

PUBLICATIONS ON STRESS IN HUMANS AND IN ANIMALS

as scientific basis for the **BioRICS** technology

Publications on stress in humans

- [1] V. Exadaktylos, E. Smets, P. Joosen, J. Taelman and D. Berckmans, "Wireless Body Worn Stress Level Monitoring System," in Proceedings: National Institutes of Health, Bethesda, USA, 2014.
- [2] J. Taelman, P. Joosen, V. Exadaktylos and D. Berckmans, "Stress Level Monitoring in Car Racing - Examples of Measurements during Races," in Proceedings of the 4th international congress on Sport Sciences Research and Technology Support, Porto, Portugal, 2016.
- [3] E. Smets, P. Joosen, J. Taelman, V. Exadaktylos and D. Berckmans, "Monitoring the mental status of football players," in Proceedings of the International Congress on Sports Science Research and Technology Support, Villamoura, Portugal, 2013.
- [4] P. Joosen, V. Exadaktylos, J. Taelman and D. Berckmans, "The effect of Individual Stress Zones on car-racing performance," in 14th International Conference on Wearable and Implantable Body Sensor Networks (BSN), Eindhoven, Netherlands, 2017.
- [5] P. Joosen, V. Exadaktylos, J. Taelman, J.-M. Aerts and D. Berckmans, "Method for artefact detection and removal in heart rate signals measured during physical exercise," in Proceedings of the International Congress on Cardiovascular Technologies, Villamoura, Portugal, 2013.
- [6] P. Joosen, V. Exadaktylos and D. Berckmans, "An investigation on mental stress-profiling of race car drivers during a race," in 12th International Conference on Wearable and Implantable Body Sensor Networks (BSN), Cambridge, USA, 2015.
- [7] Joosen P., Exadaktylos V., Taelman J., Berckmans D. The Effect of Individual Stress Zones on Car-Racing Performance. 14th Annual IEEE International Conference on Wearable and Implantable Body Sensor Networks (BSN) Location: High Tech Campus, Eindhoven, The Netherlands, May 09-12, 2017. Book Series: International Conference on Wearable and Implantable Body Sensor Networks Pages: 79-82, Published: 2017

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- [9] Wuyts, J.; De Valck, E.; Vandekerckhove, M.; Pattyn, N.; Bulckaert, A.; Berckmans, D.; Haex, B.; Verbraecken, J.; Cluydts, R. 'The influence of pre-sleep cognitive arousal on sleep onset processes'. *International journal of psychophysiology*, Volume: 83, 1, 8-15. 2012.
- [10] Piette D., Norton T., Vrieze E., Aerts J-M., Exadaktylos V., Bogaerts K., Hompes T., Claes S., Berckmans D., 2020, Dynamic modelling of heart rate in depression and burnout during a physical and mental task, submitted.
- [11] Piette D., Norton T., Vrieze E., Aerts J-M., Exadaktylos V., Bogaerts K., Hompes T., Claes S., Berckmans D., 2020, Difference in energy expenditure between healthy controls and patients with depression or burnout during physical and mental exercise, submitted.
- [12] Piette D., Norton T., Vrieze E., Aerts J-M., Exadaktylos V., Bogaerts K., Hompes T., Claes S., Berckmans D., 2020, Decomposing energy expenditure and heart rate into a physical and mental component using transfer function modelling, submitted.
- [13] Piette D., Norton T., Kerstens, S., Vrieze E., Aerts J-M., Exadaktylos V., Bogaerts K., Hompes T., Claes S., Berckmans D., 2020, Validation of wearable technology to identify biomarkers for burnout and depression in a combined physical and mental task, submitted.
- [14] Piette D. Depression and burnout, a different perspective. 2020. PhD Dissertation presented in fulfilment of the requirements for the degree of Doctor in Bioscience Engineering, KU Leuven, pp. 138.

Publications on stress in animals

- [1] T. Norton, D. Piette, V. Exadaktylos, D. Berckmans. 'Automated real-time stress monitoring of police horses using wearable technology, Applied Animal Behaviour Science, 198 (2018), p. 67-74.
- [2] F. Jansen, J. Van der Krogt, . Van Loon, et al. "Online detection of an emotional response of a horse during physical activity", 1st workshop on Equitation Science, Univ. Edinburgh, Royal School of Veterinary Studies, 2004, Veterinary Journal Vol. 181 issue 1 page 38-42, July 2009
- [3] P. Joosen, T. Norton, J. Marchant-Ford, D. Berckmans. 'Animal welfare monitoring by real-time physiological signals', Peer reviewed Proceedings of the 9th European Conference on Precision Livestock Monitoring ECPLF2019, Cork, Ireland, August 2019. pp 337 - 344. Teagasc, Animal & Grassland Research and Innovation Centre, Moorepark, Fermoy, Co. Cork; 2019/08/29, Location: Cork, Ireland
- [4] S. Ott, L. Soler, C.P.H. Moons, M.A. Kashiha, C. Bahr, J. Vandermeulen, S. Jansenss, A.M. Gutierrez, D. Escibano, J.J. Ceron, D. Berckmans, F.A.M. Tuytens, T. Niewold. Different stressors elicit different responses in salivary biomarkers cortisol, haptoglobin and chromogranin A in pigs. RESEARCH IN VETERINARY SCIENCE, 97, 1, 124-128.(2014)
- [5] D. Piette ; T. Norton ; V. Exadaktylos ; D. Berckmans. 'Real-time monitoring of the horse-rider dyad using body sensor network technology'. Proceedings of the 13th International IEEE Conference on Wearable and Implantable Body Sensor Networks (BSN), 5pp, June 2016.
- [6] Nuyts, K.; Exadaktylos, V. ; Berckmans, D. 'On-line monitoring of human-horse relationship'. Proceedings of the 6th European Conference on Precision Livestock Farming. Pp. 299-307. Sept. 2013, Leuven, Belgium