Special Issue

Applications of Information Theory to Epidemiology

Message from the Guest Editor

Epidemiological applications of information theory can be traced back at least as far as the 1970s. The work of W.I. Card (collaborating with I.J. Good) on diagnostic decision-making in terms of entropy reduction and the work of C.E. Metz and colleagues on an information theoretic approach to the interpretation of receiver operating characteristic (ROC) curve data are examples of early applications. Almost half a century on, these examples still typify the way that information theory has been used by many epidemiologists and diagnosticians to gain insight into our understanding of disease risk and our decision-making in relation to the management of risk. At the same time, new applications are appearing, not least in the pages of *Entropy*. In this Special Issue, we seek both to review existing successful contributions of information theory to aspects of epidemiology, and also to look forward to novel applications, especially in the areas of:

- Medical epidemiology
- Botanical epidemiology
- Social geography
- Disease risk factors
- Calibration and validation of risk algorithms
- Diagnostic decision-making

Guest Editor

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About the Journal

Message from the Editor-in-Chief

The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

Entropy is an online open access journal providing an advanced forum for the development and/or application of entropic and information-theoretic studies in a wide variety of applications. *Entropy* is inviting innovative and insightful contributions. Please consider *Entropy* as an exceptional home for your manuscript.

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