EDUCATION

2010-Present: Post-Doc fellowship at the Dept. of Education for Motor Activity and Sports, University of Rome "Foro Italico".

2005-2009: PhD in Human Movement Science at the Dept. of Human Movement Science, University of Chieti "G. d'Annunzio". Title obtained on February 2010 with the dissertation entitled *Motor Learning and Development: From Behavioral Analysis to Neural Correlates*. Maximum score obtained (excellent).

2003-2005: Post-graduate degree in *Preventive and Adapted Physical Activity: Science and Methods* at the University of Chieti "G. d'Annunzio". Obtained the maximum score 110/110 cum laude.

2000-2003: Degree in Human Movement Science at the University of Chieti "G. d'Annunzio", with score 106/110.

INTERNATIONAL EXPERIENCES

August 2011: Visiting Fellow at the Dept. of Neurology, Harvard Medical School, Boston, (MA-USA).

March 2008-July 2009: Visiting Scientist at the Mind Research Network, Albuquerque, University of New Mexico, (NM-USA) under the supervision of Prof. Yoshio Okada e PhD Julia Stephen.

April-October 2007: Visiting Scientist at the Dept. of Kinesiology, San Francisco State University, San Francisco, (CA-USA) under the supervision of Prof. David I. Anderson.

AWARDS AND GRANT

Investigator in the grant entitled *Characterization of the Mirror Neuron System in Infants with Typical and Atypical Development* founded by HRRC (Human Research Review Committee) with code 08-236.

Twelve-month fellowship for research activities within the program "High level technical and scientific education" POR C3/IC4E.

TECHNICAL EXPERIENCES

Recording of electroencephalographic (EEG) e magnetoencephalographic (MEG) signals.

Analyses of EEG/MEG signal: event-related cortical potentials (ERPs), movement related cortical potentials (MRCPs) e spectral analysis of event related desynchronization and synchronization (ERD/ERS).

Eye movement recording by means of Eye Tracker System.

EEG source analysis and spatio-temporal cerebral modeling with BESA 2000.

Statistical analysis (SPSS and Statistica).

Programming skills with Matlab and Presentation.

Body composition assessment through anthropometric tape, circumferences, electrical bioimpedance system.

Dietary habits and caloric intake evaluation through dietary and motor diary.

Monitoring of the calories burned during daily activities, the quality of sleep, the thermoregulation, the galvanic skin resistance (GSR), and the exercise intensity through the *bodymedia sensewear pro2 armband*.

Monitoring of the physical activity level through Borg scale, mets and cardiofrequenzimeter.

Motor skills assessment by means of various scales.

RESEARCH TOPICS

The research topics focus on the human movement science and the psychophysiology. The multidisciplinary approach, which characterize the research activities, allows to integrate the study of physiological, cognitive, behavioral and cortical mechanisms related to the execution of actions. The learning of complex motor skills and the role played by visual and auditory feedback represented the first lines of research, together with the investigation of the practice scheduling and organization in relation to the procedural, declarative and working memory processes. Afterwards, the interest focused on the study of the cortical mechanisms underpinning the control of actions and their development by means of magnetoencephalographic (MEG) recording, through longitudinal and cross-sectional studies performed on neonates and children (from 3-month-old to 3-years-old). The neural correlates of movements have also been studied in healthy young and older adults through electroencephalographic (EEG) recordings of motor and cognitive responses.

PUBLICATIONS

Journal papers

BERCHICCI, M., Lucci, G., Di Russo, F. (2013). The benefits of physical exercise on the aging brain: The role of the prefrontal cortex. JOURNAL OF GERONTOLOGY (under review).

BERCHICCI, M., Menotti, F., Macaluso, A., DI russo, F. (2013). The neurophysiology of central and peripheral fatigue during sub-maximal lower limb isometric contractions. FRONTIERS IN HUMAN NEUROSCIENCE (under review).

Lucci, G., BERCHICCI, M., Spinelli, D., Taddei, F., Di Russo, F. (2013). The effect of aging on conflict detection. PLoS ONE 8(2): e56566. doi:10.1371/journal.pone.0056566.

BERCHICCI M., Lucci G, Pesce C, Spinelli D, Di Russo F. (2012). Prefrontal hyperactivity in older people during motor planning. NEUROIMAGE, ISSN: 1053-8119.

BERCHICCI M., Stella A, Pitzalis S, Spinelli D, Di Russo F. (2012). Spatio-temporal mapping of motor preparation for self-paced saccades. BIOLOGICAL PSYCHOLOGY, ISSN: 0301-0511.

BERCHICCI M., Zhang T, Romero L, Peters A, Annett R, Teuscher U, Bertollo M, Okada Y, Stephen J, Comani S (2011). Development of Mu Rhythm in Infants and Preschool Children. DEVELOPMENTAL NEUROSCIENCE, vol. 33(2); p. 130-143, ISSN: 0378-5866, doi: 10.1159/000329095.

Bertollo M., BERCHICCI M., Carraro A, Comani S, Robazza C (2010). Blocked and random practice organization in the learning of rhythmic dance step sequences. PERCEPTUAL AND MOTOR SKILLS, vol. 110; p. 77-84, ISSN: 0031-5125.

Priori M, BERCHICCI M., Bertollo M (2009). Valutazione delle abilità psicomotorie attraverso il Movement ABC nei bambini abruzzesi tra i sette e gli undici anni di età. CHINESIOLOGIA, vol. 27; p. 38-44, ISSN: 1824-7911.

BERCHICCI M., Bertollo M (2009). Il contributo psicomotorio nell'intervento multidisciplinare con un bambino con ADHD. PSICOMOTRICITÀ, vol. 13; p. 23-32, ISSN: 1723-384.

Di Blasio A, BERCHICCI M., Bertollo M, Ripari P (2009). Fat mass, fitness and health in undergraduate male university students. MEDICINA DELLO SPORT, vol. 62; p. 69-79, ISSN: 0025-7826.

Bortoli L, Colella D, Morano M, BERCHICCI M., Bertollo M, Robazza C (2008). Teacher-initiated motivational climate in physical education questionnaire in an Italian sample. PERCEPTUAL AND MOTOR SKILLS, vol. 106; p. 207-214, ISSN: 0031-5125.

Proceeding papers

BERCHICCI M., ZHANG T., ROMERO L., PETERS A., ANNETT R., TEUSCHER U., BERTOLLO M., OKADA Y., COMANI S., STEPHEN J. (2009). Mu-rhythm detection in infants. NEUROIMAGE, vol. 47 (Suppl 1); p. S151-S151, ISSN: 1053-8119, doi: 10.1016/S1053-8119(09)71552-6.

BERCHICCI M., Di Blasio A., Bortoli L., Robazza C., Ripari P., Bertollo M. (2009). The role of regular physical exercise on recognition memory test. In: Proceedings of 12th ISSP world congress of sport psychology. Marrakesh (Marocco), 17-21 Giugno 2009, Marrakesh: International Society of Sport Psychology, p. 160-160.

BERCHICCI M., DI BLASIO A, RIPARI P, BERTOLLO M (2007). The role of observational learning in the performance of complex motor skill. In: Proceding of 12th Annual Congress of the European College of Sports Science. JYVASKYLA (FIN), 11-14 LUGLIO 2007, Cologne: European College of Sport Science, p. 497-498, ISBN/ISSN: 9789517902427.

BERCHICCI M., DI BLASIO A, RIPARI P, M. BERTOLLO M (2007). Diastolic hypertension and declarative knowledge performance. Is there a relation in young people?. In: Proceding of 12 congress of ECSS. Jyvaskyla (FIN), 11-14 luglio 2007, Cologne: European College of Sport Science, p. 496-497, ISBN/ISSN: 9789517902427

DI BLASIO A, BERCHICCI M., BERTOLLO M, RIPARI P (2007). Does physical exercise modify body composition in young people?. In: Proceding of 12th Annual Congress of the European College of Sports Science. JYVASKYLA, 11-14 LUGLIO 2007, Cologne: European College of Sport Science, p. 634-635, ISBN/ISSN: 9789517902427.

BERCHICCI M., ROBAZZA C, BERTOLLO M (2006). Can procedural and declarative memory be influenced by blocked practice organization in adolescents?. In: Book of Abstracts, 11th annual Congress of the European College of Sport Science. Lausanne, Switzerland, July 05-08 2006, Cologne: European College of Sport Science, p. 182-183, ISBN/ISSN: 9783939390350.

BERCHICCI M., BERTOLLO M (2006). The effect of augmented feedback on the footsteps learning. In: Book of Abstracts, 11th annual Congress of the European College of Sport Science. Lausanne, Switzerland, July 05-08 2006, Cologne: European College of Sport Science, p. 398-398, ISBN/ISSN: 3-939390-35-6.