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Research Articles

1.

Elucidating the Role of Auxin Gradient in Leaf Morphogenesis of Arabidopsis thaliana

Liu Mei-Hua, Arne Müller, Carlos J. Velázquez

Keywords: auxin, leaf morphogenesis, Arabidopsis thaliana, phytohormones, computational modeling, genetic mutants

2.

Functional Connectivity Alterations in Working Memory Networks Across Age Groups

Lena M. Schuster, Chen Ming-Hao, Adebayo Oluwaseun

Keywords: functional connectivity, working memory, aging, default mode network, frontoparietal network, cognitive decline, fMRI

3.

Integrating Sparse Data with Neural Networks for Enhanced Genomic Prediction Models

Felix J. Mühlberg, Mei-Li Zhang, Priya N. Iyer

Keywords: computational biology, machine learning, genomic prediction, neural networks, sparse data, convolutional neural networks, recurrent neural networks

4.

Functional Dynamics of Small Nuclear Ribonucleoproteins in Eukaryotic RNA Splicing

Sven Eriksson, Li Mei-Yun, Fatima Al-Mansouri

Keywords: small nuclear ribonucleoproteins, RNA splicing, spliceosome, cryo-electron microscopy, Saccharomyces cerevisiae, U1 snRNP

5.

Deciphering the Molecular Orchestration of Lung Organogenesis in Zebrafish Models

Sven J. Muller, Priya Patel, Li Wei-Hong

Keywords: organogenesis, lung development, zebrafish, CRISPR/Cas9, Wnt signaling, Fgf signaling, transcription factors, regenerative medicine

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6.

Advancements in mRNA-Lipid Nanoparticle Platforms for Next-Generation Vaccines

Matthias J. Neumann, Xiao Liu-Yang, Priya N. Kapoor

Keywords: mRNA vaccines, lipid nanoparticle, immunogenicity, antigen expression, vaccine safety, rapid development

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7.

Deciphering Crosstalk Pathways in EGF-Induced Cell Signaling Networks

Lars van der Zwaal, Meera Srinivasan, Hu Zhi-Lin

Keywords: EGF, cell signaling, phosphorylation, MAPK pathway, PI3K/AKT pathway, RAC1, GAB1, proteomics