Congress, NZ Science Week. Queenstown, New Zealand. 31st August-2nd September, 2018. \$500
6. **2018:** Auckland Medical Research Foundation Outstanding Emerging Researcher prize travel award: for travel to an international conference. **Smith JFK** (PI). Used to attend the Australian Physiological Society annual meeting in Sydney, Australia. \$3000
7. **2017:** Physiology Society of New Zealand (PSNZ). Student Travel Grant. **Smith JFK** (PI). To attend the PSNZ meeting at the New Zealand Medical Sciences Congress, NZ Science Week. Queenstown, New Zealand. 3rd-5th September, 2017. \$500.
8. **2017:** NZ Bee Society. Student travel grant. **Smith JFK** (PI) To attend the PSNZ meeting at the New Zealand Medical Sciences Congress, NZ Science Week. Queenstown, New Zealand. 3rd-5th September, 2017. \$1000.
9. **2016-19:** Auckland Medical Research Foundation. Barbara Basham Doctoral Scholarship Award. \$128,000 stipend, plus \$15,000 project costs.
10. **2015-16:** The University of Auckland Summer research scholarship. \$5000.

Research supervision and mentorship

PhD

Years: Name of student. Project title. Names of supervisor, co-supervisor, advisors. department, institution, Scholarships

Eg

2020- Mary Lamb. Propolis for obstetrical use. Moran NA (primary supervisor), Scott JJ, Smith AJ (co-supervisors), **Smith JFK** (advisor). Departments of Physiology and Obstetrics and Gynaecology, The University of Auckland. Auckland Medical Research Foundation PhD Scholar.

Masters

Years: Name of student. Project title. Names of supervisor, co-supervisor, advisors, department, institution, Scholarships degree level (eg first)

Honours and research electives

Years: Name of student. Project title. Names of supervisor, co-supervisor, advisors department, institution, scholarships, degree level (eg first)

Summer students

2018: Cyril Knowles. *Propolis and toll-like*. Supervisor Moran NA, co-supervisor Scott JJ, mentor **Smith JFK**. University of Auckland Scholar.

Mentoring - research advisor

Staff of the Beeology and immunology group (PI Professor Moran)

2018 - Melody Buzzard. General technician. I trained Melody with gene sequencing, western blots, cytokine analysis.

2018 – Felix Cater. General Technician. I trained Felix with our bee colony maintenance, teaching him how to harvest honey. I also taught him emergency first aid

International visitors and research collaborations

example

2019- Professor Sally Gale. University of South Texas, USA. Professor Gale is part of our international collaboration network on bee survival in diverse ecologies.

Student/staff prizes

Student

1. 2018: Cyril Knowles. **Wallath Prize** for best biomedical summer studentship project, Faculty of Medical and Health Sciences. Project title. *Propolis and toll-like*. Supervisor Moran NA, co-supervisor Scott JJ, mentor **Smith JFK**. University of Auckland Scholar.

Staff

1. 2018. Clare Lim. General Staff Professional Development Award, University of Auckland. Clare is the lead technician in Prof Moran's research group.

Curriculum teaching

Undergraduate: Department of Physiology, University of Auckland

1. 2017- Medsci 205: The Physiology of Human Organ Systems. Laboratory demonstrator. (3 x 3 hour laboratories)
2. 2017- Medsci 206: Introduction to Neuroscience. Laboratory demonstrator. (1x 3 hour laboratory)

Post-graduate: Department of Physiology, University of Auckland

1. 2019 - Medsci 755: Therapeutic development. Lecturer (1x3 hour lecture/tutorial)

Public outreach

1. **2019-** I work with The University of Auckland outreach programme which provides a wide variety of outreach programmes which seek to encourage young people at primary and secondary school to get interested in a range of different areas of science as a career.
2. **2017-19** Courses and Careers Open Day. The University of Auckland. I was part of the Department of Physiology staff/student team who engaged with secondary school students and their parents about science course opportunities and undergraduate students to advise about post-graduate courses and career opportunities in science.