

## Curriculum Vitae - Alice Kane

Alice Elizabeth Murray Kane  
Department of Genetics, Harvard Medical School  
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### EDUCATION

2012-2016 **Ph.D., Medicine**  
Kolling Institute, University of Sydney, NSW, Australia

2006-2010 **B.Sc.(Adv)(Hons I), Pharmacology/Chemistry**  
University of Sydney, NSW, Australia

### RESEARCH EXPERIENCE

2018-present **Postdoctoral Fellow**  
Department of Genetics, Harvard Medical School, Boston, MA, USA  
*Supervisor:* Dr David Sinclair

2016-2017 **Postdoctoral Fellow**  
Department of Pharmacology, Dalhousie University, Halifax, NS, Canada  
*Supervisor:* Dr Susan Howlett

2012-2016 **Graduate Student**  
Kolling Institute, University of Sydney, NSW, Australia  
*Supervisors:* Dr Sarah Hilmer, Dr David Le Couteur and Dr Victoria Cogger  
*Thesis Title:* Paracetamol Toxicity: Influence of Ageing, Frailty, Resveratrol and SIRT1

2013-2014 **Visiting Student**  
Translational Gerontology Branch, NIA, Baltimore, MD, USA  
*Supervisor:* Dr Rafael de Cabo

2011, 2016 **Research Assistant**  
Department of Clinical Pharmacology and Ageing, Kolling Institute  
University of Sydney, NSW, Australia  
*Supervisor:* Dr Sarah Hilmer

2010 **Undergraduate honours student**  
Kolling Institute, University of Sydney, NSW, Australia  
*Supervisors:* Dr Sarah Hilmer, Dr Peter Carroll and Dr Slade Matthews

### FELLOWSHIPS AND GRANTS

#### *Postdoctoral*

2020-2021 Irene Diamond Postdoctoral Transition Award, American Federation of Aging Research  
2019-2020 University of Washington Nathan Shock Pilot Grant  
2018-2019 CJ Martin Early Career Fellowship, National Health and Medical Research Council Australia  
2016-2017 Reynolds Postdoctoral Fellowship, Dalhousie University

#### *Graduate and Undergraduate*

2012-2015 Postgraduate Biomedical Scholarship, National Health and Medical Research Council  
2012-2015 Postgraduate Top-Up Scholarship, Northern Clinical School, University of Sydney  
2012 Australian Association of Gerontology RM Gibson Scientific Research Grant, \$8107  
2006-2008 Sydney University Science Alumni Scholarship

## HONORS AND AWARDS

### **Postdoctoral**

- 2020 JAX Systems Immunology in Aging and Complex Diseases 2<sup>nd</sup> Place Oral Presentation
- 2020 AGE Virtual Meeting Oral Presentation Finalist
- 2019 RCCN workshop ‘Resilience and Reserve in Aging’ Travel Award
- 2019 Brigham Aging and Cardiometabolic Health Symposium Oral Presentation Award
- 2018 National Institute on Aging (NIA) Butler-Williams Scholar
- 2018 International Society of Heart Research, North American Section, Travel Award
- 2018 Summer Training Course on the Biology of Aging Scholar, Buck Institute
- 2017 International Society of Heart Research, North American Section, Travel Award
- 2016-2017 Cardiovascular Research Group, Dalhousie University, Travel Award
- 2016 Finalist in IACS James Willerson Young Investigator Award Competition
- 2016 Faculty of Graduate Studies, Dalhousie University, Travel Award

### **Graduate**

- 2015 Finalist in ASCEPT Garth McQueen Oral Prize Session
- 2014 Emerging Researchers in Ageing Conference, Best Oral Presentation Award
- 2014 Australian Society of Clinical and Experimental Pharmacologists Conference Travel Award
- 2014 Australian Society of Clinical and Experimental Pharmacologists IUPHAR Travel Grant
- 2013 Beryl and Jack Jacobs International Travel Award
- 2013 Sydney Medical School Travelling Fellowship
- 2013 Royal North Shore Hospital Scientific Staff Council Study Fellowship
- 2013 Runner-up, Northern Clinical School 3 Minute Thesis Competition
- 2012-2014 Postgraduate Research Student Support Scheme (PRSS) Training Funding
- 2012 Australian Society of Clinical and Experimental Pharmacologists Travel Bursary

## TEACHING EXPERIENCE

### **Courses**

- 2018-2020 Harvard Medical School, Genetics Bootcamp  
*I facilitated this one-day bootcamp for the Sinclair lab. This involved developing the syllabus, coordinating with the other teaching assistants, answering student questions, leading a student hands-on demonstration, and giving a short presentation at the conclusion of the day.*
- 2017 Dalhousie University, DENQ3000, Foundation Sciences – Pharmacology Module  
*I delivered 3 of the lectures for this course which amounted to 4.5 contact hours. There were 12 students, who were graduates of a range of ages with previous qualifications. I was responsible for preparing all lecture materials, delivering the lectures and writing and marking exam questions on my lecture content.*
- 2011-2013 University of Sydney, PCOL3011, Toxicology  
*I was head demonstrator in the computer lab sessions for this course. I delivered the content, ran the class of approx. 40 students, dealt with questions and gave feedback.*

### **Mentoring and Supervision**

- 2020 – Karlin Li (Undergraduate)
- 2019 – Katie Walsh (Undergraduate), Lukas Shelerud (Masters)
- 2017 – Anjali Ghimire (Masters), Matt Curry (Undergraduate)
- 2016 – Kaitlyn Keller (Masters)
- 2015 – Bosco Chan (Undergraduate), Daisy Howe (Undergraduate)
- 2014 – Michelle Thai (Undergraduate), Katie Qi (Undergraduate)

### **Training**

- 2017 Certificate in University Teaching and Learning, Dalhousie University

## PUBLICATIONS

*Published Research Articles*

1. Schultz MB\*, Kane AE\* Mitchell SJ, MacArthur MR, Warner E, Mitchell JR, Howlett SE, Bonkowski MS, Sinclair DA, *Age and life expectancy clocks based on machine learning analysis of mouse frailty*, Nature Communications, 2020, 11:4618, doi: <https://doi.org/10.1038/s41467-020-18446-0> \*indicates equal contribution.
2. Kane AE, Bisset ES, Heinze-Milne S, Keller KM, Grandy SA, Howlett SE, *Maladaptive changes associated with cardiac aging are sex-specific and graded by frailty and inflammation in C57BL/6 mice*, Journals of Gerontology Biological Sciences, 2020, in press, doi: <https://doi.org/10.1093/gerona/glaa212>
3. Kane AE, Bisset ES, Keller KM, Ghimire A, Pyle WG, Howlett SE, *Age, sex and overall health, measured as frailty, modify myofilament proteins in hearts from naturally aging mice*, Scientific Reports, 2020, 10:10052, doi: <https://doi.org/10.1038/s41598-020-66903-z>
4. Mach J, Gemikonakli G, Logan C, Vander Wyk B, Allore H, Ekambareshwar S, Kane AE, Howlett SE, de Cabo R, Le Couteur DG, Hilmer SN, *Chronic polypharmacy with increasing Drug Burden Index (DBI) exacerbates frailty and impairs physical function, with effects attenuated by deprescribing, in aged mice*. Journals of Gerontology Biological Sciences, 2020, [Epub ahead of print], doi: 10.1093/gerona/glaa060.
5. Kane AE, Keller KM, Heinze-Milne S, Grandy SA, Howlett SE, *A Murine Frailty Index Based on Clinical and Laboratory Measurements: Links Between Frailty and Pro-inflammatory Cytokines Differ in a Sex-Specific Manner*, Journals of Gerontology Biological Sciences, 2019, 74(3):275-282, doi: 10.1093/gerona/gly117. (Editors Choice)
6. Keller KM\*, Kane AE\*, Heinze-Milne S, Grandy SA, Howlett SE, *Chronic treatment with the ACE inhibitor enalapril attenuates the development of frailty and differentially modifies pro-and anti-inflammatory cytokines in aging male and female C57BL/6 mice*, Journals of Gerontology Biological Sciences, 2018, 74(8):1149-1157, doi: 10.1093/gerona/gly219. \*indicates equal contribution.
7. Kane AE, Shin S, Wong AA, Fertan E, Faustova NS, Howlett SE, Brown RE, *Sex Differences in Healthspan Predict Lifespan in the 3xTg-AD Mouse Model of Alzheimer's Disease*, Frontiers in Aging Neuroscience, 2018, 10:172, doi: 10.3389/fnagi.2018.00172
8. Feridooni HA, Kane AE, Ayaz O, Boroumandi A, Polidovitch N, Tsushima RG, Rose RA, Howlett SE. *The impact of age and frailty on ventricular structure and function in C57BL/6J mice*, Journal of Physiology, 2017, 12(595):3721-3742. doi: 10.1113/JP274134
9. Kane AE, Ayaz O, Ghimire A, Feridooni H, Howlett SE. *Implementation of the mouse frailty index*. Canadian Journal of Physiology and Pharmacology, 2017, 95(10):1149-1155. doi: 10.1139/cjpp-2017-0025
10. Kane AE, Gregson E, Theou O, Rockwood K, Howlett SE. *The association between frailty, the metabolic syndrome, and mortality over the lifespan*, Geroscience, 2017,39(2):221-9. doi:10.1007/s11357-017-9967-9
11. Yorke A, Kane AE, Hancock Friesen CL, Howlett SE, O'Blenes S. *Development of a Rat Clinical Frailty Index*, Journals of Gerontology Biological Sciences, 2017, 72(7):897-903. doi: 10.1093/gerona/glw339
12. Kane AE, Huizer-Pajkos A, Mach J, Mitchell SJ, de Cabo R, Le Couteur DG, Howlett, SE, Hilmer SN. *A Comparison of Two Mouse Frailty Assessment Tools*, Journals of Gerontology Biological Sciences, 2017, 72(7):904-909. doi: 10.1093/gerona/glx009

13. Kane AE, Mitchell SJ, Mach J, Huizer-Pajkos A, McKenzie C, Jones B, Cogger V, Le Couteur DG, de Cabo R, Hilmer SN, *Acetaminophen Hepatotoxicity in Mice: Effect of Age, Frailty and Exposure Type*, *Experimental Gerontology*, 2016, 73:95-106, doi: doi:10.1016/j.exger.2015.11.013
14. Kane AE, Huizer-Pajkos A, Mach J, McKenzie C, Mitchell SJ, de Cabo R, Jones B, Cogger V, Le Couteur DG, Hilmer SN, *N-Acetyl Cysteine does not prevent liver toxicity from chronic low dose plus sub-acute high dose paracetamol exposure in young or old mice*, *Fundamental and Clinical Pharmacology*, 2016, 30(3):263-75, doi: 10.1111/fcp.12184
15. Mach J, Huizer-Pajkos A, Mitchell SJ, McKenzie C, Phillips L, Kane AE, Jones B, de Cabo R, Cogger V, Le Couteur D, Hilmer SN, *The effect of aging on isoniazid pharmacokinetics and hepatotoxicity in Fischer 344 rats*, *Fundamental and Clinical Pharmacology*, 2016, 30(1):23-24, doi:10.1111/fcp.12157
16. Kane A, Hilmer SN, Boyer D, Gavin K, Nines D, Howlett S, de Cabo R, Mitchell SJ, *Impact of Longevity Interventions on a Validated Mouse Clinical Frailty Index*, *Journals of Gerontology Biological Sciences*, 2016, 71(3):333-9, doi:10.1093/gerona/glu315
17. Huizer-Pajkos A, Kane AE, Howlett S, Mach J, Mitchell SJ, de Cabo R, Le Couteur D, Hilmer SN, *Adverse Geriatric Outcomes Secondary to Polypharmacy in a Mouse Model: The Influence of Aging*, *Journals of Gerontology Biological Sciences*, 2016, 71(5):571-7, doi: 10.1093/gerona/glv046 (Editors Choice)
18. Kane AE, Hilmer SN, Huizer-Pajkos A, Mach J, Nines D, Phillips D, Gavin K, de Cabo R, Mitchell SJ, *Factors That Impact On Inter-Rater Reliability of the Mouse Clinical Frailty Index*, *Journals of Gerontology Biological Sciences*, 2015, 70 (6): 694-695, doi:10.1093/gerona/glv032
19. Mach J, Huizer-Pajkos A, Kane AE, Jones B, McKenzie C, Mitchell SJ, de Cabo R, Cogger V, Le Couteur D, Hilmer SN, *The effect of aging on mitochondrial and cytosolic hepatic intrinsic death pathway and apoptosis associated proteins in Fischer 344 rats*, *Experimental Gerontology*, 2015, 67:54-61. doi: 10.1016/j.exger.2015.04.009
20. Kane A, Mitchell SJ, Carroll PR, Matthews S, Hilmer SN, *Characteristics of older and younger patients with suspected paracetamol toxicity*, *Australasian Journal On Ageing*, 2012, 31:3, 190-3, doi:10.1111/j.1741-6612.2012.00598

#### **Published Reviews and Chapters**

1. Kane AE, Howlett SE. *Spelunking the biology of frailty*. *Mechanisms of Ageing and Development*, 2019, 182:1111123, doi: 10.1016/j.mad.2019.111123.
2. Kane AE, Sinclair DA. *Epigenetic changes during aging and their reprogramming potential*, *Critical Reviews in Biochemistry and Molecular Biology*, 2019, 54(1):61-83 doi:10.1080/10409238.2019.1570075.
3. Kane AE, Sinclair DA. *Frailty biomarkers in humans and rodents: current approaches and future advances*, *Mechanisms of Ageing and Development*, 2019, 182:117-128, doi:10.1016/j.mad.2019.03.007
4. Kane AE, Bisset ES, Howlett SE, *Biology of Frailty*. In: *Encyclopedia of Gerontology and Population Aging*, 2019, Springer.
5. Kane AE, Sinclair DA, *Sirtuin Activators*. In: *Encyclopaedia of Biomedical Gerontology*. 2018, Elsevier.
6. Kane AE, Sinclair DA, *Sirtuins and NAD+ in the Development and Treatment of Metabolic and Cardiovascular Diseases*, *Circulation Research*, 2018, 123:868–85. doi:10.1161/circresaha.118.312498

7. Kane AE, Sinclair DA, Mitchell JR, Mitchell SJ, *Sex differences in the response to dietary restriction in rodents*, Current Opinion in Physiology, 2018, 6:28-34. doi: 10.1016/j.cophys.2018.03.008
8. Kane AE, Howlett SE, *Differences in Cardiovascular Aging in Men and Women*, In: Sex-Specific Analysis of Cardiovascular Function, 2018, 389-411. doi: 10.1007/978-3-319-77932-4\_25
9. Kane AE, Sinclair DA, *Pharmacological Approaches for Modulating Sirtuins*. In: Introductory Review on Sirtuins in Biology, Aging, and Disease. 2018, Elsevier. doi: 10.1016/C2016-0-04790-3
10. Ghimire A, Kane AE, Howlett SE, *Sex Differences in the Physiology and Pathology of the Aging Heart*. In: Encyclopedia of Cardiovascular Research and Medicine, 1st Edition. 2017, Elsevier.
11. Kane AE, Howlett SE, *Guest Editorial: Advances in Preclinical Models of Frailty*, Journals of Gerontology Biological Sciences, 2017, 72(7):867-869. doi:10.1093/gerona/glx072
12. Kane A, Howlett S, *Approaches to the assessment of frailty in animal models*. In: Handbook of Models for Human Aging, 2nd Edition. 2017, Elsevier
13. Kane AE, Hilmer SN, Mach J, Mitchell SJ, de Cabo R, Howlett SE, *Animal models of frailty: Current applications in clinical research*, Clinical Interventions in Ageing, 2016, 11:1519-1529. doi: 10.2147/CIA.S105714
14. Kane AE, Howlett SE, *Novel Cardioprotective Strategies for the Aged Heart During Cardiac Surgery*, Clinical and Experimental Pharmacology and Physiology, 2016, 43(12):1251-60, doi: 10.1111/1440-1681.12668.
15. Mitchell SJ, Kane AE, Hilmer SN, *Age-related changes in the hepatic pharmacology and toxicology of paracetamol*, Current Gerontology and Geriatrics Research, 2011, doi:10.1155/2011/624156

### **Submitted Manuscripts**

1. Lu Y, Krishnan A, Brommer B, Tian X, Meer M, Vera DL, Wang C, Zeng Q, Yu D, Bonkowski MS, Yang J, Hoffman EM, Zhou S, Korobkina E, Davidsohn N, Schultz MB, Kane AE, Chwalek K, Rajman LA, Church GM, Hochedlinger K, Gladyshev VN, Horvath S, Gregory-Ksander MS, Ksander BR, He Z, Sinclair DA, *Reversal of ageing- and injury-induced vision loss by Tet-dependent epigenetic reprogramming*, BioRxiv, 2019, <https://doi.org/10.1101/710210> (accepted at Nature)
2. Hayano M, Yang J, Bonkowski MS, Amorim JA, Ross JM, Coppotelli G, Griffin PT, Chew Y, Guo W, Yang X, Vera DL, Salfati EL, Das A, Thakur S, Kane AE, Mitchell SJ, Mohri Y, Nishimura EK, Schaewitz L, Garg N, Balta A, Rego MA, Gregory-Ksander M, Jakobs TC, Zhong L, Wakimoto H, Mostoslavsky R, Wagers AJ, Tsubota K, Bonasera SJ, Palmeira CM, Seidman JG, Seidman CE, Wolf NS, Kreiling JA, Sedivy JM, Murphy GF, Oberdoerffer P, Ksander BR, Rajman LA, Sinclair DA, *DNA Break-Induced Epigenetic Drift as a Cause of Mammalian Aging*, BioRxiv, 2019, <https://doi.org/10.1101/808659> (submitted to Cell)

## SELECTED PRESENTATIONS

### Oral Presentations

1. Kane AE, Schultz MB, Mitchell SJ, MacArthur MR, Warner E, Mitchell JR, Howlett SE, Bonkowski MS, Sinclair DA. Age and life expectancy clocks based on machine learning analysis of mouse frailty. *Cold Spring Harbor Laboratory Mechanisms of Aging (Virtual)*. Sept 22<sup>nd</sup>-25<sup>th</sup> 2020.
2. Kane AE, Schultz MB, Mitchell SJ, MacArthur MR, Warner E, Mitchell JR, Howlett SE, Bonkowski MS, Sinclair DA. Age and life expectancy clocks based on machine learning analysis of mouse frailty. *7<sup>th</sup> Aging Research and Drug Discovery Meeting (Virtual)*. Sept 1-4<sup>th</sup> 2020.
3. Kane AE, Schultz MB, Mitchell SJ, MacArthur MR, Warner E, Mitchell JR, Howlett SE, Bonkowski MS, Sinclair DA. Age and life expectancy clocks based on machine learning analysis of mouse frailty. *The Jackson Laboratory Systems Immunology in Aging and Complex Diseases (Virtual)*. Sept 2-3<sup>rd</sup> 2020.
4. Kane AE, Schultz MB, Mitchell SJ, MacArthur MR, Warner E, Mitchell JR, Howlett SE, Bonkowski MS, Sinclair DA. Age and life expectancy clocks based on machine learning analysis of mouse frailty. *AGE Virtual Meeting*. June 19<sup>th</sup> 2020.
5. Kane AE, Schultz MB, Mitchell SJ, MacArthur MR, Warner E, Mitchell JR, Howlett SE, Bonkowski MS, Sinclair DA. Age and life expectancy clocks based on machine learning analysis of mouse frailty. *Aging in Isolation Online Seminar Series*. May 12<sup>th</sup> 2020.
6. Kane AE, Schultz MB, Mitchell SJ, MacArthur MR, Warner E, Mitchell JR, Howlett SE, Bonkowski MS, Sinclair DA. Age and life expectancy clocks based on machine learning analysis of mouse frailty. *Brigham Aging and Cardiometabolic Health Symposium*. Boston, USA, Dec 3<sup>rd</sup> 2019.
7. Kane AE, Schultz MB, Mitchell SJ, MacArthur MR, Warner E, Mitchell JR, Howlett SE, Bonkowski MS, Sinclair DA. Age and life expectancy clocks based on machine learning analysis of mouse frailty. *RCCN Workshop: Resilience and Reserve in Aging*. Austin, USA, Nov 12<sup>th</sup> 2019.
8. Kane A, Keller K, Feridooni H, Heinze-Milne S, Grandy SA & Howlett SE. Chronic treatment with the ACE inhibitor enalapril attenuates the development of frailty, prevents cardiac hypertrophy and increases IL-10 levels in aging male C57BL/6 mice. *International Society for Heart Research (ISHR) North American Section Annual Meeting*. Halifax, NS, 29<sup>th</sup> May – 1<sup>st</sup> June 2018.
9. Kane AE, Gregson E, Theou O, Rockwood K & Howlett SE. The Association Between Frailty Index and the Metabolic Syndrome Over the Lifespan. *21<sup>st</sup> IAGG World Congress of Gerontology and Geriatrics*. San Francisco, USA, 23<sup>rd</sup>- 27<sup>th</sup> July 2017.
10. Kane A, Keller K, & Howlett SE. Influence of ACE inhibitors on frailty and cardiac function in middle-aged female C57BL/6 mice. *Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT) Annual Scientific Meeting*. Melbourne, Australia, 27<sup>th</sup> Nov-30<sup>th</sup> Nov 2016.
11. Kane A, Gregson E, Theou O, Rockwood K & Howlett SE. Frailty, the metabolic syndrome and mortality over the lifespan. *Dalhousie University Cardiac Research Day*. Halifax, Canada, 3<sup>rd</sup> Oct 2016.
12. Kane A, Keller K, & Howlett SE. Influence of ACE inhibitors on frailty and cardiac function in middle-aged female C57BL/6 mice. *4<sup>th</sup> Annual Meeting of the International Academy of Cardiovascular Sciences*. Award Session, Sherbrooke Canada, 22<sup>nd</sup>-24<sup>th</sup> Sept 2016.
13. Kane A, Mitchell SJ, Mach J, Huizer-Pajkos A, McKenzie C, Jones B, Cogger V, le Couteur D, de Cabo R & Hilmer SN. Paracetamol hepatotoxicity in mice: Effect of age, frailty, N-acetyl cysteine and exposure

type. *Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT) Annual Scientific Meeting*. Award Session, Hobart, Australia, 29<sup>th</sup> Nov-2<sup>nd</sup> Dec 2015.

14. Kane A, Mitchell SJ, Huizer-Pajkos A, Mach J, Cogger V, le Couteur D, de Cabo R & Hilmer SN. Resveratrol and SIRT1 do not protect against paracetamol toxicity. *44<sup>th</sup> Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT) Annual Scientific Meeting*. Melbourne, Australia, 7<sup>th</sup>-11<sup>th</sup> Dec 2014.
15. Kane A, Mitchell SJ, de Cabo R, Howlett SE & Hilmer SN. A Validated Mouse Frailty Index: Impact of Factors That Affect Lifespan. *13<sup>th</sup> National Conference of Emerging Researchers in Ageing*. Adelaide, Australia, 24<sup>th</sup>-25<sup>th</sup> November 2014.

### **Poster Presentations**

1. Kane AE, Schultz MB, Mitchell SJ, MacArthur MR, Warner E, Mitchell JR, Howlett SE, Bonkowski MS, Sinclair DA. Age and life expectancy clocks based on machine learning analysis of mouse frailty. *Gerontology Society of America 74<sup>th</sup> Annual Scientific Meeting*. Austin, USA, 13<sup>th</sup>-17<sup>th</sup> November 2019.
2. Kane AE, Bisset ES, Keller KM, Howlett SE. Sex and frailty influence age-dependent changes in ventricular structure and function in C57BL/6 mice. *Gerontology Society of America 74<sup>th</sup> Annual Scientific Meeting*. Austin, USA, 13<sup>th</sup>-17<sup>th</sup> November 2019
3. Kane AE, Keller K, Heinze-Milne S, & Howlett SE. A Murine Frailty Index Using Clinical and Lab Measures: Sex Differences in Links Between Frailty and Inflammation. *Gerontology Society of America Annual Scientific Meeting*. Boston, USA, 14<sup>th</sup>-18<sup>th</sup> November 2018
4. Kane A, Keller K, Feridooni H, Heinze-Milne S, Grandy SA & Howlett SE. Chronic treatment with the ACE inhibitor enalapril attenuates the development of frailty, prevents cardiac hypertrophy and increases IL-10 levels in aging male C57BL/6 mice. *Cold Spring Harbor Meeting: Mechanisms of Aging*. Cold Spring Harbor, NY, 1<sup>st</sup> – 5<sup>th</sup> Oct 2018.
5. Kane A, Keller K, & Howlett SE. Influence of ACE inhibitors on frailty and cardiac function in middle-aged female C57BL/6 mice. *21<sup>st</sup> IAGG World Congress of Gerontology and Geriatrics*. San Francisco, USA, 23<sup>rd</sup>- 27<sup>th</sup> July 2017.
6. Kane AE, Yorke A, Hancock Friesen CL, Howlett SE & O’Blenes S. Development of a Rat Clinical Frailty Index. *21<sup>st</sup> IAGG World Congress of Gerontology and Geriatrics*. San Francisco, USA, 23<sup>rd</sup>- 27<sup>th</sup> July 2017.
7. Kane A, Keller K, & Howlett SE. Influence of ACE inhibitors on frailty and cardiac function in middle-aged female C57BL/6 mice. *Canadian Society of Pharmacology and Toxicology (CSPT) Annual Meeting*, Halifax, Canada, 14<sup>th</sup>-16<sup>th</sup> June 2017.
8. Kane A, Keller K, & Howlett SE. Influence of an ACE inhibitor on frailty and cardiac function in old male C57BL/6 mice. *International Society for Heart Research (ISHR) North American Section Annual Meeting*. New Orleans, USA, 27<sup>th</sup> May 30<sup>th</sup>- June 2<sup>nd</sup> 2017.
9. Kane AE, Huizer-Pajkos A, Mach J, Mitchell SJ, de Cabo R, Le Couteur DG, Howlett SE & Hilmer SN. A Comparison of Two Mouse Frailty Assessment Tools. *Gerontology Society of America 69<sup>th</sup> Annual Scientific Meeting*. New Orleans, USA, 16<sup>th</sup>-20<sup>th</sup> November 2016
10. Kane A, Mitchell SJ, Mach J, Huizer-Pajkos A, McKenzie C, Jones B, Cogger V, le Couteur D, de Cabo R & Hilmer SN. Acetaminophen Hepatotoxicity in Mice: Effect of Age, Frailty and Exposure Type. *Gerontology Society of America 69<sup>th</sup> Annual Scientific Meeting*. New Orleans, USA, 16<sup>th</sup>-20<sup>th</sup> Nov 2016

11. Kane A, Mitchell SJ, de Cabo R, Howlett SE & Hilmer SN. A validated mouse frailty index to assess longevity interventions: Impact of calorie restriction and resveratrol. *44<sup>th</sup> Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT) Annual Scientific Meeting*, Melbourne, Australia, 7<sup>th</sup>-11<sup>th</sup> Dec 2014.
12. Kane A, Mitchell SJ, de Cabo R, Howlett SE & Hilmer SN. A Validated Mouse Frailty Index: Impact of Factors That Affect Lifespan. *Australian Association of Gerontology 48<sup>th</sup> National Conference*. Adelaide, Australia, 26<sup>th</sup>-28<sup>th</sup> November 2014.
13. Kane A, Mitchell SJ, de Cabo R, Howlett SE & Hilmer SN. A Validated Mouse Frailty Index: Impact of Factors That Affect Lifespan. *Gerontology Society of America 67<sup>th</sup> Annual Scientific Meeting*. Washington DC, USA, 5<sup>th</sup>-9<sup>th</sup> November 2014.
14. Kane A, Mitchell SJ, Mach J, McKenzie C, Cogger V, le Couteur D & Hilmer SN. SIRT1 does not play a role in paracetamol toxicity in young and old mice. *17th World Congress of Basic and Clinical Pharmacology (WCP2014)*. Cape Town, South Africa, 13<sup>th</sup>-18<sup>th</sup> July 2014.
15. Kane A, Mitchell SJ, de Cabo R, Howlett SE & Hilmer SN. A validated mouse frailty index to assess longevity interventions: Impact of calorie restriction and resveratrol. *17th World Congress of Basic and Clinical Pharmacology (WCP2014)*. Cape Town, South Africa, 13<sup>th</sup>-18<sup>th</sup> July 2014.
16. Kane A, Huizer-Pajkos A, Cogger V, Le Couteur DG & Hilmer SN. Resveratrol does not protect against paracetamol-induced cell death in mouse primary hepatocytes. *20<sup>th</sup> IAGG World Congress of Gerontology and Geriatrics*. Seoul, South Korea, 23<sup>rd</sup>-27<sup>th</sup> June 2013.
17. Kane A, Huizer-Pajkos A, Cogger V, Le Couteur DG & Hilmer SN. Resveratrol does not protect against paracetamol-induced cell death in mouse primary hepatocytes. *8<sup>th</sup> International Congress of Toxicology*. Seoul, South Korea, 30<sup>th</sup> June-4<sup>th</sup> July 2013.
18. Kane A, Huizer-Pajkos A, Cogger V, Le Couteur D & Hilmer SN. Resveratrol does not protect against paracetamol-induced cell death in mouse primary hepatocytes. *46<sup>th</sup> Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT) Annual Scientific Meeting*. Sydney, Australia, 2-5<sup>th</sup> December 2012.
19. Kane A, Carroll P, Matthews S & Hilmer SN. A Comparison Of Suspected Paracetamol Toxicity In Young and Old Patients at a Sydney Hospital Over 18 Months. *44<sup>th</sup> Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT) Annual Scientific Meeting*. Melbourne, Australia, 28<sup>th</sup> Nov-1<sup>st</sup> Dec 2010.

#### INVITED PRESENTATIONS

|           |   |
|-----------|---|
| 2020      | “Age and life expectancy clocks based on machine learning analysis of mouse frailty”, HMS Genetics department seminar series, May 1 <sup>st</sup> 2020                                |
| 2019      | “Why Harvard Medical School Is The Leader In Aging Reversal Research”, Harvard 1969 50 <sup>th</sup> Reunion, 28 <sup>th</sup> May 2019   |
| 2017      | Panelist, “Choosing a postdoc lab”, International Society of Heart Research, North American Section Annual Meeting, 30 <sup>th</sup> May 2017   |
| 2016      | “Preclinical studies of frailty using a mouse clinical frailty index”, Dalhousie Geriatric Academic Rounds, 14 <sup>th</sup> December 2016 (Feedback score of 4.8/5.0)                |
| 2016      | “Preclinical Studies of Frailty: Acetaminophen Toxicity, Polypharmacy and Longevity Interventions”, Dalhousie Pharmacology Department Seminar Series, 13 <sup>th</sup> September 2016 |
| 2015      | “What makes a supervisor good or bad? – A Student Perspective”, Kolling Institute Research Seminar, 26 <sup>th</sup> August 2015  |
| 2012-2015 | Royal North Shore Hospital Aged Care Departmental Meetings  |



**SERVICE AND LEADERSHIP**

***Committees***

- 2020 Co-chair, Diversity, equity, inclusion, and outreach committee, American Aging Association
- 2016-2017 Co-President of the Dalhousie University Postdoctoral Society
- 2016-2017 Board Member, Dalhousie University Club
- 2014-2015 Member, Student and Early Career Committee, Australian Association of Gerontology
- 2013 Member, Executive Committee of the Scientific Staff Council, Northern Clinical School, University of Sydney
- 2013 Postgraduate Research Student Society President, Northern Clinical School, University of Sydney
- 2012-2015 Member of the Postgraduate Research Student Society Executive, Northern Clinical School, University of Sydney

***Peer Review***

- 2020-present Scientific Reports
- 2019-present AJP-Heart and Circulatory Physiology
- 2019-present Aging
- 2018-present Mechanisms of Aging and Development
- 2016-present Journals of Gerontology: Biological Sciences
- 2016-present Clinical Interventions in Aging

***Professional Societies***

- 2019-present Member of the American Aging Association (AGE)
- 2018-present Member of the American Heart Association (AHA)
- 2017-2019 Member of the International Society of Heart Research (ISHR)
- 2013-present Member of the Gerontological Society of America (GSA)
- 2012-present Member of the Australian Association of Gerontology (AAG)
- 2010-present Member of the Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT)

***Other***

- 2020 Facilitator of peer review job application document triangles for FuturePI Slack
- 2020 Sinclair lab COVID safety officer
- 2019 Co-guest editor special issue ‘Biology of Frailty’, Mechanisms of Aging and Development
- 2017 Judge, 3 Minute Thesis Competition, Dalhousie University
- 2017 Judge, Graduate Student Research Day, Dalhousie University
- 2016 Co-chair, Dalhousie University Postdoctoral Fellow Research Day
- 2013-2015 Northern Clinical School Volunteer for OSCE Medical School Exams
- 2012 Co-Chair, ‘Careers in the Pharmaceutical Industry’, 46<sup>th</sup> Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT) Annual Scientific Meeting