

## Special Issue

# Modeling and Theoretical Analysis of Artificial Neural Networks for Life Sciences

### Message from the Guest Editor

Artificial neural networks are usually inspired by biological nervous systems, such as multilayer perceptron, feedback neural networks, convolutional neural networks, and spiking neural networks, which partly simulate the natural nervous system. Recently, artificial neural networks have been widely used in life sciences, and deep neural networks in particular have shown great vitality in many related fields, such as medical biology, bioinformatics, and computational biology. However, there are still some problems to be solved in artificial neural networks. First, more effective and powerful biomimetic neural networks are still required to address the application problems of life sciences. Second, theoretical analysis of existing artificial neural networks is urgently needed because most of them lack interpretability. Third, a systematic study of modeling methods in the applications of artificial neural networks is needed because designing neural networks for specific tasks is still expensive. This Special Issue focuses on new ideas, methods, and techniques in modeling and theoretical analysis of artificial neural networks for life sciences.

---

### Guest Editor

Dr. Xin Jin  
School of Software, Yunnan University, Kunming, China

---

### Deadline for manuscript submissions

closed (16 February 2023)



## Life

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.4  
CiteScore 7.1  
Indexed in PubMed



[mdpi.com/si/135001](https://mdpi.com/si/135001)

*Life*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[life@mdpi.com](mailto:life@mdpi.com)

[mdpi.com/journal/  
life](https://mdpi.com/journal/life)





# Life

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.4  
CiteScore 7.1  
Indexed in PubMed



[mdpi.com/journal/  
life](https://mdpi.com/journal/life)



## About the Journal

### Message from the Editor-in-Chief

*Life* (ISSN 2075-1729) is an international, peer-reviewed open access journal that publishes scientific studies related to fundamental themes in life sciences. Some papers are published individually, while others are submitted for inclusion in special issues with guest editors. You are invited to contribute a research article, essay, or a review to be considered for publication.

---

### Editor-in-Chief

Prof. Dr. Lluís Ribas de Pouplana

Institute for Research in Biomedicine (IRB Barcelona), The Barcelona  
Institute of Science and Technology, 08028 Barcelona, Spain

---

### 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), PubMed, PMC, CAPIus / SciFinder, and other databases.

#### Journal Rank:

JCR - Q1 (Biology) / CiteScore - Q1 (Paleontology)