

Planned Workshop at 27th Irish Environmental Researchers' Colloquium, ENVIRON 2017, at AIT, Athlone.

“In the Eye of the Beholder: Overcoming Measurement Challenges in the Application of Nature Based Solutions for Health and Mental Health.”

Overview: This workshop provides an opportunity for researchers to engage, reflect and learn about the methodological challenges on human-nature interactions. Using an idiographic based approach combined with bespoke case-studies the opportunity to take a participant viewpoint will be provided. The need for consensus in the application of standardised measures is discussed and a new generation of theory-driven measures are proposed.

Attendees: This workshop would be of interest to those interested in transdisciplinary research on nature-based solutions to health and well-being. This would include delegates at Environ 2017 and additional researchers from the health promotion sector (e.g., Healthy Ireland, Local Sport Partnerships), and psychological and sport sciences.

Rationale for Event:

At both the National (e.g., EPA/HSE Ecosystem Benefits for Health) and European level (e.g., www.phenotype.eu; www.bluehealth2020.eu) interest in nature-based solutions for human health and well-being has been increasing. Evidence has emerged over the past decade to provide tentative support for the positive effect on health and well-being of both exposure and engagement with natural stimuli. Enhanced cognition, increases in positive mood and psychophysiological changes have been reported and additionally, interactions with nature can increase our propensity for pro-environmental behaviour. To date, the mechanisms underlying the aforementioned positive effects remain unclear and findings have been plagued by methodological issues.

Measurement challenges arise at three levels. Firstly, sampling issues occur with inconsistencies in the profiling of participants (e.g., use of tests of nature relatedness). Second, the role of subjective perception of environmental quality (e.g., air pollution, greenness, pleasantness) may influence decisions and well-being more than objective data. And finally, the myriad of outcome measures used to determine possible beneficial effects of natural environments, in terms of health, mental health and well-being, reduces our ability to draw firm conclusions across the growing literature, in addition to concerns around validity, reliability and conceptual clarity.

The need for consensus on the standardisation of inventories employed by researchers is asserted. Furthermore, a theory-based approach to develop the next generation of measures (augmenting subjective surveys with implicit objective measures) will be outlined. We propose, during the interactive workshop to highlight the challenges using a series of idiographic tasks and pose solutions using a combination of nomothetic evidence and case-study approaches.

Teaching Objectives:

- To introduce delegates to the concept of nature based solutions, its strategic importance in future H2020 calls (e.g., Demonstrating innovative nature-based solutions in cities), the relevance to health, and associated gaps in the extant research literature.
- To highlight the limits of current approaches in the measurement of health, mental health and well-being in studies on nature based solutions (e.g., green exercise).

- To introduce the evidence for the standardisation of a generation of measurement techniques.
- To engage participants with sample items from the commonly applied tests and to reflect on their utility.
- To outline to the participants' case studies and how a new generation of theory-driven measures can bridge the methodological gaps reported in the research to date.

Presenters	Qualifications	Affiliation
1. Dr. Chris Gidlow	BSc. MA PhD (Physical Activity Researcher)	Centre for Health and Development, Staffordshire University
2. Prof. Marc V. Jones	BSc. PhD Reg. Psych. afBPS HPC (Professor of Stress and Emotion)	Centre for Sport, Health and Exercise Research, Staffordshire University
3. Dr. Tadhg E. MacIntyre	BA MA PhD afPSI Reg. Psych. afBPS CPsychol. HPC (Psychologist)	Health Research Institute, University of Limerick
4. Dr. Aoife A. Donnelly	B.A., B.A.I., PH.D. (Environmental Scientist)	School of Food Science and Environmental Health, Dublin Institute of Technology
5. Nollaig Sullivan	B.A. Psych. MSc. Health Psych. MSc. Sport & Ex.	Health Research Institute, University of Limerick

Speakers:

Dr. Chris Gidlow is an Associate Professor at **Staffordshire University**, is Academic Director for the Centre for Health and Development. His primary responsibility is to secure funding for, and undertake, research and evaluation related to physical activity, health and environmental determinants. His recent roles on European level projects includes being WP lead on www.phenotype.eu a €3.5m study exploring the mechanisms underlying human-nature interactions.

Professor Marc Jones, is a world leading researcher on stress and emotion and is currently the Associate Dean, Scholarship, Enterprise and Research at Staffordshire University. An accredited practitioner (HPC) he has combined rigorous scientific methods in the study of emotion in ecologically valid settings. Psychophysiological approaches are combined with self-report measures and he has published widely in the field including in the high impact journal *Current Directions in Psychological Science*.

Dr. Tadhg MacIntyre is the Course Director of the MSc. in sport, exercise and performance psychology at the Health Research Institute, University of Limerick. He supervises seven PhD students and has recently coordinated a H2020 submission on nature based solutions for well-being. Funding successes include Erasmus + www.fixthefixing.eu, small research projects from IRC, IRC New Foundations (2013 & 2015), IRC Scholarships, World Anti-Doping Social Science Research Grants and seed funding from the British Psychological Society and the Association of Applied Sport Psychology. He is the Associate Editor of the top ranked journal in sport psychology (*Int. Rev. Sport. Exerc. Psychol.*). The special issue in *Frontiers in Psychology* on mental health challenges in sport was initiated and edited by him and he is also a member of their editorial board.

Dr. Aoife Donnelly has recently been appointed to the position of Lecturer in the School of Food Science and Environmental Health at the Dublin Institute of Technology. Previously, she was an EPA funded post-doctoral researcher and developed an operational real time air quality forecast model using integrated parametric and non-parametric regression techniques. Her undergraduate degree was in engineering where she graduated with first class honours and subsequently she won a prestigious gold medal and was appointed a scholar of Trinity College. She also received a higher diploma in statistics prior to her doctoral

studies at Trinity. Her PhD studies explored background air pollution concentration variations across Ireland. Her work has been published in the *Journal of Environmental Science and Health* and the *Journal of Environmental Modeling and Assessment* and Aoife has co-authored several major reports for the EPA.

Nollaig O'Sullivan MSc. is a PhD student at UL studying the mechanisms underlying green exercise where she is supervised by Dr. MacIntyre, Dr. Donnelly and Dr. Giles Warrington. She was awarded a EHS Faculty bursary for her doctoral studies which she commenced in Jan. 2016. Her research is conducted in cooperation with Clarisford park in Killaloe under the directorship of the Chair of Healthy Ireland, Keith Wood. Her undergraduate studies were at UL in psychology and sociology (2007-2011). Subsequently she graduated from a MSc. in Psychology of Performance at QUB in 2013 and a MSc. in Sport and exercise Psychology at Ulster University in 2014, both with commendations.

Relevant Sources:

Gidlow et al. (2016). Where to put your best foot forward: Psycho-physiological responses to walking in natural and urban environments. *J Environ Psychol.* 45, 22-29.

Donnelly et al. (2016) Environmental Influences on Elite Sport Athletes Well Being: From Gold, Silver, and Bronze to Blue Green and Gold. *Front. Psychol.* 7:1167. doi: 10.3389/fpsyg.2016.01167

Uphill, Lane & Jones (2012). Emotion Regulation Questionnaire for use with athletes. *Psychol Sport Exer.* 13(6):761–770. DOI: 10.1016/j.psychsport.2012.05.001