

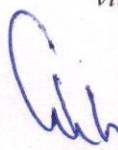
M. D. University, Rohtak
Deptt. of Biochemistry

A Departmental Research Committee (DRC) meeting was held on 05.10.2020 from 11:00 A.M to 12:30PM through **online** mode. The meeting was to consider the PhD registration cases of the Department. The following members were present:

- Prof. Rajesh Dabur, Chairman
- Dr. Rajat Sandhir, Outside Expert
- Dr. N.S. Chauhan, Member

The following candidates presented their synopsis for PhD registration.

1. Mrs. Nikita Shukla= She was **absent** from the meeting, so her proposal 'Assessment of in-vitro efficacy of selected natural compounds in prevention of muscle wasting' was **not** considered.
2. Ms. Anjali Malik= Her proposal 'Biochemical analysis of effects of putrescine and spermine on arsenic stressed *Cicer arietinum*' was evaluated and following changes were mandated-
 - i. Add the group spermine+putrescine with only spermine and only putrescine
 - ii. It was advised to carry out work in experimental area in order to explore effects on yield and quality of end product.
 - iii. Explore the absorption (levels in the leaf or stem) of spermine and putrescine through quantifications
 - iv. Quantify the metal ions binding protein levels in all groups in order to explore the effect of chromium.
 - v. It was also advised to explore the physiological effects of chromium on HOG and glycolysis pathways and mitophagy.
 - vi. Photosynthetic yield and chromium effect on the photosynthetic machinery should be explored.
 - vii. Histological studies should be performed to detect physiological changes in phloem and xylem along with other components.
 - viii. Apoptosis and necrosis (DAPI staining method, Evans Blue assay) studies should be carried out using specific markers of the events (Q-PCR or Weston Blotting).
 - ix. Study glutathione metabolism and its derivative levels in response to metal and treatment
 - x. Quality of final yield should be analyzed along with quantification of metal (As).
3. Ms. Priyanka Yadav= Her proposal 'Biochemical studies on *Pisum sativum* in Cr (VI) stress and modulation by exogenous salicylic acid' was evaluated and following changes were mandated-
 - i. Should incorporate other oxidation stages of chromium in the study.
 - ii. Quantify the metal ions binding protein levels in all groups in order to explore the effect of chromium.
 - iii. Keep one additional group treated with salicylic acid only.
 - iv. The yield and quality issue should be addressed after salicylic acid treatment.
 - v. Glutathione metabolism should be studied.
 - vi. Mechanism through chromium affects nitrogen metabolism and salicylic acid defense should be explored.
 - vii. Photosynthetic yield and effect of chromium on the photosynthetic machinery should be explored.


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- viii. Histological studies should be performed to detect physiological changes in phloem and xylem along with other components.
- ix. Apoptosis and necrosis (DAPI staining method, Evans Blue assay) studies should be carried out using specific markers of the events (Q-PCR or Weston Blotting).
4. Ms. Shruti Jha= Her proposal 'Sauropus androgynous leaf mediated synthesis of Ag/Zn nanoparticles for characterization and antioxidant/antibacterial properties' was evaluated and following changes were mandated-
- Characterize the composition of NPs and the compounds present in or with it using MS/MS or NMR.
 - Name the bacterial species i.e. four gram +ve and four gram -ve bacteria in the synopsis on which studies will be performed.
 - Add some more plant sample (4 to five) for NPs synthesis and screen their antimicrobial activity. Further studies should be carried out with most active NPs.
 - In vitro cytotoxicity analysis of the NP(s).
 - Name and explain the methods which shall be used to explore MIC of NP(s) i.e. Microbroth dilution or Macrobroth dilution assay. Also explain existing disc diffusion assay in detail along with preparation of standard curve.
 - Change the title of synopsis accordingly.
 - Explore the mechanism of action of NP(s) using appropriate techniques along with their effect on quorum sensing and membrane leakage or modulation.


The three candidates, Ms. Anjali Malik, Mr. Priyanka Yadav and Ms. Shruti Jha have been recommended for their Ph.D. registration only after making above changes in synopsis.



[Prof. Rajesh Dabur]
HOD & Chairman

(online)

[Dr. Rajat Sandhir]
Outside Expert



[Dr. N.S Chauhan]
Member