

## Data, Physics, and Life Through the Lens of Information Theory Special Issue Dedicated to the Memory of Toby Berger

### Call for papers

This special issue of the IEEE Journal on Selected Areas in Information Theory is dedicated to the memory of Toby Berger, one of the most important information theorists of our time, who passed away in 2022 at the age of 81. He made foundational contributions to a wide range of areas in information theory, including rate-distortion theory, network information theory, quantum information theory, and bio-information theory. He also left a deep imprint on diverse fields in applied mathematics and theoretical engineering, such as Markov random fields, group testing, multiple access theory, and detection and estimation. Well known for his technical brilliance, he tackled many challenging problems, but above all, it is his pursuit of elegance in research and writing that shines throughout his work. The goal of this special issue is to celebrate Toby Berger's lasting legacy and his impact on information theory and beyond. Original research papers on topics within the realm of his scientific investigations and their "offspring", as well as expository articles that survey his pioneering contributions and their modern developments, are invited. Topics of interest include, but are not limited to, 1. Rate-distortion theory and its application to image and video coding 2. Source coding in the era of machine learning 3. Network information theory and its emerging applications 4. Quantum information theory 5. Bio-information theory 6. Detection and estimation under communication constraints

Topics of interest include, but are not limited to,

1. Rate-distortion theory and its application to image and video coding
2. Source coding in the era of machine learning
3. Network information theory and its emerging applications
4. Quantum information theory
5. Bio-information theory
6. Detection and estimation under communication constraints

### Lead Guest Editors

Jun Chen (McMaster University) [chenjun@mcmaster.ca](mailto:chenjun@mcmaster.ca)

Aaron B. Wagner (Cornell University) [wagner@cornell.edu](mailto:wagner@cornell.edu)

### Guest Editors

Jerry Gibson (UCSB) Ioannis Kontoyiannis (University of Cambridge)

Yingbin Liang (Ohio State University) S. Sandeep Pradhan (University of Michigan)

Andreas Winter (Autonomous University of Barcelona) Ram Zamir (Tel-Aviv University)

**Senior Editor:** Raymond W. Yeung (The Chinese University of Hong Kong)

### Submission Guidelines

Prospective authors should prepare their papers following regular submission guidelines of the IEEE Journal on Selected Areas in Information Theory (see <https://www.itsoc.org/jsait/author-information>).

### Important Dates

Manuscript Due: November 15, 2023

First Review: March 15, 2024

Second Review: June 15, 2024

Acceptance Notification: July 1, 2024

Final Manuscripts to Publisher: August 1, 2024

Publication Date: October 2024

**Manuscript Submission Website:** <https://mc.manuscriptcentral.com/jsait-ieee>