Dr Andrew Valentine - Harold Jeffreys Lecture (G)

Dr. Andrew Valentine is awarded the Harold Jeffreys Lecture for his ability to give a thought-provoking exposition about his own research into machine-learning methods in geophysics, which will change the scientific landscape for a general geophysical audience. Dr. Valentine has conducted fundamental research into how Machine Learning and Geophysical Inverse theory might be combined as disciplines, establishing the connections between inverse theoretic concepts common in geophysics and comparable ones in the Machine Learning and statistical communities. He is a leading theoretician with a deep appreciation of the potential and limitations of inference methods. His adherence to rigor, coupled with a drive for in-depth understanding, has allowed him to progress Geophysics using combined principles of machine learning and theoretical and computational geophysics, particularly applied to the solid Earth. Dr. Valentine is an engaging speaker and excellent writer, and a sought-after leader and speaker in mathematical physics. A Jeffreys lecture around the topic of 'Geophysics in the age of Machine Learning' would be an exciting theme and would be timely and of wide interest. Jeffreys himself was active in translating across fields between statistics, seismology and astronomy. Dr. Valentine continues in that tradition.