

## Special Issue

# Plants: Emerging Bio-Manufacturing Chassis for Bioactive Molecules

### Message from the Guest Editor

Plants are rapidly emerging as versatile and sustainable bio-manufacturing platforms for producing a wide spectrum of bioactive molecules, ranging from secondary metabolites to recombinant proteins and enzymes for industrial and therapeutic applications. Recent advances in metabolic engineering, synthetic biology, and genome editing have enabled precise and efficient modulation of plant metabolic pathways and heterologous expression systems, greatly expanding their potential as cost-effective and flexible production chassis. These technologies allow researchers to fine-tune gene expression, improve product yield and stability, and design novel biosynthetic pathways. This Special Issue aims to highlight recent breakthroughs in plant-based biomanufacturing, including innovative strategies for pathway optimization, expression enhancement, and downstream processing. We also welcome studies demonstrating the translational potential of plant-derived bioactive molecules in medicine, agriculture, and industry, as well as review articles that discuss emerging trends, technical challenges, and future directions in this rapidly advancing field.

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### Guest Editor

Prof. Dr. Jianfeng Xu

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### Deadline for manuscript submissions

15 September 2026



## Life

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