Curriculum Vitae

Leeanne M. CAREY, BAppSc(OT), PhD.

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DATE OF BIRTH: 29th October, 1959.

PLACE OF BIRTH: Melbourne, Australia.

MARITAL STATUS: Married, two children.

EXECUTIVE SUMMARY

As an occupational therapist and neuroscientist, I am recognised as a world leader in the science of occupational therapy (OT), evidence-based sensory rehabilitation, and translation of neuroscience to stroke rehabilitation. I am the first Australian Occupational Therapist to be inducted into the premier international Academy of Research for '*exemplary and distinguished contributions towards the science of occupational Therapy.*' In 2010, my contribution to neurorehabilitation was honored by the World Federation of Neurological Rehabilitation.

With a rare combination of expertise in clinical rehabilitation and neuroscience, I developed an innovative neuroscience-based intervention to help stroke survivors rediscover the sense of touch. Efficacy was established in the first successful randomised controlled trial of sensory rehabilitation. Output is highly influential: improving the lives of the one in two patients with loss of body sensations. The therapy has been described as 'life changing' from stroke survivors. I have also developed novel, evidence-based sensory assessments that have been selected internationally for the NIH Toolbox project.

My research has been influential in contributing to a paradigm shift in stroke rehabilitation. Intellectual leadership in restorative rehabilitation is evident in: over 70 peer-reviewed publications; 1 > 100 cites, 5 @ 50-99, 9 @ 25-49 cites; 671 citations past 5 years; 10 invited reviews/editorials; and editorship of the invited book *'Stroke Rehabilitation: Insights from neuroscience and imaging'* (2012. Oxford Uni Press). International leadership is further evidenced by membership on: the editorial board of *Neurorehabilitation and Neural Repair* (premier of 62 rehabilitation journals); World Congress of Neurorehabilitation (2010-2012); and international Commission on Occupation and Health.

My continuing vision is to: i) translate knowledge from neuroscience into rehabilitation and ii) build research capacity in allied health; thus impacting evidence-based clinical practice. My vision and pioneering research has resulted in invited keynote addresses: Sadie Wilcox lecture 'Neuroscience makes sense for Occupational Therapy' (2009); 7th Pan Pacific Conference on Rehabilitation (2010); World Congress of Neurorehabilitation (2012); and over 70 invited addresses and workshops.

Research output has always been of the highest international quality. Findings are published in the highest impact journals in the field, such as *Neurorehabilitation and Neural Repair* (premier for rehabilitation), the *Cochrane Library*, *Neurology* and *Neuroimage* (journals not typically accessed by OTs). Publication rate shows 26 outputs in 2012/2013 comprising 14 papers, 2 books and 10 book chapters: an outstanding output for OT and allied health disciplines and for stroke rehabilitation.

Since I obtained the first PhD for research in OT in Australia, I have built a world-class environment of excellence in allied health research and stroke rehabilitation. I initiated and founded the Division of Neurorehabilitation and Recovery, first within the National Stroke Research Institute (1994), now the Florey Institute. I have consistent success in major national and international grants as CIA (n=24) or CI/AI (n=6), total $8.8 million; one of the highest success for an OT. I am the first OT to be awarded a NHMRC Career Development Award and an ARC Future Fellowship.

I lead the Neurorehabilitation and Recovery team of 1 post-doc, 8 research staff, 10 affiliates, and 11 students from disciplines of OT, physiotherapy, neurology, psychology and neuroscience. A hallmark is my strong collaborations with international experts eg. from USA, Germany, UK and Sweden. I co-lead a McDonnell Foundation international initiative and NHMRC Centre of Research Excellence submission to build a community of experts to advance the field. I am a committed supervisor of 14 doctoral (6 completed), 6 Masters and 18 Honors students (30 primary; 28 completed). I am sponsored as a visiting professor internationally (eg. Washington Uni; Haifa Uni) and nationally.

DEGREES / QUALIFICATIONS:

1978-1981	Bachelor of Applied Science in Occupational Therapy Lincoln Institute of Health Sciences. Melbourne, Australia.
1985-1986	Masters Preliminary Year La Trobe University, Melbourne, Australia.
1986-1989	Master of Applied Science (Research). La Trobe University. Converted to Doctor of Philosophy.
1989-1993	Doctor of Philosophy La Trobe University Thesis Title: *Tactile and Proprioceptive Discrimination Loss After Stroke: Training Effects and Quantitative Measurement.* (Passed without revision. Awarded April, 1994)

APPOINTMENTS:

Current

Dec 2009 – present	Australian Research Council Future Fellow (2009 – 2013) and Head, Neurorehabilitation and Recovery National Stroke Research Institute, Florey Institute of Neuroscience and Mental Health
Feb 2010-present	Appointed to Faculty of the Florey Institute.
March 2004-present	Adjunct Professor, Department of Occupational Therapy, Faculty of Health Sciences, LaTrobe University.
Feb 2004-Dec 2009	Head, Division of Neurorehabilitation and Recovery National Stroke Research Institute, Florey Neurosciences Institutes Principal Research Fellow (1.0 EFT) Australian National Health and Medical Research Council (NHMRC) Career Development Award (2004-2008)
Feb 2006-present	Honorary Principal Research Fellow. Brain Research Institute.
Feb 2007 -present	Honorary Senior Research Fellow. Department of Medicine, Melbourne University.
Feb 2007-present	Honorary Principal Research Fellow Department of Neurology, Austin Health.
Feb 2002-present	Honorary Affiliate - Research and Evidence Based Practice. Department of Occupational Therapy, Austin Health.

Past

Aug 1981-Jan 1983	Grade 1 Occupational Therapist. Manvantara Geriatric Rehabilitation Hospital.
Jan 1983-Dec 1986	Senior Tutor, Level I to Level IV Lincoln Institute of Health Sciences, School of Occupational Therapy Clinical caseload at Royal Talbot Rehabilitation Hospital.
Jan 1987-Jan 1989	Lecturer, Level 11 (promotion). Department of Occupational Therapy, Lincoln School of Health Sciences, La Trobe University. (Previously Lincoln Institute of Health Sciences.)
Jan 1989-Feb 1990	Chief Occupational Therapist Hampton Rehabilitation Hospital
Feb 1990-March 1993	PhD research studies (full time)

March 1993-March 1994	Senior Research Officer (part time) Australian Research Council grant
Jan 1994-July 1995	Honorary associate of the Faculty of Health Sciences, La Trobe University.
March 1994-March 1995	Post doctoral studies (part-time) School of Behavioural Health Sciences, La Trobe University.
Feb 1996-1998	Research Fellow (0.5 EFT). Austin and Repatriation Medical Centre, Department of Neurology and National Stroke Research Institute.
Jul 1995-Feb 2004	Senior Lecturer, Research and Postgraduate education (0.5 EFT). School of Occupational Therapy, LaTrobe University.
Feb 1999-Feb 2004	Senior Research Fellow (0.5 EFT). National Stroke Research Institute, Neuroimaging Division.
Feb 2002-Feb 2006	Honorary Research Fellow. Brain Research Institute.

DISTINCTIONS/ RESEARCH AWARDS/ SCHOLARSHIPS:

2013	International Visiting Professor, University of Haifa, Israel.
2011	International Visiting Professor, Washington University School of Medicine, St. Louis, USA.
2010:	Honored by the World Federation for Neurorehabilitation (WFNR). (Neurorehabil Neural Repair, 2010;24:499-500).
2010	BrainLink Women of Achievement Award (finalist).
2009:	Member of the Academy of Research of the American Occupational Therapy Foundation for ‘exemplary and distinguished contributions towards the science of occupational Therapy.
2009:	Australian Research Council (ARC) Future Fellowship
2004-2008:	National Health and Medical Research Council (NHMRC) of Australia Career Development Award.
1995:	LaTrobe University, Faculty of Health Sciences Postdoctoral Research Fellowship.
1994:	LaTrobe University, Faculty of Health Sciences Research Grant for post-doctoral studies.
1991:	Australian Association of Occupational Therapists Research Award (open category).

1990: Australian Postgraduate Research Award.

1988: World Federation of Occupational Therapists Foundation Research Award. (only one award is awarded worldwide every four years).

1988: La Trobe University Postgraduate Scholarship.

1981: Special commendation for grades obtained in final year of study, School of Occupational Therapy, LaTrobe University.

1977: Dux of School, Chavoin College, Melbourne, Australia.
Special Distinction, Higher School Certificate English exam.

RESEARCH GRANTS AWARDED:

Investigator/s	Grantor	Title	Year	Amount
Josman, N, Baum, C **Carey, L**	James McDonnell Foundation	Advancing the Science of Neurorehabilitation: Integrating Neuroscience and Rehabilitation Research into A Science of Recovery for Everyday Life: Planning grant	2012-2013	50,000
Carey L, Seitz, R., Levi, C., Tournier, D.	NHMRC project grant APP1022694	Effective sensory rehabilitation after stroke: Targeting viable brain networks	2012-2015	735,120
Carey, L	Ivor Ronald Evans Foundation – Equity trust	Helping stroke survivors to feel again… Development of multimedia package- Part B	2012	20,000
Carey, L	Eirene Lucus Foundation	Helping stroke survivors feel again…development of multimedia training package for therapists.	2012	5,000
Carey, L	Dunlop foundation	Effective sensory rehabilitation after stroke: Targeting viable brain networks (pilot).	2011	15,000
Donnan, G, Davis, S Milner, A Hudson, P	Commonwealth Science and Industrial Research	STroke imaging pRevention and Treatment (START)	2010-2013	$3,000,000

Investigator/s	Grantor	Title	Year	Amount
Howells, D **Carey, L** Bevege, L	Organisation (CSIRO) flagship collaborative fund			
Walker, J **Carey, L (supervisor)**	Windermere Foundation- Special Grants 2010	Sensory Rehabilitation following Stroke: Developing training resources for therapists and carers in rural and remote areas.	2010	$15,000
Carey LM	Australian Research Council- Future Fellowship FT0992299	Improved identification of patients 'at risk' of depression, and optimal targeting of rehabilitation post-stroke through novel brain imaging and biomarkers.	2009-2013	$686,400
Carey LM	Perpetual Foundation	CoNNECT: Connecting New Networks for Everyday Contact through Touch – pilot study	2008-2009	$50,750
Carey LM	National Stroke Research Institute	Advances in Neurorehabilitation and Recovery (Special award)	2007-8	$50,000
Carey LM Matyas TA	LaTrobe University-	Institute of Advanced Study Distinguished Fellowship for Prof. Rudiger Seitz	2006-7	$50,000
Carey LM	NHMRC – Career Development Award 307905	Scientific foundations of neurorehabilitation post-stroke.	2004-2008	$417,500
Carey LM Abbott DF	NHMRC - Project grant. 307902	Brain adaptation associated with spontaneous and training-induced recovery of touch sensation post stroke.	2004-2006	$334,700
Donnan G Berkovic S Galea M Parker J	NHMRC - Centre of Clinical Research	Neurosciences: Cross-discipline enhancement of clinical research and education.	2003-2007.	$2,000,000

Investigator/s	Grantor	Title	Year	Amount
Carey LM Bernhardt J McIntosh A	Excellence. CCRE 219280			
Carey LM	Austin Medical Research Foundation	Imaging neuroplasticity of touch in late stages of recovery after stroke.	2006	$10,000
Carey LM Matyas TA Macdonell R Wade D	NHMRC - Project grant. 191214	Effectiveness of training somatosensation in the hand after stroke: A randomized controlled trial.	2002 – 2004/5.	$180,000
Carey LM	Austin Medical Research Foundation.	Brain plasticity associated with training-induced recovery of touch sensation post-stroke.	2002 & 2003.	$10,000
Carey LM Matyas TA	LaTrobe University – Faculty of Health Sciences.	The relationship between touch sensation and pinch grip after stroke.	2002.	$8,624
Carey LM	LaTrobe University – Collaborative grant scheme.	Changes in sites of brain activity associated with training-induced recovery of touch sensation post-stroke.	2002-2003	$21,398
Carey LM	Ronald Geoffrey Arnott Foundation.	Brain adaptation associated with training-induced recovery of touch sensation post-stroke.	2002.	$13,000
Carey LM	Austin Medical Research Foundation.	Brain adaptation associated with recovery of touch sensation after stroke: A serial functional MRI study (pilot study).	2000 & 2001.	$20,000
Carey LM	Austin Medical Research Foundation	Rehabilitation induced reorganisation in the brain following stroke: pilot motor study.	1999.	$7,000
Carey LM Matyas TA	ARC - Small grants scheme.	Influence of Touch Sensation and its Retraining on Finger Grip after Stroke	1997 - 2000.	$46,500
Carey LM	National Health	Cerebral reorganisation:	1996 -	$294,829

Investigator/s	Grantor	Title	Year	Amount
Donnan GA Jackson GD Abbott DF	and Medical research Council (NHMRC) - Project grant. 960285	Motor and somatosensory recovery after stroke.	1998	
Carey LM Matyas TA	Commonwealth Department of Health and Human Services - Research and Development Grant.	Assessment and re-education of somatosensory discrimination after stroke: Evaluation of standardised testing and service delivery by therapists and by family members in community settings.	1996 – 1999	$149,195
Carey LM	La Trobe University, Central Starter Research grant.	Assessment and re-education of somatosensory discrimination after stroke.	1995-1996	$8,840
Carey LM	Victorian Association of Occupational Therapists - Trust fund	Sensory rehabilitation after stroke	1994	$2,000
Matyas TA **Carey LM**	ARC - Small grant scheme.	Training Texture Discrimination Impaired by Stroke: Transfer of Training to Novel Stimuli within the Same Modality	1992-1993	$9,000
Matyas TA Goldie P Rogers D Bate P Morris M **Carey LM** Mudie H Bendrups A Lewis M	Australian Research Council (ARC) Infrastructure development grant	Movement Rehabilitation	1990-1994	$597,318
Carey LM	La Trobe University - Research and Higher Degrees Research Grants	Sensory assessment and rehabilitation after stroke	1987 1988	$4,000 $1,500

Summary: First named chief investigator on 24 grants, including 4 major NHMRC project grants and 2 NHMRC fellowship awards, totaling $3,116,236.
Associate investigator or co-chief investigator on 6 grants totaling $5,671,318.

JOURNAL/BOOK PUBLICATIONS:

Published manuscripts and books. Reverse chronological order:

Pascoe, M et al (under review) Thalamic and hippocampus apoptosis following middle cerebral artery occlusion correlates with locomotor hyperactivity and anxiety-like behaviours in the rat.

Carey, LM, Crewther, S., Salvado, O., …..Davis, SM., Donnan, GA and the START research team. START (STroke imAging pRevention and Treatment): A longitudinal stroke cohort study: Clinical Trials Protocol. International Journal of Stroke (submitted)

Seitz, RJ., **Carey, LM.** Neurorehabilitation after acute stroke. European Medical Journal - Neurology. (in press, first issue).

Randall, M, Imms, C., **Carey, LM.,** Pallant, JF. Rasch Analysis of the Melbourne Assessment of Unilateral Upper Limb Function. Developmental Medicine and Child Neurology (under review)

Pascoe, M.C., Howells, DW., Crewther, DP, Constantinou, N, **Carey, L.M.,** Rewell, SS, Turchini, GM, Kaur, G, Crewther, S.G. Fish Oil Diet Reduces Longer Term Stroke-Related Sickness Behaviours, and Motor Impairment in Rat, But is Also Associated with Acute Reperfusion Related Haemorrhage. The British Journal of Nutrition. (under review: BJN-2013-019765).

Carey, LM, Seitz, RJ, Parsons, M, Levi, C, Farquharson, S, Tournier, J-D, Palmer, S, Connelly, A. Beyond the Lesion – Neuroimaging foundations for poststroke recovery. Future Neurology. (invited, under review).

Carey, L. Core Concepts in Sensory Impairment and Recovery Following Stroke. In Wolf, T. Neurorehabilitation for Stroke. AOTA Press. (in press)

Hommel, M., **Carey, L.,** Jaillard, A. (in press). Depression-Cognition relations after stroke. *International Journal of Stroke*.

van Vliet, P., Pelton, T., Hollands, K., **Carey, L**., Wing, A. (in press). Neuroscience findings on coordination of reaching to grasp an object- implications for research. *Neurorehabilitation and Neural Repair*. (accepted Jan 2013).

Hoare, B., Imms, C., Vilanueva, E. Rawicki, H. B., Matyas, T., **Carey, L**. (2012). Intensive therapy following upper limb Botulinum toxin-A in young children with unilateral cerebral palsy: a randomized trial *Developmental Medicine and Child Neurology.* (DOI: 10.1111/dmcn.12054) (PMID: 23236956).

Noonan, K, Crewther, S. **Carey, L.M.,** Pascoe, M.C., Linden, T. (2013). Sustained inflammation

1.5 years post-stroke is not associated with depression in elderly stroke survivors. *Clinical Interventions in Aging.* 8:69-74.

Dunn, W., Griffith, J.W., Morrison, M.T., Tanquary, J., Sabata, D., Victorson, D., **Carey, L.M.,** Gershon, R.C. (2013) Somatosensation assessment using the NIH Toolbox. *Neurology.* 80; S41-S44. DOI 10.1212/WNL.0b013e3182872c54

Cook, K.F., Dunn, W., Griffith, J.W., Morrison, M.T., Tanquary, J., Sabata, D., Victorson, D., **Carey, L.M.,** MacDermid, J.C., Dudgeon, B.J., Gershon, R.C. (2013) Pain Assessment Using the NIH Toolbox. *Neurology.* 80; S49-S53. DOI 10.1212/WNL.0b013e3182872e80

Tse, T., Douglas, J., Lentin, P., **Carey, L.M.** (2013). Measuring participation after stroke: A review of frequently used tools. Archives of Physical Medicine and Rehabilitation. 94:177-92. (DOI: 10.1016/j.apmr.2012.09.002) (PMID: 22982555)

Walker MF, Fisher RJ, Korner-Bitensky N, McCluskey A, **Carey LM.** (2013) From what we know to what we do: Translating Stroke Rehabilitation Research into Practice. International Journal of Stroke 8:11-17. (PMID: 23280264)

Carey, L.M (in press). Person factors: sensory. In Christiansen, C.H., Baum, C.M. and Bass, J. (eds). *Occupational Therapy: Enabling Performance, Participation, and Well-being*. 4th edition. Slack Inc.

Carey, L.M. (2012) *SENSe: Helping stroke survivors regain a sense of touch: A Manual for therapists.* Melbourne, Florey Neuroscience Institutes. 202 pages.

Carey, L.M. (2012). *SENSe: Helping stroke survivors regain a sense of touch; A DVD for therapists.* Melbourne, Florey Neuroscience Institutes.

Noonan, K., **Carey, L.**, Crewther, S (2012) Meta-analyses indicate associations between neuroendocrine activation, deactivation in neurotrophic and neuroimaging markers in depression after stroke. *Journal of Stroke and Cerebrovascular Diseases.* (DOI: 10.1016/j.jstrokecerebrovasdis.2012.09.008) (PMID: 23149149)

Pascoe, M.C., Linden, T., **Carey, L.M.,** Noonan, K., Crewther, D.P., Crewther, S.G. (2012) Homocysteine as a potential biochemical marker for depression in elderly stroke survivors. *Food & Nutrition Research, 56: 14973 - DOI: 10.3402/fnr.v56i0.14973. (PMID: 22509143)*

Van Vliet, P., **Carey, L.M**. Nilsson, M (2012).Targeting stroke treatment to the individual. *International Journal of Stroke, 7(6) 480-481 (DOI: 10.1111/j.1747-4949.2012.00867.x*

Carey, L. M & Matyas, T.A. (2012) Response to 4 weeks (10 sessions) of individual sensory discrimination training produced clinically important changes in upper limb sensation after stroke. Letter to the Editor. *Australian Occupational Therapy Journal* 59 (2)168-169 doi: 10.1111/j.1440-1630.2012.01004.x

Carey, LM (editor) (2012) *Stroke Rehabilitation: Insights from Neuroscience and Imaging*. Oxford University Press. ISBN 978-0-19-979788-2 (304 pages). http://www.oup.com/us/catalog/general/subject/Medicine/Neurology/

Carey, LM. (2012) Introduction. In Carey, L (editor) *Stroke Rehabilitation: Insights from Neuroscience and Imaging*. Oxford University Press. pp. 3-10

Carey, LM, Polatajko, HJ, Connor, LT., Baum, CM. (2012). Stroke Rehabilitation: A Learning Perspective. In Carey, L (editor) *Stroke Rehabilitation: Insights from Neuroscience and Imaging*. Oxford University Press. pp. 11-23.

Carey, LM. (2012) Touch and body sensations. In Carey, L (editor) *Stroke Rehabilitation: Insights from Neuroscience and Imaging*. Oxford University Press. pp. 157-172.

Carey, LM. (2012) Directions for stroke rehabilitation clinical practice and research. In Carey, L (editor) *Stroke Rehabilitation: Insights from Neuroscience and Imaging*. Oxford University Press. pp. 240-249

Linden, T., **Carey L.,** Nilsson, M. (2012). Motivation, mood and the right environment. In Carey, L (editor) *Stroke Rehabilitation: Insights from Neuroscience and Imaging*. Oxford University Press. pp. 106-114.

Van Vliet, P., Matyas, TA., **Carey, LM.** (2012) Training principles to enhance learning-based rehabilitation and neuroplasticity. In Carey, L (editor) *Stroke Rehabilitation: Insights from Neuroscience and Imaging*. Oxford University Press. pp. 115-126.

Carey, L.M. (in press). Loss of somatic sensation. In Selzer, N., Clarke, S., Cohen, L., Kwakkel, G., Miller. R. Textbook of Neural Repair and Rehabilitation (2nd ed). Cambridge University Press.

Carey, L.M. & Baum, C. (2012) Occupational Therapy. In Azari, N.P. (ed). *Encyclopaedia of Sciences and Religions.* Springer Verlag. Heidelberg, Germany ISBN: 978-1-4020-8264-1

Randall, M., Imms, C., **Carey, L**. (2012) Further evidence of validity of the modified Melbourne Assessment for neurologically impaired children aged 2 to 4 years. Developmental Medicine and Child Neurology. *54 (5) 424-428* (PMID: 22390189) (DOI: 10.1111/j.1469-8749.2012.04252.x)

Ma H., Parsons M, Christensen S, Campbell B, Churilov L, Connelly A, Yan B, Bladin C, Phan T, Barber P.A., Read S, Hankey G, Markus R, Wijeratne T, Grimley R, Mahant N, Kleinig T, Sturm J, Lee A, Blacker D, Gerraty R, Krause M, Desmond P.D, **Carey L**, Howell D, Davis S.M, Donnan G.A on behalf of the EXTEND investigators. (2012) A multicentre, randomized, double blinded, placebo controlled phase 3 study to investigate EXtending the time for Thrombolysis in Emergency Neurological Deficits (EXTEND). *International Journal of Stroke* vol 7 (Jan), 74-80. (PMID: 22188854) (DOI: 10.111/j.1747-4949.2011.00730.x)

Baum, C., Polatajko, H., **Carey, L**. (2012) Occupational Therapy. In Gellman, M.D & Turner, J.R. (eds) *Encyclopedia of Behavioral Medicine. Vol 3* Springer. LXXVIII, 2116p. http://www.springer.com/medicine/book/978-1-4419-1004-2 978-1-4419-1004-2

Hoare, B., Imms, C., Randall, M., **Carey, L**. (2011) Linking Cerebral Palsy Upper Limb Measurements to the International Classification of Functioning, Disability and Health. *Journal of Rehabilitation Medicine* 43: 987-996

Pascoe, M.C., Crewther, S.G., **Carey, L.M.,** Crewther, D.P. (2011). What you eat is what you are - A role for polyunsaturated fatty acids in neuroinflammation induced Depression? *Clinical Nutrition*, 30: 407-415. doi:10.1016/j.clnu.2011.03.013

Carey, L.M., Macdonell, R. and Matyas, T. (2011). SENSe: Study of the Effectiveness of Neurorehabilitation on Sensation. A randomized controlled trial. *Neurorehabilitation and Neural Repair*. 25:304-313.

Carey, L.M., Abbott, D.F., Harvey, M.R., Puce, A., Seitz, R.J., Donnan, G.A. (2011). The relationship between touch impairment and brain activation after lesions of subcortical and cortical somatosensory regions. *Neurorehabilitation and Neural Repair*. 25(5): 443 – 457.

Carey, L.M. & Matyas, T.A. (2011) Frequency of Discriminative Sensory Loss in the Hand after Stroke. *Journal of Rehabilitation Medicine.* 43: 257-263

Pascoe, M., Crewther, D., **Carey, L.,** Crewther, S. (2011b) Inflammation and Depression: Why Post Stroke Depression May be the Norm and not the Exception. *International Journal of Stroke*, 6(2):128-35. doi: 10.1111/j.1747-4949.2010.00565.x.

Spitzer, J., Tse, T., Baum, C., **Carey, L.M**. (2011) Mild cognitive impairment impacts on activity participation post-stroke in an Australian cohort. *Occupational Therapy Journal of Research: Occupation, Participation and Health: Special focus: Cognition and Executive Function.* 31 (no 1 suppl), S8-15.

Carey, L.M. (2010) Forward, In Lyons, W. *Left of Tomorrow.* ISBN: 9781921642456

Carey, L.M. (2010) Neuroscience Makes Sense for Occupational Therapy. Viewpoint. *Australian Occupational Therapy Journal*. Special Issue on Stroke Rehabilitation. 57 (3), 197-199.

Carey, L.M., Blennerhassett, J. & Matyas, T. (2010) Evidence for the retraining of sensation after stroke remains limited. Critically Appraised Papers. Commentary. *Australian Occupational Therapy Journal.* 57, 200-202.

Blennerhassett, J.M., Avery, R.M., **Carey, L.M.** (2010) The test-retest reliability and responsiveness to change for the Hand Function Survey during stroke rehabilitation. *Australian Occupational Therapy Journal.* 57, 355-446.

Hoare, B., Imms, C., Rawicki, H. B., **Carey, L.** (2010) Modified constraint-induced movement therapy or conventional occupational therapy following injection of Botulinum toxin-A to improve bimanual performance in children with hemiplegic cerebral palsy: A randomised controlled trial methods paper. *BMC Neurology* 2010, 10:58

Hoare, B., Wallen, M., Imms, C., Villanueva, E., Rawicki, H. B., **Carey, L.** (2010) Botulinum toxin A as an adjunct to treatment in the management of the upper limb in children with spastic hemiplegic cerebral palsy (Cochrane Review): Update. In: *The Cochrane Library*,

Issue 1 2010. Chichester, UK: John Wiley & Sons, Ltd.

Puce, A. & **Carey, L.** (2010). Somatosensory function. In Weiner, I.B. & Craighead, WE (Eds) *The Corsini Encyclopedia of Psychology*. 4th ed. New York. John Wiley & Sons, Inc (pp. 1678-1680). ISBN: 978-0-470-17024-3 http://mrw.interscience.wiley.com/emrw/9780470479216/home/

Hubbard, I.J., Parsons, M.W., Neilson, C. & **Carey, L.M.** (2009). Task-specific training: Evidence for and translation to clinical practice. *Occupational Therapy International.* Vol 16 (3-4): 175-189. (invited)

Blennerhassett, J.M., **Carey, L.M.,** Matyas, T.A. (2008) Impaired discrimination of sensory information about slip between object and skin is associated with handgrip limitation poststroke *Brain Impairment*. *Special Issue: Stroke Rehabilitation.* 9 (2):114-121. (Invited and peer reviewed).

Blennerhassett, J.M, **Carey, L.M**, Matyas, T.A. (2008). Clinical measures of handgrip limitation relate to impaired grip force control after stroke. *Journal of Hand Therapy* 21(3): 245-52; quiz 253.

Carey, L.M., Abbott, D., Egan, G., Donnan, G. (2008) Reproducible activation in BA2, 1 and 3b associated with texture discrimination in healthy volunteers over time. *Neuroimage* 39(1):40-51.

Carey, LM, Blennerhassett, J., Cadilhac, D., Douglas, J. (2008) Stroke Rehabilitation: Multidisciplinary Perspectives. *Brain Impairment. Special Issue: Stroke Rehabilitation*. 9 (2): 95-96. (guest editorial).

Carey, L.M., Matyas, T.A. (2008). Effectiveness of sensory discrimination training when delivered by family members. *Brain Impairment*. *Special Issue: Stroke Rehabilitation*. 9 (2):140-151. (Invited and peer reviewed).

Randall, M., Imms, C. **Carey, L**. (2008). Establishing validity of a modified Melbourne Assessment for children aged 2 to 4 years. *The American Journal of Occupational Therapy*. 62(4): 373-383.

Seitz, R, Matyas, T.A., **Carey, L.M**. (2008). Neural plasticity as a basis for motor learning and neurorehabilitation. *Brain Impairment*. *Special Issue: Stroke Rehabilitation*. 9 (2):103-113. (Invited and peer reviewed).

Carey, L.M., Seitz, R. (2007). Functional Neuroimaging in Stroke Recovery and Neurorehabilitation: Conceptual Issues and Perspectives. *International Journal of Stroke*. 2(4) 245-264. (invited and peer reviewed)

Carey, L.M. (2007). Neuroplasticity and learning lead a new era in stroke rehabilitation. *International Journal of Therapy and Rehabilitation.* 14(6), 200-201. (invited editorial)

Hoare, B., Imms, C., and **Carey, L**. Wasiak J. (2007) Constraint induced movement therapy in the treatment of the upper limb in children with spastic hemiplegic cerebral palsy: a Cochrane systematic review. *Clinical Rehabilitation* 21:675-685.

Hoare, B., Wasiak J. Imms, C., and **Carey, L**. (2007) Constraint induced movement therapy in the treatment of the upper limb in children with spastic hemiplegic cerebral palsy (Cochrane Review). *The Cochrane Library*, Issue 2. Chichester, UK: John Wiley & Sons, Ltd.

Blennerhassett, J.M., Matyas, T.A., **Carey, L.M**. (2007) Impaired discrimination of surface friction contributes to pinch grip deficit after stroke. *Neurorehabilitation and Neural Repair*. 21(3): 263-72.

Blennerhassett, J.M., **Carey, L.M.,** Matyas, T.A. (2006). Grip Force Regulation During Pinch Grip Lifts Under Somatosensory Guidance: Comparison Between People With Stroke and Healthy Controls. *Archives of Physical Medicine and Rehabilitation.* 87(3)418-429

Carey, L.M., Abbott, D.F., Egan, G.F., O'Keefe, G.J., Jackson, G.D., Bernhardt, J., Donnan, G.A. (2006) Evolution of brain activation with good and poor motor recovery after stroke. *Neurorehabilitation and Neural Repair*. 20:1-18.

Carey, L.M. (2006). Loss of somatic sensation. In Selzer, M.., Clarke, S., Cohen, L., Duncan, P., Gage, F.H. (eds). *Textbook of Neural Repair and Rehabilitation.* Vol II. Medical Rehabilitation. Cambridge: Cambridge University Press. (Chapter II.16, pages 231-247).

Carey, L.M., Abbott, D.F., Egan, G.F., Bernhardt, J., Donnan, G.A. (2005). Motor impairment and recovery in the upper limb after stroke: behavioral and neuroanatomical correlates. *Stroke* 36:625-629.

Carey, L.M., Matyas, T.A. (2005). Training of somatosensory discrimination after stroke: Facilitation of stimulus generalization. *American Journal of Physical Medicine and Rehabilitation*. 84(6):428-442.

Brodtman, A, Darby, D. & **Carey, L**. (2003). Functional MRI and stroke. In Davis, S., Fisher, M & Warach, S (eds). *Magnetic Resonance Imaging and Stroke.* Cambridge University Press, UK. pp 251-262.

Carey, L.M., Abbott, D.F., Puce, A., Jackson, G.D., Syngeniotis, A., Donnan, G.A. (2002). Re-emergence of activation with post-stroke somatosensory recovery: a serial fMRI case study. *Neurology* 59:749-752.

Carey, L.M., Matyas, T.A. & Oke, L.E.(2002). Evaluation of impaired fingertip texture discrimination and wrist position sense in patients affected by stroke: Comparison of clinical and new quantitative measures. *Journal of Hand Therapy* 15: 71-82.

Carey, L.M. (2002). Occupational Therapy and Stroke: Book review. *Australian Occupational Therapy Journal* 49: 55.

Matyas, T.A., **Carey, L.M**., Mudie, H, Collins, M (2001). Training effects in post-ischemic recovery: Task-specificity and generalization phenomena in re-education of somatosensation and in bilateral isokinematic practice of upper limb movements. In Elsner, N & Kreutzberg, G.W. editors. *The neurosciences at the turn of the century: Proceedings of the 4th meeting of the German Neuroscience Society: 28th Gottingen Neurobiology Conference*. Thieme, New York.

Carey, L., & Matyas, T. A. (2000). Somatosensory discrimination after stroke: Stimulus specific versus generalisation training. In Bennett, K. M. B. and Gregory, S. J. *Perception and Cognition for Action: Proceedings from the III Perception for Action Conference*. Melbourne, Australia. Cleveland Digital pp. 61-74. (full peer reviewed paper in published book)

Carey, L.M., Abbott, D.F., Egan, G.F., Tochon-Danguy, H.J. & Donnan, G.A. (2000). The functional neuroanatomy and long term reproducibility of brain activations associated with a simple finger tapping task in older healthy volunteers: a serial PET study. *NeuroImage* 11: 124-144. [IF = 5.559] (cover edition- images in the manuscript were used on the cover of the journal)

Macdonell, R., Jackson, G., Curatolo, J., Abbott, D., Berkovic, S., **Carey, L**., Syngeniotis, A., Fabinyi, G., & Scheffer, I. (1999) Motor cortex localisation using fMRI and transcranial magnetic stimulation. *Neurology*, 53: 1462-1467.

Donnan, G.A., **Carey, L.M.** & Saling, M.M. (1999). More (or less) on Broca. *Lancet, 353,* 1031-1032.

Carey, L. M., Oke, L. & Matyas, T. A. (1997). Impaired touch discrimination after stroke: A quantitative test. *Neurorehabilitation and Neural Repair* (previously *Journal of Neurologic Rehabilitation, 11*,219-232.

Carey, L. M., Oke, L. & Matyas, T. A. (1996). Impaired limb position sense after stroke: A quantitative test for clinical use. *Archives of Physical Medicine & Rehabilitation, 77,* 1271-8.

Carey, L. M. (1995). Somatosensory loss after stroke. *Critical Reviews in Physical & Rehabilitation Medicine, 7,* 51-91. (Invited review paper).

Carey, L. M. (1994). *Somatosensory assessment and retraining* (monograph). Australian Association of Occupational Therapists.

Carey, L. M., Matyas, T. A. & Oke, L. E. (1994). Somatosensory discrimination training after stroke: Generalisation of intervention effects across stimuli. *Proceedings of the 11th International Congress of the World Federation of Occupational Therapists,* Vol 2: 730-732 (full paper).

Carey, L. M. (1993). *Tactile and proprioceptive discrimination loss after stroke: Training effects and quantitative measurement.* PhD thesis, La Trobe University, Melbourne.

Carey, L. M., Matyas, T. A., & Oke, L. E. (1993). Sensory loss in stroke patients: Effective tactile and proprioceptive discrimination training. *Archives of Physical Medicine and Rehabilitation, 74,* 602-611.

INTERNATIONAL, NATIONAL AND LOCAL PRESENTATIONS and CONFERENCE PUBLICATIONS

INTERNATIONAL

Invited

Carey, L.M. (2014) Post-Stroke Rehabilitation. *11th International Conference on Low Vision. Advancing Research, Upgrading Practice, Improving Participation.* Melbourne 31March-3 April, 2014 (Plenary Session on Neurological Vision Impairment and moderate symposium)

Carey, L.M. (2013) UK Stroke Forum. 3-5th Dec. Harrogate, UK.

Carey, L.M. (2013). *Building the Evidence for Sensory Rehabilitation after Stroke*. University of Haifa, Israel.

Carey, L.M. (2013). *Neuroscience in the Clinic: An Evidence Based Approach to Sensory Rehabilitation after Stroke*. University of Haifa, Israel. (1 day workshop).

Carey, L.M. (2012) Neuroscience to Neurorehabilitation: Connecting new networks for everyday contact through touch. *7th World Congress of Neurorehabilitation.* Melbourne, Australia. 16-19 May

Carey, LM (2012) Stroke Rehabilitation: Insights from Neuroscience and Imaging. *7th World Congress of Neurorehabilitation*. Pre-congress workshop. Melbourne, Australia. 16-19 May.

Carey, L.M. (2012) Effective networking in research: essential qualities: Workshop leader. *7th World Congress of Neurorehabilitation Stroke Rehabilitation Research Satellite Meeting Hunter Valley, NSW, Australia*

Carey, L.M. (2011) *Sensory Rehabilitation Post-Stroke: Connecting New Networks for Everyday Contact through Touch.* Feb 17. Washington University, St Louis. Neurorehabilitation Grand Round:

Carey, L.M. (2011) *Identifying and Managing Sensory Loss after Stroke: An evidence-based approach.* Feb 15. Washington University, St Louis. Invited speaker.

Carey, L.M. (2011) *Measuring Somatosensory Function: New Measures and Application following Stroke.* Feb 12. Northwestern University, Chicago, USA. Invited speaker.

Carey, L.M. (2010). Sensory Rehabilitation Post-Stroke: Linking Mind, Brain and Body. *7th Pan-Pacific Conference on Rehabilitation*. October 23-24. Hong Kong. Keynote speaker.

Carey, L.M. (2010). Sensory Rehabilitation after Stroke: Neuroscience Foundations, New Evidence and Application to Clinical Practice. *7th Pan-Pacific Conference on Rehabilitation*. (preconference workshop) October 23-24. Hong Kong. Keynote speaker.

Carey L.M. (2008) Brain activation in sensory and motor recovery post-stroke. Stroke Satellite Meeting. *Organization for Human Brain Mapping 14th Annual Meeting.* June 14. Melbourne, Australia. Invited speaker

Carey, L.M. (2008) How to use fMRI to answer clinical research questions. Specialist Certificate in Clinical Research (Neuroscience) and Pre-conference course 'Introduction to

Neuroimaging for Clinical Researchers'. *Organization for Human Brain Mapping 14th Annual Meeting.* June 15-19. Melbourne, Australia.

Carey, L.M., Abbott, A., Harvey, M., Puce, A, Seitz, R. (2008) Post-stroke somatosensory impairment inversely correlates with touch discrimination related BOLD signal in contralesional thalamus. *Organization for Human Brain Mapping 14th Annual Meeting.* June 15-19. Melbourne, Australia. (invited oral presentation and conference highlight.)
Neuroimage 41: Supplement 1: S135

Carey, L.M. (2007) *Neurorehabilitation and Recovery*. Washington State University, St Louis, Departmental presentation.

Carey, L.M. (2007) Touch, Space and Body Awareness: Rehabilitation. *Cognitive Neuroscience and Rehabilitation: Touch, Space and Body Awareness Conference Workshop*. Boston, USA. Oct 31- Nov 2 (presentation at highly selected international meeting). Supported by James S Macdonnell Foundation.

Carey, L.M. (2005). Imaging recovery from stroke: treatment facilitated recovery. *Imaging Recovery from Stroke: Second International Workshop.* Hamburg, Germany. (May 23-24)

Walters, N.B., Egan, G.F., **Carey, L.,** Kean, M., Davies, R., Eickhoff, S., Kularatne, D., Watson, J.D.G. (2004). Structure-function studies of the human sensorimotor system: in vivo identification of structural correlates for primary motor, premotor and somatosensory areas using high-resolution structural MR imaging. 10th annual meeting of the organization for Human Brain Mapping, Budapest, Hungary. Abstract available on CD-ROM in NeuroImage 22(Suppl.1);WE71

Carey, L.M., Abbott, D.F., Egan, G.F., O'Keefe, G.J., Jackson, G.D., Donnan, GA. (2001). Post-stroke motor recovery and neural plasticity. 7th Annual Meeting of the Organization for Human Brain Mapping, Brighton, UK. Abstract: *Neuroimage, 13 (6)* pt 2: S774.

Matyas, T.A., **Carey, L.M**., Mudie, H, Collins, M (2001). Training effects in post-ischemic recovery: Task-specificity and generalization phenomena in re-education of somatosensation and in bilateral isokinematic practice of upper limb movements. In Elsner, N & Kreutzberg, G.W. editors. *The neurosciences at the turn of the century: Proceedings of the 4th meeting of the German Neuroscience Society: 28th Gottingen Neurobiology Conference*. Thieme, New York.

Carey, L. & Mudie, H. 1994. Stroke Rehabilitation: New Ideas Researched for Clinical Practice. *London Association of Occupational Therapists.* (2 day workshop, London).

Proffered

Abbott DF, Jackson GD, **Carey LM**. (2013). Non-dominant-hand sensory aura may lateralise to either cerebral hemisphere. *Proceedings of the 30th International Epilepsy Congress*, Montreal, Canada, June 23rd-27th.

Carey, LM., Bannister, LC., Crewther SG. (2013) Improvement of touch sensation poststroke is associated with intrinsic functional connectivity changes.

Abbott DF, Jackson GD, **Carey LM** Non-dominant-hand sensory aura may lateralise to either cerebral hemisphere. *30th International Epilepsy Congress* Montreal, Canada, June 23rd-27th, 2013.

Carey, LM, Abbott, DF., Lamp, G., Puce, A., Seitz, RJ, Donnan, GA. Imaging neuroplasticity of touch after stroke: training-facilitated changes following intervention. *Organization for Human Brain Mapping 2012.* Beijing China, June 10-14. 2012.

Hubbard, IJ, **Carey LM**, Budd TW, Parsons MW. An RCT of differing intensities of early upper limb training post stroke: Evidence of delayed neuroplastic changes in the ipsilesional SMA. *7th World Congress of Neurorehabilitation.* Melbourne. May 2012.

Jaillard, A, Carey, L, XXXXX Does motor cortex activity predict motor recovery? An fMRI study of subacute lacunar stroke. International Stroke Conference 2012. New Orleans, Louisiana. Feb 1-3, 2012.

Abbott, D.F., Palmer, S.M., Low, E., Jackson, G.D., **Carey, L.M.** (2012) An fMRI study of the relative laterality of dominant and non-dominant hand sensory function. *International Society for Magnetic Resonance and Imaging (ISMRM).*

Carey, LM (2012) Stroke Rehabilitation: Insights from Neuroscience and Imaging. World Congress of Neurorehabilitation. Melbourne. May 2012.

Ben-Shabat E, Brodtmann A, Matyas TA, Pell GS, **Carey LM.** (2012) Proprioceptive Perception: A behavioural and functional MRI study of its Hemispheric Dominance. 7th World Congress of Neurorehabilitation. Melbourne. May 2012.

Ben-Shabat E, Brodtmann A, Matyas TA, **Carey LM.** (2012) Impaired proprioceptive perception after stroke: A functional MRI study. World Congress of Neurorehabilitation. Melbourne. May 2012.

Carey, L., Crewther, S., Salvado, O., Linden, T., Tse, T., Connelly, A., Howells, D., Ma, H., Churilov, L., Davis, S., & Donnan, S. (2012). START-PrePARE – PREdiction and Prevention to Achieve Optimal Recovery Endpoints after stroke: Study rationale and protocol. 7th World Congress of Neurorehabilitation. Melbourne, Australia. 16-19 May.

Carey, L, Alexander, B, Bannister, L, Gavrilescu, M. (2010) Task-related Connectivity of Sensory Networks after Cortical and Subcortical Somatosensory Lesions. *16th Annual Meeting of the Organization for Human Brain Mapping*. Barcelona. June 6-10.

Bannister, L.C., Gavrilescu, M, Crewther, S.C., **Carey, L.M.** (2010) Resting State Functional Connectivity of Sensory Networks After Cortical and Subcortical Lesions. *16th Annual Meeting of the Organization for Human Brain Mapping*. Barcelona. June 6-10.

Jaillard, A., Hommel, M., Delon Marin, C., **Carey, L**., Tropres, I., Lamalle, L., Le Bas, J-F. (2010) Can motor cortex activity predict motor recovery? An fMRI study on subacute lacunar stroke. *16th Annual Meeting of the Organization for Human Brain Mapping*. Barcelona. June 6-10.

Carey, L., Wade, D., Macdonnel, R., Matyas, T. (2010) SENSe: Study of the Effectiveness of

Neurorehabilitation on Sensation: A Randomised Controlled Trial. *European Stroke Conference 2010*. Barcelona. May 25-28, 2010.

Carey, L. Jacobs, S., Baum, C., Connor, L. (2010). Loss of somatosensation and its impact on activity participation following stroke. *European Stroke Conference 2010*. Barcelona. May 25-28, 2010.

Hubbard, I., **Carey, L.,** Budd, B., Parsons, M. (2010). Intensive upper limb behavioural training in acute stroke: An RCT of functional outcomes and brain reorganization. *European Stroke Conference 2010*. Barcelona. May 25-28, 2010.

Bannister, L.C., Crewther, S.C., Gavrilescu, M. **Carey, L.M.,** (2010). Somatosensory networks in stroke survivors with somatosensory impairment: new insights from resting state functional connectivity. *European Stroke Conference 2010*. Barcelona. May 25-28, 2010.

Hubbard, I., Carey, L. (2010). Translating task-specific, upper limb evidence into stroke recovery intervention and clinical practice. *European Stroke Conference 2010*. Barcelona. May 25-28, 2010.

Hommel M, **Carey L**, Jaillard A. (2010) Reciprocal impact of depression on cognition and cognition profile in first ever subactute infarction. *European Stroke Conference 2010*. Barcelona. May 25-28, 2010.

Hoare, B., Imms, C., **Carey, L.,** Rawicki, B. (2010). Intensive upper limb therapy following Botulinum toxin-A in young children with hemiplegic cerebral palsy: Results from a Randomised Controlled Trial. *Australasian Academy of Cerebral Palsy and Developmental Medicine, Christchurch,* New Zealand 4-6th March, 2010.

Hoare, B., Imms, C., **Carey, L**., Rawicki, B. (2010). Intensive upper limb therapy following Botulinum toxin-A in young children with hemiplegic cerebral palsy: Results from a Randomised Controlled Trial. Oral Presentation. *15th World Congress of Occupational Therapists*, Chile, May 4-7th 2010.

Dunn, W., **Carey, L**., Morrison, T., Sabata, D. (2010) Development of Somatosensory Measures For The NIH Neurological And Behavioral Toolbox: Findings From Tryouts, *American Occupational Therapy Association's 90th Annual Conference & Expo.* Orlando, Florida, USA April 29-May2.

Dunn, W. **Carey, L**., Morrison, T, Tse, T. (2010). Measuring Somatosensation across the Lifespan: Development of Somatosensory Measures for the NIH Neurological and Behavioral Toolbox. *15th World Federation of Occupational Therapists Congress.* Santiago, Chile, May 4 -7.

Dunn, W, **Carey, L.,** Connor, L. & MacDermid, J. (2010). Comparison Of Somatosensory Functions Across USA, Australia & Canada: NIH Toolbox Validation Project. *American Occupational Therapy Association's 90th Annual Conference & Expo*. Orlando, Florida, USA April 29-May2

Carey, L.M., Abbott, A., Harvey, M., Puce, A, Seitz, R. (2009) Brain Activation Differs Markedly following Cortical or Subcortical Lesions Causing Somatosensory Impairment Post-Stroke. *Organization for Human Brain Mapping 15th Annual Meeting.* June 18-23. San Francisco, CA. Neuroimage 47: Supplement 1: S94

Carey, L.M. 2008. Brain activation in sensory and motor recovery post-stroke. Stroke Satellite Meeting. *Organization for Human Brain Mapping 14th Annual Meeting*. June 14. Melbourne, Australia.

Ben-Shabat, E, Pell, G, Brodtmann, A, Matyas T, **Carey, LM** (2008). Proprioceptive perception, an fMRI study of brain lateralization and its relationship with behavioral measures. *Organization for Human Brain Mapping 14th Annual Meeting.* June 15-19. Melbourne, Australia. (conference highlight) Neuroimage 41: Supplement 1: S180.

Ben-Shabat, E, Brodtmann, A, Matyas T, **Carey, LM** (2008). Proprioceptive perception in stroke participants with proprioceptive deficits: an fMRI study. *Organization for Human Brain Mapping 14th Annual Meeting.* June 15-19. Melbourne, Australia. Neuroimage 41: Supplement 1: S135

Budd, T., Parsons, M., Hubbard, I., **Carey, L.,** Levi, C (2008) A longitudinal fMRI study of cortical sensorimotor reorganization in stroke recovery. *Organization for Human Brain Mapping 14th Annual Meeting.* June 15-19. Melbourne, Australia. Neuroimage 41: Supplement 1: S118

Carey, L.M., Abbott, A., Harvey, M., Puce, A, Seitz, R. (2008) Post-stroke somatosensory impairment inversely correlates with touch discrimination related BOLD signal in contralesional thalamus *Organization for Human Brain Mapping 14th Annual Meeting.* June 15-19. Melbourne, Australia. Neuroimage 41: Supplement 1: S135

Carey, L.M., Abbott, A., Harvey, M., Puce, A, Seitz, R. (2008) Dynamic texture perception for dominant and non-dominant hands within individuals: an fMRI study in adult healthy volunteers. *Organization for Human Brain Mapping 14th Annual Meeting.* June 15-19. Melbourne, Australia. Neuroimage 41: Supplement 1: S146

Hoare, B, Wallen, M, Imms, C, **Carey, L** (2008). Botulinum toxin-A in the upper limb in children with cerebral palsy: a Cochrane systematic review update. *European Academy of Childhood Disability*. Zagreb, Croatia. June. Neurologica Croatica, 57 (Suppl. 1).

Hoare, B., Wallen, M., Imms, C., Rawicki, H. B., **Carey, L.** (2008) Botulinum toxin-A in the upper limb in children with cerebral palsy. State of the evidence. Presented at Australasian Academy of Cerebral Palsy and Developmental Medicine, Brisbane, 10-13th April, 2008. Developmental Medicine and Child Neurology, 50(suppl. 113), 4.

Hoare, B., Imms, C., **Carey, L.** (2008) Activity level assessment of the upper limb in children with hemiplegic cerebral palsy. Treatment innovation and its impact on measurement.. Presented at Australasian Academy of Cerebral Palsy and Developmental Medicine, Brisbane, 10-13th April, 2008. Developmental Medicine and Child Neurology, 50(suppl. 113), 10

Ben-Shabat, E, **Carey, L.M**, Matyas, T.A, Brodtmann, A. (2007). Perceiving limb position: a functional magnetic resonance imaging study of proprioceptive perception. *Human Brain Mapping*. Chicago, USA, June 10-14.

Carey, LM, Abbott, DF, Seitz, R, Harvey, M, Puce A. (2007). Dynamics of neural plasticity in recovery of touch sensation after stroke. *Human Brain Mapping*. Chicago, USA, June 10-4.

Carey, LM, Abbott, DF, Puce A, Seitz, R, Harvey, M, Donnan, GA. (2006). IN_Touch: Imaging

Neuroplasticity of Touch post-stroke with moderate and severe touch impairment. *Human Brain Mapping*. Florence, Italy, June 11-15.

Carey, L.M., Abbott, D.F., Egan, G.F., Donnan, G.A. (2006). Long-term reproducibility of brain activation associated with touch discrimination in older healthy volunteers: a serial PET study. *Human Brain Mapping*. Florence, Italy, June 11-15.

Carey, LM, Abbott, DF, Puce A, Seitz, R. (2006). Brain adaptation associated with spontaneous and treatment-facilitated recovery of touch sensation after stroke. *14th International Congress of the World Federation of Occupational Therapists*. Sydney, Australia 23-28 July.

Carey, L.M., Matyas, T.A., Macdonell, R. & Wade, D (2006). SENSe: Study of the Effectiveness of Neurorehabilitation on Sensation after stroke. *14th International Congress of the World Federation of Occupational Therapists*. Sydney, Australia 23-28 July.

Carey, L, Nankervis, J, LeBlanc, S, Harvey, L. (2006). A new functional Tactual Object Recognition Test (fTORT) for stroke clients: Normative standards and discriminative validity. *14th International Congress of the World Federation of Occupational Therapists*. Sydney, Australia 23-28 July.

Hoare, B, Imms, C, **Carey, L**, Rawicki, B (2006). Effects of botulinum toxin and constraint induced movement therapy in young children with hemiplegic cerebral palsy: A randomized controlled trial. *14th International Congress of the World Federation of Occupational Therapists*. Sydney, Australia 23-28 July.

Randall, M, Imms, C, **Carey, L** (2006). Extending the Melbourne Assessment for use with children aged 2 to 4 years. *14th International Congress of the World Federation of Occupational Therapists*. Sydney, Australia 23-28 July.

Carey, L.M., Abbott, D.F., Egan, G.F., Bernhardt, J. Donnan, G.A. (2005). Motor impairment and recovery after stroke correlate with activity in different motor areas over time. *World Congress of Neurology 2005*. 5-11 November, Sydney, Australia. Abstract: *The Journal of the Neurological Sciences*, 238 (Suppl. 1)

Carey, LM, Abbott, DA, Chapman, H, Harvey, M. (2005). Recovery of touch sensation after stroke: Clinical and neuroanatomical outcomes associated with spontaneous and training-facilitated recovery: A case study. *14th European stroke conference.* Bologna, Italy. 25-28 May. Abstract: *Cerebrovascular Diseases*, 19 (Suppl 2).

Carey, L.M., Abbott, D.F., Egan, G.F., O'Keefe, G.J, Bernhardt, J. Donnan, G.A. (2004). Motor impairment and recovery in the upper limb after stroke: behavioural and neuroanatomical correlates. *5th World Stroke Congress*, Vancouver.

Carey, L.M., Abbott, D.F., Egan, G.F., O'Keefe, G.J, Bernhardt, J. Donnan, G.A. (2004). Motor impairment and recovery in the upper limb after stroke: behavioural and neuroanatomical correlates. *Human Brain Mapping*, Budapest, Hungary. Abstract available on CD-ROM in NeuroImage 22(Suppl.1);WE85

Randall, M., Imms, C., **Carey, L.** (2004). Extending the Melbourne Assessment for use with children aged 2 to 4 years. *Australian Academy of Cerebral Palsy and Developmental Medicine*. Melbourne.

Carey, L.M., Abbott, D.F., Egan, G.F., O'Keefe, G.J., Jackson, G.D., Donnan, GA. (2002). Evolution of neural plastic changes associated with motor recovery post-stroke. *27th International Stroke Conference*. San Antonio, Texas. 7-9th February.
Abstract: *Stroke, 33:* 417-418.

Carey LM, Abbott DF, Puce A, Jackson GD, Syngeniotis A, Donnan GA. (2002). Imaging post-stroke somatosensory recovery: Two serial fMRI case studies. *8th Annual Meeting of the Organisation for Human Brain Mapping,* Sendai, Japan.
Abstract: *NeuroImage, 16*: S711.

Carey, L.M., Matyas, T.A. (2002). Training of somatosensory discrimination after stroke: Facilitation of stimulus generalization. *13th World Congress of Occupational Therapists*. June 23-28, Stockholm, Sweden.

Carey, L.M., Matyas, T.A. & Morales, G. (2002). Influence of touch sensation and its retraining on finger grip after stroke. *13th World Congress of Occupational Therapists.* June 23-28, Stockholm, Sweden.

Carey, L.M., Matyas, T. & Oke, L. (2002). Quantitative measurement of tactile and proprioceptive discrimination in the upper limb after stroke. *13th World Congress of Occupational Therapists.* June 23-28, Stockholm, Sweden.

Carey, L.M., Abbott, D., Donnan, G. Egan, G., O'Keefe, G. & Jackson, G. (2002). Evolution of neural plastic changes associated with motor recovery post-stroke. *13th World Congress of Occupational Therapists.* June 23-28, Stockholm, Sweden.

Blennerhassett, J., **Carey, L.** & Matyas, T. (2002). An investigation of adaptive pinch grip ability following stroke. *VIIth International Physiotherapy Conference.* May 25-28, Sydney, Australia.

Carey, L.M., Abbott, D.F., Egan, G.F., O'Keefe, G.J., Jackson, G.D., Donnan, GA. (2000). Brain adaptation and post-stroke motor recovery: A serial Positron Emission Tomography study. *4th World Stroke Congress*, Melbourne, Australia 26-29th November.
Abstract: *Stroke 31*, 2832.

Carey, L.M., Matyas, T.A. & Oke, L.E. (2000) Quantitative measurement of tactile and proprioceptive discrimination in the upper limb after stroke. *4th World Stroke Congress*, Melbourne, Australia 26-29th November.
Abstract: *Stroke 31,* 2816-2187.

Abbott, D.F., **Carey, L.M**., Egan, G.F., Donnan, G.A. & Jackson, G.D. (1997). Functional MRI and PET measures of motor activation: a longitudinal study. *Third International Conference on Functional Mapping of the Human Brain*. Copenhagen.
Abstract: *NeuroImage, 5 (4),* Part 2, S530.

Carey, L. M., Matyas, T. A. & Oke, L. E. (1994). Somatosensory discrimination training after stroke: Generalisation of intervention effects across stimuli. *Proceedings of the 11th International Congress of the World Federation of Occupational Therapists,* London. Vol 2: 730-732 (full paper).

Carey, L. 1994. Sensory Loss in Stroke Patients: Effective Training of Tactile and Proprioceptive Discrimination. *World Federation of Occupational Therapists 11th International Congress Special Topic Course: Stroke, Technology and Treatment Techniques.* (1 day workshop, London).

Carey, L. M., Matyas, T. A., & Oke, L.E. (1990). Facilitation of sensory rehabilitation using a discriminative training programme with stroke patients. *Proceedings of the 10th International Congress of the World Federation of Occupational Therapists,* London. 398-401.

Carey, L. & Oke, L. (1990). Development of Tactile and Proprioceptive Assessment Measures." *World Federation of Occupational Therapists 10th International Congress.* Melbourne, Australia.

NATIONAL

Invited National

Carey, L.M. (2013). Stroke Rehabilitation: putting research into practice. *21st Annual Meeting of the Australasian Faculty of Rehabilitation Medicine.* 17-20th September, 2013. Plenary: Norington Lecture.

Carey, L.M. (2012). Sensory rehabilitation after stroke: Neuroscience foundations, new evidence and application to clinical practice. One day workshop. *Royal Rehabilitation Hospital,* Sydney. Nov. 28, 2012.

Carey, L.M. (2012). Sensory rehabilitation after stroke: Neuroscience foundations, new evidence and application to clinical practice. Two day workshop. *Australian Physiotherapy Association.* Adelaide. 14th & 15th April, 2012

Carey, L. M. (2012) Neuroscience to Neurorehabilitation: Building the Evidence for Effective Sensory Rehabilitation after Stroke. *Grand Round. Princess Margaret Hospital*, Western Australia. 15 March.

Carey, L.M. (2012) *Stroke Rehabilitation Research satellite meeting.* Hunter Valley, NSW.

Carey, L.M. (2012) World Congress of NeuroRehabilitation Satellite Symposia "Translational Research in Stroke Rehabilitation" 12-13 May 2012, Hunter Valley, NSW, Australia. Workshop leader.

Carey, L. M. (2011) Neuroscience to Neurorehabilitation: Building the Evidence for Effective Sensory Rehabilitation after Stroke. *APA Physiotherapy Conference 2011*
Brisbane, Queensland, Australia. 27-29 October.

Carey, L.M. (2011) Training-facilitated recovery of touch sensation after stroke. *22nd Annual Scientific Meeting of the Stroke Society of Australasia*. Adelaide 14-16 September.

Carey, L.M. (2011). Sensory rehabilitation after stroke: Neuroscience foundations, new evidence and application to clinical practice. Two day workshop. Physiotherapy Australia. Perth, Western Australia. 9th-10th July.

Carey, L.M. (2011). Sensory rehabilitation after stroke: Neuroscience foundations, new

evidence and application to clinical practice. Two day workshop. OT Australia WA. Perth, Western Australia. 5th-6th July.

Carey, L.M. (2011). Sensory Rehabilitation Post-Stroke: Connecting New Networks for Everyday Contact through Touch. PMH and Royal Perth Rehabilitation Hospital. Perth, Western Australia. 8th July.

Carey, L.M. (2010). Sensory rehabilitation following stroke: Neuroscience foundations, new evidence and application to clinical practice. Two day workshop. OT Australia. Brisbane, Queensland. Australia.

Carey, L.M. (2009). Sensory rehabilitation following stroke: Neuroscience foundations, new evidence and application to clinical practice. One day workshop. OT Australia. Australian Association of Occupational Therapists Victoria. Melbourne Australia

Carey, L.M. (2009) Neuroscience Makes Sense for Occupational Therapy. *Sadie Philcox Lecture*. University of Queensland.

Carey, L.M. (2008). Rehabilitation of sensory function post-stroke: Neuroscience foundations and evidence-based practice. *Occupational Therapy Neurological Rehabilitation Seminar*. Sydney. 7-8 March.

Carey, L.M. (2006) *Training of Somatosensations after Stroke: Scientific foundations and evidence-based practice.* Neurological Rehabilitation: Special Seminar Newcastle. New South Wales, Australia.

Carey, LM (2006). *ADL, Cognition, Vision, and Perception after Stroke* & *Activity and Participation in the Community.* National Stroke Foundation Clinical Guidelines for Stroke Recovery and Rehabilitation. (online training program)

Carey, L.M. & Corben, L. (2005). *Stroke Rehabilitation and Recovery Conference: The evidence and how to implement it. National Stroke Foundation*. Melbourne. 4-5 August.

Carey, L.M. (2004). Neural plasticity after stroke: Evidence and implications for rehabilitation. *Stroke Society of Australasia Annual Scientific Meeting.* Hobart, Tasmania.13-15 October.

Carey, L. (1999). An evidence-based Approach to Sensory Assessment and Retraining following Stroke. *Australian Physiotherapy Association* (2 day workshop, Melbourne).

Carey, L.M. & Matyas, T.A. (1998). Somatosensory discrimination training after stroke: Task specific versus generalised training effects. *Proceedings of the 3rd Annual Perception for Action Conference*, p. 4. Melbourne, Australia.

Carey, L. (1997). Developments in the Assessment and Retraining of Somatosensations following Stroke. *New South Wales Association of Occupational Therapists*. (2 day workshop, Sydney).

Carey, L. (1995). Somatosensory Assessment and Retraining. *New South Wales Association of Occupational Therapists*. (1 day workshop, Sydney).

Carey, L. (1994). Somatosensory Assessment and Retraining. *Australian Association of*

Occupational Therapists. (A four-afternoon course presented as part of a five-day course titled "Brain Damage and Function in Children, Adults and the Elderly: A Series of Lectures and Workshops for Service Providers, Carers and Consumers." (Run in Melbourne and Brisbane.)

Carey, L. & Mudie, H. (1993). Stroke Rehabilitation: New Ideas Researched for Clinical Practice. *Australian Capital Territory Association of Occupational Therapists.* (2 day workshop, Canberra).

Carey, L. (1990). Impact of Somatosensory Deficits on Teaching Motor Control. Presented as a component of workshop titled "Teaching Motor Skills." *Australian Physiotherapy Association.*

Proffered National

Carey L, Mak Y, Tan A-M, Rickard, K and Matyas T. (2013) Development of a Somatosensory Screening Tool for use in Clinical Rehabilitation Settings with Stroke Survivors. Stroke Society of Australasia.

Palmer S, Barutchu A, Low E and Carey LM (2013) A Meta-analysis of Brain Regions Activated during Tactile Stimulation in Healthy Individuals - Implications for Sensory Impaired Stroke Survivors. Stroke Society of Australasia.

Palmer S, Cunnington R, Reynolds K and **Carey LM** (2012). Differences in connectivity of putative mirror neuron network between stroke survivors and healthy controls. Front. Hum. Neurosci. Conference Abstract: ACNS-2012 Australasian Cognitive Neuroscience Conference. doi: 10.3389/conf.fnhum.2012.208.00187

Palmer, S.M., **Carey, L.M**. (2013) A meta-analysis of brain areas altered in depressed subjects. Australian Neuroscience Society 33rd annual Meeting. Melb.

McLean, B., Taylor, S., Valentine, J., **Carey, L**., Elliott, C. (2012) The effect of age on somatosensation. Child and Adolescent Health Research Symposium 2012: Western Australia.

Taylor, S., McLean, B., Valentine, J., **Carey, L.,** Elliott, C. (2012). The SenScreen kids, somatosensation and typical development. Child and Adolescent Health Research Symposium 2012: Western Australia.

Taylor, S., McLean, B., Valentine, J., **Carey, L**., Elliott, C. (2012). The SenScreen kids, somatosensation and typical development. WA Occupational Therapy Association Conference 2012: Western Australia.

Tse, T., Douglas, J., Lentin, P., **Carey, L.M.** (2011) A systematic review of participation measures post-stroke. *22nd Annual Scientific Meeting of the Stroke Society of Australasia*. Adelaide 14-16 September.

Carey, L.M., Matyas, T., Walker, J., Macdonell, R. (2010). SENSe: Study of the Effectiveness of Neurorehabilitation on Sensation: Individual patient characteristics that predict favourable outcomes. *21st Annual Scientific Meeting of the Stroke Society of Australasia*. Melbourne, Australia.

Mastos, M & **Carey, L**. (2010) Occupation-based outcomes associated with sensory retraining

post-stroke. *21st Annual Scientific Meeting of the Stroke Society of Australasia*. Melbourne, Australia.

Carey, L. Crewther, S. Salvado, O. Linden, T. Tse, T. Connelly, A. Howells, D. Ma, H. Churilov, L. Davis, S. and Donnan, G. (2010) PrePARE- Prediction and prevention to achieve optimal recovery endpoints after stroke: study rationale and protocol. *21st Annual Scientific Meeting of the Stroke Society of Australasia.* Melbourne, Australia. Sep 1-3 (poster)

Donnan, G. Davis, S. Ma, H. Campbell, B., Christensen, S. Connelly, A., Churilov, L., Howells, D., and **Carey, L.** (2010) Extending the time for thrombolysis in emergency neurological deficits- the extend trial rationale and protocol. *21st Annual Scientific Meeting of the Stroke Society of Australasia.* Melbourne, Australia. Sep 1-3 (poster)

Spitzer, J. Tse, T. Baum, C., **Carey, L.** (2010) Mild cognitive impairment after stroke is associated with activity participation in an Australian cohort. *21st Annual Scientific Meeting of the Stroke Society of Australasia.* Melbourne, Australia. Sep 1-3 (oral)

Carey, L.M. (2008). Development of a novel, science-based approach to sensory rehabilitation after stroke. *OT Australia 23rd National Conference and Exhibition*. 11-13 September. Melbourne, Australia.

Hoare, B., Imms, C., **Carey, L**. (2008). Activity level assessment of the upper limb in children with hemiplegic cerebral palsy. Treatment innovation and its impact on measurement. *Australasian Academy of Cerebral Palsy and Developmental Medicine,* 10 -13 April, Brisbane, Australia.

Randall, M, Imms, C., **Carey, L**. (2008) Further development of the Melbourne Assessment to include children aged 2 to 4 years. *Australasian Academy of Cerebral Palsy and Developmental Medicine Conference,* 10 -13 April, Brisbane, Australia.

Randall, M., Imms, C., **Carey, L.M**. (2008). Psychometric properties of 'The Melbourne Assessment of Unilateral Upper Limb Function' based on Rasch Analysis. *OT Australia 23rd National Conference and Exhibition*. 11-13 September. Melbourne, Australia.

Walker, J. & **Carey, L.** (2008). Predictors of success following generalized somatosensory training in the hand following stroke. Oral poster session presented at the Australian National Occupational Therapy Conference, Melbourne, Victoria.

Carey, L.M. (2007). Neuroplasticity and Learning: Foundations for a new era in Stroke Rehabilitation. *Clinical Research Excellence 07 Conference: Building The Clinical Research Profession,* 17-19 August, Melbourne. Australia.

Matyas, T.A., Fisher, F.D., **Carey, L.M.** (2006). Abnormalities in somatosensory psychophysical functions after stroke. *24th International Australasian Winter Conference on Brain Research,* 26 – 30 August, Queenstown, New Zealand.

Carey, L.M., Matyas, T.A., Macdonell, R. & Wade, D (2006). SENSe: Study of the Effectiveness of Neurorehabilitation on Sensation after stroke. *Stroke Society of Australasia Annual Scientific Meeting.* 11-13 October, Adelaide, Australia.

Ben-Shabat E, **Carey L M**, Matyas T A , Brotchie P R. (2005) A Brain activation study of limb

position sense in stroke affected individuals with and without sensory training, and in healthy aged. *Stroke Society of Australasia Annual Scientific Meeting.* 6-9 September, Melbourne. Australia. Abstract: *Internal Journal of Medicine,* 36(2).

Blennerhassett JM, **Carey LM** and Matyas TA (2005). Characteristics of pinch grip impairment after stroke. Joint conference of *National Neurology and Gerontology Groups of Australian Physiotherapy Association.* 17 to 19 November, Melbourne. Abstract: *Australian Journal of Physiotherapy.*

Blennerhassett, J.M., Carey, L.M., & Matyas, T.A. (2005). *Relationship between sensory and motor impairment and altered pinch grip ability after stroke.* Paper presented at the Joint Conference of the National Neurology and Gerontology Groups of the Australian Physiotherapy Association. Melbourne, Australia.

Blennerhassett JM, **Carey LM** and Matyas TA (2005). Relationship between sensory and motor impairment and altered pinch grip after stroke. *Stroke Society of Australasia Annual Scientific Meeting.* 6-9 September, Melbourne. Australia. Abstract: *Internal Journal of Medicine*, 36(2).

Carey, L.M., Abbott, D.F., Harvey, M., Puce, A., Seitz, R., Donnan, G. (2005). IN_Touch: Imaging Neuroplasticity of Touch after stroke: preliminary findings of brain activation with moderate and severe touch impairment. *Stroke Society of Australasia Annual Scientific Meeting.* 6-9 September, Melbourne. Australia. Abstract: *Internal Journal of Medicine,* 36(2).

Carey, L.M., Matyas, T.A. (2003) Quantitative measurement of tactile and proprioceptive discrimination in the upper limb after stroke. *OT Australia 22nd National Conference.* Melbourne, Australia.

Carey, L.M., Matyas, T.A. & Morales, G. (2003). Influence of touch sensation and its retraining on finger grip after stroke. *OT Australia 22nd National Conference.* Melbourne, Australia.

Carey, L.M., Abbott, D.F., Egan, G.F., Donnan, GA. (2003). Evolution of neural plastic changes with good and poor motor recovery after stroke. *OT Australia 22nd National Conference.* Melbourne, Australia.

Carey, L.M., Abbott, D.F., Egan, G.F., O'Keefe, G.J., Jackson, G.D., Donnan, GA. (2001). A longitudinal PET study of motor recovery and neural plasticity in stroke. *5th Australian Functional Brain Mapping Symposium,* Melbourne, Australia.

Carey, L.M., Abbott, D.F., Puce, A. Jackson, G.D., Syngeniotis, A., Donnan, G.A. (2001) Re-emergence of activation in SI and SII with post-stroke somatosensory recovery: a serial fMRI case study. *5th Australian Functional Brain Mapping Symposium,* Melbourne, Australia.

Carey, L.M., Abbott, D.F., Puce, A. Jackson, G.D., Syngeniotis, A., Donnan, G.A. (2001) Return of activation in primary and secondary somatosensory cortices with post-stroke somatosensory recovery: a serial fMRI case study. *Stroke Society of Australasia 2001 Annual Scientific Meeting*. Auckland.

Carey, L.M., Abbott, D.F., Egan, G.F., O'Keefe, G.J., Jackson, G.D., Donnan, GA. (2001). A longitudinal PET study of motor recovery and neural plasticity in stroke. Stroke *Society of Australasia 2001 Annual Scientific Meeting.* Auckland.

Abbott, D.F., **Carey, L.M**., Egan. G.F., Donnan, G.A., Jackson, G.D. (1999). A comparison of cerebral activation measured by fMRI and PET during a motor activation task. *4th Australian Functional Brain Mapping Symposium*. Adelaide, Australia.

Carey LM, Abbott DF, Egan GF, Donnan GA. (1999). Reproducibility of motor activation in healthy volunteers: Implications for interpreting post stroke neural reorganisation. *Stroke Society of Australasia 1999 Annual Scientific Meeting*. Sydney, Australia.

Carey LM, Matyas TA. (1999). Transfer of training after stroke: Stimulus specific and stimulus generalisation of somatosensations. *Stroke Society of Australasia 1999 Annual Scientific Meeting.* Sydney, Australia.

Carey, L.M., Matyas, T. A. (1999). Somatosensory discrimination after stroke: Stimulus specific versus generalisation training. *Proceedings of the III Perception for Action Conference*. Melbourne, Australia.

Abbott, D.F., **Carey, L.M.,** Egan, G.F., Jackson, G.D. & Donnan, G.A. (1998). Reproducibility of PET measures of motor activation. *Proceedings of the 3rd Australian Symposium on Functional Brain Mapping*. Melbourne, Australia.

Abbott, D.F., **Carey, L.M**., Jackson, G.D. & Donnan, G.A. (1997) Repeatability of fMRI measures of motor activation. *Proceedings of the 2nd Australian Symposium on Functional Brain Mapping*. Newcastle, Australia.

Carey, L.M., Donnan, G.A., Jackson, G.D. & Abbott, D.F. (1997) Reproducibility of a motor activation task using functional MRI. *Stroke Society of Australasia 1997 Annual Scientific Meeting*. Sydney, Australia. Abstract: *Journal of Clinical Neuroscience 4*, 415.

Carey, L.M., Matyas, T.A. & Oke, L.E. (1997) Prevalence of discriminative sensory loss after stroke. *Stroke Society of Australasia 1997 Annual Scientific Meeting*. Sydney, Australia. Abstract: *Journal of Clinical Neuroscience 4*, 416.

Carey, L.M., Matyas, T.A. & Oke, L.E. (1997). Comparison of clinical and quantitative measures of tactile and proprioceptive discrimination. *Proceedings of OT Australia 19th National Conference, Vol 1*, 81-85. Perth, Australia; Promaco Conventions.

Hirth, M, Silverton, M., Fullerton, M. **Carey, L**. et al. (1997). Functional effects on radial artery removal for use as a coronary bypass graft- a prospective randomised study. *Proceedings of OT Australia 19th National Conference, Vol 2*, 385-387. Perth, Australia; Promaco Conventions.

Rasmussen, N. **Carey, L**. & Matyas, T. (1997) Touch discrimination effect on pinch grip: development of a stimulus set for assessment and intervention. *Proceedings of OT Australia 19th National Conference, Vol 2*, 484. Perth, Australia; Promaco Conventions.

LOCAL

Invited (selected)

Carey, L.M. (2012). Neuroscience in the Clinic: SENSe approach to Sensory Rehabilitation.

Australian Physiotherapy Association. *Australian Physiotherapy National Group lecture*. Melbourne. 7th November, 2012.

Carey, L.M. & Lamp. G (2011) IN_Touch: Imaging Neuroplasticity of Touch: Changes post intervention following lesions of cortical and subcortical sensory structures. Stroke Division, Florey Neuroscience Institutes. 22nd July.

Carey, L. M. (2011). *How to use fMRI to answer clinical research questions.* Clinical Neuroscience Research & Neuroimaging Course. 16th June.

Carey, L. M. (2011). *Neuroplasticity and recovery after Stroke.* Delegation of students from USA.

Carey, L. Tse,T. Pascoe. M. (2011) *Depression, Diet and Lifestyle: Participation to Basic Science and Back again.* Presentation at Stroke Division, Florey Neuroscience Institutes.

Carey, L. M., Tan, A. M., & Rickard, K. (2011) Sensory Screening Tool (SenScreen) Training Workshops. Series of workshops Kingston Centre and Dandenong Hospital.

Carey, L. M. (2010). *How to use fMRI to answer clinical research questions.* Clinical Neuroscience Research & Neuroimaging Course.

Carey, L. M. (2009). *How to use fMRI to answer clinical research questions.* Clinical Neuroscience Research & Neuroimaging Course.

Carey, L.M. (2008) *Training of Somatosensations after Stroke: Scientific foundations and evidence-based practice*. Epworth Hospital. Seminar Program.

Carey, L.M. (2007). *Training of Somatosensations after Stroke: Scientific foundations and evidence-based practice*. Kingston Centre. Seminar Program.

Carey, L.M. (2007) *Functional Neuroimaging in Stroke Recovery and Neurorehabilitation: Conceptual Issues and Perspectives.* Neurosciences Seminar program, National Stroke research Institute.

Carey, L.M. (2007) Can functional neuroimaging advance stroke rehabilitation? Neuroscience Seminar program. Melbourne, Australia.

Law, M., Baptise, S & **Carey, L**. (2006). *Grant Writing Workshop*. 17-18 July. LaTrobe University, Melbourne.

Carey, L.M. (2005). Driving neural plasticity: What road should we take? *4th Annual Stroke Research Retreat: Strengthening collaborations*. 12-13th Aug, Dalesford, Australia.

Carey, L.M. & Dewey, H (2004). Regeneration and Rehabilitation *3rd Annual Stroke Research Retreat: Interface between basic science and clinical research.* 1st-3rd Oct. Cape Schank, Australia.

Carey, L.M. (2004). Sensation and Sensory Processing. *Centre for Clinical Research Excellence course.* Melbourne, Australia.

Carey, L.M. (2002). Imaging recovery of motor and somatosensory abilities after stroke. *Stroke Symposium – The Continuum of Care Updates.* Melbourne, Australia. 26th –27th Sept.

Carey, L.M. (2002). Motor and sensory activation: Past and future. *First Annual Stroke Research Retreat: Basic Science Clinical Interface.* 31st Aug-1st Sept. Moonambel, Australia.

Carey, L.M. (2002). Somatosensory recovery after stroke. *The Society of Magnetic Resonance in Neuroscience Workshop*. Melbourne, Australia. 15th August.

Carey, L.M. (2002). Evidence Based Practice – seminar series. Department of Occupational Therapy, Austin & Repatriation Medical Centre.

Carey, L.M. (2002). Evolution of neural plasticity associated with motor and sensory recovery after stroke. *Annual General Meeting of the Victorian Branch Neurology Research Committee.* November.

Carey, L.M. (2002). Evolution of neural plastic changes associated with motor and sensory recovery after stroke. *Cognitive Neuroscience Interest Group,* Department of Psychology. University of Melbourne.

Carey, L.M. (2001). Imaging motor and sensory recovery after stroke. *National Ageing Research Institute.* Melbourne, Australia.

Carey, L.M. (1998). Somatosensory training after stroke: Task specific versus generalised effects. *Proceedings of the Neuro Rehabilitation Symposium*. Melbourne. Australia.

Carey, L.M (1998). Instruments to measure effectiveness of sensory retraining in stroke. Presented at *Allied Health Clinical Research-Can it survive?* seminar. Melbourne. Australia.

Carey, L. (1993). Somatosensory Assessment and Treatment of Stroke Patients. *Victorian Association of Occupational Therapists Neurology Special Interest Group.* (2 day workshop).

Carey, L. (1991). Sensory Loss in Stroke Patients: Effective Tactile and Proprioceptive Discrimination Training. *Stroke Conference.* Australia.

Carey, L. (1991). Motor Skill Learning and its Application to Occupational Therapy. *Victorian Association of Occupational Therapists Neurology Special Interest Group.* (full day workshop).

Carey, L. (1991). Somatosensory Assessment and Treatment of Stroke Patients. *Victorian Association of Occupational Therapists Neurology Special Interest Group.* (3 workshops).

Proffered (selected)

Carey, L. M. (2012) Sensory rehabilitation after stroke: Neuroscience foundations, new evidence and application to clinical practice. Two day workshop. *Melbourne Brain Centre* Melbourne.

Carey, LM., Abbott, DF., Lamp, G., Puce, A., Seitz, RJ., Donnan, GA. (2012). Imaging neuroplasticity of touch after stroke: training-facilitated changes following intervention. Austin Medical Research Foundation Research Week. October

Abbott, D.F., Palmer, S.M., Low, E. Jackson, G.D. **Carey, L.M.** (2012). Relative laterality of dominant and non-dominant hand sensory function: an fMRI study. Austin Medical Research Foundation Research Week. October

Carey, LM., Matyas, TA, Walker, J., Macdonell, R. (2011) SENSe: Study of the Effectiveness of Neurorehabilitation on Sensation: Individual patient characteristics that predict favourable outcomes. Austin Medical Research Foundation Research Week. October

Tan, AM., Mak, Y., Rickard, K., **Carey, L.** (2011) Development and implementation of an evidence-based sensory screening tool (SenScreen) for use with sub-acute patients post stroke. Austin Medical Research Foundation Research Week. October

Ben-Shabat, E, **Carey, L.M,** Matyas, T.A, Brodtmann, A. (2007). Perceiving limb position: a functional magnetic resonance imaging study of proprioceptive perception. Austin research week.

Hoare, B., Imms, C., **Carey, L**., Rawicki, B. (2007). Botulinum toxin A and constraint-induced movement therapy in children with cerebral palsy: A randomised controlled trial. Poster Presentation. Southern Health Research Week.

Walker, J. & **Carey, L**. (2007). Predictors of success following generalized somatosensory training in the hand following stroke. Poster presentation, Smart Geelong Research Week, Geelong, Victoria.

Ben – Shabat, E, **Carey, L**, Matyas, T, Brotchie, P. (2004) A brain activation study of limb position sense in stroke affected individuals with and without sensory training and in healthy aged 2007Austin research week 2004

Abbott, D.F., **Carey, L.M**., Donnan, G.A & Jackson, G.D. (1997) A longitudinal fMRI study of brain activity during human motor function. *Proceedings of the 3rd Annual Epilepsy Research Retreat*, pp. 9.1 to 9.5. Melbourne, Australia.

Macdonell, R., Jackson, G., Curatolo, J., **Carey, L**., Berkovic, S., Fabinyi, G., Scheffer, I., & Syngeniotis. (1997). A comparison of fMRI and transcranial magnetic stimulation in the localisation of motor cortex. *3rd Annual Epilepsy Research Retreat.* Melbourne, Australia

Carey, L. & Dannenbaum, R. (1997). Assessment and retraining of somatosensory loss following stroke. *School of Occupational Therapy, LaTrobe University.* (1 day workshop, Melbourne).

Willey, L (now Carey). (1987). Effectiveness of a Sensory Retraining Programme to Improve Somatosensation in Stroke Patients. *Victorian Association of Occupational Therapists Annual Convention.*

Willey, L. (1985). Sensory Re-education with Stroke Patients following Somatosensory Loss. *Victorian Association of Occupational Therapists Annual Convention.*

OTHER PUBLICATIONS:

Carey, L.M. (2011) SENSe: *An Evidence Based Approach to Sensory Rehabilitation.* LaTrobe University (DVD)

Carey, L.M. (2011) *Assessment of Body Sensations after Stroke.* LaTrobe University (DVD)

Carey, L.M. (2010) *Sensory Rehabilitation after Stroke: An evidence-based approach. Series of Four mini lectures*. LaTrobe University (DVD)

Carey, L.M. & Linden, T. (2009) *Assessment of Depression Following Stroke*. LaTrobe University (DVD.)

Carey, L.M. & Linden, T. (2009) *Impact of Sensory Loss Post-stroke*. LaTrobe University (DVD.)

Carey, L.M. (2004). *Somatosensory Assessment After Stroke*. LaTrobe University (DVD. 80 minutes)

Carey, L.M. (2004). *Generalised Sensory Discrimination Training After Stroke.* LaTrobe University (DVD. 105 minutes).

Carey, L. M. (2000). Editor and module author. *Graduate Research Skills.* (distance education package for Master of Occupational Therapy, LaTrobe University)

Carey, L. M. (2000). Editor and module author. *Readings in Occupational Therapy.* (distance education package for Master of Occupational Therapy, LaTrobe University)

Carey, L. M. (2000). Editor and module author. *Postgraduate Research Design.* (distance education package for Master of Occupational Therapy, LaTrobe University).

Carey, L.M. (1998). *Assessment of touch discrimination using the Grid Matching Test.* LaTrobe University. (videotape. 11 min).

Carey, L.M. (1998). *Assessment of proprioceptive discrimination using the Wrist Position Sense Test.* LaTrobe University. (videotape. 6 min).

Carey, L.M. (1997). *Touch discrimination training for stroke affected clients.* LaTrobe University. (videotape. 40 min).

Carey, L.M. (1994). *Assessment and training of tactile and proprioceptive discrimination*. LaTrobe University. (videotape. 33 min).

Carey, L.M. (1993). *Somatosensory discrimination devices*. LaTrobe University. (videotape. 26 min.)

Carey, L.M. (1985). *Somatosensory deficits following stroke: A case study*. Lincoln Institute of Health Sciences. (videotape. 47 min.)

Kabaila, P., **Carey, L. M.,** Greenwood, K. M. & Matyas, T. A. (1995). Nonlinear regression models for the analysis of single-case studies. *Research Report 95/1*: School of Statistics, LaTrobe University.

Kabaila, P., Matyas, T. A., Greenwood, K. M. & **Carey, L. M**. (1995). Advances in statistical analysis of brief single-case studies. *Research Report 95/20*: School of Statistics, La Trobe University.

Online training programs:

Carey, LM (2010). Evidence based sensory rehabilitation. A series of 4 mini lectures for Master of Occupational Therapy and Bachelor of Occupational Therapy students, LaTrobe University.

Carey, LM (2006). *ADL, Cognition, Vision, and Perception after Stroke* & *Activity and Participation in the Community.* National Stroke Foundation Clinical Guidelines for Stroke Recovery and Rehabilitation.

RESEARCH PROGRAM OUTLINE:

Within the *Neurorehabilitation and Recovery* research group our aim is to conduct and disseminate internationally-competitive research focussed on investigation of the scientific foundations of neurological rehabilitation post-stroke. The focus of the research program is on the investigation of neural processes underlying recovery and effectiveness of approaches to improving sensation, movement and function in the upper limb post-stroke. Current research projects span three major research areas.

1. Mechanisms of recovery:
Investigations of neural processes associated with spontaneous and training-induced recovery of touch sensation, limb position sense, and movement are being conducted using functional imaging studies of the brain. An important feature of the studies is use of a profile of outcomes that span from neuroanatomical, to behavior and in more recent studies participation. Interventions are based on strong science foundations. More recently we are focusing on a network-based approach to investigate neural substrates of recovery. This will allow identification of brain networks that are connected by fibre tracts and functionally connected at rest and/or during task performance for use in rehabilitation. Findings from these studies will help develop models of sensory recovery and rehabilitation, predict ability to benefit from specific interventions and characterise impact of rehabilitation on change in brain networks and clinical outcome. The impact of factors such as depression on recovery and the ability to benefit from rehabilitation are also being investigated in cross sectional and longitudinal studies. Imaging and biomarkers of depression and recovery are being used.

2. Restorative approaches to rehabilitation:
The effectiveness of training sensation in the hand after stroke has recently been completed using a randomized controlled trial. Preliminary analyses indicate positive outcomes in sensory capacity and hand function. Both task specific and generalisation enhanced approaches to training have been developed and tested in order to maximise outcome. Influence of touch sensation and its retraining on finger grip after stroke is also being investigated. Ongoing focus will be on development of teaching resources and dissemination; investigation of client-oriented approaches for individual application in clinical settings and optimisation of treatment dosage of the sensory discrimination program.

3. Nature of impairment and impact on function:
We have developed a suite of quantitative, psychometrically sound sensory measures to characterise sensory loss post-stroke and investigate the psychophysical nature of impaired information processing. This has included development of: the Tactile Discrimination Test; Wrist Position Sense Test; Functional Tactile Object Recognition Test and Multijoint Limb Position Sense Test. We are also investigating the relationship between touch sensation, motor function and pinch grip after stroke. These findings have advanced our understanding of the nature of impairment after stroke and will inform therapy. The Melbourne Assessment of Unilateral Upper Limb Function, developed for children with neurological impairment, is also being modified and tested for its validity. Our ongoing focus is to use quantitative, psychometrically sound methods to characterise: profile of somatosensory loss; relationship between sensory loss and everyday function; specificity of loss across modalities and within modalities; abnormalities in sensory psychophysical functions; and optimise methods of quantitative measurement for clinical settings.

RESEARCH COLLABORATIONS:

A particular strength of my research has been the collaborations made with internationally-recognised research institutes and experts, as well as the integration of knowledge and skills from multiple disciplines. Major collaborations are outlined below.

Rehabilitation Science Collaborations:

Movement Rehabilitation Research Group (MOREG). (1988 – 1999)
This group, based at LaTrobe University, comprised an interdisciplinary research team of psychologists, neurophysiologists, physiotherapists and occupational therapists. I was a foundation member of the group since its inception in 1988, was a member of the management committee and scientific convenor for the group from 1997 to 1999. Research of the group members focused on motor and sensory rehabilitation of neurological clients, with an emphasis on effectiveness of different approaches to training. The group attracted over $1,000,000 in grants over the decade, published over 70 refereed articles, book and book chapters, and presented over 100 papers at international and national conferences, many of these by invitation. Six peer-reviewed publications and 14 conference presentations have been co-authored with members from this collaboration up till 2002.

Clinical facilities locally, nationally and internationally. (1993 – ongoing)
I have established collaborations with at least 12 clinical facilities at local, national and international levels. These collaborations are essential to setting up networks for clinical data collection. Collaborations have usually been established with the allied health professional departments and have involved recruitment of subjects, training therapists in assessment and training methods, discussion of research design *and* dissemination of research findings back to them through in-service presentations.

1989- ongoing: Professor Thomas Matyas, an honorary Professorial Fellow at the Florey Institute of Neuroscience and Mental Health and *School of Psychological Sciences, LaTrobe University* is an experimental psychologist and movement scientist with expertise in psychometric test development, experimental design and meta-analysis. Prof Matyas has been involved in the PhD and post-doctoral studies on assessment and rehabilitation of somatosensory discrimination after stroke. His expertise in psychometric test development, single case experimental design and meta-analysis has contributed to the rigor and excellence of the

research. Post-doctoral studies that we have collaborated on include: investigation of transfer of training effects to novel stimuli, evaluation of standardised testing and service delivery by therapists and family members in community settings, randomised controlled trial of sensory retraining, investigation of the pinch grip deficit and its relationship with somatosensory and motor impairment post-stoke, and investigation of abnormalities in somatosensory psychophysical functions. In particular, Prof Matyas was co-chief investigator on the project *Effectiveness of training somatosensation in the hand after stroke: a randomised controlled trial.* Prof Matyas is co-supervisor for 2 of my PhD students. We have co-authored 20 papers and 30 conferences presentations. We have ongoing collaborations in relation to characterising the profile and nature of the somatosensory deficit and output from intervention studies.

2001- ongoing: Associate Professor Richard Macdonell, Director, Department of Neurology, Austin Health, is a neurologist and rehabilitation specialist at Austin Health. He is co-chief investigator on the study *Effectiveness of training somatosensation in the hand after stroke: a randomised controlled trial* and is the clinical neurologist associated with the study. We have co-authored 1 manuscript in *Neurology*, 2 international and national conference papers, and have others in preparation.

2001- ongoing: Professor Derick Wade, Oxford, UK. Prof Wade, Director of the Rivermead Rehabilitation Hospital, Oxford, UK and Editor of *Clinical Rehabilitation,* is an internationally-renowned neurologist with expertise in stroke rehabilitation, randomized controlled trials, measurement of stroke outcome and sensory assessment. Prof Wade is author of over 100 publications in the field of stroke rehabilitation. He is co-chief investigator on the study *Effectiveness of training somatosensation in the hand after stroke: a randomised controlled trial* and provided intellectual contribution to the design of the study. Three journal publications, 1 book chapter and 5 international and 5 national conference presentations have been associated with this area of research and project (2 specifically with Prof Wade). Additional manuscripts, including the main paper with long term follow-up, are in progress. DVDs have been produced and will support translation of findings to clinical settings.

1997 – ongoing: Dr Jannette Blennerhassett, a senior research physiotherapist, Royal Talbot Rehabilitation Hospital has been involved in investigating the relationship between touch sensation and pinch grip after stroke as part of her PhD studies (completed 2007; conducted part-time). We have co-authored 4 publications on this topic in peer review international journals to date. A further manuscript is under review and others in preparation. Since being awarded her PhD we have had ongoing collaborations in relation to output from the PhD, involvement in the LaTrobe University affiliation (see below) and co-supervision of an honours student from the School of Occupational Therapy, LaTrobe University.

2008 – ongoing: Dr Thomas Linden is a Neurologist and Psychiatrist who is a visiting Professor from Gothenburg, Sweden. He has expertise in: the neuropsychiatric consequences in stroke patients; epidemiology of individual cognitive impairments in stroke patients beyond the acute and sub-acute phase; attention deficit/neglect and its relation to cognitive impairment and rehabilitation; depression; and costs of stroke care in relation to cognitive function. We are currently collaborating on the study *Prediction and Prevention to Achieve Optimal Recovery Endpoints after stroke* (PrePARE).

2008 – ongoing: Professor Carolyn Baum is a Professor of Occupational Therapy and Neurology, Director of the Program in Occupational Therapy at Washington University St. Louis. Prof Baum is also Director of the Cognitive Rehabilitation Research Group, a major interdisciplinary research group supported for the past 10 years to improve methods of cognitive

rehabilitation for people with strokes and other brain injuries and involves a stroke registry of more than 5,000 patients. The motto of the group is 'Linking Neuroscience to Everyday Life'. Prof Baum has one of the most highly regarded reputations in the fields of Occupational Therapy and Stroke Rehabilitation. Our collaboration involves investigation of core learning principles underlying rehabilitation, relationship between lesion site, performance and stroke-outcomes related to participation.

2008 - ongoing: Professor Helene Polatajko is Professor and Chair in the Department of Occupational Science and Occupational Therapy and Graduate Department of Rehabilitation Science, University of Toronto. Prof Polatajko is a leader in occupational therapy and rehabilitation in Canada and an internationally respected researcher, educator and clinician who has won many national and international awards. A collaboration is being developed to advance the translation of science to rehabilitation founded on neuroscience and learning

Collaborations in Neuroimaging and Stroke Recovery

1996 – ongoing: Professor Geoffrey Donnan is Director, Florey Institute of Neuroscience and Mental Health, Professor of Neurology, University of Melbourne, internationally-renowned expert in stroke, having published over 300 papers in the field. He was co-chief investigator on the project *Cerebral reorganisation: Motor and somatosensory recovery after stroke.* Investigations of the neuroanatomical basis for recovery post-stroke were conducted in collaboration with researchers from the National Stroke Research Institute, Brain Research Institute, Howard Florey Institute, and Austin Health. The research team has internationally recognised expertise in neuroimaging, stroke management and assessment and retraining of movement and somatosensations after stroke. They include neurologists (Prof Geoffrey Donnan; Prof Graeme Jackson), neuroimaging scientists (Dr David Abbott; Dr Gary Egan) and myself, the chief investigator, an allied health professional. Prof Donnan has contributed to identification of site of lesion, examination of neurological status, interpretation of data and dissemination of findings. Prof Donnan is also an associate investigator on the study *Brain adaptation and recovery of touch sensation after stroke*. I have co-authored 8 journal publications with Prof Donnan, in journals such as *Lancet*, *Stroke*, *Neurology* and *Neuroimage*, and 25 conference papers.

1996 – ongoing: Dr David Abbott is a Senior Scientist at the Brain Research Institute, Melbourne. He is a physicist with extensive experience in MR data analysis and in methods development for analysis of neuorimaging data. He has been a major and ongoing collaborator on the imaging studies. He was co-chief investigator for the study *Cerebral reorganisation: Motor and somatosensory recovery after stroke*. His main role was data analysis and intellectual contribution to publications. We have had an ongoing collaboration in research related to mechanisms of recovery post-stroke, with Dr Abbott being co-chief investigator on the NHMRC grant *Brain adaptation associated with spontaneous and training-induced recovery of touch sensation post stroke*. We have co-authored 7 journal publications, and 32 international and national conference presentations. We have three manuscripts in preparation related to the most recent grant.

1996 – 2010: Associate Professor Gary Egan is a Principal Research Fellow at Howard Florey Institute and MR physicist. At the time of our initial collaboration he lead the brain mapping research program based on PET activation studies and other quantitative measures of brain function at the Austin Hospital. He was associated with the PET neuroimaging studies of motor and somatosensory recovery after stroke, acquiring the PET data and providing intellectual contribution to manuscripts. Since this time we collaborated on a study that uses high resolution

structural MR imaging to investigate structure-function relationships in the human sensorimotor system. These studies employed the motor and sensory paradigms that we had developed and I assisted with the conduct of the functional studies and provided intellectual contribution. The collaboration with Ass Prof Egan has lead to 4 journal publications and 16 conference presentations.

2000 – ongoing: Professor Aina Puce, Indiana, USA. Professor Puce is Professor and Chair of the Department of Psychological and Brain Sciences, Indiana University, and was previously Associate Professor at the Brain Sciences Institute, Swinburne University. Prof Puce has extensive experience in a range of imaging modalities, including fMRI activation studies and white matter tractography, and in the investigation of neural mechanisms mediating behaviour. Prof Puce is an international chief investigator on the *IN_Touch*: *Imaging Neural Plasticity of Touch* project and will be a co-chief investigator on our proposed study *CoNNECT: Connecting New Networks for Everyday Contact through Touch.* Outcomes from this study will have significance for basic and translational neuroscience. Prof Puce currently holds an adjunct appointment at the NSRI. I have co-authored 1 peer reviewed paper and 7 international and national conference papers with Prof Puce and have 3 further papers in preparation from the IN_Touch project. We have recently co-authored an entry on 'Somatosensory Function' in the *Corsini Encyclopedia of Psychology.*

2004 – ongoing: Professor Rüdiger Seitz, Düsseldorf, Germany. Professor Seitz, Director of Neurology and Neuroimaging, Düsseldorf University, Germany, is a neurologist, a leading, international expert on imaging recovery post-stroke and author of over 150 peer-reviewed papers in prestigious journals such as *Annals of Neurology* and *Brain*. He has expertise in clinical neurology, neurophysiology and pathophysiologic mechanisms underlying recovery. We have a major international collaboration in the investigation of mechanisms of brain adaptation associated with recovery of sensation. Prof Seitz is an international investigator on the *IN_Touch* project and has already made an important contribution to the analysis and interpretation of our imaging studies. Prof Seitz is also a co-chief investigator on our current study investigating dynamic structure-functions relationships in recovery of touch sensation after stroke, *CoNNECT*. I was successful in supporting Prof Seitz as an Institute of Advanced Study *Distinguished Research Fellow* at LaTrobe University and NSRI. This allowed Prof Seitz to visit for 4 months (Nov 2006-March 2007) in Australia. During this time we characterized brain lesions of participants according to standardized routines, conducted detailed cross sectional and longitudinal analyses and co-authored a detailed review on neuroimaging and stroke. To date we have co-authored 3 manuscripts and 9 conference papers, with 2 more in preparation. Professor Seitz is an honorary Professor at the NSRI.

2004 – ongoing: Dr Amy Brodtmann and Ms Ettie Ben-Shabat. Dr Brodtmann is a neurologist and post-doctoral scholar in neuroimaging and has recently collaborated on the project *Central processing of proprioception*. We have co-authored 1 book chapter and 2 conference presentations, with 2 manuscripts in progress.

2007 – ongoing: Dr Fernando Calamante and Prof Alan Connelly. Dr Calamante is a Senior Research Fellow at the Brain Research Institute, Melbourne. Dr Calamante and Prof Connelly and his team are originally from the United Kingdom and have expertise is a range of imaging techniques. Dr Calamante is a senior MR Physicist with more than 10 years experience in diffusion and perfusion MR techniques. In particular he has extensive experience in the diffusion methodology for estimating brain white matter connectivity and has contributed to major developments in the field. Dr Calamante is a co-chief investigator on the proposed *CoNNECT*

study that will investigate structure-function connectivity changes in the brain as a neural substrate of recovery following sensory rehabilitation. As the team are leaders worldwide in structural connectivity and tractography, we will be able to apply these developments and maintain a cutting edge in relation to advances in technique and analysis. Dr Calamante will primarily supervise the acquisition, analysis and interpretation of the diffusion MRI data, as well as contribute to the preparation of manuscripts.

2007 – ongoing: Prof Christopher Levi, Dr Mark Parsons and Ms Isobel Hubbard, Newcastle, NSW. A recent collaboration has been established with Dr Mark Parsons, a neurologist, and Ms Isobel Hubbard, an occupational therapist, on the project: *A functional MRI study of upper limb therapy in community dwelling stroke survivors,* being conducted in Newcastle, NSW. The purpose of this study is to investigate upper limb functional outcomes and changes in brain activation patterns, following (i) no intervention, (ii) task-specific upper limb training, and (iii) task-specific plus modified constraint therapy, in community dwelling stroke survivors with residual upper limb impairment. The project has recently commenced recruitment. Ms Hubbard is conducting the project for her PhD, supervised by Dr Parsons and myself. We are currently preparing a literature review for publication.

2007 – ongoing: Professor Sheila Crewther is a Professor in the School of Psychological Science at La Trobe University with professional qualifications in psychology, neuroscience, education and optometry. Professor Crewther has published well over 100 peer reviewed papers in areas of behavioural and cognitive neuroscience and has research interests in aimed at understanding the neuroscience of information processing and how to optimize the individual's environment for most efficient learning. Recent collaboration has lead to co-supervision of 2 PhD students in Neuropsychology. Focus for these studies will be on connectivity of sensory and attentional systems in recovery of touch sensation post-stroke and role of stress and depression in rehabilitation and recovery from stroke.

2007 – ongoing: Dr Olivier Salvado is Director of the e-Health Research Centre of the Commonwealth Scientific and Industrial Research Organisation (CSIRO) of Australia. He and his team have developed leading edge methods and software to optimise 3D registration and to quantify cortical thickness. Through this collaboration we are able to incorporate these developments in clinical applications, particularly in relation to post-stroke recovery and investigation of neuroimaging parameters associated with depression.

2008 – ongoing: Dr Gavrilescu from the Florey Neuroscience Institutes is a physicist whose doctoral research was on effective connectivity analysis of functional neuroimaging data. This collaboration will further advance the analysis methods used for the *IN_Touch* and *CoNNECT* studies.

2008 – ongoing: Dr Assia Jaillard and Prof Marc Hommel are neurologists in the Department of Clinical and Biological Neurosciences, University Hospital, Grenoble, France. Both have expertise in clinical neurology, functional neuroimaging, motor recovery post-stroke and theory of mind. We are collaborating on neuroimaging studies of stroke recovery and the *PrePARE* study.

2011- ongoing: Prof Naomi Josman, Prof Carolyn Baum – international collaboration to Advancing the Science of Neuro-Rehabilitation: Integrating Neuroscience and Rehabilitation Research into A Science of Recovery for Everyday Life. Recently supported by James S McDonnell Foundation ($50,000).

2011-ongoing: Assoc Prof Catherine Elliot - Associate Professor, School of Paediatric and Child Health, University of Western Australia. Collaboration to develop measures of body sensation for children with neurological impairment and to adapt the evidence-based sensory rehabilitation, known as SENSe for use with children with stroke and cerebral palsy.

Collaborations with Local and International Research Groups:

2003 – 2007: NHMRC Centre for Clinical Research Excellence: Neurosciences: Cross-discipline enhancement of clinical research and education.
I am an associate investigator on the NHMRC Centre of Clinical Research Excellence program grant titled *Neurosciences: Cross-discipline enhancement of clinical research and education*. This collaboration, based at NSRI, and headed by Prof Geoffrey Donnan, Prof Sam Berkovic, Prof Mary Galea and Prof Judith Parker, provides enormous opportunity for cross fertilization of ideas and excellence in research output and training. The group have collectively produced over 250 journal publications in the past 5 years and supervise over 50 postgraduate students. I have authored 6 journal publications and 22 conference presentations with Prof Donnan. I also support and teach in the Neuroscience Course associated with this Centre.

2004 – ongoing: School of Occupational Therapy Research Team 'Neurological Research in Occupational Therapy: Across the Lifespan'.
This team involves approximately 8 academic staff members from the School of OT, LaTrobe University. Research conducted involves children and adults and focuses on quality of movement, sensation, upper limb, participation, occupational therapy and client centered practice. I co-lead the team together with a staff member from the School.

2005 – ongoing: LaTrobe University affiliation.
In 2005 I took a leadership role in establishing a partnership between NSRI and LaTrobe University which involves representatives from the Schools of Occupational Therapy, Physiotherapy, Communication Disorders, Human Bioscience and Psychology with the aim to strengthen the allied health and rehabilitation focus at NSRI. The core group involves 8 researchers. My role is to lead the group and guide its development and productivity. The partnership has facilitated: joint academic/research positions; research supervision across sites; has involved collaborations between staff across sites and departments; and has facilitated support of international scholars such as the Institute of Advance Studies Distinguished Fellow, Prof Rudiger Seitz. A special initiative has been to produce a special issue on Stroke Rehabilitation for the journal *Brain Impairment* that was published in July 2008. I am a special editor for this issue.

2007 – ongoing: National Institute of Health (NIH) Toolbox: Assessment of Neurological and Behavioural Function.
The NIH Toolbox collaborative initiative is to develop an Assessment of Neurological and Behavioural Function that provides investigators with a brief, but comprehensive, measurement tool for assessment of cognitive, emotional, motor and sensory function. The measurement approach aims to be responsive to the needs of researchers in a variety of settings, with a particular emphasis on measuring outcomes in clinical trials and functional status in large cohort studies, e.g. epidemiological studies and longitudinal studies, across the lifespan. The project is part of the NIH Blueprint for Neuroscience Research and is supported by a US $21million NIH grant. I have been invited to be an expert consultant to the project in the area of somatosensory testing. This has involved development of a definition of somatosensation, review of literature in the field and evaluation of existing measures in relation to goals of the Toolbox. The sensory

group identified the value of the Tactile Discrimination Test and Wrist Position Sense Test (measures developed in my PhD) and are interested in developing these further for use in the Toolbox. A proposal has been recently forwarded to support the development of the assessments to shorten test time and optimise use across a wider age range and in clinical trials and large cohort studies. Output from this group will include a review of the literature on somatosensory assessment and test development and trialling.

2007 – ongoing: Cognitive Neuroscience Principles for Rehabilitation.
I have been invited to be part of a select international group that will develop a text on translation of core principles from cognitive neurosciences to clinical practice. This group is supported by the James McDonnell Foundation with the purpose of producing a book that focuses on *Cognitive Neuroscience Principles for Rehabilitation*. The overall goal is to define cognitive neuroscience principles that could serve as a foundation for the clinical field of Neurorehabilitation. I am part of the *Touch, Space and Body Awareness* group that include basic scientists, such as Prof Jon Kaas, Prof Carol Colby, neurologists and cognitive neuroscientists such as Prof Maurizo Corbetta and clinicians such as Dr Laurel Buxbaum, Dr Alesandro Farne and myself. I am the leader of the rehabilitation subgroup and am actively involved in coordinating the response of this group of experts. Output from this collaboration will include a seminal book on Cognitive Neuroscience Principles for Rehabilitation and an associated online resource for clinicians.

2008 – ongoing: ASTRIS – Australasian Stroke Rehabilitation and Imaging Science Consortium.
We have recently formed the ASTRIS consortium, of which I am Chair. Members include neurologists, rehabilitation scientists, movement scientists, and imaging experts from Melbourne, Victoria; Newcastle, New South Wales; and New Zealand. Using a collaborative approach we aim to: i. investigate natural recovery, and response to various interventions post-stroke using core longitudinal imaging and clinical measures; and ii. determine imaging, neurophysiological and clinical predictors of response to sensorimotor interventions of the upper limb post-stroke.

2011-ongoing: Living with Disability – Faculty of Health Sciences, Latrobe University – emerging strength. Program Leader: Professor Chris Bigby. Program of research comprising 11 established productive researchers and 30 higher degree research students. This program will generate an evidence base to inform the development of practices, programs and policies to enable community participation of people with a disability and promote their social inclusion. This will include defining these phenomena more clearly and developing outcome measures.
The program adopts a bio-psycho- social approach to understanding disability and a systems perspective to enabling participation and inclusion; recognising that interventions may be targeted at single or multiple levels including; the individual, family, organisation, community or the wider society.
The program's focus is 'living with a disability' across the lifespan. Researchers are drawn from various disciplines, and have expertise in qualitative and quantitative methodologies and newer inclusive research approaches. Distinct streams of research currently exist but as collaborations develop, future projects will unite these, facilitating greater comparative work across disability subgroups, a focus on life course transitions and common themes such as decision making, community mobility and social networks.
Supported by Faculty of Health Sciences Research Planning grant.

2012-ongoing: Post Stroke Upper Extremity Working Group*:* Setting International Standards for Arm Rehabilitation Post Stroke to Maximize Recovery of Arm Function Post Stroke.

Development of the arm treatment algorithm through review of relevant evidence reviews and validation of the proposed algorithm.

2011-ongoing: Stroke Implementation collaborative research group. Marion F Walker, Rebecca J Fisher, Nicol Korner-Bitensky, Annie McCluskey. Collaborative group of researchers who wish to share their developing expertise with the wider stroke rehabilitation community.

2012-ongoing: Advancing the Science of Rehabilitation: Translating Neuroscience and Rehabilitation into Everyday Life. Naomi Josman, Israel; Carolyn Baum, St Louis, USA; Leeanne Carey, Australia. The purpose of the initiative is to facilitate vital international scientific exchange towards expeditiously advancing the science of recovery: learning about workable approaches, sharing cutting-edge information, and testing innovative interventions. Planning project, funded by the McDonnell Foundation.

2012-ongoing: LaTrobe University Research Focus Area: Sport, Exercise and Rehabilitation

2012-ongoing: LaTrobe University. Living with Disability research group (LiDS). Established productive researcher.

Visitors to the Division of Neurorehabilitation and Recovery, National Stroke Research Institute.
2012: Jan Davis, Clinical Educator, USA, Seattle
2012: Dr Renate Schweizer, Max-Planck Institute, Germany.
2011: Prof Helene Polatajko: Professor and Chair Department of Occupational Science and Occupational Therapy, University of Toronto, Canada.
2009 & 2011: Dr Thomas Linden, Sweden
2009: Dr Assia Jaillard and Professor Marc Hommel, Grenobel, France
2008 from St Louis, USA. Clinical doctorate in Occupational Therapy -research placement.
Postdoctoral researchers - national and international visitors
2008: Prof Aina Puce: Director and Chair, Department of Psychological and Brain Sciences, Indianna Univeristy, USA.
2007/2008: Prof Rudiger Seitz: Director of Neurology and Neuroimaging, Dusseldorf University, Germany. Supported by Institute of Advanced Study Distinguished Research Fellow.
2007/2008/2009: Dr Olivier Salvado: Director of e-Health Research centre of CSIRO, Queensland.
2008: Dr Assia Jaillard and Prof Marc Hommel: Department of Clinical and Biological Neurosciences, University Hospital, Grenoble, France. (6 month sabbatical).
2008: Prof Carolyn Baum: Professor of Occupational Therapy and Director of the Cognitive Rehabilitation Research Group, Washington University, St. Louis, USA.
2008: Prof Helene Polatajko: Professor and Chair Department of Occupational Science and Occupational Therapy, University of Toronto, Canada.
2008: Dr Thomas Linden: Neurologist and psychiatrist, Gotehberg, Sweden. (12 month sabbatical).
I have also hosted researchers and clinicians from England, Sweden, Newcastle.

RESEARCH SUPERVISION:

HONORARY AFFILIATES OF FLOREY (LINKED TO NEUROREHABILITATION AND RECOVERY TEAM)
Prof Carolyn Baum
Prof Thomas Matyas

Prof Sheila Crewther
Prof Rudiger Seitz
A/Prof Jacinta Douglas
Prof Marc Hommel
A/Prof Thomas Linden
Prof Aina Puce
Dr Olivier Salvado
Dr Jannette Blennerhassett

POST DOCTORAL SUPERVISION/ MENTOR

Dr Susan Palmer. Network connectivity – functional and structural connectivity measures
Assoc Prof. Catherine Elliot

Mentor
Shawna Farquarhson (PhD candidate)
Celica Cederfur (postdoctoral researcher)

RESEARCH STAFF
Susan Palmer, BSc (Hons), PhD
Tamara Tse, BOT
Gemma Lamp, BSc (Hons)
Mary Mastos, BOT, MOT
Christine Marsh, BAppSc (Physio)
Emily Ramage, BPhysio (Hons)
Audrey Raffelt, BSc (Hons)
Laura Scott, BSc (Psych, Hons), MClinNeuopsych.
Megan Turville, BOT (Hons).
Caroline Bailey, MOT.

CURRENT THESIS SUPERVISION.

Doctor of Philosophy

- Tse, T (start 2010). Impact of depression post-stroke on activity participation and quality of life (primary supervisor).
- Hubbard, I. A functional MRI study of upper limb therapy in community dwelling stroke survivors 2007 – current (confirmed PhD candidate 2008) (co-supervisor part time)
- Wolfenden, B. Activity Card Sort: review and revision to enhance application following stroke. LaTrobe University. (start 2012) (primary supervisor)
- Belinda Mclean: The School of Paediatrics and Child Health, Faculty of Medicine at UWA. (start 2012, co-supervisor, external)
- Haslam, B Central post-stroke pain after stroke. (start 2013; primary supervisor)
- Susan Taylor (start 2013, co-supervisor)

Clinical Doctorate (Neuropsychology)

- Noonan, K. Factors impacting on neural plasticity and recovery after stroke (submitted, under examination).
- Low, E. Hemispheric Laterality in Somatosensory Processing, and Implications for Post-stroke Recovery. (commence 2012)
- Mitchell, E.J. (started 2011) Roles for Visual Attention and Functional Connectivity in

Prediction and Prognosis of Recovery and Rehabilitation Post Stroke (upgrade)

Honours

- Lloyd Pumpa. Translating Neurorehabilitation into Clinical Practice: the SENSe Implement project

THESES SUPERVISED TO COMPLETION

PhD (primary supervisor)

- Blennerhassett, J. The relationship between sensation and pinch grip. (upgraded from masters, PT, completed 2006)
- Ben Shabat, E. Central processing of proprioception: Functional MRI and psychophysical studies in healthy and stroke participants (PT completed 2009).
- Randall, M. Modification and investigation of the construct validity of the Melbourne Assessment of Unilateral Upper Limb Function (PT completed 2009).
- Hoare, B. An evaluation of occupational therapy and modified constraint induced movement therapy following Botulinum toxin-A injection in the upper limb in children with spastic hemiplegic cerebral palsy. (PT completed 2011)
- Bannister, L. Connectivity in recovery of touch sensation post-stroke. (completed 2012).
- Pascoe, M. (start 2009). Mechanisms by which inflammation mediates depression related cell death, and the neuromodular effects of immune regulating nutritional factors. (co-supervisor) (submitted 2012, under examination).

Masters (research part of postgraduate coursework program) (primary supervisor)

- Mastos, M. (2010). Occupation-based outcomes associated with sensory retraining post stroke.
- McArdle, D. (2010), Functional and Structural Connectivity Changes in the Brain in Stroke Survivors with Somatosensory Impairment: Implications for Rehabilitation (Masters neuropsychology)
- Walker, J. 2007. Individual patient characteristics that predict favourable outcomes following a generalised somatosensory discrimination training program in the hand after stroke. (Masters Occupational Therapy)
- Eickmeyer, T. 2005. Normative standard for the Multi-joint assessment of position sense in the upper limb. (Masters Occupational Therapy)
- Neilson, C. 2004. Investigation of the effectiveness of context-embedded task training in upper limb rehabilitation after stroke. (Masters Occupational Therapy)
- Mostert, E. 2000. The development of a multi-joint assessment of position sense for the upper limb. (Masters Occupational Therapy)

Honours (primary supervisor)

- Taylor, S. 2012. SenScreen for kids.
- Tan, Anne Marie. 2011. Development and implementation of an evidence-based sensory screening tool (SenScreen) for use with sub-acute patients post stroke.
- Mak, Yvonne. 2010. Development and implementation of a standardized sensory screening tool for use with sub-acute patients post stroke: Implementation of best evidence into a clinical practice setting.
- Spitzer, Jacinta. 2009. Relationship between performance and participation measures post-stroke.
- Avery, Rebecca. 2008. Is the Hand Function Survey reliable and responsive to change during stroke rehabilitation?

- Turville, Megan. 2006 Progression through sensory retraining: To what extent do individual differences in progress predict formal outcomes?
- Goh, Kunshan 2006. Discriminative Validity of the new Multijoint Test of Limb Position Sense for use with Stroke Clients.
- Nankervis, J. 2004. Normative standards for the functional Test of Tactual Object Recognition.
- Harvey, L. 2003 Test-retest reliability of the functional test of Tactual Object Recognition for persons who have experienced a stroke.
- Henderson, K. 2003. Test-retest reliability of measures of limb position sense in the upper limb after stroke.
- Smart, M. 2002. Assessment of activities of daily living performance using the Unified Parkinson's Disease Rating Scale: A comparison between observation-based therapist report and patient self-report at interview.
- LeBlanc, S. 2001. Development of a test of tactual object recognition for stroke patients.
- Beridaker, G. 2000. The effectiveness of training friction discrimination on the fundamental pinch grip lift and hold task in subjects with sensory loss following stroke.
- Chandler, J. 1999. Effective replication of texture discrimination training following stroke, when delivered by a student therapist.
- Shinners, J. 1998. Influence of touch sensation on finger grip: normative study.
- Rasmussen, N. 1996. Touch discrimination effect on pinch grip: development of a stimulus set for assessment and intervention studies.
- Vasarelli, T. 1996. Clinical assessment of tactile discrimination following stroke: normative guidelines for interpretation.

Other (primary supervisor)

- Falk, S.1997. Clinical development of two tests of touch sensation: re-test reliability. (PG Dip Neurosciences)
- Roberts, B. 1997. The nature and specificity of touch discrimination ability across different types of textured stimuli following stroke. Grad Dip (Neurosciences).

EXTERNAL PANEL FOR PHD STUDENTS

Darzins, S. 'The investigation of measurement properties of the Personal Care Participation Assessment and Resource Tool (PC-PART)'. LaTrobe University

Smith, E. MRI Imaging of the Speech Network in Children who Stutter. Melbourne University, Murdoch Insititute

AWARDS AND GRANTS TO SUPERVISED RESEARCH STUDENTS AND RESEARCH STAFF.

Doctoral:

Blennerhassett, J. 2007: Best Poster, Research Week, Austin Health
2007: Research grant, Austin Hospital Research foundation $14,000.
2006: Promotion to Grade 4 clinical research position.
2005: Best paper, Stroke Society of Australasia Annual Scientific Meeting
2005: Best Overall Presentation for Joint conference of the National Neurology and Gerontology Groups of the Australian Physiotherapy Association.
2001: Australian Physiotherapy Association research grant.

Ben-Shabat, E 2009: Research Thesis Merit Citation, LaTrobe University
2004-2006: LaTrobe University postgraduate scholarship.
2007-2008: National Stroke Research Institute Scholarship
2007: Postgraduate Support Grant, Faculty of Health Sciences.

Hoare, B 2002: La Trobe University Postgraduate Support Grant - fund travel to World Federation of Occupational Therapy Congress, Sweden.
2003: Allergan Australia Study Grant ($15,500)
2003: La Trobe University, Faculty of Health Sciences and School of Occupational Therapy – Postgraduate Support Grant
2005: Allergan Australia Study Grant ($20,500) to fund expansion of existing trial with upgrade to PhD.
2008: DHS Victorian Pathways Home Scholarships ($5,000) – travel to 2008 European Academy of Childhood Disability Conference, Croatia

Randall, M. 2003-2005: Australian postgraduate scholarship (highest ranked scholar in Faculty of Heath Sciences).
2003-2005: Murdoch Institute research top-up scholarship

Hubbard, I 2008 - Barker Scholarship – Hunter Medical Research Institute

Clinical Doctorate:

Bannister, L LTU Postgraduate Research Scholarship

Noonan, K LTU Postgraduate Research Scholarship

McArdle, D LTU Postgraduate Research Scholarship

Hewish, S 2006: Vera Scantlebury Brown Child Welfare Memorial Trust Research Scholarship

Masters:

Walker, J 2009-current: Windermere Foundation Special Grant - rural
2007: Introduction of evidence-based somatosensory discrimination retraining to community OT neurorehabilitation service, Barwon Health, Barwon Health Quality Improvement Award, Geelong, Victoria
2004-2006: Rural and Remote Allied Health Scholarship

Eickmeyer, T 2004-2005: Rotary International Foundation and District Ambassadorial Scholarship

Honours:

Pumpa, L. 2012 Janet Sloan Stroke Rehabilitation research award

Tan, Anne M 2011 Janet Sloan Stroke Rehabilitation research award

Mak, Y 2009 National Stroke Foundation Honours Award

Spitzer, J 2009: Janet Sloan Stroke Rehabilitation research award
2008: National Stroke Foundation Honours Award

Turville, M. 2006: Janet Sloan Stroke Rehabilitation research award.
2006: Commonwaealth Rehabilitation Service –Award for Excellence.
2006: Lifestyle and Rehabilitation – student of the year award
2006: Surgical Synergies Splinting Prize

Nankervis, J. 2004: Nominated for D.M. Myers University Medal, LaTrobe University.

Harvey, L. 2003: Janet Sloan research award.
2003: Nominated D.M. Myers University Medal, LaTrobe University.

Neilson, C. 2001: OT Australia Research grant.

Mostert, E. 2001: Graduate Research Prize, Faculty of Health Sciences, LaTrobe University.

LeBlanc, S. 2001: Margaret and Alan Hamer Research Prize, Faculty of Health Sciences, LaTrobe University.
2001: Nominated D.M. Myers University Medal, LaTrobe University.

Beridaker, G. 2000: Nominated D.M. Myers University Medal. LaTrobe University.

Others
Gordon, A 2006: Windermere Foundation Special Grant

I have examined theses for Auckland Univeristy, University of Queensland PhD, LaTrobe University Master of Applied Science, Master of Occupational Therapy and Honours programs

PROFESSIONAL AND COMMUNITY SERVICES/ PEER REVIEW INVOLVEMENT:

EDITORIAL BOARD MEMBERSHIP

- *Neurorehabilitation and Neural Repair (Impact Factor 5.4).*
- *Occupational Therapy International*
- *Australian Occupational Therapy Journal*
- *Brain Impairment (including special issue editor)*

REVIEW OF MANUSCRIPTS FOR:

- *Neurorehabilitation and Neural Repair (2-3 per year)*
- *Annals of Neurology*
- *PLOS one*
- *Stroke*
- *Journal of Cerebral Blood Flow and Metabolism*
- *European Journal of Neurology*
- *Journal of Neurology, Neurosurgery and Psychiatry*
- *Archives of Physical Medicine and Rehabilitation (1-2 per year)*
- *International Journal of Rehabilitation Medicine*
- *International Journal of Stroke*
- *Clinical Rehabilitation. (London): 2-3 per year*
- *Australian Occupational Therapy Journal. 1-2 per year, including invited book reviews.*

- *Occupational Therapy International (2-3 per year)*
- *Human Movement Sciences*
- *Perception and Cognition for Action*
- *Journal of Rehabilitation Medicine*
- *Scandinavian Journal of Occupational Therapy*
- *J Clin Physiology*

REVIEW OF CONFERENCE PAPERS FOR

- *World Federation of Neurological Rehabilitation*
- *World Federation of Occupational Therapists 10th International Congress*
- *World Federation of Occupational Therapists 12th International Congress*
- *International Stroke Conference 2008. American Heart Association, American Stroke Association.*
- *International Stroke Conference 2009 & 2010. American Heart Association, American Stroke Association.*

ASSESSOR OF EXTERNAL GRANTS FOR

- *National Health &Medical Research Council Australia project grant scheme (1-2 per year),*
- *Stroke Association UK*
- *NICS National Institute of Clinical Studies, Australia*
- *Menzies Foundation, Australia*
- *Multiple Sclerosis Society, Australia*
- *Affinity Health Foundation*

EXAMINER OF THESES

Nationally and internationally

INVITED VISITING PROFESSOR

2009: University of Queensland

2011: Washington University, St Louis

2012: Western Australia

2012: University of Newcastle / Hunter Medical Research Institute

2013: Israel: University of Haifa, Israel, Faculty of Social Welfare & Health Sciences, Department of Occupational therapy, Dr. Naomi Josman Associate Professor (March 1 week)

INVOLVEMENT IN WIDER COMMUNITY

Media interactions

- 2013University of Haifa, Israel. Sensory rehabilitation after stroke. Interview. http://youtu.be/WfOxPFmODcg (March XX, 2013).
- 2012 Proof the brain has a mind of its own. Our research on sensory recovery and neuroimaging featured in the article in The Global Mail: http://www.theglobalmail.org/feature/proof-the-brain-has-a-mind-of-its-own/51/ (retrieved 13th February, 2012)
- 2011 multiple media interactions ‘Lookin' good: battling cerebral palsy with Botox’ – based

on doctoral work of Brian Hoare. (Carey primary supervisor)

- 2011 multiple interactions linked with story of stroke survivor involved in our studies as follows: strokesafe_ambassador_WinterEditionJuly2011, pp 4-5.
- 2011 ABC 7.30 The latest drug therapy that could prevent a lifetime of disability. (linked with START program and contribution of brain images and story of patient involved in our studies. (May 2011)
- 2010: article on Women of Achievement Award. Heidelberg Leader (5th October).
- 2009: Connections: Occupational Therapy. Article on being awarded the Academy of Research Award from the American Occupational Therapy Foundation
- 2009: ABC radio interview: New treatments for Stroke. Carol Duncan, Newcastle (12th May)
- 2009: ABC Health, The Pulse. New treatments for Stroke - Health and Wellbeing. (16th April). – print (http://www.abc.net.au/health/thepulse/stories/2009/04/16/2544377.htm)
- 2009: article *New treatments for Stroke Health & Wellbeing* in Australian Physician
- 2005: ABC Television program *Catalyst* reported on our program of sensory research and scientific foundations in the story *Stroke Recovery* (26th May; transcript: http://www.abc.net.au/catalyst/stories/s1375878.htm).
- 2005: Radio Australia – Innovations – Stroke Recovery (12th September, 2005)
- 2005 Article 'Helping stroke survivors' Geelong Advertiser (24.10.05).
- 2004: Article 'Occupational Therapist receives NHMRC Career Development Grant'. *AusOT News.* Vol 11, Page 1. – Front page article, discussed research program and award.
- 2004: 'Sensory Retraining after Stroke'. *Stroke Care Australia Bulletin*, National Stroke Foundation. - Feature article on the randomised controlled trial of sensory retraining.
- 2001 *LaTrobe University Bulletin* - 'Imaging recovery after stroke'. In this article the international status of the work in motor recovery and neural plasticity was reported in relation to the invited presentation given at the Human Brain Mapping conference in London, UK. The implications for devising more scientifically-based rehabilitation methods was emphasized.
- 1993: Interviewed by Steve Dow for the article 'Stroke victims regain touch' in the *Australian*, Medical Review section, November 13-14.
- 1993 *Focus on Latrobe* - 'A touching result for stoke victims' - article reporting outcomes of doctoral studies, highlighting the original contribution of training and test developments.

These presentations serve to raise community awareness of the research and its implications for the health of Australians.

Research forum to raise community awareness.

I have presented our research at a number of community and hospital based forums including:

- Austin Health Research Week (2-3 posters presented annually)
- Australian Society for Medical Research Week Expo, Federation Square, June 2005.
- Presentation to Stroke Support Groups

National Stroke Foundation (NSF)

The NSF is the consumer group for stroke survivors. Through this organisation I have contributed to raising the awareness of stroke to the wider community as well as contributed to educating clinicians in best clinical practice. This has involved:

- review and revising the NHMRC Guidelines for Stroke Rehabilitation and Recovery,
- contributing to organisation of audit of Post-acute stroke guidelines (NHMRC endorsed guidelines)
- presenting clinical guidelines for occupational therapy at the *Stroke Rehabilitation and Recovery Conference*; and

- presenting for the online training program that is provided on the NSF webpage and supplements the manual of the guidelines.
- providing input to the NSRI website – the research arm of the NSF

MEMBERSHIP ON COMMITTEES:

Current Executive and Organizing Committee Involvement

2012: NHMRC Research Translation Faculty

2012: Membership: Post Stroke Upper Extremity international Working Group: Setting International Standards for Arm Rehabilitation Post Stroke To Maximize Recovery of Arm Function Post Stroke

2012: Commission on Occupation and Health, The American Occupational Therapy Foundation

2010: START Mangement Committee and Steering Committee

2010: AuSCR Scientific review Committee

2009: World Congress for Neurorehabilitation: Local Organising Committee,

2008: Chair, Australasian Stroke Rehabilitation and Imaging Science Consortium (ASTRIS).

2007: National Institute of Health Toolbox Project – Expert committee member Somatosensation.

2004- : Division Heads Committee – National Stroke Research Institute

2005- : Chair, Committee for NSRI-LaTrobe affiliation.

2005- : Chair, 'Neurological Research in Occupational Therapy Across the Lifespan' Research Group, LaTrobe University.

Past Executive and Organizing Committee Involvement

2008-2009- : Chair, Organizing committee for Stroke Satellite meeting of Human Brain Mapping conference.

2007-2008- : Committee for Audit of Post-acute stroke guidelines (NHMRC endorsed guidelines).

2006-2008- : Executive committee – Stroke Society of Australasia.

1994: Local organizing committee, World Federation of Occupational Therapists international *World Congress of Occupational Therapists* held in Melbourne.

In addition to the above membership and council positions, I have organised a number of presentations for the Victorian Association Occupational Therapy Neurology study group and

have served on the organising committee for a series of national courses conducted by the *Australian Association of Occupational Therapists* in Melbourne, Sydney and Brisbane and for the World Federation of Occupational Therapists international *World Congress of Occupational Therapists* held in Melbourne.

SCIENTIFIC DISCIPLINE INVOLVEMENT:

1979-present date	Victorian Association of Occupational Therapists (V.A.O.T.) and Australian Association of Occupational Therapists. - Member
1979-Feb 1988	V.A.O.T. Neurology Study Group - Organising Committee
1981-Feb 1988	V.A.O.T. Neurology Study Group - V.A.O.T. Council Representative
1979-present date	V.A.O.T. Neurology Study Group-member
1983-2000	Australian Society for the Study of Brain Impairment - Member
1985-Feb 1988	School of Occupational Therapy V.A.O.T. Council Representative
1985-1991	V.A.O.T. Cognitive Special Interest Group -Committee and Special Working Party Member
1986-present date	World Federation of Occupational Therapists - Member
1987-present date	Driver Education Advisory Committee - Member
1997-present date	Stroke Society of Australasia - Member
1998-1999	International Society for Magnetic Resonance in Medicine - Member
2003- present	Member, World Federation of NeuroRehabilitation.
2000-	Member, Human Brain Mapping
2009	Academy of Research, The American Occupational Therapy Foundation.