

Special Issue on
Noncoding RNA in Plant Functions

CALL FOR PAPERS

Noncoding RNAs (nc-RNAs) are transcribed products from DNA but do not code for any functional proteins. Instead of functioning at the protein level, they will execute their functions in the RNA transcript level itself. The wide range of noncoding RNAs includes structural nc-RNAs (tRNA, rRNA, snRNA, snoRNA, etc.) and regulatory noncoding RNAs which are again classified as small nc-RNAs (miRNA) and long nc-RNAs. Noncoding RNAs in both plants and animals serve as a crucial player of gene regulation via controlling the expression level of target genes in various biological processes including environmental stresses. And the regulatory nc-RNAs act as master regulators in plants since they are sessile and cannot produce the flight response to various stresses, unlike animals. But the knowledge about nc-RNAs in plants is still in the initial stage compared to animals. Till now there are studies of nc-RNAs identification in plants but their function is poorly understood.

Plant nc-RNA is transcribed by the organism-specific RNA polymerases (IV and V) resulting in gene silencing. It played a role in variety of regulatory mechanisms including chromatin remodeling, change of the pattern of alternative splicing, fine-tuning miRNA activity, and the control of mRNA translation or accumulation. Recent studies have revealed that, through their regulatory networks, they can control many genes responsible for agricultural traits in crops such as drought tolerance, disease resistance, seed development, and floral development. Since the regulatory nc-RNAs have a vital role in agronomy, they are marked as potential targets for molecular crop plant breeding programs.

This issue focuses on the novel discoveries of noncoding RNAs in plants including identification, production, function, and novel regulation mechanisms in different biological processes.

Potential topics include but are not limited to the following:

- ▶ Structural and functional characterization of plant nc-RNAs
- ▶ Evolution of noncoding RNAs in plants
- ▶ Importance of nc-RNAs in plant development
- ▶ Study of long nc-RNA
- ▶ Plant nc-RNAs in chromosome modulation
- ▶ Gene regulation of miRNAs in innate immunity
- ▶ Role of nc-RNAs in plant-pathogen interaction
- ▶ Role of nc-RNAs in plant abiotic stress response
- ▶ Computational studies of plant nc-RNAs

Authors can submit their manuscripts through the Manuscript Tracking System at <http://mts.hindawi.com/submit/journals/ijg/ncrn/>.

Lead Guest Editor

Alagu Manickavelu, Central University of Kerala, Kerala, India
amanicks@cukerala.ac.in

Guest Editors

Nirala Ramchiary, Jawaharlal Nehru University, New Delhi, India
nramchiary@mail.jnu.ac.in

Kenji Komatsu, Tokyo University of Agriculture, Tokyo, Japan
k4komatsu@nodai.ac.jp

Manuscript Due

Friday, 23 June 2017

First Round of Reviews

Friday, 15 September 2017

Publication Date

Friday, 10 November 2017