Thursday 18 Oct

8.30-9:20	ICNR-WeRob Plenary #3 - Prof. Stephen Scott: Potential of Robotic Technology to Assess Brain Function and Dysfunction				
9:20-9:40	Sponsor's Spotlight Demonstration: IUVO				
	ICNR Sessions			WeRob Sessions	INBOTS Sessions
9:40 - 11:10	T1-SS2. Translating research prototypes to bedside: the lesson-learnt of the RETRAINER EU project	T2 - SS8. Neurorehabilitation from clinical perspective and robotic perspective: Contradictions and Integrations	T4- SS19. Multimodal neural interfaces for rehabilitation and assistance of people with disability	WeR7. Wearable Robotics for rehabilitation and assistance in Latin America	INBOTS5 Regulatory &risk management framework
11:10-11.30	Coffee break - Project demo: SoftPro				
11.30-13:00	T2 - SS9. Balance control during walking-related motor tasks	T3 - SS15. Modeling Joint Neuromechanics and Its Applications: System Identification Approach	T4 - SS27. The Future of Neurorehablitation: from regenerative medicine to robotics to brain-computer interfaces	WeR8. Wearable robotic solutions for factories of the future	INBOTS5 Regulatory &risk management framework
13:00-13:50	Lunch				
13:50-14:10	Sponsor's Spotlight Demonstration: Prensilia				
14:10-15:00	ICNR-WeRob Plenary #5 - Prof. Katja Mombaur				

15:00-16:30	T2 -SS10. The use of ambulant technology in stroke rehabilitation	T3-SS16. Machine Learning in NeuroRehabilitation	T4 - SS25. Reshaping Perception and Action in Human-Machine Interfaces	IEEE Brain initiative Symposium	INBOTS3 Highly-accessible and multidisciplinary education tools in robotics
16.30-17.30	Coffee break and poster session - Project demo: Retrainer				
17:30-19:00		T3-SS17. Non-Invasive Stimulation At Different Level Of Nervous System In Neurorehabilitation	T4-SS26. Brain-state dependent non-invasive neuromodulation of human cortex	IEEE Brain initiative Symposium	INBOTS3 Highly-accessible and multidisciplinary education tools in robotics
20:00 - ad libitum	**Banquet**				

ICNR-T1-SS2. Translating research prototypes to bedside: the lesson-learnt of the RETRAINER EU project

Authors	Title
Franco Molteni, Mauro Rossini, Giulio Gasperini, Davide Proserpio, Karsten Krakow, Nancy Immick, Andreas Augusten, Johannes Zajc, Andrea Crema and Silvestro Micera	A wearable hand neuroprosthesis for hand rehabilitation after stroke: preliminary results of the RETRAINER S2 randomized controlled trial
Michael Russold and Johannes Zajc	The role of industry in a H2020 innovation action – Transferring research into products

Walter Baccinelli, Franco Molteni and Maria Bulgheroni	Smart objects in rehabilitation
Constantin Wiesener, Emilia Ambrosini, Leo Blankenfeld, Simon Schneider, Björn Grzywacz and Thomas Schauer	Wireless IMU- and EMG-sensors for controlled Functional Electrical Stimulation
Markus Puchinger, Nithin Babu Rajendra Kurup and Margit Gfoehler	Passive light-weight arm exoskeleton: possible applications
Alessandra Pedrocchi and Maria Bulgheroni	RETRAINER project: perspectives and lesson learnt on clinical trial in rehabilitation robotics toward industrial exploitation
Alberto Antonietti, Marta Gandolla, Emilia Biffi, Eleonora Diella, Valerio Martocchi, Grazia D'Angelo and Alessandra Pedrocchi	Clinical benefits and acceptability of two commercial arm exoskeletons for patients with muscular dystrophy

ICNR - T2 - SS8. Neurorehabilitation from clinical perspective and robotic perspective: Contradictions and Integrations	
Authors	**Title**
Guillermo Asín-Prieto, Fady Alnajjar, Aitor Martínez-Expósito, Shingo Shimoda, José Luis Pons and Juan C. Moreno	Feasibility of submaximal force control training for robot-mediated therapy after stroke
Katsuyuki Iwatsuki, Shintaro Oyama, Minoru Hoshiyama, Shingo Shimoda and Hitoshi Hirata	Evaluation of the brain function for the myoelectric hand prosthesis with tacit learning system
Kei Kikuchi, Takashi Watanabe, Ryusei Morita, Katsunori Murakami and Naomi Kuge	A Pilot Study of Relationship between Hip Joint Movement and FES Foot Drop Correction with a Hemiplegic Subject
Nada Signal, Kelly Scott, Denise Taylor and Nicola Kayes	What helps or hinders the uptake of new technologies into rehabilitation practice?
Giovanni Morone, Marco Iosa, Daniela De Bartolo, Gabriella Antonucci and Stefano Paolucci	Tailored, Technological Therapy: physician and therapists point of view on robotic rehabilitation

Belal Alsinglawi, Omar Mubin, Fady Alnajjar and Mauricio Novoa	A Framework for Home-based Stroke Rehabilitation Using Interactive Games and Augmented Reality Feedback

ICNR - T2- SS9. Balance control during walking-related motor tasks	
Authors	**Title**
Herman van der Kooij	Are ankle muscle responses in balance recovery hard-wired?
Julia Marshall Leach, Sabato Mellone, Pierpaolo Palumbo and Lorenzo Chiari	The Improvement of Turning Ability is a Key Objective for Fall-Risk Reduction in Individuals with Impaired Dynamic Stability
Volker Dietz	Performance of functional arm and leg movements depends on neural coupling
Carlotta Caramia, Cristiano De Marchis and Maurizio Schmid	Differentiating the Effects of Motor and Cognitive Dual-Tasks on Gait Performance of Young Healthy Subjects
Federica Aprigliano, Vito Monaco, Peppino Tropea, Dario Martelli, Nicola Vitiello and Silvestro Micera	Effectiveness of assistive torque patterns supplied by a pelvis exoskeleton after slippages: a pilot study
Dario Martelli, Federica Aprigliano and Sunil K. Agrawal	Gait Adjustments Against Multidirectional Waist-pulls in Cerebellar Ataxia and Parkinson’s Disease

ICNR-T2 -SS10. The use of ambulant technology in stroke rehabilitation	
Authors	**Title**
Franchino Porciuncula, Richard Nuckols, Nikolaos Karavas, Chih-Kang Chang, Teresa Baker, Dorothy	Assisting Limb Advancement During Walking in Stroke Using a Wearable Soft Hip Exosuit: A Proof-of-Concept

Orzel, David Perry, Terry Ellis, Lou Awad and Conor J. Walsh	
Jeremia P. O. Held, Peter Veltink, Fokke B. van Meulen, Andreas Luft and Jaap Buurke	Measurement of upper limb function during daily life after stroke
Jianjia Ma, Daniele Magistro and Massimiliano Zecca	Synchronizing Connection-Oriented Distributed Sensor Network using Bluetooth Low Energy with Unmodified Android Device
Simone S. Fricke, Cristina Bayón, Herman van der Kooij and Edwin H.F. van Asseldonk	Pilot Study of a Performance-Based Adaptive Assistance Controller for Stroke Survivors
Zhibing Song, Xiuqi Hu and Jiansheng Dai	A Novel Design of Nonlinear Stiffness Actuator for Neurorehabilitation Robots
Edwin Daniel Oña Simbaña, Alberto Jardón Huete, Esther Monge Pereira, Francisco Molina Rueda, Roberto Cano de La Cuerda and Carlos Balaguer	Towards Automated Assessment of Upper Limbs Motor Function Based on Fugl-Meyer Test and Virtual Environment

ICNR - T3- SS13. Neural Signal Analysis: Novel Approaches to Understanding Brain Diseases	
Authors	**Title**
Babak Afsharipour, Sourav Chandra, William Rymer and Nina Suresh	Effect of Botulinum Toxin Injections on Stretch Reflex Responses of Spastic Elbow Flexors in Hemispheric Stroke Survivors: Case study
Fabio Baselice, Antonietta Sorriso, Rosaria Rucco and Pierpaolo Sorrentino	A novel brain functional connectivity measurement based on phase similarity
Saúl J. Ruiz-Gómez, Carlos Gómez, Jesús Poza, Pablo Núñez, Víctor Rodríguez-González, Aarón Maturana-Candelas and Roberto Hornero	Analysis of Information Flux in Alzheimer's Disease and Mild Cognitive Impairment by Means of Graph-Theory Parameters
Pablo Núñez, Jesús Poza, Carlos Gómez, Víctor Rodríguez-González, Saúl J. Ruiz-Gómez, Aarón Maturana-Candelas and Roberto Hornero	Characterizing Non-stationarity in Alzheimer’s Disease and Mild Cognitive Impairment by Means of Kullback-Leibler Divergence

Aarón Maturana-Candelas, Carlos Gómez, Jesús Poza, Saúl J. Ruiz-Gómez, Pablo Núñez, María Rodríguez, Manuel Figueruelo, Carmen Pita, Nádia Pinto, Sandra Martins, Alexandra Lopez, Iva Gomes and Roberto Hornero	Analysis of spontaneous EEG activity by means of multiscale spectral entropy for early detection of Alzheimer's disease
Ioannis Delis, Robin Ince, Paul Sajda and Qi Wang	Information-theoretic characterization of the neural mechanisms of active multisensory decision making

ICNR - T3 - SS15. Modeling Joint Neuromechanics and Its Applications: System Identification Approach	
Authors	**Title**
Alfred Schouten and Winfred Mugge	Closed-loop identification to unravel the way the human nervous system controls bodily functions
Winfred Mugge, Jacobus J. van Hilten, Frans C. T. van der Helm and Alfred Schouten	Reflex mechanisms in CRPS-related dystonia
Guilherme Aramizo Ribeiro, Lauren Knop and Mo Rastgaar	Linear Correlation between Ankle Impedance and EMG Signals
Ehsan Sobhani Tehrani, Kian Jalaleddini and Robert Kearney	Short Segment and Parameter Varying Identification of Time-Varying Dynamic Joint Stiffness
Mehdi M Mirbagheri	Applications of System Identification Techniques in Characterizing and Tracking Neuromuscular Abnormalities
Stefano Mazzoleni, Vi Do Tran, Gastone Ciuti, Zhibin Song and Paolo Dario	A biomechanical model of the shoulder including acromioclavicular joint ligaments: preliminary results

ICNR-T3-SS16. Machine Learning in NeuroRehabilitation

Authors	Title
Juan Haladjian, Sajjad Taheri and Bernd Bruegge	Wearable Sensors for Patients
Baojun Chen, Vito Papapicco, Andrea Parri, Simona Crea, Marko Munih and Nicola Vitiello	A preliminary study on locomotion mode recognition with wearable sensors
Amanda Bernstein, Rejin J. Varghese, Jindong Liu, Zhiqiang Zhang and Benny Lo	An Assistive Ankle Joint Exoskeleton for Gait Impairment
Ioannis Delis, Pauline M Hilt, Thierry Pozzo and Bastien Berret	Simultaneous alignment of EMG data and identification of spatial-temporal muscle synergies
Ines Bahej, Ieuan Clay, Martin Jaggi and Valeria De Luca	Prediction of patient-reported physical activity scores from wearable accelerometer data: a feasibility study

ICNR-T3-SS17. Non-Invasive Stimulation At Different Level Of Nervous System In Neurorehabilitation

Authors	Title
Josep Valls-Sole	Non-invasive cerebral and non-cerebral therapeutic stimulation in Neurology
Luca Sebastianelli, Viviana Versace, Raffaele Nardone and Leopold Saltuari	Repetitive Transcranial Magnetic Stimulation (rTMS) for the improvement of upper limb function in stroke patients
Christian Meyer, Ursula Hofstötter, Michèle Hubli, Armin Curt and Marc Bolliger	Transcutaneous electrical spinal cord stimulation – Effects on motor control in individuals with incomplete spinal cord injury
Guillermo C García Barajas, Diego Serrano-Muñoz, Julio Gómez-Soriano, Josue Fernández Carnero, Juan Avendaño, Elena Demertzis and Julian Taylor	Targeting the Endogenous Pain Modulation System
Marco Paoloni	Neurovibration in neurorehabilitation

Julia Scott	Targeting the Endogenous Pain Modulation System

ICNR-T4- SS19. Multimodal neural interfaces for rehabilitation and assistance of people with disability	
Authors	**Title**
Roberta Lizio	Monitoring of lifestyle and cognitive status in seniors at risk of dementia: the SmartAging program
Natalie Mrachacz-Kersting, Susan Aliakbaryhosseinabadi, Ning Jiang and Dario Farina	The efficacy of a Real-time vs an Offline Associative Brain-Computer-Interface
Eduardo López-Larraz, Niels Birbaumer and Ander Ramos-Murguialday	Designing hybrid brain-machine interfaces to detect movement attempts in stroke patients
Francesco Negro, Marta Cogliati, Alessandro Cudicio, Luciano Bissolotti and Claudio Orizio	Neural Biomarkers of Functional Recovery in Patients with Injured Motor System
Aitor Martínez-Expósito, Jaime Ibañez, Enrique Viosca and José Luis Pons	Brain-machine interface and functional electrical stimulation for pedaling increases corticospinal excitability in a stroke patient: A case study.
Floriana Pichiorri, Emma Colamarino, Febo Cincotti and Donatella Mattia	An All-in-one BCI-supported Motor Imagery Training Station: Validation in a Real Clinical Setting with Chronic Stroke Patients

ICNR - T4 - SS25. Reshaping Perception and Action in Human-Machine Interfaces	
Authors	**Title**
Chen Avraham and Ilana Nisky	Integration of kinesthetic and tactile information for manipulation and grip force control during force-field adaptation
Ian Howard, Sae Franklin and David Franklin	Characterization of neural tuning: visual lead-in movements generalize in speed and distance
Joel Mintz, Dalia De Santis, Fabio Rizzoglio, Ali Farshchiansadegh and Sandro Mussa-Ivaldi	Designing visual feedback to reshape muscle coordination
Sonmin Yun, Wen Wen, Qi An, Shunsuke Hamasaki, Hiroshi Yamakawa, Yusuke Tamura, Atsushi Yamashita and Hajime Asama	Investigating the Relationship between Assisted Driver's SoA and EEG
Valentina Ponassi, Elisa Galofaro, Giulia Ballardini, Giorgio Carlini, Laura Pellegrino, Francesca Marini, Pietro Morasso and Maura Casadio	The interaction between position sense and force control
Andria Farrens, Andrea Zonnino and Fabrizio Sergi	The effects of force-field adaptation on neural activation and resting-state functional connectivity

ICNR-T4-SS26. Brain-state dependent non-invasive neuromodulation of human cortex	
Authors	**Title**
Ulf Ziemann, Debora Desideri, Paolo Belardinelli and Christoph Zrenner	Brain-state dependent stimulation in human motor cortex for plasticity induction using EEG-TMS
Natalie Mrachacz-Kersting, Strahinja Dosen, Susan Aliakbaryhosseinabadi, Esther M Pereira, Andrew Stevenson, Ning Jiang and Dario Farina	Brain-state dependent peripheral nerve stimulation for plasticity induction targeting upper-limb
Andrew J. T. Stevenson, Helle R. M. Jørgensen, Kåre E. Severinsen, Susan Aliakbaryhosseinabadi, Ning Jiang,	Brain state-dependent peripheral nerve stimulation for plasticity induction in stroke patients

Dario Farina and Natalie Mrachacz-Kersting	
Jaime Ibáñez, Ricci Hannah, Lorenzo Rocchi and John C. Rothwell	Repeated directional TMS paired with motor intentions– different responses of two sets of interneuron circuits?
Francisco Resquin, Jaime Ibáñez, Oscar Herrero, José González Vargas, Fernando Brunetti and José Luis Pons	Brain State-Dependent Stimulation for Modulating Cortical Excitability
Brigitte Zrenner, Pedro Gordon, Anna Kempf, Eric McDermott, Christian Plewnia, Surjo Soekadar, Andreas Fallgatter, Christoph Zrenner, Ulf Ziemann and Florian Müller-Dahlhaus	Alpha-synchronized stimulation of the dorsolateral prefrontal cortex (DLPFC) in major depression: a proof-of-principle EEG-TMS study

ICNR - T4 - SS27. The Future of Neurorehablitation: from regenerative medicine to robotics to brain-computer interfaces

Authors	Title
Jennifer L. Collinger, Ahmed Jorge, Jeffrey M. Weiss, Kristin M. Quick, Elizabeth Tyler-Kabara, Michael L. Boninger	Intracortical control of a powered hand exoskeleton by a person with tetraplegia
Laura J Miller, Michael Boninger, Michel M Modo and Fabrisia Ambrosio	CLINICIAN/RESEARCH COLLABORATIONS: THE KEY TO THE TRANSLATIONAL SUCCESS OF REGENERATIVE REHABILITATION THERAPEUTICS
Maria Chiara Carrozza	The future of robotics for rehabilitation and personal assistance
Marzia Bedoni	Biophotonics platform for the detection of circulating extracellular vesicles involved in neurological diseases, pathogenesis, and response to rehabilitation treatment

WeR7. Wearable Robotics for rehabilitation and assistance in Latin America	
Organizers	**Organizers: Juan-Manuel Ibarra Zannatha, CINVESTAV, Mexico; Alberto-Isaac Pérez-SanPablo, Mexican National Institute for Rehabilitation /CINVESTAV, Mexico; Santos-Miguel Orozco, CINVESTAV, Mexico; Luís Eduardo Rodríguez Cheu, Escuela Colombiana de Ingeniería "Julio Garavito", Colombia**

Authors	**Title**
Mauricio Adolfo Ramírez Moreno, Santos Miguel Orozco-Soto, Juan Manuel Ibarra-Zannatha and Dania Gutiérrez-Ruiz	Artificial Vision Algorithm for Object Manipulation with a Robotic Arm in a Semi-Autonomous Brain-Computer Interface
Alberto Isaac Perez Sanpablo, Catherine Disselhorst-Klug, Juan Manuel Ibarra Zannatha, Josefina Gutierrez-Martinez, Alicia Meneses Peñaloza, Elisa Romero-Avila and Santos Miguel Orozco-Soto	One degree of freedom wearable exoskeleton for children with spasticity
Anacecilia Villa Parra, Denis Delisle Rodriguez, Jessica Souza Lima, Teodiano Freire Bastos and Anselmo Frizera-Neto	Stance Control with the Active Knee Orthosis ALLOR for Post-Stroke Patients during Walking
Pablo Caicedo, Carlos Felipe Rengifo Rodas, Luis Rodriguez Cheu and Wilson Alexander Sierra Arevalo	Gait phase detection for lower limb prosthetic devices
Antonio J. Del-Ama, José M Azorín, José L. Pons, Anselmo Frizera, Thomaz Rodrigues, Angel Gil-Agudo, Javier O. Roa and Juan C. Moreno	Lower Limb Exoskeletons in Latin-America
Santos Orozco, Alberto Isaac Perez Sanpablo, Pablo Vera Bustamante and Juan Manuel Ibarra Zannatha	Visual-Inertial Motion Tracking System for Spasticity Evaluation

WeR8. Wearable robotic solutions for factories of the future	
Organizers	**Carlos Rodriguez, K.Mombaur, Jan Babic.**

Authors	**Title**

Stefano Toxiri, Andrea Calanca, Tommaso Poliero, Darwin G. Caldwell and Jesús Ortiz	Actuation requirements for assistive exoskeletons: exploiting knowledge of task dynamics
Baojun Chen, Lorenzo Grazi, Francesco Lanotte, Nicola Vitiello and Simona Crea	Lift movement detection with QDA classifier for an active hip exoskeleton
Saskia Baltrusch, Jaap van Dieën, Sjoerd Bruijn, Axel Koopman, Coen van Bennekom and Han Houdijk	The Effect of a Passive Trunk Exoskeleton on Functional Performance and Metabolic Costs
Matthias B. Näf, Axel S. Koopman, Carlos Rodriguez-Guerrero, Bram Vanderborght and Dirk Lefeber	Trunk Range of Motion in the Sagittal Plane with and without a Flexible Back Support Exoskeleton
Mišel Cevzar, Tadej Petrič, Jan Babič and Marko Jamšek	Real-time control of quasi-active hip exoskeleton based on Gaussian mixture model approach
Monika Harant, Manish Sreenivasa, Matthew Millard, Nejc Šarabon and Katja Mombaur	Optimizing Design Characteristics of Passive and Active Spinal Exoskeletons for Challenging Working Tasks

IEEE BRAIN Initiative Symposium on Advanced Technology for NeuroRehabilitation	
Organizers	**Metin Akay**

Authors	**Title**
Zev Rymer	“Translational Neural Engineering: Bringing Neurotechnology into the Clinics,
Jose Pons	“Bidirectional Hyper-Connected Neural Systems”
Paul Sajda	“Rehabilitating the mind: Non-invasive neurotechnology for treating psychiatric illness”
Ted Berger	“A Hippocampal NeuroProsthesis for Human Memory”

SIlvestroMicera	“Restoring sensory and motor function using intraneural peripheral stimulation”.
Dario Farina	Interfacing spinal motor neurons for man-machine interfacing”

INBOTS3: Highly-accessible and multidisciplinary education tools in robotics

Authors	**Title**
Emanuele Menegatti, University of Padova Dimitris Alimisis (EDUMOTIVA) Andre Seyfarth and Christian Schumacher (TU Darmstadt)	Educational Robotics! Because robotics is about humans, not robots
COST	Interactive presentation/discussion
Carina Girvan, Cardiff University Camila Shirota (COST, ETH) Maria Pozzi/Monica Malvezzi/Domenico Prattichizzo (INBOTS, UNISI)	Designing Educational Robotics Activities for All
INBOTS	Interactive presentation/discussion/conclusion

INBOTS5: Regulatory &risk management framework

Authors	Title
Joann Bryson (Bath University)	
Gianpiero Negri (CNH R&D)	
Marck Coecklberg (Vienna Univeristy)	
Andrea Bertolini (SSSA)	
Tatjana Evas (Policy Analyst, European Commission)	
Lillà Montagnani (Bocconi Univiersity)	

Thursday 18 Oct - Poster session

Hosu Lee, Muhammad Raheel Afzal, Sanghun Pyo and Jungwon Yoon	A Novel Gait Assistance System based on an Active Knee Orthosis and a Haptic Cane for Overground Walking	SS10. The use of ambulant technology in stroke rehabilitation
Bethel Osuagwu, Sarah Timms, Ruth Peachment, Sarah Dowie, Helen Thrussell, Susan Cross, Tony Heywood, Rebecca Shirley and Julian Taylor	Clinical trial of the Soft Extra Muscle Glove to assess orthotic and long-term functional gain following chronic incomplete tetraplegia: preliminary functional results	SS11. Redundancy and modularity in motor control: neuroscience, prosthetic, rehabilitative and assistive approaches
Sabata Gervasio, Kristian Hennings and Natalie Mrachacz-Kersting	Exploring the EEG signatures of musculoskeletal pain	SS13. Neural Signal Analysis: Novel Approaches to Understanding Brain Diseases
Josep Dinarès-Ferran, Marc Sebastián Romagosa, Rupert Ortner, Armin Schnuerer, Christoph Guger and Jordi Solé-Casals	Exploring bands suppression in artificial frames for a MI BCI	SS13. Neural Signal Analysis: Novel Approaches to Understanding Brain Diseases
Elsa Fernandez, Jordi Solé-Casals, Pilar Calvo, Marcos Faundez-Zanuy and Karmele López-De-Ipiña	HAIDA: Biometric technological therapy tools for neurorehabilitation of Cognitive Impairment	SS13. Neural Signal Analysis: Novel Approaches to Understanding Brain Diseases
Maria Marcella Laganà, Alice Pirastru, Laura Pelizzari, Monia Cabinio, Anna Castagna, Valeria Blasi and Francesca Baglio	The Impact of a Connectogram Based Visualization of the Motor Network in a case of Cervical Dystonia: role in the clinical interpretation and therapeutic approach	SS13. Neural Signal Analysis: Novel Approaches to Understanding Brain Diseases
Hiroshi R Yamasaki, Ken-Ichi Ozaki, Alvaro Costa-Garcia, Matti Itkonen, Shotaro Okajima, Masanori Tanimoto, Ikue Ueda, Kazuya Usami, Masaki Kamiya, Hiroshi Matsuo, Aiko Osawa, Izumi Kondo and Shingo Shimoda	Tuning of Homologous Muscle Coupling during Bimanual Steering Tasks in Slow Speed: A Pilot Study	SS13. Neural Signal Analysis: Novel Approaches to Understanding Brain Diseases SS14. New Frontiers in Movement Analysis: from assessment to rehabilitation
Sylvain Cremoux, Dimitri Elie, Cecilie Rovsing, Helene Rovsing, Mads Jochumsen and Imran Khan Niazi	Functional and Corticomuscular Changes Associated with Early Phase of Motor Training	SS13. Neural Signal Analysis: Novel Approaches to Understanding Brain Diseases
Daniele Giansanti and Giovanni Maccioni	Improving postural stability by means of novel multimodal biofeedback system based on an Inertial Measurement Unit	SS13. Neural Signal Analysis: Novel Approaches to Understanding Brain Diseases

Daniele Giansanti and Giovanni Maccioni	The Text Neck: Can smartphone Apps with biofeedback aid in the prevention of this syndrome	SS13. Neural Signal Analysis: Novel Approaches to Understanding Brain Diseases
Álvaro Costa, Hiroshi Yamasaki, Matti Itkonen, Shotaro Okajima and Shingo Shimoda	sEMG frequency analysis to evaluate changes in the recruitment of fast-twitch muscles fibers during elbow flexion motions.	SS13. Neural Signal Analysis: Novel Approaches to Understanding Brain Diseases
Olga Trofimova, Anaïs Mottaz and Adrian G. Guggisberg	Resting-state alpha-band functional connectivity predicts implicit motor adaptation in a Serial Reaction Time Task	SS13. Neural Signal Analysis: Novel Approaches to Understanding Brain Diseases
Arantzazu San Agustín, Guillermo Asín-Prieto and José Luis Pons	Fatigue Compensating Muscle Excitability Enhancement by Transcranial Magnetic Stimulation: A Case Report	SS17. Non-Invasive Stimulation At Different Level Of Nervous Sytem In Neurorehabilitation
Maria Paola Tramonti Fantozzi, Fiorenzo Artoni, Marco Di Galante, Lucia Briscese, Vincenzo De Cicco, Diego Manzoni, Tommaso Banfi, Silvestro Micera, Ugo Faraguna and Maria Chiara Carboncini	Possible effect of the trigeminal nerve stimulation on auditory event-related potentials	SS17. Non-Invasive Stimulation At Different Level Of Nervous Sytem In Neurorehabilitation
Elena Madinabeitia-Mancebo, Antonio Madrid, Javier Cudeiro and Pablo Arias	M1 inhibition dependency on slowing of muscle relaxation after brief and fast fatiguing repetitive movements: Preliminary results	SS17. Non-Invasive Stimulation At Different Level Of Nervous Sytem In Neurorehabilitation
Yvona Angerova, Petra Sladkova and Olga Svestkova	Day Program for Patients with Brain Injury with Constraint Induced Movement Therapy For Upper and Lower Limbs	SS17. Non-Invasive Stimulation At Different Level Of Nervous Sytem In Neurorehabilitation
Antonio Madrid, Elena Madinabeitia-Mancebo, Amalia Jácome, Javier Cudeiro and Pablo Arias	Changes in excitability at the level of M1, spinal cord and muscle during 3 minutes of finger tapping at the maximal possible rate	SS17. Non-Invasive Stimulation At Different Level Of Nervous Sytem In Neurorehabilitation
Kasper Leerskov, Lotte N. S. Andreasen Struijk and Erika G. Spaich	Assessment of Plastic Changes Following Bio-Robotic Rehabilitation of Spinal Cord Injured Individuals - A Protocol Proposal	SS17. Non-Invasive Stimulation At Different Level Of Nervous Sytem In Neurorehabilitation
María Rodriguez-Cañón, Ignacio Delgado, Raimon Jane and Guillermo García-Alías	Temporal categorization of upper limb muscle's EMG activity during reaching and grasping	SS17. Non-Invasive Stimulation At Different Level Of Nervous Sytem In Neurorehabilitation
Kouhei Moriya, Tomofumi Yamaguchi, Yohei Otaka, Kunitsugu Kondo and Satoshi Tanaka	Transcranial direct-current stimulation combined with attention to the paretic hand improves hand performance in stroke patients: a double-blind, sham-controlled study	SS17. Non-Invasive Stimulation At Different Level Of Nervous Sytem In Neurorehabilitation

Yasuto Tanaka, Reina Umeki and Norihiko Saga	Voluntary motor imagery demonstrated in electroencephalography and electromyography	SS17. Non-Invasive Stimulation At Different Level Of Nervous Sytem In Neurorehabilitation SS18. Cognitive approaches for rehabilitation of patients with neurological disorders
Mario Covarrubias Rodriguez, Teodora Cianferoni, Beatrice Aruanno, Mauro Rossini, Sofya Komarova and Franco Molteni	Neuro Rehabilitation System through Virtual Reality, Harp Music and Fragrance Therapy	SS17. Non-Invasive Stimulation At Different Level Of Nervous Sytem In Neurorehabilitation
Sayaka Morishita, Hidekatsu Ito and Suguru N. Kudoh	Prefrontal Activity Evoked by Transcranial Magnetic Stimulations (TMS) Enhanced by observing the behavior of others.	SS17. Non-Invasive Stimulation At Different Level Of Nervous Sytem In Neurorehabilitation
Woosang Cho, Alexander Heilinger, Rupert Ortner, Nensi Murovec, Ren Xu, Manuela Zehetner, Johannes Gruenwald, Stefan Schobesberger, Armin Schnuerer and Christoph Guger	Feasibility of Brain-Computer Interface triggered Functional Electrical Stimulation and Avatar for Motor Improvement in Chronic Stroke Patients	SS19. Multimodal neural interfaces for rehabilitation and assistance of people with disability
Juan A. Barios, Santiago Ezquerro García, Arturo Bertomeu-Motos, Jorge A. Díez, Jose M. Catalán, Luis D. Lledó and Nicolás García-Aracil	Modulation of functional connectivity evaluated by surface EEG in alpha and beta during a motor-imagery based BCI task	SS19. Multimodal neural interfaces for rehabilitation and assistance of people with disability
Juan Antonio Barios, Santiago Ezquerro García, Arturo Bertomeu-Motos, Luis Daniel Lledó Pérez, Marius Nann, Surjo R. Soekadar and Nicolas Garcia-Aracil	Sensory feedback with a hand exoskeleton increases EEG modulation in a brain-machine interface system	SS19. Multimodal neural interfaces for rehabilitation and assistance of people with disability
Andrea Crema, Ivan Furfaro, Flavio Raschellà and Silvestro Micera	Development of a hand neuroprosthesis for grasp rehabilitation after stroke: state of art and perspectives	SS2. Translating research prototypes to bedside: the lesson-learnt of the RETRAINER EU project
Nancy Immick, Emilia Ambrosini, Andreas Augsten, Mauro Rossini, Giulio Gasperini, Davide Proserpio, Franco Molteni, Johannes Zajc, Simona Ferrate, Alessandra Pedrocchi and Karsten Krakow	Hybrid Robotic System for Arm Training after stroke: preliminary results of a randomized controlled trial	SS2. Translating research prototypes to bedside: the lesson-learnt of the RETRAINER EU project
Jose Vicente Garcia Perez, David Lopez, Axier Ugartemendia, Iñaki Diaz, Luis Daniel Lledo, Andrea Blanco, Juan Barios, Arturo Bertomeu and Nicolas Garcia Aracil	Evaluation of an upper-limb rehabilitation robotic device for home use from patient perspective	SS8. Neurorehabilitation from clinical perspective and robotic perspective: Contradictions and Integrations
Ghada Bani Musa, Adel Al-Jumaily, Fady Alnajjar and Shingo Shimoda	Upper Limb Recovery Prediction After Stroke Rehabilitation Based On Regression Method	SS8. Neurorehabilitation from clinical perspective and robotic perspective: Contradictions and Integrations

Jemina Fasola, Mohammed Bouri, Hannes Bleuler and Olaf Blanke	Preliminary Study: Effects of Visual Distortion on Standing Balance Motion Amplitude and Visual Dependency on an Unstable Surface	SS9. Balance control during walking-related motor tasks
Michela Picardi, Antonio Caronni, Peppino Tropea, Maria Montesano, Chiara Pisciotta, Davide Pareyson and Massimo Corbo	Instrumented balance and gait assessment in patients with CMT peripheral neuropathy	SS9. Balance control during walking-related motor tasks
Michelangelo Guaitolini, Federica Aprigliano, Andrea Mannini, Angelo Sabatini and Vito Monaco	Effects of Gait Speed on the Margin of Stability in Healthy Young Adults	SS9. Balance control during walking-related motor tasks
Je Hyung Jung and Jan Veneman	Preliminary comparison study on CoM and CoP paths between healthy subject and stroke patient while straight walking	SS9. Balance control during walking-related motor tasks
Tommaso Poliero, Stefano Toxiri, Darwin G. Caldwell and Jesús Ortiz	Actuator Optimization for a Back-Support Exoskeleton: The Influence of the Objective Function	WeR12. Exoskeleton Research in Europe
Berkay Guncan and Ramazan Unal	ANT-M: Design of Passive Lower-limb Exoskeleton for Weight-bearing Assistance in Industry	WeR2. Soft Wearable Robots
Andrea Stefano Ciullo, Manuel Giuseppe Catalano, Antonio Bicchi and Arash Ajoudani	A Supernumerary Soft Robotic Hand-Arm System for Improving Worker Ergonomics	WeR2. Soft Wearable Robots WeR8. Wearable robotic solutions for factories of the future
Axel Koopman, Stefano Toxiri, Michiel de Looze, Idsart Kingma and Jaap van Dieën	Effects of an inclination-controlled active spinal exoskeleton on spinal compression forces	WeR8. Wearable robotic solutions for factories of the future
Stefano Toxiri, Matteo Sposito, Maria Lazzaroni, Lorenza Mancini, Darwin G. Caldwell and Jesús Ortiz	Towards standard specifications for back-support exoskeletons	WeR8. Wearable robotic solutions for factories of the future
Daegeun Park, Jesus Ortiz and Darwin Caldwell	Novel Mechanism of Upper Limb Exoskeleton for Weight Support	WeR8. Wearable robotic solutions for factories of the future
Jawad Masood, Angel Dacal Nieto, Victor Alonso Ramos, Maria Isabel Fontano Blanco, Anthony Voilque and Julia Bou	Industrial Wearable Exoskeleton and Exosuit Assessment Process	WeR8. Wearable robotic solutions for factories of the future
Andrea Blanco Ivorra, Jorge Antonio Díez Pomares, David López Pérez, José Vicente García Pérez, José María Catalán Orts and Nicolas Garcia-Aracil	Human-centered design of an upper-limb exoskeleton for tedious maintenance tasks	WeR8. Wearable robotic solutions for factories of the future