



Diverse Assets & Applications  
International LABoratory

Classroom for Advanced & Frontier Education

**SERIES 86**  
Prof. Pratap Kumar Pati  
2023-08-25

**Series – 86**

Date and Time - August 25, 2023 (3:00 PM JST)

Venue - Zoom

Speaker - Prof. Pratap Kumar Pati

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**Title - Biotechnology in the Pursuit of a Healthy Society and Boosting the Global Bioeconomy**

**Abstract** - Health, food, and nutrition have been the major focus in the post COVID-19 scenario. In recent times, worldwide shift of consumer's choice for herbal medicine had generated an interest in cultivation of medicinal plants and development of strategies for its improvement. Further, there is a need to develop an ecosystem of a resilient food supply with adequate nutritional security for the world community is greatly realized. Exploiting the large pool of less explored and underutilized crops may provide both food and nutritional security. Research in the direction of producing future climate-resilient crops, and establishing agrotechnology for the cultivation of non-traditional crops, will further provide an impetus to the mission of achieving global food security. With the advent of newer agritech approaches, global health problems can be addressed by propagating high valued medicinal plants and their utilization for a healthy society and boosting the global bioeconomy. Our laboratory has been working on the development of propagation technology for many important medicinal plants and nutritionally rich crops. Introduction of low chilled apple, saffron, banana and  $\beta$ -carotene, and anthocyanin-rich sweet potato are some of our recent efforts.

**Health Benefits and Bioactive Compounds of *Rhodiola imbricata***

*Rhodiola imbricata*

**Micropropagation Protocol For *W. coagulans***

Fig. Micropropagation of *W. coagulans* using seeds. A/ Inoculation of seeds; B. Germination of seeds; C-D. In vitro shoot formation and Multiplication; E. Rooting of Microshoots; F. Hardened plant

**Micropropagation of *R. imbricata***

Micropropagation of *R. imbricata* in Agar gelled medium  
Patent Application no. 202211057704, A NOVEL PROCESS FOR LARGE SCAL MICROPROPAGATION OF RHODIOLA IMBRICATA

***Withania somnifera* – An important medicinal plant**

- Withania somnifera (L.) is popularly known as 'Ashwagandha'.
- It is one of the thirty-two selected priority medicinal plants, identified by National Medicinal Plant Board of India, which is in great demand in both the domestic and international markets.
- It has also appeared in World Health Organization (WHO) monographs on selected medicinal plants.
- The plant has been used for over 3,000 years.



- Participants (74)
- RW Renu WADH... (Host, me)
  - PP Pratap Pati GNDU
  - AK Ajaikumar Kunnumakka...
  - am ajanta mazumdar
  - as ajay s k
  - as amanpreet singh b m s 1
  - A Ameera
  - AI Anjali ( BMS sem 3 )
  - AN Aravinda Narayana
  - A Arya
  - DN Dr Navdeep Kaur
  - HH Hanlin Han
  - H Huayue
  - JA Justine Angima
  - MM M Mukesh Kumar
  - P Parama
  - P Pardeep Dhillon
  - P Payal
  - PP Pratap Pati GNDU
  - P( Prof. (Dr.) P.K. Pati
  - Sayantan Saha
  - SK Shashi Kumar
  - sp shruptha padival
  - SG Sosmitha Girisa
  - SY Sun Yixin
  - SK Sunil Kaul (AIST, Japan)
  - VR Vishwa R
  - MK Manjinder Kaur
  - PK Pynhunlang Kharnaier