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Editorial

Entropy Best Paper Award 2015

Kevin H. Knuth

Department of Physics and Department of Informatics, University at Albany (SUNY),
1400 Washington Avenue, Albany, NY 12222, USA; E-Mail: kknuth@albany.edu;
Tel.: +1-518-442-4653; Fax: +1-518-442-5260

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We are pleased to announce the "*Entropy* Best Paper Award" for 2015. Nominations were selected by the Editor-in-Chief and designated Editorial Board Members from all the papers published in 2011. Reviews and research papers were evaluated separately. We gladly announce that the following three papers have won the Entropy Best Paper Award in 2015:

Article Award:

1st Prize

Andrzej Cichocki, Sergio Cruces and Shun-ichi Amari
Generalized Alpha-Beta Divergences and Their Application to Robust Nonnegative Matrix Factorization
Entropy **2011**, *13*(1), 134–170; doi:10.3390/e13010134
Available online: http://www.mdpi.com/1099-4300/13/1/134

2nd Prize

Karan H. Mistry, Ronan K. McGovern, Gregory P. Thiel, Edward K. Summers, Syed M. Zubair and John H. Lienhard V
Entropy Generation Analysis of Desalination Technologies
Entropy **2011**, *13*(10), 1829–1864; doi:10.3390/e13101829
Available online: http://www.mdpi.com/1099-4300/13/10/1829

3nd Prize

Alexey B. Nadykto, Fangqun Yu, Marina V. Jakovleva, Jason Herb and Yisheng Xu
Amines in the Earth's Atmosphere: A Density Functional Theory Study of the Thermochemistry of Pre-Nucleation Clusters
Entropy **2011**, *13*(2), 554–569; doi:10.3390/e13020554
Available online: http://www.mdpi.com/1099-4300/13/2/554

Review Award:

1st Prize

Christophe Goupil, Wolfgang Seifert, Knud Zabrocki, Eckhart Müller and G. Jeffrey Snyder

Thermodynamics of Thermoelectric Phenomena and Applications

Entropy **2011**, *13*(8), 1481–1517; doi:10.3390/e13081481

Available online: http://www.mdpi.com/1099-4300/13/8/1481

The prize awarding committee congratulates the authors of "Generalized Alpha-Beta Divergences and Their Application to Robust Nonnegative Matrix Factorization" who by introducing a new family of alpha-beta divergences have made a significant advance in the field of signal processing by unifying and generalizing a number of nonnegative matrix factorization algorithms. This work has the potential to significantly impact numerous scientific domains by introducing new robust machine learning algorithms where non-negative matrix factorization finds wide application in the separation of mixed signals.

The article "Entropy Generation Analysis of Desalination Technologies" represents a significant advance in the careful analysis of desalination technologies. The problem of desalination is a significant one impacting hundreds of millions of lives around the world. The analyses performed in this paper identifies which systems operate with the greatest efficiency and which systems have the greatest potential for improvement.

The article "Amines in the Earth's Atmosphere: A Density Functional Theory Study of the Thermochemistry of Pre-Nucleation Clusters" focuses on a quantum-chemical study of the thermochemical stability of a variety of organic compounds related to the problem of atmospheric nucleation which results in the formation of aerosols in the Earth's atmosphere. While the authors specifically note that further research is needed, this paper represents an important contribution to Entropy toward understanding the process of nucleation in the Earth's atmosphere and its impact on Earth's climate.

The prize awarding committee congratulates the authors of the review paper titled "Thermodynamics of Thermoelectric Phenomena and Applications" for their historical overview focused on the relation between thermoelectric performance and local entropy production. Efficient thermoelectric devices find use in the construction of thermogenerators, thermoelectric coolers and thermoelectric heaters, which are considered to be green technologies. The authors show that minimum entropy production is related to the thermoelectric potential and this fact is critical for the design of the efficient thermoelectric devices.

These four papers are valuable contributions to *Entropy*. On behalf of the Prize Awarding Committee and the Editorial Board of *Entropy*, we would like to congratulate these four teams for their excellent work. In recognition of their accomplishment, Dr. Andrzej Cichocki and Dr. Sergio Cruces, Dr. Alexey B. Nadykto, Dr. John H. Lienhard V, will receive prizes of 600 CHF, 400 CHF, 200 CHF respectively, along with the privilege to publish an additional paper (subject to peer review) free of charge in open access format in *Entropy*. Dr. Christophe Goupil will be awarded the privilege to publish an additional paper (subject to peer review) free of charge in open access format in *Entropy*.

Prize Awarding Committee

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