

CALL FOR PAPERS

FLEXIBLE SERVICES AND MANUFACTURING

Special Issue on

Biomanufacturing

Submission Deadline: September 30, 2021

In recent years, the use of biological systems to produce biomolecules, biomaterials, and medical products has seen rapid growth due to its vast potential and impact. Biopharmaceuticals provide advanced drugs and therapies for a variety of diseases. Biomaterials help develop medical devices with enhanced effectiveness. Biofabrication technologies enable the creation of biologically active products for next generation medical diagnostics and treatments. While the area holds immense promise, it also presents several challenges. At the process level, the dependence on living cells (whether it is microbes, plant, or animal cells) and need for specialized handling and equipment introduces challenges related to batch-to-batch variability, stability, and predictability of outcomes. At the system level, scalability and performance prediction are significant challenges. At the supply chain level, long R&D lead times, regulatory requirements, and high costs of failure motivate need for strategic collaborations and incentive alignment.

In this special issue of the Flexible Services and Manufacturing (FSM) Journal, we seek papers introducing new concepts, defining new problems, and developing new empirical and theoretical research that addresses the specific and unique challenges related to biomanufacturing. The special issue includes, but not limited to, the following topics.

- Challenges in biofabrication and novel solutions
- Process challenges in cell and tissue culture, fermentation, separation, homogenization, formulation
- Process control, validation, and quality systems in biomanufacturing
- Preclinical evaluation and design of clinical experiments

- Scale up/scale out and integration of bioprocesses
- Real time monitoring, control, optimization, and simulation of biomanufacturing systems
- Performance prediction and efficiency analysis of biomanufacturing systems
- Production planning and scheduling in biomanufacturing

- Coordination and collaboration in biomanufacturing supply chains
- Logistics and inventory management in biomanufacturing supply chains
- Management of risk in biomanufacturing R&D projects
- Capacity planning and network design issues in biomanufacturing supply chains

Submission Guideline

Please submit your paper online via

<http://www.editorialmanager.com/flex/>

and use "SI: Biomanufacturing" as article type. The target print publication date is mid-2022.

The submitted papers must not have been previously published or be currently under consideration for publication elsewhere. All papers will be reviewed according to the standards of the FSM journal. We will adopt a rapid and fair review process to meet the target publication of the printed issue in mid-2022. Electronic copies of accepted papers will be accessible online soon after their acceptance. Please feel free to contact the editors with any questions.

Special Issue Editors:

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