

## INDIAN SOCIETY OF AGROPHYSICS

Proceedings of the 6<sup>th</sup> Prof. B. P. Ghildyal Memorial Lecture

held on 26th September, 2019, at B.P.Pal Auditorium, IARI, New Delhi

The 6th Prof. B.P. Ghildyal Memorial Lecture was delivered 26th September, 2019 by Prof. Santanu Chaudhury, Director, IIT, Jodhpur. The programme was organized by the Indian Society of Agrophysics and hosted by the Division of Agricultural Physics, IARI.

At the outset of the programme, Dr. P.Krishnan, Head, Div. of Agril. Physics & President, Indian Society of Agrophysics (ISAP) welcomed the gathering. Dignitaries lighted the lamp and paid homage to the great soul of Prof. B.P. Ghildyal. Dr. A.K. Singh, DDG (Extn.) & Director, IARI formally welcomed Padma Bhusan Prof. R.B.Singh, Ex-Director of IARI and Prof. Santanu Chaudhury, Director, IIT, Jodhpur and the speaker with flower bouquet. The esteemed family members of Prof. B.P. Ghildyal were also welcomed with the bouquet of flowers in the occasion.

Dr P.Krishnan, the President of ISAP, briefly greeted the dignitaries on and off the dais, and the general gathering. She briefed on the history of this coveted lecture. She mentioned about Prof. B.P. Ghildyal's contribution for the society and the scientific community at large, especially the message to reach to the young scholars, researchers and students of IARI. She also named the speakers who have delivered this lecture in the past. Dr. A.K. Singh, DDG(Extn.) & Director, IARI welcomed and briefly introduced about the Chairperson, Padma Bhusan Prof. R.B. Singh, Ex-Director IARI.

Padma Bhusan Prof. R.B. Singh in his brief address expressed his due respect to Prof. Ghildyal, his happiness to receive the family members of Prof. Ghildyal., and feeling honoured to be a part of this auspicious programme. Padma Bhusan Prof. R.B. Singh introduced the Speaker, Prof. Santanu Chaudhury.

Prof. Santanu Chaudhury, delivered the lecture on the topic "Artificial Intelligence in Agriculture", only after paying his tribute to Prof. Ghildyal, a teacher per excellence and a beautiful soul. Prof. Chaudhury felt that he was indeed considering himself fortunate to deliver this lecture as it was in the name of Prof. Ghildyal and moreover, in the past the lecture was delivered by illustrious scientists like Prof. M.S. Swaminathan, Dr. J.S.P. yadav, Dr. Punjab Singh and Dr. L.S. Rathore. Dr. Chaudhury received his B.Tech and Master's degree, (M.Tech, in Electrical Engineering.) from the Indian Institute of Technology, Kharagpur.

Dr Chaudhry in his lecture addressed the issue of application of AI in agriculture. Plant phenotyping is the identification of effects on plant structure and function (the phenotype) resulting from genotypic differences (i.e., differences in the genetic code) and the environmental conditions a plant has been exposed to. Image-based methods are now increasingly utilized in non-invasive plant phenotyping and the resulting images need to be analysed in a high throughput, robust, accurate, and reliable manner. He talked about use of machine learning and AI based techniques for phenotyping of plants. I shall illustrate use of deep learning techniques for some applications. He concludes by highlighting the challenges of AI based techniques.

The programme ended with a closing remarks by Padma Bhushan Prof. R.B. Singh, Ex-Director, IARI, and the vote of thanks by Dr. Joydeep Mukherjee, the Secretary of the Society.

