



# INFORMATION BROCHURE

Ten Day's Short Course



on  
**Hydroponics:**

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## The Future of Food Without Soil

(17<sup>th</sup>- 26<sup>th</sup> March, 2022)

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**Sponsored by**  
**Education Division – ICAR, New Delhi**

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### **IMPORTANT DATES**

Last date for receiving duly filled applications	31-01-2022
Intimation to selected candidates	03-02-2022
Last date of confirmation by selected candidates	07-02-2022
Training Period	17-03-2022 to 26-03-2022

## About The University

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Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir is a prestigious Agricultural University located in Kashmir, Division of J&K, India. With its main campus and Faculty of Horticulture in Shalimar, Srinagar, the University has multiple campuses, colleges, and research and extension centers across the Kashmir Valley and Ladakh Union Territory.

It is a matter of great satisfaction that SKUAST-K has got 6<sup>th</sup> Rank among all the Agricultural universities of the country and has come out with flying colors in the recently declared Atal Ranking on Innovation achievements (ARIIA). The research infrastructure, educational base and extension education services provided by SKUAST-K are playing a pivotal role in supporting the UT of J&K in its efforts for overall development of economy in agriculture and allied sectors.

## About The Division

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The relevance and importance of Basic Sciences and Humanities in socio-economic aspects of farming community are recognized as a vital component and in this direction the Division of Basics Sciences & Humanities was established in February 2017 under Faculty of Horticulture, SKUAST-K. The Division is a multidisciplinary and over the period of time has been progressing with fast pace in the field of Biochemistry, Plant Physiology and Microbiology, which resulted in development of some important technologies of economic importance as recognized by Indian Patent Office by granting patent within this short span of time. Further, the research on nutraceutical attributes of crops, Bio-fortification, nutrigenomics, functional foods, nutritional deficiencies, bioprospecting of underutilized crops, development of organic fertilizers, Hydroponics, seed invigoration, physiology of stress and physiological disorder management and studies on plant microbe interaction has paved a plinth in consequent advanced research in these areas. The Division has three mandates viz Teaching, Research and Extension in the field of Biochemistry, Plant Physiology and Microbiology.

## Course Background

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In 1929, William Frederick Gericke of the University of California at Berkeley began promoting the idea that solution culture could be used for agriculture crop production. Gericke was able to grow tomato vines to a height of 25h in his garden using mineral nutrient solutions instead of soil. In the present day, this technology is being used worldwide.

Hydroponics has the potential to sustain a large proportion of the world's population and to allow third world countries to feed their own people, even in places where soil is poor and water is scarce. The technology can also be used as a valuable source of food production in places where space is scarce. Humans are now up against a myriad of new demanding issues that are leading dramatic change to our global lifestyles: climate change, hazardous infectious diseases, increasing urbanization, and the depletion of natural resource deposits. Hydroponic farming has strong potential to mitigate the threats these issues pose to our agricultural system. Growing crops in near optimal conditions using controlled environment agriculture (CEA) technology is one of the biggest benefits of hydroponic farming. Crops grown indoors and hydroponically can be grown anywhere on earth at any time of the year, regardless of weather conditions, availability of cultivable land, or soil quality. Hydroponic farming has the potential to provide fresh, local food for areas with extreme droughts and low soil quality and the places where access to leafy green vegetables is often limited.

## Objectives and Outline of the Training

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Since the human world population will reach about 9 billion by the year 2050, it seems clear that food security would be one of the key themes of the new millennium and, reasonably, the most urgent challenge for the agricultural sector. However, it should be considered that the progressive drop of fertile soil surface, complicated crop stress conditions due to environmental pollution and urbanization phenomena, greatly complicates the context. In the soils the precipitation reactions may occur when cations and anions in aqueous solution combine to form an insoluble ionic solid (the precipitate). Such conditions, called saturation, occur when the concentrations of certain cations and anions in solution reach a maximum limit value (solubility). Thus, a binding on scientific community is to cater all possible remedies in all possible directions to sustain the human life on this planet. The training shall be a driving force in providing all possible technical know-how of the hydroponics in the context of food security. The purpose of this training is to increase the understanding about the future food security challenges and their containment through a pivotal hydroponic mediated scientific intervention in the agricultural as well as horticultural crops, so as to enhance our scientific and technical capability in mitigating the global hunger.

## Eligibility

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Participants from SAU's/ICAR institute/ KVKs etc. in the cadre of Assistant Professors or equivalent or above from the disciplines of plant physiology/ biochemistry/ horticulture/ post-harvest technology/ Food technology or any other allied discipline are eligible. The number of participants for the programme is limited to 25 out of which 10% internal participants are permitted.

## Travel, Boarding and Lodging

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The participants will be paid for the journey, to and fro, restricted to AC-II/III-tier trainfare or bus. Actual TA will be paid on submission of tickets by the participants. TA will be paid from the place of duty to the venue location and back by the shortest route. The participants will have to make their own arrangements to reach the university guest house. Srinagar is well connected by air and road. City transport service is available to reach the university. Participants are advised to make their return journey reservations before leaving for Srinagar.

Due to unavailability of train link from Jammu to Srinagar participants will be paid shared taxi fare like Tata Sumo/ Tavera/ Zyro Innova, Scorpio, Vans etc which are frequently available at taxi stands of Jammu and Srinagar. Participants should ask for ticket/receipt from drivers/ travel agency of vehicle which are necessary for reimbursement of TA. Participants will be provided free boarding and lodging by SKUAST-Kashmir as per ICAR norms for conducting Short Course. Participants are requested to inform the Course Director well in advance about their arrival and departure including date and time for the convenience of their stay during the course.

Candidates are informed to come with post-paid SIM card only. Local participants are not eligible for boarding and lodging, however, local hospitality i.e. working lunch, tea, etc. will be provided.

## How To Apply?

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- As per the ICAR instructions, the interested candidates should register and apply online through 'Capacity Building Programme' (CBP) portal of ICAR as follows:
- Visit the website [http:// www.iasri.res.in/cbp](http://www.iasri.res.in/cbp) or click on Capacity Building Programme link under <http://www.icar.org.in>
- Login using your user ID and Password. To create user ID use "Create New Account" link.
- After login, click on "Participate in Training" link and fill the Proforma.
- Take a printout of the application and get it approved by the competent authority of the institute/ SAU. Upload the scanned copy of application through the above portal or send duly signed copy through proper channel to the Course Director by post along with registration fee. The advance scanned copy of the nomination may be sent by email

## Registration Fee

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The Participants are required to pay a sum of Rs. 50 (Fifty only) towards Registration fee (nonrefundable) as a demand draft or Indian Postal order in Comptroller, SKUAST-K, Shalimar Campus, Srinagar, Kashmir, J&K, 190025

## Weather of Srinagar

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During the ending period of February temperature is little bit colder. The temperature range is 0°C to 16°C. Participants are advised to bring warm clothing along with them.

## All correspondence may be addressed to:

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