



UTTARAKHAND
STATE COUNCIL
FOR SCIENCE AND
TECHNOLOGY

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2020

NEWS LETTER
UTTARAKHAND STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

SCIENCE AND TECHNOLOGY

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Hello everyone,

A very warm welcome to the Council's News Letter for 3rd quarter of FY 2020-21. This quarter has been quite eventful even after Covid-19 pandemic restrictions. Council participated in India International Science Festival (IISF) 2020, organized by DST, CSIR, and Vijnana Bharati in virtual platform. In order to incorporate S&T needs of the state, Council participated in Consultation Meet of State S&T Ministers for Science Technology and Innovation Policy (STIP)-2020. Council in joint collaboration with NASI UK Chapter organized NASI's webinar on S&T based solution to combat the Covid-19 Pandemic.

Among various webinars, online meetings and other science popularization activities, the Sustainable Mountain Development Summit (SMDS) is worth mentioning. SMDS is an ambitious platform for panel ambitions on sustainable development, policy and planning in the IHR. Council organized various activities in externally funded project like Pt. Deen Dayal Upadhyay Gram Shankul Pariyojna, DBT-Skill Vigyan Program, Patent Information Centre, Women Young Scientist Program etc. Council also established its 10th TRC in the state at Hewal Ghati, Tehri Garhwal, which will act as resource and training center to facilitate spices & food processing.

Finally, I would like to extend my heartiest thanks for our collaborators.

Stay safe and stay healthy.

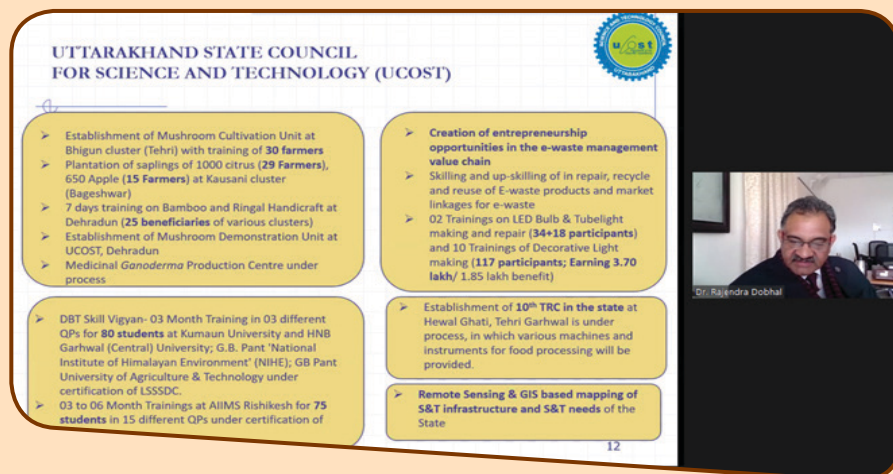
(Dr Rajendra Dobhal)
Director General

EDITORIAL

UCOST REPRESENTED NORTH INDIAN STATE S&T COUNCILS DURING STATE S&T MINISTERS CONCLAVE (SSTMC) IN IISF-2020

UCOST ACTIVITIES

Largest Science Festival, The India International Science Festival (IISF) 2020 was organized in virtual environment from 22nd -25th December 2020, which was coordinated by Department of Science Technology (DST), Council of Scientific and Industrial Research (CSIR), and Vijnana Bharati. As a prominent event of IISF 2020, the discussions was made on the theme 'Post COVID-19 Livelihood Opportunities-Rebooting the System' to harness the views and action plans of S&T Ministers of all States & Union Territories to combat the current socio-economic condition at



the state level due to COVID-19 on 23rd December 2020. It is pertained to say that DST through its State Science and Technology Programme (SSTP) has created a unique Centre-State cooperation mechanism, by supporting State S&T Councils to promote the ethos of STI at a local level. The council was given an opportunity to represent Northern Indian states (Uttarakhand, UP, J&K, HP, Punjab and Haryana) and to showcase their plans and programs on **"Post COVID-19 Livelihood Opportunities-Rebooting the System"**. Dr Rajendra Dobhal, Director General, UCOST presented elaborated work of Northern Indian state S&T Councils in his presentation, **"Creating Livelihood Opportunities through S&T Councils of Northern States in Covid-19 Scenario"**. DST, Gol officials and panelists appreciated efforts of S&T Councils. They suggested to expand the work of creation of green Jobs and capacity building in this Covid-19 scenario.

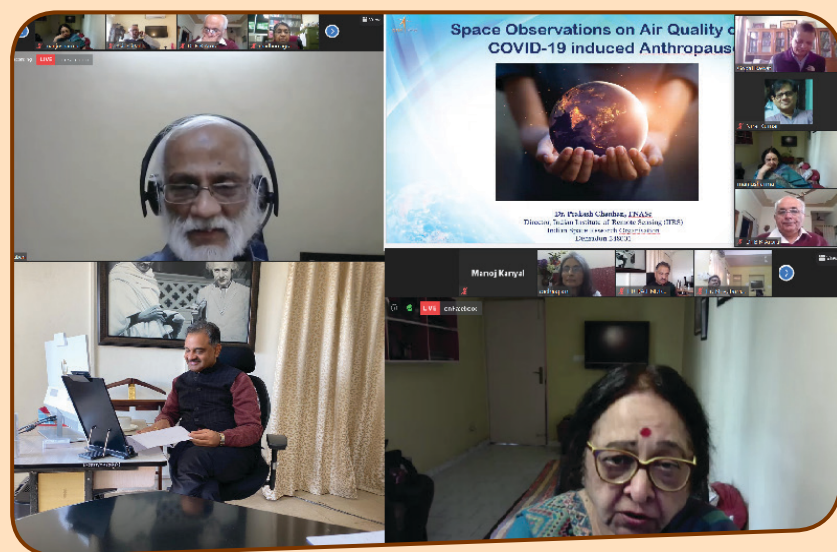
UCOST VIRTUAL PARTICIPATION IN EXPO DURING IISF-2020

Council participated in International Science Festival Expo-2020, which was held on 22nd -25th Dec, 2020 which was organized on virtual platform this year. A virtual gallery of the council has been demonstrated during the expo. Honorable Cabinet Minister, Science & Technology, Gol, New Delhi inaugurated the expo through digital mode.



WEBINAR ON "S&T BASED SOLUTION TO COMBAT THE COVID-19 PANDEMIC" ORGANIZED

A Webinar entitled "Science & Technology based solution to combat the Covid-19 Pandemic" under NASI New Initiatives was organized on 5th December 2020 jointly by UCOST Dehradun, NASI Prayagraj & NASI Uttarakhand Chapter, Dehradun. In the inaugural session, Dr Rajendra Dobhal, Director General, UCOST & Secretary, NASI, Uttarakhand Chapter gave the welcome address and told that the state chapter of NASI and UCOST jointly organized many programs digitally during the Covid-19 pandemic. Dr Archana Pant, Young Women Scientist, NASI told about the history & role of NASI in INDIA. Padma Bhusan, Prof Manju Sharma, Former Secretary, DBT, Govt. of India told about the initiatives taken by Govt. of India during Covid-19 pandemic. She said that our scientists are working and we are very near to develop the Corona vaccine, as said by our prime minister yesterday. Former President NASI, Prof G Padmanabhan, Former Director, IISc Bangalore was the chief guest of the inaugural session. He shed light on some prominent vaccine candidates, which are being developed and their strategy of development. He brief explained about the active vaccination like plasma therapy and the passive vaccination like the other vaccination which are developing for the covid-19. He also said the the oxford university vaccine is the only vaccine based on the Adino virus. He also told that the success of vaccine is depend on the storage temperature of vaccine.



In the technical session, Dr Kalachand Sain, Director, Wadia Institute of Himalayan Geology, Dehradun and Dr Gopal Rawat, Director, Wildlife Institute of India, Dehradun Chaired & Co-Chaired the technical session respectively. Dr Prakash Chauhan, Director, IIRS, Dehradun; Prof Ranjeeta Kumari, AIIMS Rishikesh; Dr M. A. Ramakrishnan, Principal Scientist ICAR- IVRI Bangalore; Dr M.K. Pant, Doon Medical College, Dehradun are were the keynote speakers of the session. Dr B.R. Arora, Chairman, NASI UK Chapter sum up the whole session. Dr Neeraj Kumar, Executive Secretary, NASI Prayagraj gave a formal vote of thanks to all the guests, speakers, participants of the webinar and the technical team of the webinar. Dr D.P.Uniyal, Joint Director, UCOST, Dehradun coordinated the whole session.

UCOST CELEBRATED UTTARAKHAND FOUNDATION DAY

Uttarakhand Foundation Day was celebrated by the council at its premises on 9th Nov, 2020. Er. Rakesh Oberai, Chairman, Tata Motors, Dehradun; Shri S S Negi, Former DG, MOEF & Advisor Forest, Govt of Uttarakhand; Dr Mahendra Kunwar, Secreatry, HARC, Dehradun; Dr Rajendra Dobhal, DG, UCOST shared their views on this auspicious occasion. Dr D.P.Uniyal, Joint Director UCOST, Coordinated the whole Program. Dr Brijmohan Sharma, SPECS, Dehradun, Dr Prashant Singh DAV PG College, Dehradun, Dr Jitendra Pandey, UPES Dehradun along with the staff of UCOST and RSC were present on the occasion.





SCIENCE TECHNOLOGY AND INNOVATION POLICY (STIP) 2020 CONSULTATION MEET WITH STATE S&T MINISTERS

Uttarakhand State Council for Science & Technology (UCOST), Dehradun participated in STIP 2020 Consultation Meet with State S&T Ministers on 22nd Oct, 2020. Honorable Union Minister for Science & Technology, Earth Sciences, Dr Harsh Vardhan inaugurate & chaired the meet. Honorable Cabinet Minister for Urban Affairs, Government of Uttarakhand, Shri Madan Kaushik, Shri R.K.Shudhanshu, Secretary, Department of Information and Science Technology, Govt. of Uttarakhand and Dr Rajendra Dobhal, Director General, UCOST, Dehradun participated in this high level consultation meet. Shri Madan Kaushik emphasized on Science based Entrepreneurship system for reverse migration and promotion of innovations. He also told that there is a need of a policy for the establishment of incubation centre and common facility centre for 'Atma Nirbhar Bharat'. Shri. R.K. Shudhashu focused on the special financial arrangements for the Science & Technology and Innovations'. Dr Rajendra Dobhal spoke about the participation of the central institutions in the development of state.

ESTABLISHMENT OF A NEW TECHNOLOGY RESOURCE CENTER (TRC) IN TEHRI GARHWAL

Council established its 10th TRC in the state at Hewal Ghati, Tehri Garhwal, in which machines and instruments for food and spices processing will be provided. It will also work as training center for stakeholders. The scheme of Creation of TRC initiated under EDP. It is instrumental in the technology driven entrepreneurship promotion on value addition of locally available natural resources and improvement of post-

harvesting techniques for commercial benefits of stakeholders. The scheme is currently functional in 09 different regions of eight districts (TRC Naugaon, Uttarkashi; TRC Kaleshwar, Chamoli; TRC Jakholi, Rudraprayag; TRC Sahaspur, Dehradun; TRC Kanatal, Tehri; TRC Ranikhet, Almora; TRC Nainital; TRC Kalsi, Dehradun; TRC Huddu, Agastyamuni, Rudrapryag).

BOOK ENTITLED "S&T APPLICATIONS IN RURAL AREAS" RELEASED AT UCOST, DEHRADUN

The Council organized a brief program on release of a book entitled "S&T Applications in Rural Areas" in its premises at Vigyan Dham on 5th November, 2020. The book was an outcome of deliberations of UCOST supported Workshop on "S&T Applications in Rural Areas" organized by Department of Zoology, Government (PG) College, Raipur, Dehradun, where contributors working in various academic and research institutions participated. The Book (ISBN: 978-81-944874-0-1) is published by UCOST, which documents various technologies and processes including traditional knowledge systems being used in Uttarakhand.



9th SUSTAINABLE MOUNTAIN DEVELOPMENT SUMMIT (SMDS)

Sustainable Mountain Development Summit (SMDS) is IMI's flagship annual conclave on Indian Mountain Initiatives (IMI). Every year 3-5 salient themes engaging the immediate attention of and relevant to the mountains and hills are taken up for threadbare discussion and debate. Conclusions and recommendations emerging from this exercise are pursued by IMI subsequently for actionable output. The ninth edition of SMDS was organized through virtual platform from 9th-14th Dec, 2020 which was focused on the overall objective of building pathways toward a resilient and sustainable mountain economy in the IHR in the context of a post covid-19 scenario and Climate Change. Mountain communities are equally impacted by this global pandemic of Covid-19. On the one hand, mountain communities and states are relatively resilient to the virus partly due to the isolated or not so easily accessible geographies and low density of population. On the other hand, they stand to suffer more in the long run as their economy is largely dependent on factors like inflow of tourists, remittances from migrants, subsistence mode of farming, external food and general supplies and other such dependencies.



Moreover, due to the financial burdens of being low revenue states, mountain states in IHR are also duly disadvantaged in their efforts to tackle covid-19 and taking measures beyond relief and healthcare becomes an uphill task. With the existing financial burdens of these states, Covid-19 has further exacerbated their developmental challenges. Covid-19 induced reverse migration is set to have a huge impact in the local economy. The mountain states will require a series of initiatives to ensure that job opportunities in the local economies are created and sustained. Focusing on local resources and capitalizing on community networks would hold key. Simultaneously, the challenges of climate change loom large over these fragile ecosystems. Water security is one of the most pressing challenges for mountain communities.

SMDS IX became seeks to be a meaningful platform to discuss some of the emerging pathways for building a resilient economy in IHR through the combined approaches of adaptation, innovation and acceleration. The deliberations during the Summit were delved into the corresponding Sustainable Development Goals (SDGs) for mountain development. While the challenges posed by climate change, particularly water related issues and the socio-economic costs of reverse migration were discussed. This issue require certain adaptive measures and innovation across different sectors. There is an urgent need to accelerate such interventions through partnerships and networks for meaningful solutions with long term benefits.

CHILDREN SCIENCE CONGRESS 2020 PREPARATORY MEET ORGANIZED



The National Council for Science and Technology, Department of Science and Technology (Govt. of India) has announced to organize 28th National Children's Science Congress 2020. For the successful organization of Children's Science Congress in all the states, union territories an orientation program was organized on 28th October 2020. North Indian States Jammu, Ladakh, Himachal Pradesh, Punjab, Haryana, Chandigarh, Delhi and Uttarakhand was coordinated by Dr D.P. Uniyal, Joint Director, UCOST and presented problems of Himalayan states during COVID -19 pandemic to coordinate CSC-20. During the orientation program Dr. Sujit Banerjee, Head NCSTC & Dr. Manoj K. Patariya Advisor, NCSTC inaugurated the meet and shed light on COVID scenario. National Academic Committee members presented focal theme and sub themes declared for 28th CSC-2020.

DBT-SKILL VIGYAN PROGRAM

EXTERNALLY FUNDED PROJECTS

Council is implementing DBT-Skill Vigyan State Partnership Program in Life Science and Biotechnology as a nodal agency. After release of first year grant on 29th May, 2020 to the Council, the DBT organized first year Evaluation Meeting of Expert Committee on 26th November, 2020 through Video conferencing. Council submitted its report and Dr Kailash N. Bhardwaj presented it during the Expert Committee meeting.

Besides, DBT also organized Expert Committee Meeting on 27th November, 2020 for evaluation of the new proposals for FY 2020-21 through Video conferencing. Council participated in it and Dr Kailash N. Bhardwaj presented the consolidated proposal before Expert Committee and discussed budget and other queries raised by the committee. Earlier, the Council submitted consolidated project of 16 different training proposals received from 9 different institutions of the state under Student Training, Technician Training, Faculty Development and Finishing School Program to the DBT on 30th October 2020. These nine institutions includes, DIT University, Dehradun; Graphic Era University, Dehradun; HIFEED, Ranichauri; Innova Educational Skilling Pvt Ltd, Dehradun; Uttarakhand Biotechnology Council (UCB), US Nagar; Uttaranchal University, Dehradun; CSIR-IIP, Dehradun; DNA Labs, Dehradun; and Sri Ram Himalayan University (SRHU), Dehradun.

Further, Council organized a web meeting with partner institutions along with officials from DBT GoI, Life Science Sector Skill Development Council (LSSSDC), Agriculture Skill Council of India (ASCI) and Healthcare Sector Skill Council (HSSC) on 22 December, 2020 before official launch of this ambitious program in the state.

Council has also published an advertisement for selection of a total of 150 trainee students for 17 different Courses through online mode. The last date of submission of online application is 25 January, 2021.

Application Form, Skill Vigyan Program

Uttarakhand State Council for Science and Technology, Dehradun

The name and photo associated with your Google account will be recorded when you upload files and submit this form. Not manojdit27@gmail.com? [Switch account](#)

*** Required**

Email address *

Your email

Please Upload your Passport Size Photo *

[Add file](#)

Applicant's Full Name *

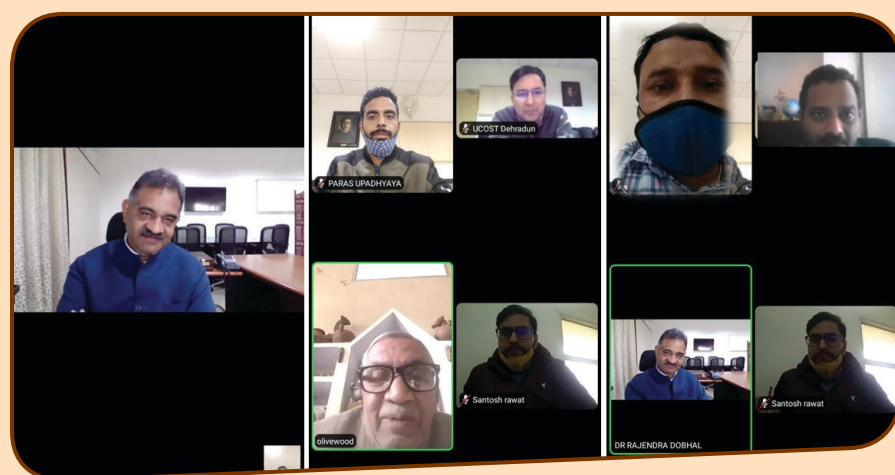
Your answer

PT. DEEN DAYAL UPADHYAY VIGYAN GRAM SANKUL PARIYOJANA

A review meeting of the project was organized at UCOST on 5th October 2020. During this meeting, Chairman Dr. Mahesh Sharma, Dr. Rajendra Dobhal, Director General UCOST, Dr. Piyush Joshi SSO and the project staff were present. Dr Dobhal shed light on the project activities, overall progress and future planning's of the project.



An online review meeting was organized on 12th October 2020. Dr. Piyush Joshi, Senior Scientific Officer, UCOST, Project officials Mr. Santosh Rawat, Mr. Devendra Singh, Mr. Paras Upadhyay, Co-operative society members along with field workers of all four clusters were present during the meeting. Clusterwise progress report was presented by the Co-operative society members and field workers of Bhigun (Tehri), Kausani (Bageshwar), Gairdikhata (Haridwar) and Bazira (Rudrapur) clusters. They informed about the project activities and the status of the installed units like Mushroom cultivation, High-tech Nursery (Net house, Polyhouse and Mist Chamber), Fruit cultivation, Medicinal plants and Spice cultivation etc. Project officials briefed about the future strategies related to cultivation, value addition, marketing strategy and other village development activities.



An online review meeting was organized on dated 26th November 2020. During this meeting, Chairman Dr. Mahesh Sharma, Dr. Rajendra Dobhal, Director General UCOST, Dr. Rashmi Sharma, DST, Dr. Vivek Kumar, IIT Delhi, Dr. Piyush Joshi, Senior Scientific Officer, UCOST, Project officials Mr. Santosh Rawat, Mr. Devendra Singh, Mr. Paras Upadhyay were present. Under this, officials reviewed the progress in project, various activities and briefed about the future strategies for developing new clusters.



7 DAY'S TRAINING ON BAMBOO AND RINGAL HANDICRAFT

7 days training programme on Bamboo and Ringal handicrafts was organized at Nagla Bulandawala, Dehradun from 1st to 7th December 2020. Participants from Bhigun, Bazira and Kausani clusters were present during the training programme. Subject specialist/experts from Forest Research Institute, Bamboo Board, USERC and other institutions delivered lecture on Bamboo Ringal. They briefed about its uses, treatment of Bamboo, products of Bamboo and Ringal, important Govt. schemes related to bamboo and ringal etc. A hands on training was also provided by the trainer. Different Bamboo and Ringal articles were made by the participants during the training programme.

INTELLECTUAL PROPERTY & PATENT INFORMATION CENTER (PIC)

Three webinars were organized by PIC during this quarter titled "Building Awareness in Intellectual Property Rights" on 12th Nov, 2020 at Govt PG College, Almora; "Workshop on Intellectual Property Right" on 25th November at Govt. P.G College, Agastyamuni, Rudraprayag and "Intellectual Property Rights for Researchers & Students" on 14th Dec at Govt. P.G College, Gururabanj, Almora.

IP Application Filled:

- Three Patent Application titled "A plan to manufacture the machine or device to show the correct amount of fuel at the time of filling" with Patent Application No. 202011037354, Desalting System for Removal of Silt from Canal with Application No. 202011032172 and Rainwater Harvesting System with patent Application No. 202011039017.
- Three Trademark applications entitled "'Hillcare' in class 31 and in class 32 and 'Hillbytes' were filed at Trademark office with No. 4685031, 4685021 and 2620385 respectively.
- One Copyright applications entitled "Identify all the 118 elements name periodic table with the help of their atomic number in random order, with memory techniques" are filed with Diary No. 20003/2020-CO/L.



REVIEW MEETING OF S&T MAPPING PROJECT



A review meeting regarding the progress of 'S&T Mapping' project by SSTP, DST, Gol was held on 23rd Nov, 2020 in virtual mode. Its main agenda was to review the progress made by the Council in this regard. Dr Debapriya Dutta, Head SSTP Division, Department of Science and Technology, New Delhi chaired the meeting. Dr D.P. Uniyal, Joint Director (I/C), UCOST, Dehradun made a brief presentation of the progress done by the Council.



SYST-DST PROJECT: "PROSPECTING AND ASSESSMENT OF CERTAIN INDIGENOUS RECIPES OF BADRI TULSI FROM UTTARAKHAND HIGHLANDS"

Financial assistance under the Scheme for Young Scientists & Technologist (SYST) - DST funded project titled "Prospecting and Assessment of certain indigenous recipes of Badri Tulsi from Uttarakhand Highlands" was received on 21st Sept, 2020. Dr Pooja Joshi (PI) joined the duties and started the project. As per the first objective of the project Dr Joshi started the work with the sampling of Badri Tulsi from Badrinath temple (30.7726° N, 79.4953° E) and Niti valley of (30.4947° N, 79.7143° E), Chamoli district, Uttarakhand accompanied by Dr Piyush Joshi, Senior Scientific Officer, UCOST. The samples were collected from four sampling sites around Badrinath temple and one low altitude region of Lata Village at 2348m above msl located in Niti valley for differential study. The analysis of shed dried leaf and stem samples is under process at Biotechnology Department of IIT Roorkee.



REGIONAL SCIENCE CENTRE (RSC) DEHRADUN

DEVELOPMENT OF SCIENCE CITY DEHRADUN

After in-principle approval of Ministry of Culture, Government of India for establishment of Science City Dehradun under its SPoCS scheme, the Council has finally received approval of Delegated Investment Board (DIB), Ministry of Culture, GoI on 21 April, 2020 for *up-gradation of Regional Science Center (RSC) Dehradun to Science City Dehradun*. The Council is all set for this ambitious new project and the signing of MoU with National Council for Science Museum (NCSM) is under process. The advertisement for shortlisting of Architect has been floated in national newspapers. The shortlisted firms will be invited to submit their design/concepts for proposed Science City Dehradun.

The proposed science city will have thematic galleries on Climate Change, Biodiversity, Energy, Biotechnology, Virtual Reality, Virtual Chemistry lab, etc.; along with Space Theatre cum Planetarium; Digital Panorama on Himalayas; Simulator; Aquarium; Special shows on high voltage, laser, science on sphere; and Outdoor Science Park; Theme Park/ BioDome/Fossil Park. Other Facilities include convention facility and temporary exhibition hall.

The rare celestial event of this passing year 2020, "Jupiter Saturn Conjunction" was observed using the telescope at RSC Dehradun. The event was not organized at mass scales due to Covid-19 restrictions, therefore, some selected enthusiastic families of nearby areas and staff of RSC and UCOST participated in it.

Sri G.S. Rautela, former Director General, NCSM and presently Advisor, Science City Dehradun beautifully explained about this celestial event to staff and visiting kids. He showed the moons of Jupiter and rings of Saturn through reflecting telescope. The telescopic view of moon and its craters were also showed to kids. Dr Piyush Joshi, In-charge, RSC Dehradun and Dr Aparna Sharma, Senior Scientific Officer, UCOST and RSC staff were present on the occasion.

TELESCOPIC OBSERVATION OF THE GREAT JUPITER-SATURN CONJUNCTION



HR NEWS & PUBLICATIONS

- **Dr Rajendra Dobhal**, Director General, UCOST delivered a talk on "Nutritional security through promotion of indigenous Nutri-cereals (millets & pseudo-millets) of Uttarakhand" as panelist in VAIBHAV summit organized by AIIMS Rishikesh on 13th October, 2020.
- **Rajendra Dobhal, D. P. Uniyal, J. S. Aswal, Vikas Chander**, Shakuntala khatri, Brij Mohan Sharma, Jyoti Rajput; (2020) Creating Scientific Temperament through Children's Science Congress in Uttarakhand, India, Journal of Scientific Temper Vol 8(3&4), July-Dec 2020, pp. 146-160.
- **Dr Rajendra Dobhal**, DG UCOST and **Dr. Piyush Joshi**, Senior Scientific Officer, UCOST participated in RS Tolia forum organized under

Valley of Words, International Literature festival, held virtually from 20th - 22nd November 2020.

- **Dr D.P.Uniyal**, Joint Director (I/C) and **Manoj Kumar Singh**, Scientific Assistant participated in Indo-Dutch Webinar on DST-NWO call on "Cleaning Ganga and Agri-Water" held on 8th October 2020.
- **Dr Aparna Sharma** has joined as a Senior Scientific Officer on deputation basis on 18th Nov, 2020 at UCOST.
- **Dr Kailash N. Bhardwaj**, Scientific Officer (I/C) participated as a member of coordination committee in State Level Consultation Meet for "National Science Technology and Innovation Policy-2020", organized by Dev Bhoomi Vigyan Samiti

Uttarakhand (State Unit of Vijana Bharti, VIBHA) on 11th October, 2020.

- **Dr Kailash N. Bhardwaj**, Scientific Officer (I/C) participated as panelist in VAIBHAV summit organized by AIIMS Rishikesh on 13th October, 2020 and delivered lecture, "*Prospects of nutritional and health security through traditional fermented products in Uttarakhand*".
- **Dr D.P.Uniyal**, Joint Director (I/C) delivered a lecture on "Biodiversity Conservation & Management" at SGRR College Dehradun during 7th Dec, 2020.
- **Dr Kailash N. Bhardwaj**, Scientific Officer (I/C) and **Manoj Kumar Singh**, Scientific Assistant participated in DST's SSTP division review meeting for IISF on 10th Dec, 2020.





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