

Centre for Health, Activity, and Rehabilitation Research (CHARR)
School of Physiotherapy, University of Otago
Research Highlights 2017

Kia ora

2017 was a successful year for our research centre, CHARR. We have highlighted some of those successes below, and hope you enjoy reading about them.

We were awarded our highest monetary value in research grants to date, over \$2.5 million in funding support. In a signal of the importance of collaboration, many of these grants are with other Departments and Schools around the University, and in many cases with other Universities here in New Zealand and overseas. Regardless of the size of the funding received, these awards all contribute towards the growing profile of CHARR as a preeminent research Centre for Physiotherapy.

Our publication record continues to be not only impressive in quantity but also in quality with many staff publishing in leading rehabilitation journals. A review of the last 10 years of publication data showed 2017 to be our highest number of publications to date within 12 months (161).

Members of our team were recognized for their contributions to research. Notably, David Baxter was awarded the prestigious Inaugural Chaffer Medal from the Division for Health Sciences, University of Otago. The Chaffer Medical is a new annual award offered for the first time in 2017 by the Otago Postgraduate Medical Society for distinguished performance in health research. This is an impressive achievement, and we are very proud of Dave.

Our postgraduate programmes continues to be a vital part of CHARR and we were pleased to welcome four new PhD and Masters by Research candidates from New Zealand and around the world. Finally, we congratulate three of our PhD candidates, Lizhou Liu, Leon Mabire, and Aleksandra Macznik, who graduated in 2017.

If you would like any further information on any of our research, contact: physio.research@otago.ac.nz

Leigh Hale

Professor and Director, Centre for Health, Activity, and Rehabilitation Research

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Centre for Health, Activity,
and Rehabilitation Research
School of Physiotherapy

Funding awards 2017

In 2017 CHARR staff, graduate and undergraduate students received a total of 25 grants as Primary Investigators, totalling over \$2,5 million. Staff were also successful as co-investigators on a large number of grants.

Investigator	Title	Agency
David Baxter (PI), Poonam Mehta, Ram Mani, Cath Smith	Ageing well with Chronic Pain	Lottery Health Research
David Baxter (Lead Mentor), Tobias Hoeta (Student), Ram Mani, Katrina Bryant	Evidence for pain assessment tools sensitive for Māori - a systematic review of literature	HRC Māori Summer studentship
David Baxter (Director)	Men's Health	Men's Health Priming Partnership
Lynne Clay (PI), Megan Webb (Student)	Physical activity and stroke	OMRF Summer Studentship
Hemakumar Devan (PI), Meredith Perry, Leigh Hale	Healthcare providers' attitudes towards recommending online pain self- management resources for people with persistent pain: a mixed method study	NZ Pain Society Cynthia Miller Research Grant
Hemakumar Devan (PI), Rebecca Grainger	Self-management apps for people with persistent pain: A systematic review	Arthritis New Zealand Summer Scholarship Research Grant
Hemakumar Devan (PI)	Conjoint Australia/New Zealand ASM in Sydney	NZ Pain Society Travel Grant
Dora Gosselin (PI, PhD candidate)	The impact of unpredictability on gait biomechanics and mobility based participation in children with cerebral palsy	Academy of Paediatric Physical Therapy grant

Dora Gosselin (PI, PhD candidate)	Gait in Children with Cerebral Palsy: Differences in initiation, termination and change of direction	HPU RASP Quest Grant
Dora Gosselin (PI, PhD candidate)	Relationship Between Selective Voluntary Motor Control and the Ability to Respond to Unpredictability During Gait in Children with Cerebral Palsy: Influences on activity and participation	Neurodevelopmental Treatment Association Mini-Grant
Leigh Hale (PI), Chris Higgs, Ram Mani, Prasath Jayakaran, Jim Mann, Tim Stokes, Trudy Sullivan, Fiona Doolan-Noble, Andrew Gray	Community exercise for long-term management of diabetes and multimorbidity	HRC Project, Health Delivery Stream
Leigh Hale (Lead Mentor), Louise Jansen (Student), Chris Higgs, Prasath Jayakaran, Rose Richards	Acceptability for the treadmill 6 minute walk test for pacific peoples	HRC Pacific Summer studentship
Leigh Hale (PI), Lynne Clay, William Levack, Denise Taylor	Implementing and evaluating the Bridges Stroke Self-Management Programme into South Canterbury District Health Board stroke services: a case study	PNZ
Leigh Hale (PI), Divya Adhia	Continuous feedback model: a new model of paper evaluation that enables students as partners in curricular development	CALT
Claire Hargest (PI), Lynne Clay	A pedometer based walking programme for people with stroke: a feasibility study	Neuro Special Interest Group
Ewan Kennedy (PI), Maree Steel, Don Wilson, Louise Beckingsdale	INTERact: Embedding inter-professional education in student clinical placements	IPE grant
Ram Mani (PI), Dirk de Ridder,	Central pain mechanisms in middle-aged and older adults with arthritis.	UORG

Steve Tumilty, David Baxter		
Meredith Perry (PI), Hemakumar Devan, Bernadette Jones, Tristram Ingram, Alister Neill	Uptake and use of non-invasive ventilation in people with neuromuscular disorders: Users and caregivers' experiences.	UORG
Meredith Perry (PI), Hemakumar Devan, John Sullivan, Christina Ergler	How children with disabilities perceive accessing and using parks and playgrounds?	Porirua City Council
Daniel Ribeiro (PI), Gisela Sole, Haxby Abbott	The effectiveness of tailored rehabilitation versus standard exercise programme for patients with shoulder pain: a feasibility randomized controlled trial.	HRC Feasibility
Daniel Ribeiro (PI), Haxby Abbott, Tony Blakely, Sarah Lamb	Process evaluation of trials: maximising the potential for implementation	HRC Hercus Fellowship
Daniel Ribeiro (PI)	Congress of the International Society of Biomechanics - Australia	MPPT Travel
Daniel Ribeiro (PI), Ben Browning (Student)	The effect of manual therapy on shoulder muscle activity	OMRF
Margot Skinner (PI) Sarah Rhodes, Ben Brockway, Debra Waters	Personalised physical activity and motivational text messaging in patients with obstructive sleep apnoea (OSA).	School of Physiotherapy Trust
Gisela Sole (PI), Daniel Ribeiro, Meredith Perry, Nicola Swain, Craig Wassinger	Feasibility of neuroscience-informed physiotherapy for persistent shoulder pain	Jack Thompson Arthritis Fund

Gisela Sole (PI), Daniel Ribeiro, Meredith Perry, Nicola Swain, Craig Wassinger	My shoulder has a brain: Patient and physiotherapists' perspectives of a psychologically-informed rehabilitation approach for shoulder pain	PNZ
Grants received as Associate Investigators		
Katrina Bryant (PI) Te Runanga ō Otākou Leigh Hale and Debra Waters (Independent Advisors)	Taurite Tū: Development of falls prevention exercise programme for Māori	Ngā Kanoahi Kitea Development Grant
Melanie Bussey (PI SPESS), Dan Ribeiro, Daniela Aldabe, Stephanie Madill	Does muscle coordination in the pelvic floor and trunk predict low back pain?	UORG
McKinlay, E. (PI), Coleman, K. (PI), Darlow, B. (AI), Davidson, R. (AI), Gray, B. (AI), Neser, H. (AI), Perry, M. (AI), Pullon, S. (AI). Wilson, C.	Long-term conditions management; Hauora Māori; Implications in prescribing.	Division of Health Sciences Interprofessional Education Support Innovation Fund
Neils Hammer (PI Anatomy), Melanie Bussey, Daniel Ribeiro, Daniela Aldabe, Stephanie Woodley,	The functional link between hip joint mechanoreceptors and neuromuscular control of hip muscles	Jack Thompson Arthritis Fund
Hilda Mulligan (NI), Mandy Wilkinson (NI)	Well Connected	HRC/MOH
Dr Yvonne Learmonth, Murdoch	Engaging the MS community to promote exercise	MS Research Australia

University, WA (PI), Cath Smith (AI Otago)		
Aleksandra Mącznik (PI), Steve Tumilty (AI Otago)	Effectiveness of an injury prevention program in young pre-adolescent female athletes.	JSPS Postdoctoral Fellowship
Stephanie Woodley (PI), John Sullivan (AI)	Exercise therapy for women with pregnancy-related pelvic girdle pain: a Delphi study.	PNZ

CHARR research activities

CHARR Visitors 2017

Visiting academics

Dr Steve Dischiavi (High Point University)
Associate Professor Paul McCrory (University of Melbourne)
Prof Lorna Paul (Glasgow Caledonian University)
Professor Bill Vicenzino (University of Queensland)
Dr Mylene Aubertin (UQAM)

Visiting students

Dora Gosselin (High Point University, Otago PhD Candidate)
Rasmus Husted (PhD candidate, University of Copenhagen, Denmark)
Lara Vlietstra (Masters candidate, Utrecht University and University Medical Centre Utrecht)

CHARR Research events

CHARR hosted and co-hosted a significant numbers of events in 2017 including:
Sports concussion in kids: what every parent needs to know (March 2017)
Postgraduate symposium: "Health, Movement, Cultures, and Lifestyles: Multi-disciplinary Approaches" (November 2017)
Research impact: realising the potential (November 2017)
Pavements and paradigms: bringing community back into Mobilities (November 2017)
CHARR seminar series 2017

Other events:

WCPT World Congress (July 2017)
New Zealand Manipulative Physiotherapist conference (August 2017)
Making an impact: New Zealand Rehabilitation Conference (September 2017)
Southern Physiotherapy Symposium 8 (October 2017)
Disability Matters (November 2017)

Research networks and themes

Ageing Well, National Science Challenge
Collaboration Ageing Research Excellence (CARE) University of Otago Research Theme
Pain@Otago, University of Otago Research Theme



Centre for Health, Activity,
and Rehabilitation Research
School of Physiotherapy

PhD Candidates and topics

PhD Candidates (2017)

Primary Supervisor School of Physiotherapy

N=21

Alqarni, Abdullah	Knowledge translation of clinical assessment of pain mechanisms in to clinical practice.
Bell, Ricky	Huarahi Hauora – Identifying a pathway forward to wellness for Māori: an investigation of the association between BMI, body image and their relationship to improved health.
Buhler, Miranda	The impact of base of thumb osteoarthritis and the effectiveness of orthotic management
Calder, Ally	Access to Physical Activity for men following stroke
Dassanayake, Suranga	Risk of obstructive sleep apnoea in poorly controlled hypertension – a study of two population groups.
Donaldson, Gail	Does the use of silicon oil change the post-operative outcomes after Dupuytren's contracture release surgery?
Gosselin, Dora	Gait in Children with Cerebral Palsy: Differences in initiation, termination, and change of direction.
Emmerson, Alicia	Chronic pain in USA, focusing on experience of disadvantaged communities and undocumented patients
Falling, Carrie	Persistent musculoskeletal pain among individuals with immune-mediated chronic inflammatory conditions.
Hamel, Renne	Long-term impact of cardiovascular and respiratory deconditioning on physical activity intolerance in outpatient adults with moderate and severe traumatic brain injury.
Jafarian, Zohreh	Exploring the effect of shoulder passive mobilisation on shoulder function, pain and muscle activity levels in patients with shoulder disorders
Kaur Mandeep	Outcomes of ACL injuries
Manlapaz, Donald	The use of Nintendo Wii Fit™ in improving falls risk, balance and adherence to exercise in patients with Knee Osteoarthritis
Mesbah, Normala	Postural stability in older adults with early diagnosed Alzheimer's disease
Rhodes, Sarah	Can physical activity intervention in combination with text messaging improve quality of life through increased functional exercise capacity and enhanced exercise self-efficacy in adults with obstructive sleep apnoea?



Moran, Rob	Musculoskeletal injury prediction in high intensity strength and conditioning athletes
Ramsey, Codi	The influence of footwear on lower limb kinematics and kinetics during running: implications for the etiology of iliotibial band syndrome
Sampath, Kesava	Thoracic spinal manipulation and short-term changes in the activities of (1) hypothalamic-pituitary-adrenal (HPA) axis and Hypothalamic-pituitary-gonadal (HPG) axis (i.e. HPA-HPG axis) and (2) the sympathetic nervous system (SNS). Is that a potential viable treatment option for people with chronic pain?
Sangelaji, Bahram	Developing and testing an intervention to promote life-long exercise in people with MS
Spontelli Gisselman, Angela	The role of heart rate variability indices in prevention of musculoskeletal overuse injuries in collegiate athletes
Taylor, Karen	Evaluating the primary care and decision-making process for acute shoulder injuries in New Zealand

Secondary Supervisor School of Physiotherapy

Jeremy Goh	A combined physical and cognitive intervention in Parkinson's disease
Quick, Andrew	The influence of orthognathic therapy on mandibular motion



CHARR research outputs

2017 publications

Research Outputs

Journal

- Ahmed, O. H., Schneiders, A. G., McCrory, P. R., & **Sullivan, S. J.** (2017). Sport concussion management using Facebook: A feasibility study of an innovative adjunct "iCon". *Journal of Athletic Training*. Advance online publication. doi: 10.4085/1062-6050.52.2.13
- Ahmed, O. H., Weiler, R., Schneiders, A. G., McCrory, P., & **Sullivan, J.** (2017). Top social media tips for sports and exercise medicine practitioners (Infographic). *British Journal of Sports Medicine*. Advance online publication. doi: 10.1136/bjsports-2017-097513
- Baddock, S., Tipene-Leach, D., Williams, S. M., Tangiora, A., Jones, R., **Macznik, A.**, & Taylor, B. J. (2017). Physiological stability in an indigenous sleep device: A randomised controlled trial. *Archives of Disease in Childhood*. Advance online publication. doi: 10.1136/archdischild-2017-313512
- Balasundaram, A. P., Athens, J., Schneiders, A. G., McCrory, P., & **Sullivan, S. J.** (2017). Do post concussion-like symptom responses change following exercise or sports participation in a non-concussed cohort? *Scandinavian Journal of Medicine & Science in Sports*. Advance online publication. doi: 10.1111/sms.12844
- Balasundaram, A. P., Athens, J., Schneiders, A. G., McCrory, P., & **Sullivan, S. J.** (2017). Psychological and lifestyle factors that influence the serial reporting of post concussive-like symptoms in a non-concussed population. *PM&R*. Advance online publication. doi: 10.1016/j.pmrj.2017.01.004
- Baxter, G. D., Liu, L.,** Petrich, S., **Gisselman, A. S., Chapple, C.,** Anders, J. J., & **Tumilty, S.** (2017). Low level laser therapy (Photobiomodulation therapy) for breast cancer-related lymphedema: A systematic review. *BMC Cancer*, 17, 833. doi: 10.1186/s12885-017-3852-x
- Baxter, G. D., Mabire, L., Liu, L.,** Connolly, M. J., Theodore, R., Brunson, J., & Nicholson, H. (2017). Seven things you need to know about men's health. *New Zealand Medical Journal*, 130(1463), 7-10. Retrieved from <https://www.nzma.org.nz/journal>. [Editorial].
- Bell, R.,** Smith, C., **Hale, L.,** Kira, G., & **Tumilty, S.** (2017). Understanding obesity in the context of an Indigenous population: A qualitative study. *Obesity Research & Clinical Practice*. Advance online publication. doi: 10.1016/j.orcp.2017.04.006
- Black, N. M., **Sullivan, S. J.,** & **Mani, R.** (2017). A biopsychosocial understanding of lower back pain: Content analysis of online information. *European Journal of Pain*. Advance online publication. doi: 10.1002/ejp.1158
- Boland, P., Levack, W., **Perry, M.,** & Graham, F. (2017). Equipment provision after stroke: A scoping review of the use of personal care and mobility aids in rehabilitation. *British Journal of Occupational Therapy*, 80(2), 73-88. doi: 10.1177/0308022616664910
- Bussey, M. D., Aldabe, D., **Adhia, D.,** & **Mani, R.** (2017). Reliability of surface electromyography activity of gluteal and hamstring muscles during sub-maximal and maximal voluntary isometric contractions. *Musculoskeletal Science & Practice*. Advance online publication. doi: 10.1016/j.msksp.2017.09.004



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Presentations

Baxter, D. (2017, June). Research development in physiotherapy: The role of graduate research [Chaffer Medal] Plenary presentation at the Southern Health Symposium, Dunedin, New Zealand.

Baxter, D. (2017, November). Men's health in New Zealand. Verbal presentation at the Men's Health Conference: Meeting the Challenges, Dunedin, New Zealand.

Bell, R., Oosman, S. and Steffensen, M. (2017) Toward cultural safety: Physical therapists meeting the needs of the world's Indigenous populations. Discussion Session, Indigenous Issues. World Confederation of Physical Therapy, Cape Town

Black, N., **Mani, R., & Sullivan, J.** (2017, March). A biopsychosocial understanding of lower back pain: Content analysis of online information. Verbal presentation at the New Zealand Pain Society Annual Scientific Meeting, Nelson, New Zealand.

Bone, S., Lee, M., Max, C., Mischewski, N., Pearse-Smith, N., **Mulligan, H., & Wilkinson, M.** (2017, November). The power of dance. Keynote presentation at the Disability Matters Conference, Dunedin, New Zealand.

Calder, A., Sole, G., Thomas, D., & **Mulligan, H.** (2017). Blokes with stroke explore the user-friendliness of fitness facility environments for engaging in physical activity. In S. Mandic, C. Ergler & A. Moore (Eds.), *Proceedings of the International Symposium Active Living and Environment: Towards a Healthier and More Sustainable Future*. (pp. 42). Dunedin, New Zealand: University of Otago. [Abstract]

Chapple, C. (2017, August). Same time next week? What is the optimal frequency of manual therapy for people with knee osteoarthritis? Verbal presentation at the New Zealand Manipulative Physiotherapists Association (NZMPA) Biennial Scientific Conference, Rotorua, New Zealand.

Chapple, C. (2017, November). The frequency of manual therapy for patients with knee osteoarthritis. Invited presentation at the Southern Physiotherapy Symposium 8, Queenstown, New Zealand.

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Dean E, **Skinner MA**, Moffat M, Söderlund A (2017) A lifestyle-behavior change tool kit and its integration into practice. Focus Group World Confederation for Physical Therapy (WCPT) Conference, Cape Town, 2-4 July 2017. <http://www.wcpt.org/wcpt2017/FS-07>

Devan, H., Perry, M., Shipton, E., Dowell, T., Jones, B., Ingham, T., Gray, A., Leung, W., Hoermann, S., and **Hale, L.**, & Grainger, R. (2017). Co-creating a self-management eHealth resource by the people and for the people with persistent pain: iSelf-help. Proceedings of the Health Informatics New Zealand (HiNZ) Conference.(pp. 24). Retrieved from <http://www.hinz.org.nz/>.[Abstract]

Devan, H., Hale, L., Hempel, D., Saipe, B., & **Perry, M.** (2017, March). What works and what doesn't in a self-management support intervention for individuals with persistent pain? A systematic review and meta-synthesis of qualitative studies. Verbal presentation at the New Zealand Pain Society Annual Scientific Meeting, Nelson, New Zealand.

Devan, H., Perry, M., Shipton, E., Dowell, T., Jones, B., Ingham, T., Gray, A., Leung, W., Hoermann, S., and Hale, L., & Grainger, R. (2017). Co-creating a self-management eHealth resource by the people and for the people with persistent pain: iSelf-help. Proceedings of the Health Informatics New Zealand (HiNZ) Conference.(pp. 24). Retrieved from <http://www.hinz.org.nz/>.[Abstract]

Elias, B., Goh, J., Peterson, E., Livingstone, M., Goulden, M., Myall, D., Melzer, T., Pitcher, T., Livingston, L., Horne, K., Grenfell, S., **Wilkinson, M.**, MacAskill, M., **Mulligan, H.**, Cutfield, N., Anderson, T., **Hale, L.**, & Dalrymple-Alford, J. (2017). Theory of mind in Parkinson's disease: Improvement after physical and cognitive exercise. In B. Leitch (Ed.), Proceedings of the 35th International Australasian Winter Conference on Brain Research. (pp. 61). AWCBR. Retrieved from <http://www.otago.ac.nz/awcbr/index.html> .[Abstract]

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Freeman, C., van Heezik, Y., & **Waters, D.** (2017). Creating biodiverse cities for active lives from childhood to old age [Invited]. In S. Mandic, C. Ergler & A. Moore (Eds.), Proceedings of the International Symposium Active Living and Environment: Towards a Healthier and More Sustainable Future.(pp. 35). Dunedin, New Zealand: University of Otago. [Abstract]

Gillespie, M. A., Macznik, A. K., & **Sole, G.** (2017). Rotator cuff-related pain: Participants understanding and experiences. *New Zealand Medical Journal*, 130(1452), (pp. 80). Retrieved from <https://www.nzma.org.nz/journal>.[Abstract]



Gosselin D and Girolami G.(2017) Blending the ICF and Gentile's Taxonomy of Motor Skills to Analyze the Requirements of Natural-Walking in Children. Southern Physiotherapy Symposium. Queenstown, NZ. November 2017.

Hale L., Smith C., Adhia D., Mulligan H., Siew B.I, Treharne G. (2017) Promoting physical activity for people living with diverse long-term conditions and disabilities: is blue prescription an acceptable approach? Platform presentation. World Confederation of Physical Therapy Congress, Cape Town

Hale, L., Potiki Bryant, K., Ward, A. L., Russell, A., Montgomery, A., Tikao, K., Mirfin-Veitch, B., & Milosavljevic, S. (2017, November). Health care accessibility among hauā Māori in Murihiku/Southland, Aotearoa/New Zealand. Verbal presentation at the Disability Matters Conference, Dunedin, New Zealand.

Higgs, C. (2017, November). An introduction to motivational interviewing for physiotherapists. Verbal presentation at the Southern Physiotherapy Symposium 8, Queenstown, New Zealand.

Higgs C., Gisselman A., Hale L., and Mani R. (2017) Health outcomes of the Dunedin Community Exercise Programme: a single-group study. Platform presentation. World Confederation of Physical Therapy Congress, Cape Town

Higgs, C., Gisselman, A. S., Hale, L., & Mani, R. (2017). Health outcomes of the Dunedin Community Exercise Programme for people with type 2 diabetes and prediabetes: A single-group study. *European Journal of Physiotherapy*, 19(Suppl. 1), (pp. 64-65). doi: 10.1080/21679169.2017.1381316[Abstract]

Ingham, T., Neill, A., **Perry, M.,** Jones, B., Sim, D., Aldridge, D., **Devan, H.,** Miller, J., & Theadom, A. (2017). Regional variation in provision of ventilatory support for genetic neuromuscular disorders across New Zealand. *Journal of Sleep Research*, 26(Suppl. 1), (pp. 60-61). doi: 10.1111/jsr.12617[Abstract]

Jayakaran, P. (2017, November). Physical activity participation in individuals with joint pain. Invited presentation at the Southern Physiotherapy Symposium 8, Queenstown, New Zealand.

Jayakaran, P., Shemmell, J., Hendri, E., Nowicky, A., & **Hale, L.** (2017). Test and retest reliability of corticospinal excitability of rectus femoris with TMS in able-bodied adults. *Archives of Physical Medicine & Rehabilitation*, 98(10), (pp. e115). doi: 10.1016/j.apmr.2017.08.369[Abstract]

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Kaur, M., Ribeiro, D. C., Reis, J.-C., Webster, K., & **Sole, G.** (2017). Patients' perspectives of the outcomes of anterior cruciate ligament (ACL) reconstruction surgery. *Proceedings of the University of Otago Student Research Symposium: Te Wānaka Rakahau: Ākoka*. (pp. 42-43). Retrieved from <http://www.otago.ac.nz/graduate-research/scholarships/otago643219.html>.[Abstract]

Kennedy, E. (2017, August). How does the neck contribute to persistent post-concussion symptoms? A prospective case series. Verbal presentation at the New Zealand Manipulative Physiotherapists Association (NZMPA) Biennial Scientific Conference, Rotorua, New Zealand.



Kennedy, E. (2017, November). It's not all in your head: Persistent post-concussion symptoms can be neck-related. Invited presentation at the Southern Physiotherapy Symposium 8, Queenstown, New Zealand.

Kovanur-Sampath, K., Mani, R., Gisselman, A., Cotter, J., & Tumilty, S. (2017). Effectiveness of spinal manipulation in eliciting changes in biochemical markers: A systematic review and metaanalysis. Proceedings of the University of Otago Student Research Symposium: Te Wānaka Rakahau: Ākoka. (pp. 46-47). Retrieved from <http://www.otago.ac.nz/graduate-research/scholarships/otago643219.html>. [Abstract]

Lin H, Chapple CM. Frequency of manual therapy for patients with knee osteoarthritis: What do physiotherapists think? Podium presentation at the NZ Manipulative Physiotherapists Association, Rotorua, 19/20 August 2017

Livingstone, M., Elias, B., Goh, J., Peterson, E., **Wilkinson, M.**, Goulden, M., Melzer, T., Pitcher, T., Livingston, L., Horne, K., MacAskill, M., **Mulligan, H.**, Cutfield, N., Anderson, T., **Hale, L.**, & Dalrymple-Alford, J. (2017). Maintaining independence in Parkinson's disease: Cognitive effects of a combined cognitive and physical exercise intervention. In B. Leitch (Ed.), Proceedings of the 35th International Australasian Winter Conference on Brain Research. (pp. 62). AWCBR. Retrieved from <http://www.otago.ac.nz/awcbr/index.html>. [Abstract]

Longnecker, N., Scott, C., **Waters, D.**, Liberatore, A., & SolÅ-s, D. (2017). Well balanced: Reaching out with engaged research. In S. Mandic, C. Ergler & A. Moore (Eds.), Proceedings of the International Symposium Active Living and Environment: Towards a Healthier and More Sustainable Future. (pp. 45). Dunedin, New Zealand: University of Otago. [Abstract]

Maleka, D., Blanton, S., **Mulligan, H.**, Winberg, C. and Camargo, D. (2017) Self-management as an effective public health strategy: the role of physical therapy. Physical Therapy and Public Health, Discussion Session. World Confederation of Physical Therapy Congress, Cape Town

Mate, K., Mayo, N., **Sangelaji, B.**, Coe, S. **Hale, L.** (2017) Expanding the impact of physical therapy: examples from multiple sclerosis. Discussion Session. Portraits in Multiple Sclerosis. World Confederation of Physical Therapy Congress, Cape Town

Mani, R. (2017, November). Assessing tactile acuity and personal pain modulation profile in clinical practice. Invited presentation at the Southern Physiotherapy Symposium 8, Queenstown, New Zealand.

Mani, R., Adhia, D., Leong, S., & De Ridder, D. (2017, March). Conditional pain modulation, central sensitivity syndromes and psychological characteristics in individuals with chronic multi-site musculoskeletal pain: A pilot investigation. Poster session presented at the New Zealand Pain Society Annual Scientific Meeting, Nelson, New Zealand.

Mani, R. (2017, December). Central pain mechanisms in individuals with musculoskeletal pain: Implications for clinical practice [MU alumni Lecture]. Verbal presentation at the 1st Manipal International Physiotherapy Conference (MIPCON), Manipal, India.

Mani, R. (2017, December). Integrating research on central pain mechanisms into clinical practice. Workshop presentation at the 1st Manipal International Physiotherapy Conference (MIPCON), Manipal, India.

Mani, R. (2017, December). Tactile acuity, implicit motor imagery and motor control/performance in musculoskeletal pain: Are they related? Verbal presentation at the 1st Manipal International Physiotherapy Conference (MIPCON), Manipal, India.



Mani, R. (2017, July). Impaired descending pain modulation, central sensitisation, and neuropathic pain in adults with chronic musculoskeletal pain. Dunedin School of Medicine Medical Forum, Dunedin, New Zealand. [Research Seminar].

Manlapaz, D., Sole, G., Jayakaran, P., & Chapple, C. (2017). Risk factors for falls in older adult with knee osteoarthritis: A systematic review. Proceedings of the University of Otago Student Research Symposium: Te Wānaka Rakahau: Ākoka. (pp. 53-54). Retrieved from <http://www.otago.ac.nz/graduate-research/scholarships/otago643219.html>. [Abstract]

Michener, L., Cools, A., **Sole, G.** and Struyf, F. (2017) Why rotator cuff tendinopathies become chronic? Focussed Symposia. World Confederation of Physical Therapy, Cape Town.

Mulligan, H., & Wilkinson, A. (2017). Triangulating end-users, stakeholders and the evidence: Meaningful rehabilitation through dance! Proceedings of the New Zealand Rehabilitation Conference: Making an Impact: Putting Knowledge to Work in Rehabilitation. Retrieved from <http://www.nzrehabconference2017.co.nz/>. [Abstract]

Mulligan H, Briggs H & Miyahara M (2017). Towards accessible public space. Disability Matters conference: Making the Convention real. 27-29 November, Otago University.

Mulligan, K., **Calder, A., & Mulligan, H.** (2017). Incorporating inclusive design in architectural practice: A qualitative study exploring architectural design student's experiential learning. In S. Mandic, C. Ergler & A. Moore (Eds.), Proceedings of the International Symposium Active Living and Environment: Towards a Healthier and More Sustainable Future.(pp. 76). Dunedin, New Zealand: University of Otago. [Abstract]

Mulligan H., Graham H.I, McCormick M.I, Bond A.I, Hobbs O.I, Yoo C.I, Gupta S.2, King M (2017) Collaborative computer gaming to encourage social interactions between adolescents with autism spectrum disorder: a feasibility study. World Confederation of Physical Therapy, Cape Town

Mulligan, H. (2017) Development and delivery of a self-management fatigue programme for people with multiple sclerosis, Research Impact: Realising our potential Conference. November 21-22

Neill, A., Ingham, T., Jones, B., **Perry, M.,** Sim, D., Aldridge, D., **Devan, H.,** Miller, J., & Theadom, A. (2017). Prevalence of ventilatory support in genetic neuromuscular disorders in New Zealand. Journal of Sleep Research, 26(Suppl. 1), (pp. 61). doi: 10.1111/jsr.12617 [Abstract]

Perry, M. (2017, November). Older Adults in Parks Study. Verbal presentation at the New Zealand Recreation Association (NZRA) Recreation Conference, New Plymouth, New Zealand.

Perry, M. (2017, November). The role of physiotherapists in minimising risk of anterior cruciate ligament injuries in the non-elite female netball player. Invited presentation at the Southern Physiotherapy Symposium 8, Queenstown, New Zealand.

Perry, M (2017) Parks for all: co-creating inclusive parks and play areas in Porirua, New Zealand, Research Impact: Realising our potential Conference. November 21-22

Perry, M. A., Devan, H., Fitzgerald, H., Han, K., **Liu, L., & Rouse, J.** (2017). Accessibility and usability of community parks and playground in the greater Wellington region. In S. Mandic, C. Ergler & A. Moore (Eds.), Proceedings of the International Symposium Active Living and Environment: Towards a Healthier and More Sustainable Future.(pp. 75). Dunedin, New Zealand: University of Otago. [Abstract]



Perry, M., Devan, H., Ergler, C., & Boland, P. (2017, November). Round peg in a square hole: Park experiences of children with disability and their caregivers. Verbal presentation at the 8th New Zealand/Aotearoa Mobilities Symposium, Dunedin, New Zealand.

Perry, M., Devan, H., Sullivan, J., Ergler, C., & Boland, P. (2017, November). Perceived accessibility and usability of parks by older adults. Verbal presentation at the 8th New Zealand/Aotearoa Mobilities Symposium, Dunedin, New Zealand.

Peterson, E., Goh, J., Wilkinson, M., Livingstone, M., Elias, B., Goulden, M., Myall, D., Melzer, T., Pitcher, T., Livingston, L., Horne, K., Grenfell, S., MacAskill, M., **Mulligan, H.,** Cutfield, N., Anderson, T., **Hale, L.,** & Dalrymple-Alford, J. (2017). Motor outcomes in Parkinson's disease patients: An RCT of physical exercise and cognitive enrichment. In B. Leitch (Ed.), Proceedings of the 35th International Australasian Winter Conference on Brain Research.(pp. 62). AWCBR. Retrieved from <http://www.otago.ac.nz/awcbr/index.html>.**[Abstract]**

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Winer S Smith C, Hale L, Claydon L, Whitney S. BBS and SARA-Bal for the assessment of balance in cerebellar ataxia. What is thought about their suitability? WCPT-AWP & PTAT Congress 2017, Bangkok, Thailand (28-30 June)

Winer, S, Smith, C, Hale, L, Claydon, L, Whitney, S, Mottershead, J, Zaydan, I and Heyman, R. (2016). Core set of measures of balance for people with multiple sclerosis and cerebellar ataxia. Conference: Parkinson and Movement Disorder Society's 20th International Congress of Parkinson's Disease and Movement Disorders. Berlin, Germany 19-23 June 2016.

Department seminars

Chapple, CM (2017, 12 September) Same time next week? What is the optimal frequency of manual therapy for people with knee osteoarthritis? Centre for Health, Activity, and Rehabilitation



Research, School of Physiotherapy, University of Otago, Dunedin, New Zealand. [Department Seminar]

Kennedy, E. (2017, February). How does the neck contribute to persistent post-concussion symptoms?. School of Physiotherapy, University of Otago, Dunedin, New Zealand. [Department Seminar].

Mani, R. (2017, May) Pro-nociceptive and anti-nociceptive pain mechanisms in middle-aged and older adults with chronic musculoskeletal pain. Centre for Health, Activity, and Rehabilitation Research, School of Physiotherapy, University of Otago, Dunedin, New Zealand. [Department Seminar]

