

Tentative Outline

Special Thematic Issue for Current Bioinformatics

[Novel Computational Methods in Current Biomedicine and Biopharmacy]

Guest Editors: Lei Chen

Aims & Scope:

With the development and application of high throughput technologies on biomedicine and biopharmacy, huge information in these fields has been created. Lots of public and commercial databases have been set up to store this information and provide services, such as GEO, TCGA, KEGG, DrugBank, etc. Many of them have been updated several times as time goes on, novel information is added. For a specific biomedicine and biopharmacy problem, investigators have lots of choices to select useful information, which is great different from the case about ten years ago. However, information in different databases, even in the same database, may have different structures and organization forms. How to fuse information with different structures and organization forms into a uniform format, thereby feeding into the downstream investigation, is a great challenge.

On the other hand, computer technologies become more and more powerful. Several advanced computer algorithms (e.g., deep learning, network embedding) have been proposed in recent years. These algorithms always yield good performance on benchmark datasets and have successful applications in many areas. However, their applications on biomedicine and biopharmacy are limited. There exists a great gap between these powerful computer algorithms and specific biomedicine and biopharmacy problems with complex representations. Therefore, this special issue, which focuses on dealing with biomedicine and biopharmacy problems with complex representations via novel computational methods, is proposed. The editor expects to collect studies that applies newly proposed computer algorithms or designs suitable and effective algorithms on different biomedicine and biopharmacy problems.

Keywords: Biomedicine, Biopharmacy, Big data, Network learning, Drug repositioning

Subtopics:

The subtopics to be covered within this issue are listed below:

- Ensemble learning for biomedicine and biopharmacy
- Big data analysis for biomedicine and biopharmacy
- Multiview learning for biomedicine and biopharmacy
- Network embedding algorithms for biomedicine and biopharmacy
- Disease gene identification
- Predictive modeling of complex diseases
- Drug repositioning with heterogeneous data
- Computational methods for drug discovery

Schedule:

- ◇ Manuscript submission deadline: October 1, 2019
- ◇ Peer Review Due: December 1, 2019
- ◇ Revision Due: January 1, 2020
- ◇ Announcement of acceptance by the Guest Editors: February 1, 2020
- ◇ Final manuscripts due: March 1, 2020

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