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## Combinatorial Aspects of Shannon Theory

Guest Editors:

**Prof. Dr. Amos Lapidoth**

Signal and Information  
Processing Laboratory, ETH  
Zurich, 8092 Zurich, Switzerland

**Dr. Or Ordentlich**

School of Computer Science and  
Engineering, Hebrew University  
of Jerusalem, Edmond J. Safra  
Campus, Jerusalem 91904, Israel

**Prof. Dr. Ofer Shayevitz**

Department of Electrical  
Engineering Systems, Tel Aviv  
University, P.O box 39040, Tel  
Aviv 6997801, Israel

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### Message from the Guest Editors

Combinatorial tools have played a key role in information theory since as early as Shannon's 1948 paper, which used counting techniques to study constrained coding and random coding—an early instance of the probabilistic method—to prove the channel coding theorem. Information theory, in turn, has inspired work in combinatorics, inter alia, through Shannon's work on the zero-error capacity and subsequent work on error-free source-coding and communications. This cross fertilization continued unabatedly over the years and has led to numerous results in both fields.

It is the purpose of this Special Issue to explore recent developments at the interface between the two fields. While appreciating the impact that combinatorics has had on code construction, our focus is more on Shannon theory than on coding theory. On the combinatorics side, we seek results where information theory plays a key role either in the formulation or in the solution.



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Special Issue



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## Editor-in-Chief

### **Prof. Dr. Kevin H. Knuth**

Department of Physics, University  
at Albany, 1400 Washington  
Avenue, Albany, NY 12222, USA

## 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.

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*Entropy* Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
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