

Publications Annick A.A. Timmermans – 31 March 2014

PhD

- Timmermans Annick A.A.. 2.09.2010. Technology-supported training of arm-hand skills in stroke. Eindhoven University of Technology. The Netherlands. ISBN978-90-386-2306-1

A1 - Journal Publications

- Timmermans A., Lemmens R., Monfrance M., Geers R., Bakx W., Smeets R., Seelen H. (2014). Effects of task-oriented robot training on arm function, activity, and quality of life in chronic stroke patients: a randomized controlled trial. *Journal of Neuroengineering and Rehabilitation*. 11:45 (IF=2.57)
- Lemmens R., Janssen-Potten Y., Timmermans A., Defesche A., Smeets R., Seelen H. (2014). Arm hand skilled performance in cerebral palsy: activity preferences and their movement components. *BMC Neurology* 14:52. (IF=2.56)
- Franck J.A., **Timmermans A.A.A.**, Seelen H.A.M. (2013). "Effects of a dynamic hand orthosis for functional use of the impaired upper limb in sub-acute stroke patients: a multiple single case experimental design study". *Technology and Disability*. Vol. 25, nr.3: 177-187
- Lamers I., **Timmermans A.**, Kerkhofs L., Severijns D, Van Wijmeersch B, Feys P. (2013). Self-reported use of the upper limbs related to clinical tests in persons with Multiple Sclerosis. *Disability and Rehabilitation*. Vol 35, nr 23, pages 2016-2020 (IF=1.54)
- **Timmermans A.A.A.**, Verbunt J.A., van Woerden R., Moennekens M., Pernot D.H., Seelen H.A.M. (2013). The effect of mental practice on the improvement of function and daily activity performance of the upper extremity in subacute stroke patients: a randomized clinical trial. *Journal of the American Medical Directors Association* 14: 204-212. (IF=5.3)
- Spooren A.I.F., **Timmermans A.A.A.**, Seelen H.A.M. (2012), "Motor training programs of arm and hand in patients with MS according to different levels of the ICF: a systematic review.", *BMC Neurology* (IF=2.56).
- Lemmens R.J.M., **Timmermans A.A.A.**, Janssen-Potten Y.J.M., Smeets R.J.E.M, Seelen H.A.M. (2012). "Valid and reliable instruments for arm-hand assessment at ICF activity level in persons with hemiplegia: a systematic review.", *BMC Neurology*, 2012, 12:21. (IF=2.8).

- **Timmermans Annick A.A.**, Spooren Annemie I.F., Kingma Herman, Seelen Henk A.M., (2010). "Influence of task-oriented training content on skilled arm-hand performance in stroke: a systematic review of non-CIMT trials.", *Neurorehabilitation and Neural Repair*,:24:p585. (IF=4.4).
- **Timmermans Annick A. A.**, Seelen H. A. M., Geers R. P. J., Saini P. K., Winter S., te Vrugt J., and Kingma H. (2010). "Sensor-based arm skill training in chronic stroke patients: results on treatment outcome, system usability and patient motivation," *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, June, 2010 (IF=3.4).
- **Timmermans Annick A. A.**, Seelen H. A. M., Willmann R.D., Bakx W., de Ruyter B., Lanfermann G., and Kingma H. (2009), "Arm and Hand Skills: Training Preferences after Stroke," *Disability and Rehabilitation*, 2009 (IF=1.5)
- **Timmermans Annick A. A.**, Seelen Henk A. M., Willmann Richard D., and Kingma H. (2009), "Technology-assisted training of arm-hand skills in stroke: concepts on reacquisition of motor control and therapist guidelines for rehabilitation technology design," *Journal of NeuroEngineering and Rehabilitation*, vol. 6:1, 2009 (IF=3.26)

Conferences

C1. Peer reviewed congress articles

- Jacobs Gerard J., **Timmermans Annick A.A.**, Michielsen Marc, Vanderplaetse Maaiken, Markopoulos Panos. (2013). "CONTRAST: Gamification of arm-hand training for stroke survivors". Proceeding ACM CHI WIP. 27April – 2 May. Paris, France.
- Delbressine Frank, **Timmermans Annick**, Beurgens Luuk, de Jong Maaïke, van Dam Alexander, Verweij David, Janssen Maikel, Markopoulos Panos. (2012). Motivating arm-hand use for stroke patients by serious games. 34th Annual International Conference of the IEEE Engineering in Medicine and Biology Society. Pp 3564-3567. 28 Aug-2 Sept. San Diego, USA
- Hochstenbach-Waelen Ananda, **Timmermans Annick**, Seelen Henk, Tetteroo Daniel, Markopoulos Panos. (2012). Tag-Exercise Creator: Towards end-user development for tangible interaction in rehabilitation training. The fourth ACM SIGCHI Symposium on Engineering Interactive Computing Systems. June 25-28. Pp 293-298. IT University of Copenhagen. Denmark.
- Beurgens Luuk, **Timmermans Annick**, Markopoulos Panos. (2012). Playful Arm Hand Training after stroke. ACM CHI, May 5-10. Austin, Texas, USA.
- Markopoulos Panos, **Timmermans Annick**, Beurgens Luuk, Van Donselaar Rik, Seelen Henk. (2011). Us'em: The user-centered design of a device for motivating stroke patients to use their impaired arm-hand in daily life activities. 33rd Annual International

Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'11). Pp 2399-2404. Boston, MA, USA on August 30 - September 3, 2011.

- **Timmermans Annick**, Lemmens Rianne, Geers Richard, Smeets Rob, Seelen Henk. (2011). A comparison of treatment effects after sensor-based and robot-based task-oriented arm training in highly functional stroke patients. 33rd Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'11). Boston, MA, USA on August 30 - September 3, 2011.
- Beurgens L, Boesten F, **Timmermans A**, Seelen H, Markopoulos P. (2011). Us'em: motivating stroke patients to use their impaired arm-hand in daily life. CHI, May 7-12, Vancouver, BC, Canada. ACM. 978-1-4503-0268-5/11/05, p1279-1284.
- **Timmermans Annick A.A.**, Geers Richard P.J., Franck Johan A., Dobbelsteijn Paul, Spooren Annemie I.F., Kingma Herman, Seelen Henk A.M..(2009). T-TOAT: A method of task-oriented arm training for stroke patients suitable for implementation of exercises in rehabilitation technology. IEEE International Conference on Rehabilitation Robotics (ICORR). 23-26 June 2009. Kyoto, Japan, p98-102.
- Lanfermann G., Willmann R., te Vrugt J., **Timmermans A**, Bongers E., Lambert N., van Acht V, (2007). Philips Stroke Rehabilitation Exerciser. European Symposium: Technical Aids for Rehabilitation (TAR). Berlin, Jan 25,26 2007.
- Willmann R. D., Lanfermann G., Saini P.K., **Timmermans A.A.A.**, te Vrugt J., and Winter S., "Home stroke rehabilitation for the upper limbs," *Conf Proc IEEE Eng Med Biol Soc*, vol. (2007), pp. 4015-8, 2007

C2 Peer reviewed congress abstracts

- Lemmens R., Janssen-Potten Y., **Timmermans A.**, Smeets R., Seelen H. (2014). Recognizing complex upper extremity skills using body worn sensors. 8th World Congress for Neurorehabilitation. April 8-12, 2014. Istanbul. Turkey
- Lemmens R., Seelen H., Janssen-Potten Y., **Timmermans A.**, Eerden A., Geers R., Smeets R. (2014). Activities of daily living in healthy persons: reliability of registrations with 9-DOF sensors. 8th World Congress for Neurorehabilitation. April 8-12, 2014. Istanbul. Turkey
- **Timmermans A.A.A.**, Vanherle L., Van Genechten S. (2013). Technology-supported rehabilitation in chronic low back pain: a review. 8th Interdisciplinary World Congress on Low Back and Pelvic Pain. Dubai. October 27-31, 2013
- Lemmens R., Seelen H., Janssen-Potten Y., **Timmermans A.**, Eerden A., Geers R., Smeets R. (2013). Activities of daily living in healthy persons: Reliability of registrations with 9-DOF sensors. ICAMPAM, 3rd International Conference on Ambulatory Monitoring of Physical Activity and Movement. 2013, June 17-19. Amherst, Massachusetts, USA.
- Spooren A.I.F. & **Timmermans A.A.A.** Arm Hand Skill Training Preferences in Central Neurological Pathologies. (2012). 7th World Congress for Neurorehabilitation. 16-19 May 2012. Melbourne, Australia.
- Spooren A.I.F., **Timmermans A.A.A.**, Coolen J., Seelen H.A.M. (2012). Identifying treatment goals in stroke and MS: What method to use? 7th World Congress for Neurorehabilitation. 16-19 May 2012. Melbourne, Australia.

- **Timmermans A.A.A.**, Lemmens R., Kleijkers G., Smeets R., Seelen H. (2012). Arm Accelerometry in Stroke: Relation with Function, Activity, and Functional Quality of Life. 7th World Congress for Neurorehabilitation. 16-19 May 2012. Melbourne, Australia.
- Lemmens R, **Timmermans A.**, Smeets R, Seelen H. (2012). Transfer of motor learning in (robotic) robotic task-oriented arm-hand training after stroke. 7th World Congress for Neurorehabilitation. 16-19 May 2012. Melbourne, Australia.
- **Timmermans A.A.A.**, Lemmens R., Pulles S., Smeets R., Seelen H.A.M. (2012). Effectiveness of Haptic Master supported task-oriented arm training in chronic stroke patients. 7th World Congress for Neurorehabilitation. 16-19 May 2012. Melbourne, Australia.
- **Timmermans A.A.A.**, Lemmens R, Adam J, Geers R., Van den Borne J, Seelen H.A.M. (2012). Computerized aiming task to assess sensorimotor impairment in chronic stroke. 7th World Congress for Neurorehabilitation. 16-19 May 2012. Melbourne, Australia.
- Spooren A.I.F., Vanmulken D, Bongers H.M., Seelen H.A.M., **Timmermans A.A.A.** (2012). Technology-assisted task-oriented skill training in tetraplegia: a feasibility study. ISCOS 51th annual meeting. London, UK. 3-5 September 2012
- Spooren A.I.F. & **Timmermans A.A.A.**. 2012. Motor training programs of arm and hand in MS patients according to different levels of the ICF: a systematic review. (2012). 9th COTEC Conference of Occupational Therapy. 24-27 May 2012. Stockholm.
- Lemmens R, **Timmermans A.**, Smeets R, Geers R, Seelen H. (2011). Daily Arm-Hand Activity in Chronic Stroke Patients Improves after Robot-Assisted Task-Oriented Arm Training. 2nd International Conference on Ambulatory Monitoring of Physical Activity and Movement (ICAMPAM). 24-27 May 2011. Glasgow. UK.
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- **Timmermans Annick**, Spooren Annemie, Kingma Herman and Seelen Henk. (2010). A concept to guide the choice of measurement instruments for the evaluation of technology-supported task-oriented training interventions. 2010. 6th World Congress on Neurorehabilitation. Austria, Vienna. 21-25 March 2010.
- **Timmermans Annick**, Seelen Henk and Kingma Herman. (2009). Task-oriented training: an essential element in technology-supported rehabilitation of skilled arm-hand performance after stroke. 2009. 9-10 November. 4th IEEE-EMBS Benelux Chapter Symposium. Twente, The Netherlands. Twente University Press
- **Timmermans A.A.A.**, Seelen H.A.M., Willmann R.D., Franck J.A., Dobbelsteijn P., Saini P.K., Kingma H. (2008). Technology supported task-oriented arm training in chronic stroke patients: Results of a clinical pilot-sudy. 5th World Congress of Neurorehabilitation. 24-27 September 2008 Brasilia, Brazil. Journal of Neurorehabil Neural Repair 2008; 22; p.582
- **Timmermans A.A.A.**, Seelen H.A.M., Willmann R.D., Bakx W., de Ruyter B., Lanfermann G., Kingma H. (2008). Technology-supported task oriented arm training in stroke patients : Which skills do stroke patients prefer to train on? 5th World Congress of Neurorehabilitation. 24-27 September 2008 Brasilia, Brazil. Journal of Neurorehabil Neural Repair 2008; 22; p.541-542

Book chapters

- **Timmermans A.A.**, Spaepen A.J, van den Bergh O., (2005). Belang van onderzoek naar en behandeling van stress bij werkgerelateerde overbelastingsproblematiek van het spierskeletstelsel. Jaarboek Kinesitherapie 2005-2006. Ed. Danneels et al. Antwerpen:Standaard Uitgeverij.

Non-peer reviewed articles

- **Timmermans Annick A.A.**, Seelen Henk A.M., Moennekens Martine (2012). Meer oefenkansen dankzij technologieondersteunde training. Februari 2012. CVA Magazine: p26-27.

Congress Workshops

- **Timmermans A.** & Spooren A. (2011). Task-oriented training of the upper extremity in SCI: Concepts and methods for rehabilitation technologies. International Neurorehabilitation Symposium. 27th June. Zurich, Switzerland.
- Burrige J, Hughes AM, Feys P, **Timmermans A**, Prange G, and Buurke J (2011). Clinical Insights For Rehabilitation Engineers (CIFRE). In: International Conference on Rehabilitation Robotics. July 1st. Zurich, Switzerland.

Patents

- Saini P., Timmermans A., Willmann R., te Vrugt J., Winter S. Patient Monitoring System. WO/2010/015968.
- Willmann R., Lanfermann G., Timmermans A., Winter S., te Vrugt J. System and Method for training motion tasks of a person. WO/2009/136319.
- te Vrugt J., Willmann R., Lanfermann G., Winter S., Saini P., Timmermans A. Method and system for selecting the viewing configuration of a rendered figure. WO/2009/053901.
- Willmann R., Lanfermann G., te Vrugt J., Winter S., Saini P., Timmermans A. Apparatus, Method and computer program of time alignment. WO/2009/083831.