

POSTER PROGRAM

Friday, Oct 14th

Poster Sessions 1 & 2

- 2 Antonio Chiarelli, Edward Maclin, Kathy Low, Monica Fabiani and Gabriele Gratton: Mapping the effective attenuation coefficient of the human head: *A multi-distance approach applied to high-density optical recordings*
- 7 Hideyuki Taura and Amanda Taura: *fNIRS case studies tracking L2 proficiency development*
- 9 Blanca Marin Bosch, Aurelien Bringard, Guido Ferretti, Sophie Schwartz and Kinga Igloi: *The effect of physical exercise on memory, a NIRS study*
- 10 Quan Zhang, Vladimir Ivkovic, Gang Hu and Gary Strangman: *Ambulatory diffuse optical tomography and multi-modality physiological monitoring system and applications*
- 12 Stefania Lancia, Marika Carrieri, Marco Ferrari and Valentina Quaresima: *Could "Corsi Block Tapping test" be considered a real working memory task?*
- 14 Rachida El Kaddouri, Annabel Nijhof, Jelle Demanet, Marcel Brass and Roeljan Wiersema: *The Role Of The Temporo-Parietal Junction In Implicit Mentalizing*
- 15 Amir Gandjbakhche, Elizabeth Smith, Afrouz Anderson, Audrey Thurm and Fatima Chowdhry: *Lateralization and Cerebral Hemodynamics at Rest in Toddlers at Risk for Language Delay*
- 17 Masashi Kiguchi, Tsukasa Funane, Takashi Numata and Hiroki Sato: *Optical module with SoC for wearable fNIRS system*
- 18 Sigita Venclove, Osvaldas Rukenas and Algis Daktariunas: *Gender Differences In Frontal Lobe Hemodynamic Response During Cognitive Task Performance*
- 21 Ross T Aitchison, Uma Shahani, Laura M Ward, Graeme J Kennedy, Xinhua Shu and David C Mansfield: *Haemodynamic Response in Diabetes: An fNIRS Study of the Visual Cortex*
- 29 Juanning Si, Xin Zhang, Yujin Zhang and Tianzi Jiang: *Hemispheric differences of hemodynamic responses during visual stimulation with graded contrasts*
- 30 Evelyne Mercure, Sarah Lloyd-Fox, Mark H. Johnson and Mairead MacSweeney: *Influence of early language experience on brain activation to language: A study of hearing infants with Deaf mothers*
- 35 Ahmet Omurtag, Haleh Aghajani and Hasan Onur Keles: *Classifying the Brain's Functional Status in Verbal Fluency Task: EEG+fNIRS*
- 40 Takeaki Shimokawa, Toshihiro Ishii, Yoichiro Takahashi, Satoru Sugawara, Masa-Aki Sato and Okito Yamashita: *Diffuse optical tomography by using multi-directional sources and detectors*
- 41 Muhammad Raheel Bhutta, Keum-Shik Hong and Seong-Woo Woo: *Development of portable fNIRS, EEG and tDCS system for real time brain monitoring during rehabilitation*

- 43 Tanja Dragojevic, Joseph L. Hollmann, Hari M. Varma, Claudia P. Valdes, Joseph P. Culver, Carles Justicia and Turgut Durduran: *Three-dimensional blood flow imaging in small animals with speckle contrast optical tomography*
- 46 Evgenii Kim, Eloise Anguluan and Jae Gwan Kim: *Monitoring cerebral hemodynamic change during transcranial ultrasound stimulation using near infrared spectroscopy*
- 47 Alexander von Lühmann, Heidrun Wabnitz, Tilmann Sander and Klaus-Robert Müller: *Miniaturized CW NIRS for integration and hybridization with mobile EEG / ECG / EMG and Accelerometer*
- 50 Kouros Zare, Mohammad Ali Ansari and H. Sahraee: *The study of prefrontal cortex activation with fNIRS during video gaming*
- 56 Seung-Ho Paik, Zephaniah Phillips V and Beop-Min Kim: *A portable, multi-channel fNIRS system for prefrontal cortex: Preliminary study on neurofeedback and imagery tasks*
- 61 Paul Burgess, Clarisse Aichelburg, Paola Pinti, Frida Lind, Sarah Power, Elizabeth Swingler, Arcangelo Merla, Sam Gilbert, Ilias Tachtsidis and Antonia Hamilton: *Prefrontal activation differences associated with social vs. non-social prospective memory in a naturalistic setting.*
- 62 Thien Nguyen, Olajide Babawale, Hanli Liu and Jae Kim: *Exploring brain functional connectivity in resting state and during sleep using functional near infrared spectroscopy*
- 65 Sergio Novi, Alex Carvalho, Rodrigo Forti, Clarissa Yasuda and Rickson Mesquita: *The complex brain: characterizing NIRS-based networks at rest with complex systems' approaches*
- 69 Fares Al-Shargie, Tong Boon Tang, Nasreen Badruddin and Sarat Dass: *Prefrontal cortex connectivity under neutral-control and stress condition using fNIRS*
- 71 Sabrina Brigadoi, Jessica Dunn, Robert J. Cooper and Adam P. Gibson: *A 4D pediatric head model for diffuse optical imaging of 4.5 to 18.5 years old children*
- 80 Lauren Emberson, Stephen Crosswhite, James Goodwin, Andrew Berger and Richard Aslin: *Isolating the effects of surface vasculature in infant neuroimaging using short- distance optical channels: a combination of local and global effects*
- 81 Danial Chitnis, Robert Cooper, Simone Quaggia, Laura Dempsey, David Highton, Jeremy Hebden, Clare Elwell and Nicholas Everdell: *MicronTS: A Fibreless, High-Density Diffuse Optical Tomography System*
- 83 Li Zhu, Ali Haddad, Tianjiao Zeng, Yunqi Wang and Laleh Najafizadeh: *How to Co-Position EEG Electrodes and fNIRS Optodes in Multi-Modal Functional Brain Imaging Experiments?*
- 94 Heidrun Wabnitz, Mikhail Mazurenka, Laura Di Sieno, Gianluca Boso, Davide Contini, Alberto Dalla Mora, Alberto Tosi, Wolfgang Becker, Yoko Hoshi, Simone Kühn, Evgeniya Kirilina, Rainer Macdonald and Antonio Pifferi: *Localized cerebral responses and heterogeneity of superficial signals revealed by non-contact scanning time-domain fNIRS*
- 101 Jason Sutin, Bernhard Zimmerman, Danil Tyulmankov, Davide Tamborini, Kuan Cheng Tony Wu, Juliette Selb, Alberto Tosi, David Boas, Angelo

- Gulinatti, Ivan Rech and Maria Angela Franceschini: *Time-Domain Diffuse Correlation Spectroscopy*
- 109 Paola Pinti, Clarisse Aichelburg, Frida Lind, Sarah Power, Elizabeth Swingler, Arcangelo Merla, Antonia Hamilton, Sam Gilbert, Paul Burgess and Ilias Tachtsidis: *Real-world neuroimaging: the use of a fiberless and wearable fNIRS system to monitor brain activity in the real-life on freely moving participants*
- 114 Susanna Tagliabue, Laura Di Sieno, Alberto Dalla Mora, Edoardo Martinenghi, Andrea Farina, Turgut Durduran, Alessandro Torricelli and Antonio Pifferi: *Compact 8 channels time-domain diffuse optical tomography system based on SiPMs for functional brain imaging*
- 123 Meltem Izzetoglu, Lori Severino and Mary Jean Tecce Decarlo: *Brain Based Assessment of Reading Skills in Adolescent Students using fNIRS*
- 125 J. Adam Noah, Swethasri Dravida, Xian Zhang and Joy Hirsch: *Deoxyhemoglobin changes in right lateralized DLPFC represent conflict processing in a color-word Stroop task*
- 131 Daniel Hyde and Charline Simon: *Functional brain organization for theory of mind in 7-month old infants*
- 134 Manob Jyoti Saikia, Mohammadreza Abtahi and Kunal Mankodiya: *Development of a Wireless Wearable fNIRS System*
- 139 David Busch, Clara Gregori-Pla, Martina Giovannella, Igor Blanco, Christopher Favilla, Wesley Baker, Ashwin Parthasarathy, Jennifer Lynch, Madeline Winters, Kobina Mensah-Brown, Ann McCarthy, John Detre, Arjun Yodh, Daniel Licht, Rickson Mesquita and Turgut Durduran: *Impact of posture on cerebral blood flow*
- 144 Shelby Putt, Sobanawartiny Wijekumar, Robert Franciscus and John Spencer: *The Neural Correlates of Prehistoric Stone Tool Manufacture*
- 152 Rebecca Re, Edoardo Martinenghi, Alberto Dalla Mora, Davide Contini, Antonio Pifferi and Alessandro Torricelli: *Fiber-free SiPM detectors for TD fNIRS: in-vivo demonstration*
- 157 Chuen Wai Lee, Maria Chalia, Laura Dempsey, Topun Austin and Rob Cooper: *Investigating superficial layer effects on fNIRS signals the in term-age infant*
- 163 Lorenzo Spinelli, Andrea Farina, Tiziano Binzoni, Alessandro Torricelli, Antonio Pifferi and Fabrizio Martelli: *Statistics of photon penetration depth in diffusive media*
- 165 Cécile Issard and Judit Gervain: *Parametric vs permutation tests to analyze newborns fNIRS data: analyzing the same dataset in three different ways*
- 181 Florian Haeussinger, Alexander Mann, Andreas Fallgatter, Ann-Christine Ehlis and Martin Schecklmann: *Temporal muscle hemodynamics overlaying cortical fNIRS*
- 184 Matteo Chincarini, Lina Qiu, Alessandro Torricelli, Michela Minero, Nicola Ferri, Isa Fusaro, Massimo Mariscoli and Giorgio Vignola: *fNIRS technology applied on animals: a study on sheep*
- 185 Ambika Maria, Kalle Kotilahti, Ilkka Nissilä, Jetro Tuulari and Hasse Karlsson: *Studying the processing of affective and non-affective touch in the developing brain of 2 year old children*

- 187 Anna Blasi, Barbara Manini, Sabrina Brigadoi, Rob Cooper, Gareth Barker, Stephen Wastling, Sarah Lloyd-Fox, Mark Johnson and Clare Elwell: *Simultaneous fMRI and fNIRS analysis in young infants*
- 188 Stanislaw Wojtkiewicz, Piotr Sawosz, Michal Kacprzak, Anna Gerega, Karolina Bejm, Roman Maniewski and Adam Liebert: *High-resolution diffuse optical tomography setup for measurements at quasi-transmission geometry on an adult human head*
- 196 Marisa Biondi and Teresa Wilcox: *Increased Cortical Activation to Human Versus Mechanical Hands in Infants*
- 201 Stefano Di Domenico, Marc Fournier, Achala Rodrigo, Mengxi Dong, Richard Ryan, Hasan Ayaz and Anthony Ruocco: *Relationship Need Fulfillment Predicts Self-Other Overlap in the Medial Prefrontal Cortex During Self- and Other-Referential Cognition*
- 202 Pardis Kaynezhad and Ilias Tachtsidis: *Miniature Broadband NIRS System for Brain Tissue Oxygenation and Metabolism*
- 203 Jessica Gemignani, Randall Barbour and Christoph Schmitz: *Improved optode design for efficient hair displacement and fast setup time*
- 207 Dennis Hueber and Beniamino Barbieri: *A new instrument for simultaneous frequency-domain NIRS and DCS measurements*
- 210 Zhengchen Cai, Rasheda Arman Chowdhury, Alexis Machado, Thomas Vincent, Giovanni Pellegrino, Amanda Spilkin, Jean-Marc Lina and Christophe Grova: *NIRS 3D Reconstruction Based on Maximum Entropy on the Mean (MEM)*
- 211 Terje Gjøvaag, Peyman Mirtaheri, Hilde Sylliaas, Jette Schack, Ane Eggebø, Katrine Svartsrød Grue, Martine Skonnord, Evin Güler and Inger Marie Starholm: *Frontal brain activation during heavy resistance exercise with and without the Valsalva maneuver*
- 215 Heloïse Auger, Louis Bherer, Étienne Boucher, Richard Hoge, Frédéric Lesage and Mathieu Dehaes: *Time-domain Near Infrared Spectroscopy of Extra-cerebral and Cerebral Hemoglobin Concentrations During Incremental Intensity Exercise*
- 216 Victoria Dumont, Daniel Zuba, Sylvain Lebargy, Martina Giovannella, Marc Zabalia, Bernard Guillois and Nadège Roche-Labarbe: *Perception of temporal regularity in tactile stimulation: a diffuse correlation spectroscopy study in preterm neonates*
- 218 Brian Feild, Nishi Rochelle, Satoshi Yomota, Ryu Konoshita, Nobuyuki Akinaga, Hiroyuki Matsumoto, Rintaro Yamamoto, Eiji Ando and Shin Nakamura: *Development of a Portable functional Near-Infrared Spectroscopy Device*
- 220 Randall Barbour and Harry Graber: *Characterization of Hemoglobin Dynamics as a Co-Varying System in the Resting State: Evidence of Functional Bias of Preferred States and Sensitivity to Disease*
- 227 Eve F. Fabre, Kevin Mandrick, Maryel Othon and Frédéric Dehais: *Disobeying an immoral rule is associated with a greater emotional reaction than obeying it: An exploratory fNIRS study*
- 232 Yingwei Li, Blaise Frederick, Sinem Erdogan, Kimberly Lindsey, Kenroy Cayetano, Lia Hocke and Yunjie Tong: *Studying the propagation of systemic*

hemodynamic oscillations in human body using peripheral near infrared spectroscopy measurements

- 235 Nassim Nasser, Stefan Kleiser, Daniel Ostojic, Tanja Karen and Martin Wolf: *The influence of superficial layers on near infrared spectroscopy data*
- 236 Chandran V. Seshagiri, Tanmayi Oruganti, Jason W. Trobaugh, Joseph P. Culver and Bertan Hallacoglu: *Demonstration of the spatial sensitivity of a compact HD-DOT system using a retinotopy paradigm*
- 244 Drew Halliday, Bryce Mulligan, Stefan Schmidt, Douglas Garrett, Sandra Hundza, Mauricio Garcia-Barrera, Robert Stawski and Stuart MacDonald: *Neural Variability as an Indicator of Age-Related Cognitive Function*
- 248 Stefan Carp, David Boas and Juliette Selb: *Improved accuracy of brain oxygen metabolism measurements using multi-distance diffuse correlation spectroscopy and near infrared spectroscopy together with a Monte Carlo light transport model*

Saturday, Oct 15th

Poster Sessions 3 & 4

- 3 Antonio Chiarelli, Mark Flecher, Edward Maclin, Kathy Low, Fabiani Monica and Gabriele Gratton: *Regional Optical Measures of Cerebrovascular Status Associated with Cortical Volume in Healthy Aging*
- 8 Toshinori Kato: *Vector-based analysis of local cerebral activation for quantitative fNIRS study*
- 11 Marika Carrieri, Stefania Lancia, Alessia Bocchi, Marco Ferrari, Laura Piccardi and Valentina Quaresima: *The “Key Search Task” activates prefrontal cortex*
- 19 Rosalyn Hithersay, Carla Startin, Robert J Cooper, Clare Elwell and Andre Strydom: *Executive functioning and pre-frontal activity in adults with and without Down syndrome: an fNIRS pilot study*
- 20 Fares Al-Shargie, Tong Boon Tang and Masashi Kiguchi: *Mental Stress Localization on PFC Subregion Based on fNIRS*
- 22 Emilie Bourel-Ponchel, Mahdi Mahmoudzadeh, Aline Delignières, Patrick Berquin and Fabrice Wallois: *Non-invasive, multimodal analysis of cortical activity, blood volume and neurovascular coupling in infantile spasms using EEG-fNIRS monitoring*
- 23 Catharina Zich, Stefan Debener, Ann-Kathrin Thoene, Ling-Chia Chen and Cornelia Kranczoch: *Simultaneous EEG-fNIRS reveals age-related changes in cortical signatures of motor imagery neurofeedback*
- 24 Ling-Chia Chen, Pascale Sandmann, Maren Stropahl, Marc Schoenwiesner and Stefan Debener: *Tracking functional reorganization in cochlear implant users with simultaneous EEG-fNIRS*
- 33 Isabel de Roever, Gemma Bale, Robert J Cooper and Ilias Tachtsidis: *Investigation of cytochrome-c-oxidase as a more robust marker of frontal lobe activation*
- 39 Andreas J. Fallgatter, Beatrix Barth and Ann-Christine Ehlis: *NIRS Neurofeedback in ADHD*
- 49 Mina Nourhashemi, Guy Kongolo, Mahdi Mahmoudzadeh, Sabrina Goudjil and Fabrice Wallois: *rCBF - rCMRO2 Interrelation of Neonatal Premature Brain*
- 53 Elise Vantroys, Sofie Boterberg, Herbert Roeyers and Rudy Van Coster: *Screening for mitochondrial dysfunction using functional near-infrared spectroscopy*
- 54 Clara Gregori-Pla, Gianluca Cotta, Peyman Zirak, Igor Blanco, Pau Bramon, Ana Fortuna, Anna Mola, Isabel Serra, Mercedes Mayos and Turgut Durduran: *What happens to cerebral hemodynamics during an obstructive sleep apnea?*
- 60 Jessica Defenderfer, Anastasia Kerr-German, Mark Hedrick and Aaron Buss: *Auditory cortex activation as measured by fNIRS associated with speech perception in normal hearing adults*
- 64 Lauren Emberson, Benjamin Zinszer, Rajeev Raizada and Richard Aslin: *Decoding the Infant Mind: Multichannel Pattern Analysis (MCPA) using fNIRS*

- 72 Dominic Oliver, Ilias Tachtsidis and Antonia Hamilton: *The role of parietal cortex in imitation: a study with fNIRS*
- 75 Sabrina Brigadoi, Sara Basso Moro, Federica Meconi, Silvia Benavides-Varela, Iulian E. Tampu, Mattia Doro, Paola Sessa, Francesca Simion, Simone Cutini and Roberto Dell'Acqua: *A multi-modal fNIRS/EEG investigation of the fronto-parietal network during audio-visual matching*
- 78 Daniel Milej, Androu Abdalamalak, Mamadou Diop and Keith St. Lawrence: *A Subtraction-Based Approach for Enhancing the Sensitivity of Time-Resolved fNIRS*
- 79 Kristin Shumaker, Matthew Brook O'Donnell, Ralf Schmaelzle and Emily Falk: *Accuracy, Authenticity and Intersubject Correlation in Storytelling*
- 85 Benjamin D. Zinszer, Laurie Bayet, Lauren L. Emberson and Richard N. Aslin: *Decoding semantic representations from fNIRS signals*
- 86 Thibaud Gruber, Sasha Frühholz, Coralie Debracque, Kinga Igloi, Blanca Marin Bosch and Didier Grandjean: *Human recognition of emotions in voices: a fNIRS study*
- 89 David Davies, Michael Clancy, Z Su, Sam Lucas, John Bishop, Peter Hansen, Antonio Belli and Hamid Dehghani: *A Point of care FD NIRS device equivalent to fMRI in detecting clinically relevant physiological changes*
- 90 Vrinda Kalia, Bryan Vonder Vellen, Kira Osowski, Aaron Luebbe and Karthik Vishwanath: *Using fNIRS to Measure Hemodynamic Changes in the Prefrontal Cortex Due to Acute Stress*
- 91 Luca Pollonini, Heather Bortfeld and John Oghalai: *PHOEBE: a software tool for optimized guided placement of fNIRS optodes*
- 97 Bridget Walsh, Fenghua Tian and Meryem Yucel: *Hemodynamic profiles of speech production in children who stutter*
- 107 Shonosuke Kurita, Kazuki Kurihara, Hiroshi Kawaguchi, Shinpei Okawa, Takayuki Obata and Eiji Okada: *Influence of extracerebral blood vessels in subject-specific head models on image reconstruction of diffuse optical tomography*
- 110 Cécile Issard and Judit Gervain: *On the use of alternating/non-alternating designs in infant research with fNIRS*
- 112 David Perpetuini, Roberta Bucco, Michele Zito and Arcangelo Merla: *Study of memory deficit in Alzheimer's Disease by means of complexity analysis of fNIRS signal*
- 113 Cristine Sortica Da Costa, Michal Placek, Marek Czosnyka, Brenno Cabella, Magdalena Kasprowicz, Peter Smielewski and Topun Austin: *Complexity of Brain Signals is Associated with Outcome in Preterm Infants*
- 116 Michael Clancy, Antonio Belli, David Davies, Zhangjie Su, Samuel Lucas, Stanislaw Wojtkiewicz, Piotr Sawosz and Hamid Dehghani: *Monitoring the Injured Brain - Using high density near infrared probes and registered subject specific atlas models to improve cerebral saturation reconstruction accuracy*
- 117 Sobanawartiny Wijekumar, John Spencer and Vincent Magnotta: *Age-related changes in visual working memory for multiple object features*
- 122 Meltem Izzetoglu, Shadi Malaeb, Niraj Arora, Erol Veznedaroglu and Baruch Ben Dor: *Near Infrared Spectroscopy Based Non-Invasive Cerebral Edema Monitoring System*

- 127 Chris C Duszynski, Lia M Hocke, Brian W Benson and Jeffrey F Dunn: *fNIRS measures cortical communication during KINARM robotic assessment*
- 132 Reyhaneh Nosrati, Joshua Lee, Ermias Woldemichael, Steve Lin, Tom Schweizer and Vladislav Toronov: *Development of Hyperspectral Functional Near Infrared Spectroscopy*
- 137 Irfaan Dar, Nasser H Kashou and Sudarshan R Jadcherla: *Assessing Neonatal Cortical and Motor Activation during Swallowing in the NICU*
- 138 Lia M Hocke, Chris C Duszynski, Chantel T Debert and Jeffrey F Dunn: *Could fNIRS be the next concussion assessment tool? Studies of network integrity*
- 160 Ardalan Aarabi, Viktoriya Osharina and Fabrice Wallois: *Assessing the effect of confounding factors on estimates of the NIRS hemodynamic response function using single-type event-related designs – A comparative study between averaging and deconvolution analysis*
- 162 Chiara Bulgarelli, Carina de Klerk, Victoria Southgate and Antonia Hamilton: *Gaze modulates functional connectivity between STS and IFG during a mimicry task in 4-month-old infants: a PPI study on fNIRS data*
- 164 Ernesto Elias Vidal Rosas, Daniel Coca and Stephen Billings: *Reduced-order modelling of light transport in tissue for real-time monitoring of human brain absorption changes using High-Density Diffuse Optical Tomography*
- 170 Zahra Einalou, Keivan Maghooli, Seyed Kamaledin Setarehdan and Ata Akin: *Decision tree using Graph Theory Approach to Functional Connectivity in Schizophrenia*
- 171 Gemma Bale, Aleh Sudakou, Subhabrata Mitra, Judith Meek, Nicola Robertson and Ilias Tachtsidis: *Using near-infrared spectroscopy to measure cerebral blood flow in neonatal brain injury*
- 173 Lorenzo Spinelli, Lucia Zucchelli, Davide Contini, Matteo Caffini, Jacques Mehler, Ana Fló, Alyssa L. Ferry, Luca Filippin, Francesco Macagno and Alessandro Torricelli: *In vivo measure of neonate brain optical properties and hemodynamic parameters by time domain Near Infrared Spectroscopy*
- 174 Lina Qiu, Alessandro Torricelli, Fabrizio Martelli, Andrea Farina, Lorenzo Spinelli, Alwin Kienle and Adam Liebert: *The reliability test of Mesh-based Monte Carlo method for photon migration studies*
- 175 Peyman Mirtaheri, Jette Schack, Hilde Sylliaas, Inge Marie Starholm, Ane Eggebø, Katrine Svartsrød Grue, Martine Skonnord, Terje Gjøvaag and Evin Güler: *The effect of Valsalva maneuver on mean arterial blood pressure and brain activity measured by near infrared spectroscopy*
- 179 Andreas J. Metz and Ursula Wolf: *Comparison of low-frequency oscillations in multi-distance and single-distance functional near-infrared spectroscopy*
- 180 Clémence Roger, Julie Depraetere and Jeremie Jozefowicz: *Identification of the metabolic correlates of the activation/inhibition pattern: a study combining fNIRS and EEG methods*
- 186 Michael Lühns and Rainer Goebel: *A novel Neurofeedback and BCI toolbox for real-time fNIRS: Turbo-Satori*
- 192 Laura Kischkel, Laura Pirazzoli, Anna Blasi, Katarina Begus, Drew Halliday, Momodou Darboe, Andrew Prentice, Sophie Moore, Clare Elwell and Sarah Lloyd-Fox: *Developing an fNIRS working memory paradigm for infants in rural Africa and the UK*

- 195 Udo Michael Weigel, Bjørn Andresen, Víctor Chamizo, Davide Contini, Agnese de Carli, Roger Donat, Turgut Durduran, Rainer Erdmann, Monica Fumagalli, Martina Giovannella, Gorm Greisen, Simon Hyttel-Sørensen, Niels König, Kristian Lauritsen, Marco Pagliazzi, Antonio Pifferi, Matthias Rehberger, Ignacio Rocchetti, Tino Röhlicke, Lorenzo Spinelli, Michael Wahl and Alessandro Torricelli: *The BabyLux project - an optical neuro-monitor of cerebral oxygen metabolism and blood flow for neonatology*
- 197 Hendrik Santosa, Theodore J. Huppert and Keum-Shik Hong: *Decoding multiple sound-categories in the auditory cortex using independent component analysis*
- 204 Theodore Huppert: *Introduction to the nirs-toolbox*
- 205 Theodore Huppert, Pat Sparto and Joe Furman: *Concurrent EEG-NIRS of vestibular function*
- 208 Cristen Olds, Luca Pollonini, Heather Bortfeld, Michael Beauchamp and John Oghalai: *Cortical activation patterns correlate with speech understanding after cochlear implantation*
- 224 Yingwei Li, Yunjie Tong, Sinem Erdogan, Kimberly Lindsey, Kenroy Cayetano and Blaise Frederick: *A low cost multichannel NIRS spectrometer for monitoring global physiological hemodynamic fluctuations*
- 225 Randall Barbour and Harry Graber: *Hemodynamic Imprinting: A Novel Approach to Disease Detection*
- 226 Nicholas Barone, Ji Hoon Ryoo and Erin Kamarunas: *How we determine baseline measures and its impact on results: A reflective discussion*
- 228 Sinem Erdogan, Yunjie Tong, Lia Hocke, Kimberly Lindsey, Blaise Frederick: *Denoising task related fMRI data with time delay processing of concurrently recorded peripheral NIRS*
- 230 Franck Amyot, Kimbra Kenney, Viktor Chernomordik, Erika Silverman, Amir Gandjbakhche and Ramon Diaz-Arrastia: *Abnormality of Low Frequency Cerebral Hemodynamics Oscillations in TBI Population*
- 241 Arefeh Sherafati, Adam T. Eggebrecht, Joseph P. Culver and Tracy M. Burns-Yocum: *A novel global metric to detect motion artifacts in optical neuroimaging data*
- 243 Masahito Mihara, Hiroaki Fujimoto, Hironori Otomune, Yuichi Hiramatsu, Kuni Konaka, Noriaki Hattori, Yoshiyuki Watanabe, Teiji Kawano, Megumi Hatakenaka, Hajime Yagura, Ichiro Miyai and Hideki Mochizuki: *FNIRS-mediated Neurofeedback enhances gait recovery after stroke: double-blinded randomized clinical trial*
- 246 Lindsey Powell and Rebecca Saxe: *Identifying a neural predictor of infants' social preferences*
- 250 Hasan Ayaz, Sarah Levin, Amanda Sargent, Noah Sideman, Christine Hammond, Lei Wang, Jaime Slonim, Prithvi Narayan, Denah Appelt and Brian Balin: *fNIRS based cognitive function assessment following concussion in adolescents*
- 253 Laurien Nagels-Coune, Niels Reuter, Björn Zierul, Denizhan Kurban, Lars Riecke, Rainer Goebel and Bettina Sorger: *Shedding Light on Awareness: Towards Functional Near-Infrared Spectroscopy-based Detection of Consciousness*

255 Danielle Forster, J Holberton, V Saxton, G Fedai and E Koumoundouros:
*Modelling The Cerebrovascular Haemodynamics Of Neonates Using
Frequency Resolved Nirs And Doppler Sonography*

Sunday, Oct 16th

Poster Sessions 5 & 6

- 5 Ata Akin: *Why prefer partial correlation to compute functional connectivity for fNIRS data?*
- 6 Ingo Helmich, Alisa Berger and Hedda Lausberg: *Neuro-motor control of posture in individuals with persistent post-concussion symptoms*
- 16 Zhenhu Liang, Lei Cheng, Yue Gu, Yunjie Tong and Xiaoli Li: *Depth of anesthesia monitoring based on the multi-channel fNIRS system*
- 27 Maria Arredondo, Xiao-Su Hu, Lara Stojanov, Akemi Tsutsumi, Rachel Wlock and Ioulia Kovelman: *Bilingual Children Show Left-Hemisphere Activation During Non-Verbal Attentional Networks*
- 32 Mohamad Issa, Xiao-Su Hu, Silvia Bisconti, Juan San Juan, Ioulia Kovelman, Paul Kileny and Greg Basura: *Tinnitus leads to increased brain connectivity in primary auditory and non-auditory brain regions as measured by functional near infrared spectroscopy (fNIRS)*
- 34 Sarah Steele, Christopher Aasted, David Borsook, Lino Becerra, David Boas, Meryem Yucel, Barry Kussman and Peter Kelsey: *Frontal Lobe Activations Across Different Levels Of Consciousness*
- 37 Glen Tellis, Cari Tellis, D'Manda Price, Cara Imbalzano, Danielle Spagnuolo, Erin Roberts and Tia Spagnuolo: *Using fNIRS to compare hemoglobin concentration changes in typically-fluent-speakers and persons-who-stutter*
- 38 Cari Tellis, Erin Roberts, Tia Spagnuolo, Danielle Spagnuolo, Glen Tellis, Cara Imbalzano and D'Manda Price: *Using fNIRS to Assess Brain Changes as a Result of Voice Therapy*
- 42 Borja Blanco, Cesar Caballero Gaudes and Monika Molnar: *The influence of bilingual exposure on early brain network development*
- 45 Jinung An, Sang Hyeon Jin, Seung Hyun Lee, Gwang Hee Jang, Soyong Lee and Eunju Kim: *Clinical Observation using fNIRS Imaging of Body Weight-Supported Treadmill Training for Sub-acute Stroke Patients*
- 51 Hoang-Dung Nguyen and Keum-Shik Hong: *Real-time adaptive filtering for noise reduction in fNIRS data*
- 52 Cari Tellis, Erin Roberts, Tia Spagnuolo, Danielle Spagnuolo, Glen Tellis, Cara Imbalzano and D'Manda Price: *Use of fNIRS in Assessing Motor Learning and Voice*
- 55 Zephaniah Phillips V, Seung-Ho Paik, Yoohwan Kim, Byung-Jo Kim and Beop-Min Kim: *Monitoring Prefrontal Response of the Valsalva Maneuver using NIRS*
- 66 Glen Tellis, Cari Tellis, D'Manda Price, Cara Imbalzano, Danielle Spagnuolo, Erin Roberts and Tia Spagnuolo: *Using fNIRS to measure cerebral hemoglobin concentration changes of typically fluent speakers using delayed auditory feedback*
- 70 Mojtaba Soltanlou, Christina Artemenko, Thomas Dresler, Ann-Christine Ehlis, Andreas J. Fallgatter and Hans-Christoph Nuerk: *The neural correlates of arithmetic complexity in children differ from those in adults: An fNIRS study*

- 74 Sara Basso Moro, Sabrina Brigadoi, Silvia Benavides-Varela, Simone Cutini, Paola Sessa, Francesca Simion and Roberto Dell'Acqua: *Cross-modal matching of numerosity is subserved by the left parietal cortex in the developing brain*
- 84 E. A. Aeschlimann, J. S. Witmer, A. J. Metz, S. J. Troche, T. H. Rammsayer and C. M. Roebers: *Neural efficiency in children with higher and lower mental abilities using functional near-infrared spectroscopy: A preliminary analysis*
- 88 Maria Chalia, Robert J Cooper, Chuen Wai Lee, Laura A Dempsey, Jeremy C Hebden and Topun Austin: *Can diffuse optical tomography provide early detection of perinatal arterial ischaemic stroke (PAIS) at the cot side?*
- 95 Nicholas Barone, Erin Kamarunas and Christy Ludlow: *Changes in Cortical Control for Singing Onset with Increases in Task Difficulty*
- 96 Aaron Buss and Anastasia Kerr-German: *Dimensional label learning drives the development of attention to visual dimensions*
- 98 Anastasia Kerr-German and Aaron Buss: *Neural Dynamics of Selective and Flexible Attention Development*
- 99 David Davies, Michael Clancy, Z Su, John Bishop, Emma Toman, Sam Lucas, Antonio Belli and Hamid Dehghani: *Can a clinically viable Frequency Domain NIRS device reliably detect changes in brain tissue oxygen tension of patients with severe traumatic brain injury?*
- 102 Felicia Zhang, Richard N. Aslin and Lauren L. Emberson: *Investigating auditory prediction in young infants using fNIRS*
- 106 David Rosenbaum, Katja Hagen, Florian B. Häußinger, Andreas J. Fallgatter, Florian G. Metzger and Ann-Christine Ehlis: *State-dependent connectivity in late-life depression*
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