



## Deep Learning and Neuro-Evolution Methods in Biomedicine and Bioinformatics

Guest Editor:

**Dr. Mauro Castelli**

NOVA Information Management  
School (NOVA IMS), Universidade  
NOVA de Lisboa, Campus de  
Campolide, 1070-312 Lisbon,  
Portugal

Deadline for manuscript  
submissions:

**closed (30 September 2020)**

### Message from the Guest Editor

Dear Colleagues,

Recent years have seen the rise of deep learning (DL). Thanks to the advances in terms of hardware, algorithms, and availability of data, DL has been used successfully to address complex problems that would have been impossible to address a few decades ago. Nonetheless, the revolution brought by DL techniques is just in its early infancy, with new contributions and new ideas constantly being proposed and published.

A related approach comes from the field of neuro-evolution, the use of evolutionary algorithms to optimize DL architectures. Neuro-evolution has the potential to achieve better performance with respect to DL-based models, considering that it can optimize the whole architecture, its hyperparameters, and the learning algorithm.

The objective of this Special Issue is to invite active researchers in the field of DL to present original research articles that focus on the development and application of new DL architectures for addressing complex problems in the fields of biomedicine and bioinformatics. Hybrid techniques combining both DL with neuro-evolution are particularly welcome.

Dr. Mauro Castelli  
*Guest Editor*



[mdpi.com/si/28501](https://mdpi.com/si/28501)

# Special Issue



an Open Access Journal by MDPI

## Editor-in-Chief

**Prof. Dr. Giulio Nicola Cerullo**

Dipartimento di Fisica,  
Politecnico di Milano, Piazza L.  
da Vinci 32, 20133 Milano, Italy

## Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

## Author Benefits

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), Inspec, CAPlus / SciFinder, and other databases.

**Journal Rank:** JCR - Q2 (*Engineering, Multidisciplinary*) / CiteScore - Q1 (*General Engineering*)

## Contact Us

---

Applied Sciences Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/applsci](http://mdpi.com/journal/applsci)  
[applsci@mdpi.com](mailto:applsci@mdpi.com)  
[X@Applsci](https://twitter.com/Applsci)