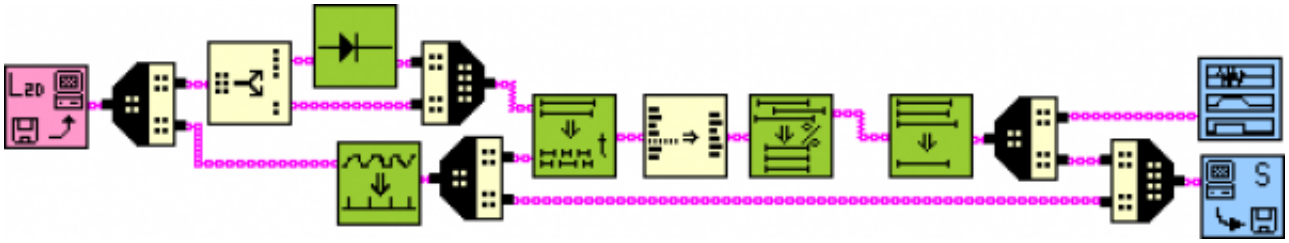
ALEA Solutions – Engineering & Life Science

Postfach 4124, CH-8021 Zürich, Switzerland
Telefon +41 (0)44 262 15 78, info@aleasol.ch

Soleasy



Messung, Analyse, Signalgeneration, Trigger/Event Analyse, LabVIEW

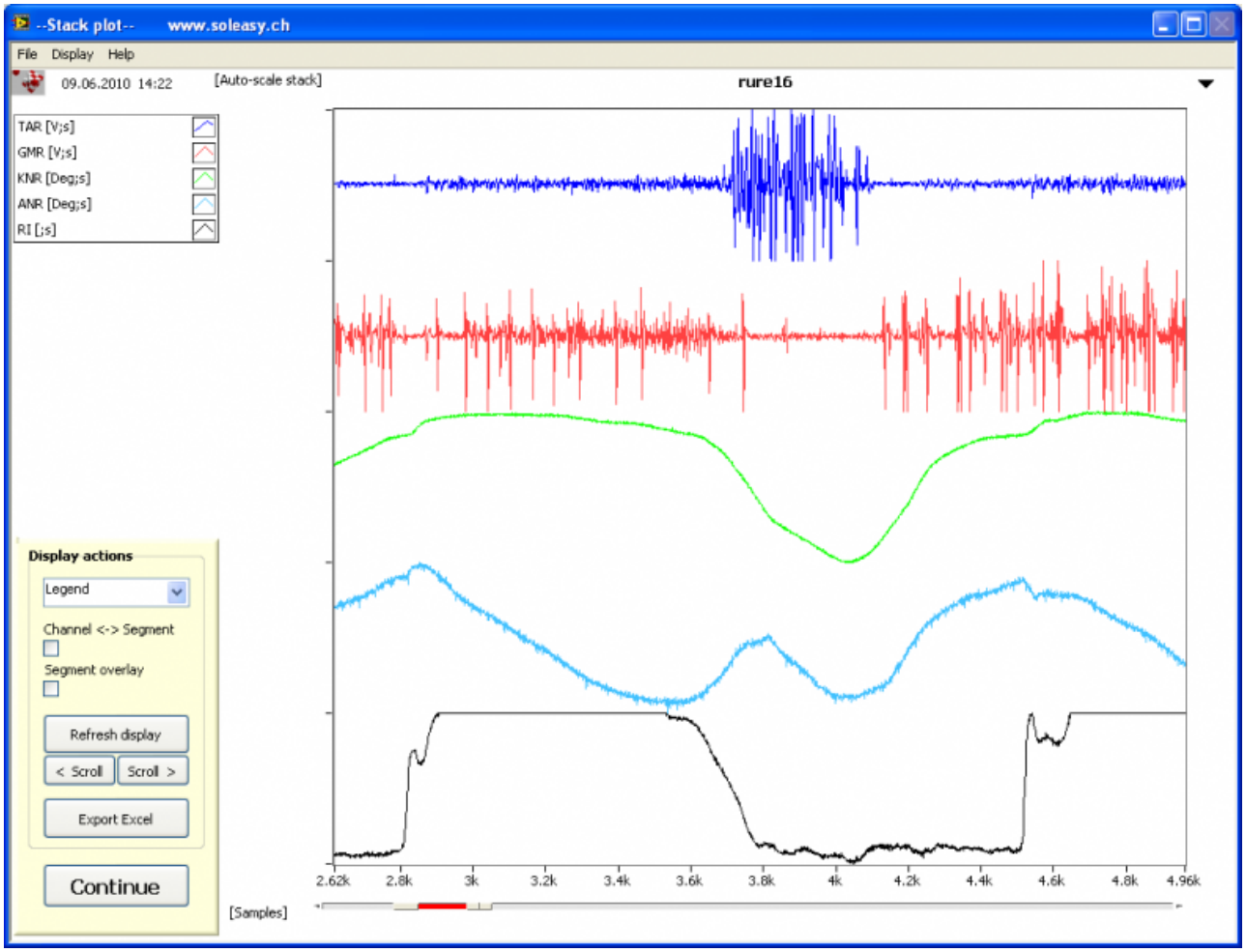
Modulare Messsoftware

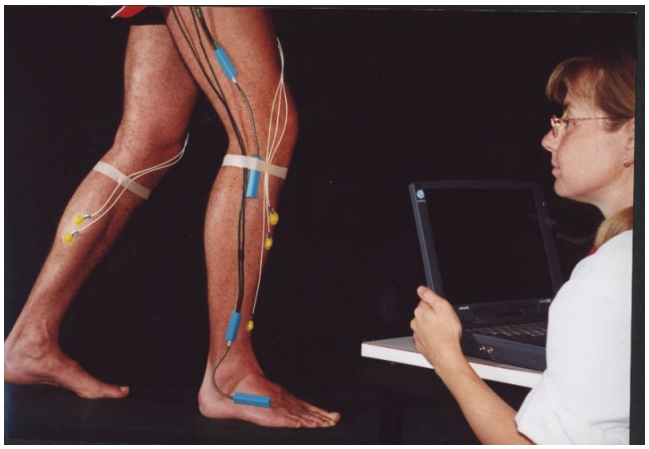
SOLEASY ist ein flexibles und leistungsfähiges Forschungssystem für die Messung und Analyse von biomedizinischen Signalen. SOLEASY besteht aus einer umfangreichen Bibliothek aus vorbereiteten Funktionen, welche vom Anwender mit der Maus (drag&drop) frei kombiniert und zu einer spezifischen Auswertung zusammengestellt werden.

Viele Funktionen sind speziell für physiologische Grössen integriert und erlauben sowohl eine präzise, manuelle als auch eine weitgehend automatisierte Auswertung einzelnder oder mehrerer Dateien.

ALEA Solutions – Engineering & Life Science

Postfach 4124, CH-8021 Zürich, Switzerland
Telefon +41 (0)44 262 15 78, info@aleasol.ch

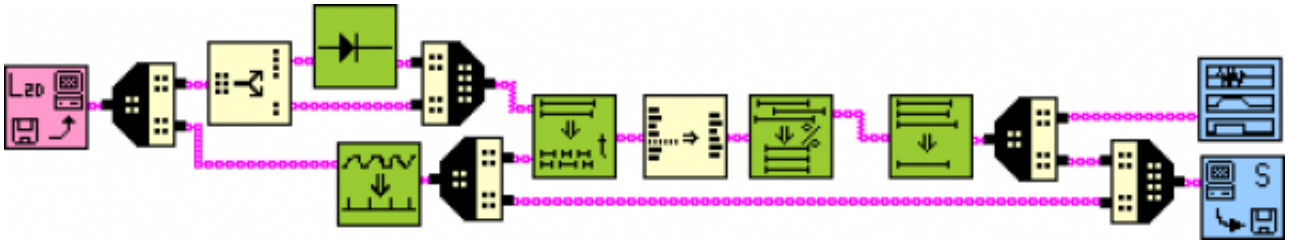




Soleasy

ALEA Solutions – Engineering & Life Science

Postfach 4124, CH-8021 Zürich, Switzerland
Telefon +41 (0)44 262 15 78, info@aleasol.ch



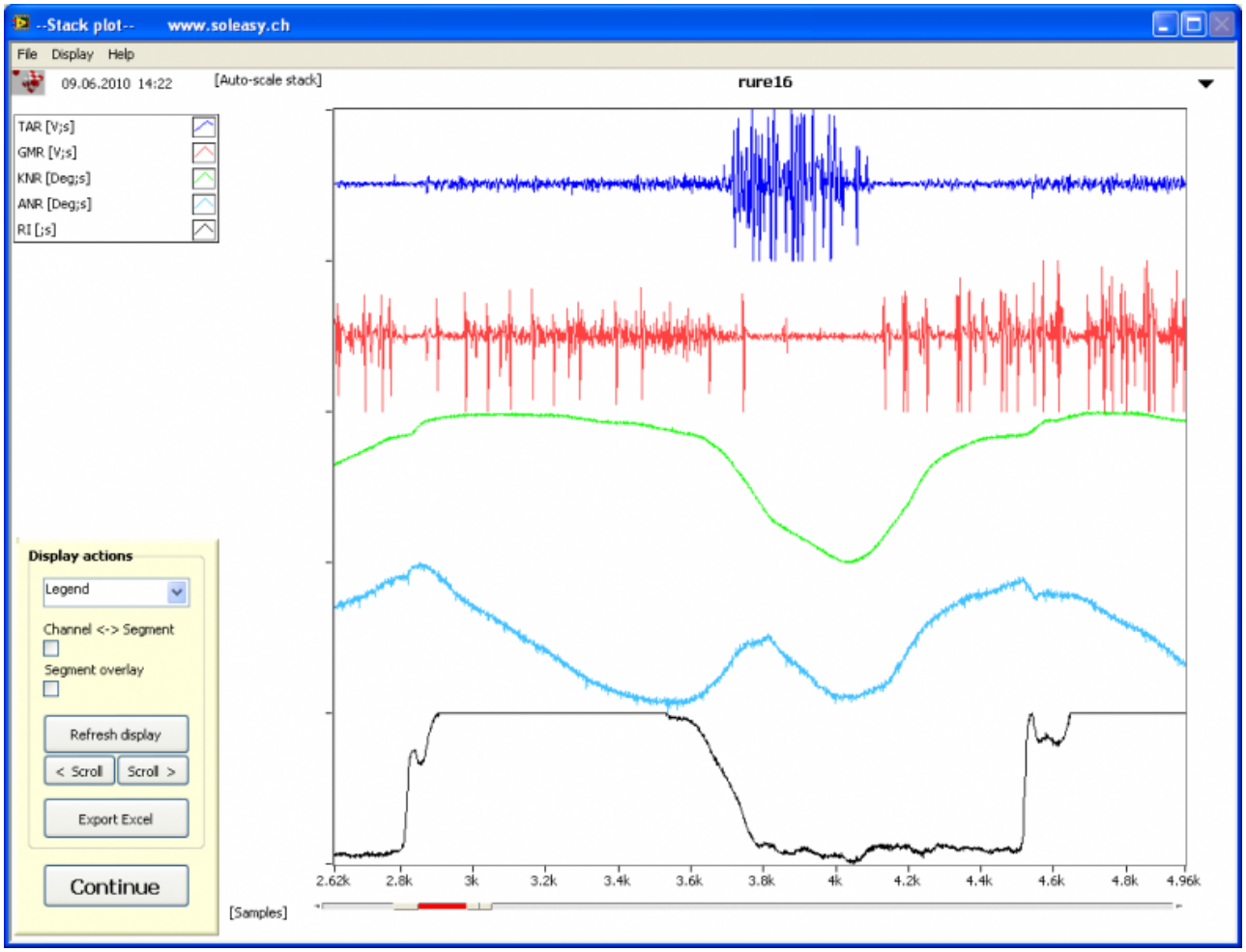
Measurement, Analysis, Signal generation, Trigger/Event Analysis, LabVIEW

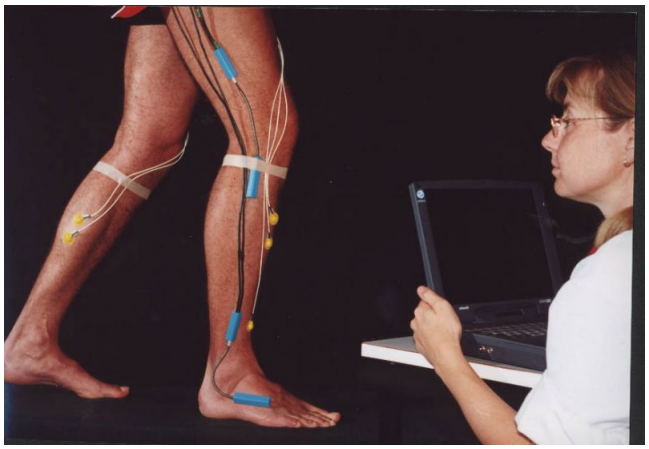
Modular measurement software

SOLEASY is a powerful software toolkit for data acquisition and signal analysis in biomedical research. It consists of a large collection of modular functions that may individually be combined (drag & drop) and adapted by the scientists to their experimental setup. SOLEASY contains special functions for the analysis of physiological signals. The interface is shown below:

ALEA Solutions – Engineering & Life Science

Postfach 4124, CH-8021 Zürich, Switzerland
Telefon +41 (0)44 262 15 78, info@aleasol.ch





SOLEASY Referenzen

- The quest for an objective measure of bladder sensibility: a new approach using heart rate variability and skin conductance level analysis in urodynamics
- Mehnert
- Completed research project
- http://www.research-projects.uzh.ch/p9886.htm

- Influence of passive leg movements on blood circulation on the tilt table in healthy adults
- Czell, D; Schreier, R; Rupp, R; Eberhard, S; Colombo, G; Dietz, V
- J Neuroengineering Rehabil 2004, 1(1):4
- http://www.zora.uzh.ch/97/1/Czell2004PuV.pdf

- Foot control in incomplete SCI: distinction between paresis and dexterity
- Wirth, B; van Hedel, H J A; Curt, A
- Neurological Research 2008, 30(1):52-60.
- http://www.zora.uzh.ch/5406/1/s7.pdf

- Plasticity of human spinal locomotor circuitry
- M Hubli
- Dissertation, ETH ZURICH, Doctor of Sciences
- http://www.zora.uzh.ch/55473/1/2011_Hubli_Michele.pdf

- Changes in spinal reflex and locomotor activity after a complete spinal cord injury: a common mechanism?
- V. Dietz, S. Grillner, A. Trepp, M. Hubli and M. Bolliger
- Brain 2009: 132; 2196–2205
- http://brain.oxfordjournals.org/content/132/8/2196.full.pdf

- Grigereit A, Ziesing A, Vogt L, Banzer W. Elektromyographische Untersuchung zum präventiven und rehabilitativen Schultertraining bei Überkopfsportlern. Sportverl Sportschad 2003; 17:21-25.
- Schurch B, Schmid DM, Kaegi K. Value of sensory examination in predicting bladder function in patients with T12-L1 fractures and spinal cord injury. Arch Phys Med Rehabil 2003; 84:83-9.
- Reitz A, Schmid DM, Curt A, Knapp PA, Jensen K, Schurch B. Electrophysiological assessment of sensations arising from the bladder: are there objective criteria for subjective perceptions? J Urol 2003; 169:190-4.
- Vogt L, Brettmann K, Pfeifer K, Banzer W. Gangstörungen - Möglichkeiten bewegungsanalytisch gestützter Diagnostik und Therapie. Z Orthopädie 2002; 140:561-567.
- Rodic B, Schlapfer A, Curt A, Knapp P, Dietz V, Schurch B. Magnetic stimulation of sacral roots for assessing the efferent neuronal pathways of lower urinary tract. Muscle Nerve 2002; 26:486-91.
- Reitz A, Schmid DM, Curt A, Knapp PA, Schurch B. Sympathetic sudomotor skin activity in human after complete spinal cord injury. Auton Neurosci 2002; 102:78-84.
- Pappas IPI, Keller T, Mangold S. A Reliable, Gyroscope based Gait Phase Detection Sensor Embedded in a Shoe Insole, Proceedings of the 1st IEEE International Conference on Sensors, Orlando, Florida, USA, 2002.
- Hausmann ON, Min K, Boos N, Ruetsch YA, Erni T, Curt A. Transcranial electrical stimulation: significance of fast versus slow charge delivery for intra-operative monitoring. Clin Neurophysiol 2002; 113:1532-5.
- Keller T. Surface Functional Electrical Stimulation (FES) Neuroprostheses for Grasping: ETH Zürich,

2002.
- Dietz V, Muller R, Colombo G. Locomotor activity in spinal man: significance of afferent input from joint and load receptors. Brain 2002; 125:2626-34.
- Wirz M, Colombo G, Dietz V. Long term effects of locomotor training in spinal humans. J Neurol Neurosurg Psychiatry 2001; 71:93-6.
- Wannier T, Bastiaanse C, Colombo G, Dietz V. Arm to leg coordination in humans during walking, creeping and swimming activities. Exp Brain Res 2001; 141:375-9.
- Vogt L. Ganganalytische Untersuchung der Lumbopelvikalregion bei Patienten mit chronischem Rückenschmerz. Dissertation 2001; ISBN 3-89825-208-6.
- Pappas IP, Popovic MR, Keller T, Dietz V, Morari M. A reliable gait phase detection system. IEEE Trans Neural Syst Rehabil Eng 2001; 9:113-25.
- Mangold S, Keller T, Popovic MR. Muscle activity during normal walking and its relevance for the functional electrical stimulation applications, 7th Vienna International Workshop on Functional Electrical Stimulation, Vienna, 2001.
- Keller T, Popovic MR. Real-time stimulation artifact removal in EMG signals for neuroprosthesis control applications, IFESS 20016th Annual Conference of the International Functional Electrical Stimulation Society, Cleveland, June 16-20, 2001. Vol. 1.
- Keller T, Popovic MR, Dumont C. A dynamic grasping assessment system for measuring finger forces during wrist motion, International Society of Biomechanics, XVIIIth Congress, Zurich, Switzerland, July 8-13, 2001, 2001.
- Keller T, Popovic MR. Stimulation artifact removal algorithm for real-time surface EMG applications, 7th Vienna International Workshop of Functional Electrical Stimulation, Vienna, 2001.
- Fouad K, Bastiaanse CM, Dietz V. Reflex adaptations during treadmill walking with increased body load. Exp Brain Res 2001; 137:133-40.
- Dietz V, Fouad K, Bastiaanse CM. Neuronal coordination of arm and leg movements during human locomotion. Eur J Neurosci 2001; 14:1906-14.
- Dietz V, Baaken B, Colombo G. Proprioceptive input overrides vestibulo-spinal drive during human locomotion. Neuroreport 2001; 12:2743-6.
- Colombo G, Wirz M, Dietz V. Driven gait orthosis for improvement of locomotor training in paraplegic patients. Spinal Cord 2001; 39:252-5.
- Popovic MR, Nakazawa K, Papppas IPI, Keller T, Morari M, Dietz V. Stability Criterion for Controlling Standing in Able-Bodied Subjects. Journal of Biomechanics 2000; 33:1359-1368.
- Keller T, Popovic MR, Ammann M, Andereggen C, Dumont C. A System for Measuring Finger Forces During Grasping, 5th Annual Conference of the International Functional Electrical Stimulation Society (IFESS 2000), Aalborg, Denmark, June 1999, 2000.
- Dietz V, Kowalewski R, Nakazawa K, Colombo G. Effects of changing stance conditions on anticipatory postural adjustment and reaction time to voluntary arm movement in humans. J Physiol 2000; 524 Pt 2:617-27.
- Colombo G, Joerg M, Schreier R, Dietz V. Treadmill training of paraplegic patients using a robotic orthosis. J Rehabil Res Dev 2000; 37:693-700.
- Bastiaanse CM, Duysens J, Dietz V. Modulation of cutaneous reflexes by load receptor input during human walking. Exp Brain Res 2000; 135:189-98.
- Popovic MR, Keller T, Nakazawa K, Pappas IPI, Dietz V, Morari M. Stability Zones in Able-Bodied Subjects During Quiet Standing, International Conference on Motor Control, Varna, Bulgaria, September 22-26, 1999.
- Schubert M, Curt A, Colombo G, Berger W, Dietz V. Voluntary control of human gait: conditioning of magnetically evoked motor responses in a precision stepping task. Exp Brain Res 1999; 126:583-8.
- Pappas IPI, Keller T, Popovic MR. Experimental Evaluation of the Gyroscope Sensor used in a New Gait Phase Detection System, 4th Annual Conference of the International Functional Electrical Stimulation Society, IFESS'99, Sendai, Japan, August, 23-27, 1999.
- Keck ME, Pijnappels M, Schubert M, Colombo G, Curt A, Dietz V. Stumbling reactions in man: influence of corticospinal input. Electroencephalogr Clin Neurophysiol 1998; 109:215-23.
- Erni T, Colombo G. Locomotor training in paraplegic patients: a new approach to assess changes in leg muscle EMG patterns. Electroencephalogr Clin Neurophysiol 1998; 109:135-9.
- Dietz V, Wirz M, Curt A, Colombo G. Locomotor pattern in paraplegic patients: training effects and recovery of spinal cord function. Spinal Cord 1998; 36:380-90.
- Dietz V, Wirz M, Colombo G, Curt A. Locomotor capacity and recovery of spinal cord function in

paraplegic patients: a clinical and electrophysiological evaluation. Electroencephalogr Clin Neurophysiol 1998; 109:140-53.
- Colombo G, Wirz M, Dietz V. Effect of locomotor training related to clinical and electrophysiological examinations in spinal cord injured humans. Ann N Y Acad Sci 1998; 860:536-8.
- Curt A, Keck ME, Dietz V. Clinical value of F-wave recordings in traumatic cervical spinal cord injury. Electroencephalogr Clin Neurophysiol 1997; 105:189-93.
- Schubert M, Curt A, Jensen L, Dietz V. Corticospinal input in human gait: modulation of magnetically evoked motor responses. Exp Brain Res 1997; 115:234-46.
- Schurch B, Knapp PA, Rossier AB. Autonomic hyperreflexia revisited. Urol Int 1997; 58:148-52.
- Dietz V, Leenders KL, Colombo G. Leg muscle activation during gait in Parkinson's disease: influence of body unloading. Electroencephalogr Clin Neurophysiol 1997; 105:400-5.
- Dietz V, Colombo G. Effects of body immersion on postural adjustments to voluntary arm movements in humans: role of load receptor input. J Physiol 1996; 497:849-56.

SOLEASY References

- The quest for an objective measure of bladder sensibility: a new approach using heart rate variability and skin conductance level analysis in urodynamics
- Mehnert
- Completed research project
- http://www.research-projects.uzh.ch/p9886.htm

- Influence of passive leg movements on blood circulation on the tilt table in healthy adults
- Czell, D; Schreier, R; Rupp, R; Eberhard, S; Colombo, G; Dietz, V
- J Neuroengineering Rehabil 2004, 1(1):4
- http://www.zora.uzh.ch/97/1/Czell2004PuV.pdf

- Foot control in incomplete SCI: distinction between paresis and dexterity
- Wirth, B; van Hedel, H J A; Curt, A
- Neurological Research 2008, 30(1):52-60.
- http://www.zora.uzh.ch/5406/1/s7.pdf

- Plasticity of human spinal locomotor circuitry
- M Hubli
- Dissertation, ETH ZURICH, Doctor of Sciences
- http://www.zora.uzh.ch/55473/1/2011_Hubli_Michele.pdf

- Changes in spinal reflex and locomotor activity after a complete spinal cord injury: a common mechanism?
- V. Dietz, S. Grillner, A. Trepp, M. Hubli and M. Bolliger
- Brain 2009: 132; 2196–2205
- http://brain.oxfordjournals.org/content/132/8/2196.full.pdf

- Grigereit A, Ziesing A, Vogt L, Banzer W. Elektromyographische Untersuchung zum präventiven und rehabilitativen Schultertraining bei Überkopfsportlern. Sportverl Sportschad 2003; 17:21-25.
- Schurch B, Schmid DM, Kaegi K. Value of sensory examination in predicting bladder function in patients with T12-L1 fractures and spinal cord injury. Arch Phys Med Rehabil 2003; 84:83-9.
- Reitz A, Schmid DM, Curt A, Knapp PA, Jensen K, Schurch B. Electrophysiological assessment of sensations arising from the bladder: are there objective criteria for subjective perceptions? J Urol 2003; 169:190-4.
- Vogt L, Brettmann K, Pfeifer K, Banzer W. Gangstörungen - Möglichkeiten bewegungsanalytisch gestützter Diagnostik und Therapie. Z Orthopädie 2002; 140:561-567.
- Rodic B, Schlapfer A, Curt A, Knapp P, Dietz V, Schurch B. Magnetic stimulation of sacral roots for assessing the efferent neuronal pathways of lower urinary tract. Muscle Nerve 2002; 26:486-91.
- Reitz A, Schmid DM, Curt A, Knapp PA, Schurch B. Sympathetic sudomotor skin activity in human after complete spinal cord injury. Auton Neurosci 2002; 102:78-84.
- Pappas IPI, Keller T, Mangold S. A Reliable, Gyroscope based Gait Phase Detection Sensor Embedded in a Shoe Insole, Proceedings of the 1st IEEE International Conference on Sensors, Orlando, Florida, USA, 2002.
- Hausmann ON, Min K, Boos N, Ruetsch YA, Erni T, Curt A. Transcranial electrical stimulation: significance of fast versus slow charge delivery for intra-operative monitoring. Clin Neurophysiol 2002; 113:1532-5.
- Keller T. Surface Functional Electrical Stimulation (FES) Neuroprostheses for Grasping: ETH Zürich, 2002.
- Dietz V, Muller R, Colombo G. Locomotor activity in spinal man: significance of afferent input from joint and load receptors. Brain 2002; 125:2626-34.
- Wirz M, Colombo G, Dietz V. Long term effects of locomotor training in spinal humans. J Neurol Neurosurg Psychiatry 2001; 71:93-6.
- Wannier T, Bastiaanse C, Colombo G, Dietz V. Arm to leg coordination in humans during walking, creeping and swimming activities. Exp Brain Res 2001; 141:375-9.
- Vogt L. Ganganalytische Untersuchung der Lumbopelvikalregion bei Patienten mit chronischem Rückenschmerz. Dissertation 2001; ISBN 3-89825-208-6.
- Pappas IP, Popovic MR, Keller T, Dietz V, Morari M. A reliable gait phase detection system. IEEE Trans Neural Syst Rehabil Eng 2001; 9:113-25.
- Mangold S, Keller T, Popovic MR. Muscle activity during normal walking and its relevance for the functional electrical stimulation applications, 7th Vienna International Workshop on Functional Electrical Stimulation, Vienna, 2001.
- Keller T, Popovic MR. Real-time stimulation artifact removal in EMG signals for neuroprosthesis control applications, IFESS 20016th Annual Conference of the International Functional Electrical Stimulation Society, Cleveland, June 16-20, 2001. Vol. 1.
- Keller T, Popovic MR, Dumont C. A dynamic grasping assessment system for measuring finger forces during wrist motion, International Society of Biomechanics, XVIIIth Congress, Zurich, Switzerland, July 8-13, 2001, 2001.
- Keller T, Popovic MR. Stimulation artifact removal algorithm for real-time surface EMG applications, 7th Vienna International Workshop of Functional Electrical Stimulation, Vienna, 2001.
- Fouad K, Bastiaanse CM, Dietz V. Reflex adaptations during treadmill walking with increased body load. Exp Brain Res 2001; 137:133-40.
- Dietz V, Fouad K, Bastiaanse CM. Neuronal coordination of arm and leg movements during human locomotion. Eur J Neurosci 2001; 14:1906-14.
- Dietz V, Baaken B, Colombo G. Proprioceptive input overrides vestibulo-spinal drive during human locomotion. Neuroreport 2001; 12:2743-6.
- Colombo G, Wirz M, Dietz V. Driven gait orthosis for improvement of locomotor training in paraplegic patients. Spinal Cord 2001; 39:252-5.
- Popovic MR, Nakazawa K, Papppas IPI, Keller T, Morari M, Dietz V. Stability Criterion for Controlling Standing in Able-Bodied Subjects. Journal of Biomechanics 2000; 33:1359-1368.
- Keller T, Popovic MR, Ammann M, Andereggen C, Dumont C. A System for Measuring Finger Forces During Grasping, 5th Annual Conference of the International Functional Electrical Stimulation Society (IFESS 2000), Aalborg, Denmark, June 1999, 2000.

Postfach 4124, CH-8021 Zürich, Switzerland
Telefon +41 (0)44 262 15 78, info@aleasol.ch

- Dietz V, Kowalewski R, Nakazawa K, Colombo G. Effects of changing stance conditions on anticipatory postural adjustment and reaction time to voluntary arm movement in humans. J Physiol 2000; 524 Pt 2:617-27.
- Colombo G, Joerg M, Schreier R, Dietz V. Treadmill training of paraplegic patients using a robotic orthosis. J Rehabil Res Dev 2000; 37:693-700.
- Bastiaanse CM, Duysens J, Dietz V. Modulation of cutaneous reflexes by load receptor input during human walking. Exp Brain Res 2000; 135:189-98.
- Popovic MR, Keller T, Nakazawa K, Pappas IPI, Dietz V, Morari M. Stability Zones in Able-Bodied Subjects During Quiet Standing, International Conference on Motor Control, Varna, Bulgaria, September 22-26, 1999.
- Schubert M, Curt A, Colombo G, Berger W, Dietz V. Voluntary control of human gait: conditioning of magnetically evoked motor responses in a precision stepping task. Exp Brain Res 1999; 126:583-8.
- Pappas IPI, Keller T, Popovic MR. Experimental Evaluation of the Gyroscope Sensor used in a New Gait Phase Detection System, 4th Annual Conference of the International Functional Electrical Stimulation Society, IFESS'99, Sendai, Japan, August, 23-27, 1999.
- Keck ME, Pijnappels M, Schubert M, Colombo G, Curt A, Dietz V. Stumbling reactions in man: influence of corticospinal input. Electroencephalogr Clin Neurophysiol 1998; 109:215-23.
- Erni T, Colombo G. Locomotor training in paraplegic patients: a new approach to assess changes in leg muscle EMG patterns. Electroencephalogr Clin Neurophysiol 1998; 109:135-9.
- Dietz V, Wirz M, Curt A, Colombo G. Locomotor pattern in paraplegic patients: training effects and recovery of spinal cord function. Spinal Cord 1998; 36:380-90.
- Dietz V, Wirz M, Colombo G, Curt A. Locomotor capacity and recovery of spinal cord function in paraplegic patients: a clinical and electrophysiological evaluation. Electroencephalogr Clin Neurophysiol 1998; 109:140-53.
- Colombo G, Wirz M, Dietz V. Effect of locomotor training related to clinical and electrophysiological examinations in spinal cord injured humans. Ann N Y Acad Sci 1998; 860:536-8.
- Curt A, Keck ME, Dietz V. Clinical value of F-wave recordings in traumatic cervical spinal cord injury. Electroencephalogr Clin Neurophysiol 1997; 105:189-93.
- Schubert M, Curt A, Jensen L, Dietz V. Corticospinal input in human gait: modulation of magnetically evoked motor responses. Exp Brain Res 1997; 115:234-46.
- Schurch B, Knapp PA, Rossier AB. Autonomic hyperreflexia revisited. Urol Int 1997; 58:148-52.
- Dietz V, Leenders KL, Colombo G. Leg muscle activation during gait in Parkinson's disease: influence of body unloading. Electroencephalogr Clin Neurophysiol 1997; 105:400-5.
- Dietz V, Colombo G. Effects of body immersion on postural adjustments to voluntary arm movements in humans: role of load receptor input. J Physiol 1996; 497:849-56.