

LIST OF PUBLICATIONS

NILS ÖSTLUND

THESIS

Östlund N. "Adaptive signal processing of surface electromyogram signals". ISBN 91-7264-033-2. Umeå, Sweden 2006.

PEER-REVIEWED PAPERS

1. Karlsson JS, **Östlund N**, Larsson B, Gerdle B. "An estimation of the influence of force decrease on the mean power spectral frequency shift of the EMG during repetitive maximum dynamic knee extensions". *J. Electromyol. Kinesiol.*, 13, 461-468, 2003.
2. **Östlund N**, Yu J, Karlsson JS. "Improved maximum frequency estimation with application to instantaneous mean frequency estimation of surface electromyography". *IEEE trans on Biomedical Engineering*, 51, 1541-1546, 2004.
3. **Östlund N**, Yu J, Roeleveld K, Karlsson JS. "Adaptive spatial filtering of multichannel surface electromyogram signals". *Med. Biol. Eng. Comput.* 42, 825-831, 2004.
4. Grönlund C, **Östlund N**, Roeleveld K, Karlsson JS. "Simultaneous estimation of muscle fibre conduction velocity and muscle fibre orientation using 2D multichannel surface-electromyogram". *Med. Biol. Eng. Comput.* 43, 63-70, 2005.
5. **Östlund N**, Yu J, Karlsson JS. "Adaptive spatio-temporal filtering of multichannel surface EMG signals". *Med. Biol. Eng. Comput.* 44, 209-215, 2006.
6. **Östlund N**, Gerdle B, Karlsson JS. "Location of innervation zone determined from multichannel surface EMG signals using an optical flow technique". *J. Electromyol. Kinesiol.* 17, 549-555, 2007.
7. Wiklund U, Karlsson M, **Östlund N**, Berglin L, Lindecrantz K, Karlsson S, Sandsjö L. "Adaptive spatio-temporal filtering of disturbed ECGs: a multi-channel approach to heartbeat detection in smart clothing". *Med. Biol. Eng. Comput.* 45, 515-523, 2007.
8. Gerdle B, **Östlund N**, Grönlund C., Roeleveld K, Karlsson JS. "Firing rate and conduction velocity of single motor units in the trapezius muscle in fibromyalgia patients and healthy controls". *J. Electromyol. Kinesiol.* 18, 707-716, 2008.
9. Grönlund C, **Östlund N**, Lindh J, Bergström P, Karlsson JS. "Spatio-temporal processing of surface EMG signals from the sternocleidomastoideus muscle to assess effects of radiotherapy on motor unit conduction velocity and firing rate – A pilot study", *Biomedical. Signal Processing & Control* 3, 163-186, 2008.
10. Garpebring A, **Östlund N**, Karlsson M. "A novel distributed parameter model based estimation method for physiological parameters in dynamic contrast-enhanced MRI", *IEEE Trans. Medical Imaging.* 28, 1375-1383, 2009.
11. Häggström I, Johansson L, Larsson A, **Östlund N**, Sörensen J, Karlsson M. "Semi-automatic tumour segmentation by selective navigation in a 3-parameter volume, obtained by voxel-wise kinetic modelling of ¹¹C-acetate". *Radiation Protection Dosimetry*, 139, 214-218, 2010.

12. Garpebring A, Wirestam R, **Östlund N**, Karlsson M. "Effects of Inflow and Spoiling on the Arterial Input Function in Dynamic Contrast-Enhanced MRI: A Combined Phantom and Simulation Study". *Magnetic Resonance in Medicine*, 65, 1670-1679, 2011.

REVIEW PAPERS

1. Karlsson JS, Roeleveld K, Grönlund C, Holtermann A, **Östlund N**. "Signal processing of surface EMG to gain insight in neuromuscular physiology". *Phil. Trans. R. Soc. A*, 367, 337-356, 2009.

PEER-REVIEWED CONFERENCE CONTRIBUTIONS

1. **Östlund N**, Karlsson JS. "Methods to improve mean frequency measurements of surface EMG signals during dynamic contractions". *Proceedings of the 14th Congress of the International Society of Electrophysiology and Kinesiology*, Vienna, Austria, 49-50, June 2002.
2. Grönlund C, **Östlund N**, Karlsson JS, Roeleveld K. "Detection of motor unit action potentials in multi.channel surface EMG data using 2-D spatial and temporal information". *Proceedings of the 14th Congress of the International Society of Electrophysiology and Kinesiology*, Vienna, Austria, 40-41, June 2002.
3. Karlsson JS, **Östlund N**, Larsson B, Gerdle B. "A method to distinguish the effect of force and muscle fatigue upon the shift of the mean frequency of the surface EMG during maximum isokinetic knee extensions". *Proceedings of the 14th Congress of the International Society of Electrophysiology and Kinesiology*, Vienna, Austria, 333-334, June 2002.
4. **Östlund N**, Grönlund C, Karlsson S. "Skattning av muskelfiberriktning med multielektrod yt-EMG". *Program för Svenska läkaresällskapets riksstämman 2002*, Göteborg, Sweden.
5. Grönlund C, Karlsson S, **Östlund N**. "Detektion av motoriska enheter med multielektrod yt-EMG". *Program för Svenska läkaresällskapets riksstämman 2002*, Göteborg, Sweden.
6. **Östlund N**, Holmberg J, Karlsson S. "Optical flow applied to multichannel surface myoelectrical signals" *15th Congress of the International Society of Electrophysiology and Kinesiology*, Boston, USA, June 2004.
7. **Östlund N**, Yu J, Roeleveld K, Karlsson S. "Adaptiv filtrering för detektion av enskilda aktionspotentialer i multikanals yt-EMG". *Program för Svenska läkaresällskapets riksstämman 2004*, Göteborg, Sweden.
8. **Östlund N**, Håkansson S, Edström U, Karlsson JS. "A technique for evaluating infants muscle activity using surface EMG". *Proceedings of the IFMBE 13th Nordic Baltic Conference on Biological Engineering and Medical Physics*, Umeå, Sweden, 261-262, June 13-17, 2005.
9. Roeleveld K, Karlsson JS, Grönlund C, Holtermann A, **Östlund N**. "Possibilities and challenges of multi-channel surface EMG in sports and rehabilitation". *Proceedings of the IFMBE 13th Nordic Baltic Conference on Biological Engineering and Medical Physics*, Umeå, Sweden, 225-226, June 13-17, 2005.
10. Ragnarsson F, **Östlund N**, Wiklund U. "Adaptive multichannel filter for heart beat detection". *Proceedings of the IFMBE 13th Nordic Baltic Conference on Biological Engineering and Medical Physics*, Umeå, Sweden, 299-300, June 13-17, 2005.
11. Karlsson M, Ragnarsson F, **Östlund N**, Edström U, Bäcklund T, Karlsson JS, Wiklund U. "Wireless system for real-time recording of heart rate variability". *Proceedings of the*

- IFMBE 13th Nordic Baltic Conference on Biological Engineering and Medical Physics*, Umeå, Sweden, 168-169, June 13-17, 2005.
12. Håkansson S, **Östlund N**, Edström U, Karlsson JS. "Surface electromyography for registration of infant neuromuscular activity". *46th Annual Meeting of the European Society for paediatric research*, Siena, Italy, 2005.
 13. **Östlund N**, Wiklund U, Yu J, Karlsson JS. "Adaptive spatio-temporal filtration of bioelectrical signals". *Proceeding of the 27th IEEE Engineering in Medicine & Biology Conference*, Shanghai, China, Sept. 1-4, 2005.
 14. Wiklund U, Berglin L, Karlsson M, Karlsson S, Lindecrantz K, Sandsjö L, **Östlund N**. "Analys av hjärtfrekvensvariabilitet baserat på flerkanalig EKG mätning med smarta kläder". *Program för Svenska läkaresällskapets riksstämman 2005*, Stockholm, Sweden.
 15. **Östlund N**, Karlsson M, Karlsson S, Berglin L, Lindecrantz K, Sandsjö L, Wiklund U. "Multichannel filter for heartbeat detection in noisy ECG recordings". *Proceeding of the World Congress on Medicine Physics and Biomedical Engineering*, Seoul, Korea, Aug. 27 - Sept. 1, 2006.
 16. Grönlund C, **Östlund N**, Lindh J, Bergström P, Karlsson JS. "Radiation induced changes in the motor unit conduction velocity of the sternocleidomastoideus muscle – A pilot study". *Proceeding of the World Congress on Medicine Physics and Biomedical Engineering*, Seoul, Korea, Aug. 27 - Sept. 1, 2006.
 17. **Östlund N**, Suhr OB, Wiklund U. "Wavelet coherence detects non-autonomic heart rate fluctuations in familial amyloidotic polyneuropathy". *Proceeding of the 29th IEEE Engineering in Medicine & Biology Conference*, Lyon, France, Aug. 23-26, 2007.
 18. Karlsson S, Wiklund U, Berglin L, **Östlund N**, Karlsson M, Bäcklund T, Lindecrantz K, Sandsjö L. "Wireless Monitoring of Heart Rate and Electromyographic Signals using a Smart T-shirt". *Proceeding of the International Workshop on Wearable Micro and Nanosystems for Personalised Health*, Valencia, Spain, Maj 21-23, 2008.
 19. Garpebring A, **Östlund N**, Karlsson M. "A novel and fast fourier domain estimation method for DCE-MRI parameters". *European Society for Magnetic Resonance in Medicine and Biology Congress 2008*, Valencia, Spain, Oct. 2-4, 2008.
 20. Garpebring A, **Östlund N**, Karlsson M. "Feasibility of arterial input functions from phase data in T1-weighted dynamic contrast-enhanced MRI". *International Society for Magnetic Resonance in Medicine 17th Annual Meeting and Exhibition*, Honolulu, USA, Apr. 18-24, 2009.
 21. Häggström I, Johansson L, Larsson A, **Östlund N**, Sörensen J, Karlsson M. "Semi-automatic tumour segmentation by selective navigation in a 3-parameter volume, obtained by voxel-wise kinetic modelling of ¹¹C-acetate". *Third Malmö Conference on Medical Imaging - Optimisation in X-Ray and Molecular Imaging*, Malmö, Sweden, June 25-27, 2009.