



# School of Earth & Environmental Sciences



CENTRAL UNIVERSITY OF HIMACHAL PRADESH



Official Newsletter 2021

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## कुलपति संदेश

प्रिय पाठकों,

मुझे इस बात की अत्यंत खुशी है कि पृथ्वी और पर्यावरण विज्ञान स्कूल, हिमाचल प्रदेश केंद्रीय विश्वविद्यालय अपना अधिकारिक समाचार पत्र " प्रकाशित करने जा रहा है। इस समाचार पत्र के माध्यम से स्कूल में हो रहे महत्वपूर्ण कार्य विश्वविद्यालय के अन्य विभागों तथा लोगों तक पहुंचेंगे।

पिछले दो वर्षों से सम्पूर्ण विश्व कोरोना महामारी से जूझ रहा है। इसका एक बड़ा प्रभाव शिक्षा सहित सभी क्षेत्रों पर पड़ा है। मुझे यह बताते हुए हर्ष हो रहा है कि विश्वविद्यालय का सम्पूर्ण परिवार इस संकट की घड़ी में एक साथ खड़ा रहा है और विद्यार्थियों के हित का प्रयास करता रहा है।

इस पत्रिका का उद्देश्य विद्यार्थियों, शोधार्थियों, शिक्षकों और गैर-शिक्षण कर्मियों के अकादमिक और गैर-अकादमिक क्रियाकलापों को बढ़ावा देना है। मैं स्कूल के सभी सदस्यों से भी आग्रह करता हूं कि इस पत्रिका को मूर्त रूप देने में अपना सहयोग दें और अपने स्कूल के क्रियाकलापों को बढ़चढ़ कर इसमें प्रकाशित करें।

मुझे यह बताते हुए भी खुशी हो रही है की हमारा विश्वविद्यालय भारत का पहला ऐसा विश्वविद्यालय है जिसने राष्ट्रीय शिक्षा नीति 2020 को सबसे पहले लागू किया है। इस पुनीत कार्य के लिए मैं अपने विद्यार्थियों, शोधार्थियों, शिक्षकों और गैर-शिक्षण कर्मियों के अहम योगदान के लिए उन्हें बधाई देता हूँ।



प्रो. सत प्रकाश बंसल

माननीय कुलपति,  
हिमाचल प्रदेश केंद्रीय विश्वविद्यालय

March, 2022

Dear colleagues and students,

Much has happened since the Covid Pandemic. As you can certainly guess, nearly all aspects of our curricular instruction, research, and service have been affected by the ongoing pandemic response. Its consequences have and continue to challenge us in many realized and unrealized ways. That said, not all consequences have been completely negative. One of the more positive outcomes is the new skillsets and comfort we have developed in distance learning technology when the situation necessitated instructional modality go remote. The faculty and students' ability to logistically transition from traditional in-person classroom instruction to the unfamiliar online format in a matter of a few weeks was nothing short of astounding. Most of our faculty had never participated in or considered remote teaching before; but with focus and dedication, as well as assistance from our department's teaching experts, we were able to successfully make the modality transition in the compressed time window. Although stressful, the process was remarkably smooth and could not have happened without the flexibility, patience, and clever strategies of our faculty, students, and staff.

The faculty of our Department has two national awardees (Prof. A.K.Mahajan and Prof. Deepak Pant), one Visitor Awardee for best innovation by Hon,ble President of India. (Prof.Deepak Pant) one Humboldt Fellow (Dr.Subhankar Chatterjee). The School of Earth and Environmental Sciences has 17 Publications in the last six months.

I am happy to announce the faculty has fetched projects worth crores in the Department. Currently six projects are ongoing.



Yours sincerely,  
Prof. A.K. Mahajan

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## **Regular Faculty**

- Prof.A.K.Mahajan
- Prof.Deepak Pant
- Dr.Ankit Tandon
- Dr.Subhankar Chatterjee
- Dr.Anurag Linda
- Dr.Dilbag Singh

## **Laboratory Staff**

- Mrs.Anupama Guleria
- Mr.Vinod Kumar

## **Office Staff:**

- Mr.Rajeev Singh: DEO
- Mr.Anil Kumar: Office Attendant

# Publications (Last 6 months)

15



RESEARCH ARTICLES

01



BOOK

02



BOOK CHAPTERS

## Prof. A.K. Mahajan

- Meena NK, Gaury PK, Mahajan AK, The Climatic and Anthropogenic Influences on Himalayan Glacial and Non-Glacial Lakes; Quaternary Climate Change over the Indian Subcontinent, 21, 2021/5/27
- Mahajan AK, Kumar P, Kumar P, Near-surface seismic site characterization using Nakamura-based HVSR technique in the geological complex region of Kangra Valley, northwest Himalaya, India, Arabian Journal of Geosciences 14 (10), 1-12
- Pandey DD, Banshtu RS, Mahajan AK, Versain LD, The Comparison Between Certainty Factor Method and Index of Entropy Method For Landslide Hazard Assessment: South Western Chamba District, Himachal Pradesh, India, 2021/2/13

## Prof. Deepak Pant

- Mishra B, Chandra M, Pant D , Genome-mining for stress-responsive genes, profiling of antioxidants and radical scavenging metabolism in hyperaccumulator medicinal and aromatic plants, Industrial Crops and Products 173 (2021): 114107
- Dhiman V, Pant D, Dhewa T, Padam A , A Review on the Antidiabetic and Anticancer Activities of Conus Venom Peptides, Journal of Biologically Active Products from Nature 11, 5-6 (2021): 413-441.

### Book

- Advances in Carbon Capture and Utilization (Springer Nature), 2021, ISBN 978-981-16-0638-0

## Dr. Ankit Tandon

- Sahu, B. S., Maharana, P., Tandon, A., Attri, A. K., 2021, Surface Reflectance Change can Induce Reduction in the Surrounding Ambient Environment Warming, Journal of Climate Change, 7 (2), 63-72. <https://doi.org/10.3233/JCC210012>

## Dr. Dilbag Singh

- Bhardwaj, N., Sharma, P., Singh, K., Rana, D. and Kumar, V., 2021. Phyllanthus emblica seed extract as corrosion inhibitor for stainless steel used in petroleum industry (SS-410) in acidic medium. Chemical Physics Impact, 3, p.100038.
- Sen, K., Ali, S., Singh, D., Singh, K. and Gupta, N., 2021. Development of metal free melamine modified graphene oxide for electrochemical sensing of epinephrine. FlatChem, 30, p.100288. (I.F. 5.2)

# Publications (Last 6 months)

## Dr. Subhankar Chatterjee

- Verma, S., Singh, D., Chatterjee, S\*. Malathion biodegradation by a psychrotolerant bacteria *Ochrobactrum* sp. M1D and metabolic pathway analysis. *Letters in Applied Microbiology* (Wiley), 2021. 73 (3): 326-335. Link: doi:10.1111/lam.13517 [2020 IF: 2.85; Citation: 2; Q2].
- Sharma, S\*, Sharma, V., Chatterjee, S\*. Microplastics in the Mediterranean Sea: Sources, Pollution Intensity, Sea Health and Regulatory Policies. *Frontiers in Marine Science*, section Marine Pollution (Frontiers), 2021, 8: 494 [2020 IF: 4.91; Citation: 3; Q1].
- Kaushal, D., Bamotra, S., Yadav, S., Chatterjee, S., Tandon, A. Particulate bound polycyclic aromatic hydrocarbons over Dhauladhar region of the north-western Himalayas. *Chemosphere* (Elsevier), 2021, 263: 128298 [2020 IF: 7.08; Citation: 2; Q1].
- Sharma, S † ., Sharma, S † ., Ahmed, M., Akhter, Y\*, Chatterjee, S\*. Ornithine carbamoyltransferase from psychrophiles to thermophiles - structural evolution of catalytic fold to accommodate physiological diversity. *Extremophiles* (Springer), 2021, 25:15-24. [2020 IF: 2.39; Q2].
- Verma, S., Chatterjee, S\*. Biodegradation of Profenofos, an acetylcholine esterase inhibitor by a psychrotolerant strain *Rahnella* sp. PFF2 and degradation pathway analysis. *International Biodeterioration & Biodegradation* (Elsevier), 2021, 158:105169 [2020 IF: 4.32; Citation: 5; Q1].

## Book Chapter

- Mahajan, R†., Verma, S.†., Chandel, S.†., Chatterjee, S.\*, Organophosphate pesticide: usage, environmental exposure, health effect, and microbial bioremediation. Book Chapter in the book "Microbial Biodegradation and Bioremediation" (Elsevier). pg. 473-486, Edited by Surajit Das and Hirak Ranjan Dash. 2021. (ISBN: 978-0-323-85455-9). Online: 24th November, 2021.

## Training

- Training conducted on HPLC to the MSc students under the course ENV 412- Analytical techniques.

## Dr. Anurag Linda

- Singh HP, Linda A, High Altitude Lake and Hydrochemistry: A Study of Lam Dal and six consecutive lakes of Dhauladhar, Himachal Himalaya, India, IOS Press , *Journal of Climate Change*, vol. 7, no. 4, pp. 53-70, 2021, 2395-7611

## Book Chapter

- Advances in Carbon Capture and Utilization. Energy, Environment, and Sustainability Energy Environment and Sustainability; Chapter title: "Geological Carbon Capture and Storage as a Climate-Change Mitigation Technology", Springer, 2021, ISBN: 978-981-16-0638-0

## FACULTY AWARDS & RECOGNITIONS



- Prof. Deepak Pant acts as external reviewer in Climate Change on Ecotoxicology and Associated Field Methodologies in scientifique à la Fondation Rovaltain, Valence (France) Project.
- Dr.Dilbag Singh acts as external reviewer in Materials Chemistry and Physics
- Prof. A.K.Mahajan acts as expert member on Landslide problems in Himachal by Hon'ble Governor of Himachal Pradesh.
- Prof.A.K.Mahajan deputed as expert member to manage the impending disaster on Mehla Bridge on Chamba Bharmour Road which is NH 15 by DC Chamba, HP
- Prof.A.K.Mahajan appointed as member of WHAT by Deputy Commissioner, Kangra
- Prof.A.K.Mahajan appointed as a member in the technical core group of experts for mitigating landslide risk in Himachal Pradesh.



### STUDENT DETAILS

22

PHD SCHOLARS

55

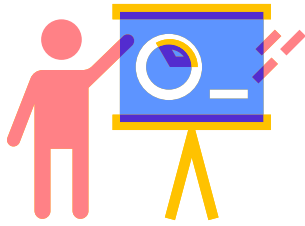
MSC. STUDENTS



## PROJECTS

S. No.	Title of the Project	Funding Agency	Grant sanctioned (INR)	Duration
1.	Site characterization of Chandigarh, Mohali, Panchkula cities using multichannel analysis of surface waves and ambient noise measurements.	Ministry of Earth Sciences, Govt. of India	89,89,240/-	03 years (2021-24)
1.	Developing Emission Inventory for Non-Attainment Cities of India <b>PI: Dr. Ankit Tandon</b>	Centre for Study of Science, Technology and Policy (CSTEP)	13,17,500/-	8 Months (Sep 21 – Apr 22)
2.	Water Conservation and harvesting strategies vision: To ensure water security and its sustainable use, conservation and management in the Himalayan region <b>PI: Dr. Ankit Tandon</b>	University Grants Commission (UGC) under Thematic Studies being conducted by the Consortium of Central Universities in Himalayan States	3,03,750/-	12 Months (Jan 21 – Dec 21)
3.	Biological Removal of plastics and microplastic component <u>polyethylenes</u> with special focus on polyethylene terephthalate (PET) (No. CRG/2021/001819) <b>PI: Dr. Subhankar Chatterjee</b>	DST-SERB	49,00,000	3 Years (2022-2025)
4.	Glacier Dynamics and Associated Processes in <u>Shishram Glacier</u> , <u>East Lidder Valley</u> , Kashmir Himalaya <b>PI: Dr. Anurag Linda</b>	SERB-DST	39.06 Lakh.	3 Years (2019-2022)
5.	Revival of Springs: A Sustainable Approach for Future Water Security in the Salol Region of <u>Kangra District</u> , H.P <b>PI: Dr. Anurag Linda, Dr. Dilbag Singh</b>	HIMCOSTE, Shimla	7.5 Lakhs	2 Years (2020-22)





## **FACULTY TRAININGS / WORKSHOPS/ SEMINAR / CONFERENCE**

### **Prof.A,K.Mahajan**

- Attended a 3-day online Training Programme on Resilient Infrastructure in Hilly Areas: Avalanche, GLoF and Debris Flow; 18-20 February 2021.

### **Dr. Subhankar Chatterjee**

- Completed Faculty development program (Online-FDP) on the topic “Advanced Research Methodology Tools and Techniques” organized by Ramanujan College, Delhi University from 30-01-2021 to 14-02-2021.

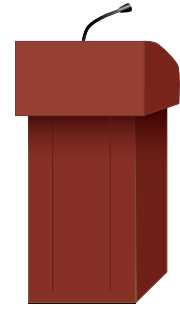
### **Dr. Ankit Tandon**

- Attended a Two - Week Interdisciplinary Refresher Course in Environmental Studies on the theme “21st Century Environmental Issues, Challenges & Solutions” by Ramanujan College, Delhi University (Online-FDP) from 15 July, 2021 - 29 July, 2021; sponsored by Teaching Learning Centre- Ramanujan College, Delhi University under the aegis of Ministry of Education, PMMMNM on Teachers and Teaching

### **Dr. Anurag Linda**

- Attended Webinar on Water management in hilly areas for sustainable development on Friday, 17th December 2021 Online Platform: Google Meet. It was organised by the Department of Civil Engineering Indian Institute of Technology Indore; in Collaboration with the Department of Civil Engineering Indian Institute of Technology Jammu Jammu & Kashmir and the Department of Civil Engineering, National Institute of Technology Hamirpur, Himachal Pradesh, India.
- Attended Tier-II Training Course on “ Local Ground Water Management Issue and Ground Water Resource estimation-2020 of H.P.”, 23 December 2021, Organised By: Central ground water Board, Dharamshala, H.P. GoI, Ministry of Jal Shakti

## **DISTINGUISHED LECTURES**



### **Prof.A,K.Mahajan**

- Delivered a lecture on Groundwater management issues in Tier II training course on “Local Ground Water Management Issues and Ground water resources estimation of HP, at Dharamshala on 21.12.2021

### **Dr. Ankit Tandon**

- Delivered an Expert Lecture at Sardar Beant Singh State University, Gurdaspur, Punjab in an STTP on Environment Protection and Management on the topic “Long-term trends in extreme precipitation events over Indian region” on 18th June 2021.

### **Dr. Anurag Linda**

- Delivered a lecture on “Water Management in Hilly Areas for Sustainable Development” at Webinar on Water management in hilly areas for sustainable development on Friday, 17th December 2021 Online Platform: Google Meet. It was organised by The Department of Civil Engineering Indian Institute of Technology Indore in Collaboration with the Department of Civil Engineering Indian Institute of Technology Jammu Jammu & Kashmir and the Department of Civil Engineering, National Institute of Technology Hamirpur, Himachal Pradesh, India.
- Delivered a lecture on sustainable Water Resource Management in Hilly Region.
- Tier-II Training Course on “ Local Ground Water Management Issue and Ground Water Resource estimation-2020 of H.P.” on 23 December 2021. It was organised by the Central groundwater Board, Dharamshala, H.P. Gol, Ministry of Jal Shakti



## STUDENTS ACHIEVEMENTS



Ms. Sarita Bamotra (CUHPI7RDENV09) Research Degree student of the Department of Environmental Sciences got selected for the prestigious European Research Course on Atmospheres -2022 (ERCA-2022)

Mr. Sunandan Mahant, M.Sc.Awardee of our Department has been selected for Doctoral program in Marine, Earth and Atmospheric Sciences in the North Carolina State University, USA



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## STUDENT DEGREES



Ph.D. Degree awarded to Mr. Anand Giri (CUHPI3RDENV01), Research Degree student in the Department of Environmental Sciences, School of Earth and Environmental sciences on the thesis entitled "Carbon dioxide management by modified carbonic anhydrase".

# ACADEMIC EVENTS

Prof. A,K,Mahajan with M.Sc .Students on a one day field trip to the Dharamkot, Dharamshala. He took students to the landslide zones and showed different type of rocks in The Dhauladhar range. The students also collected different types of rock samples.



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CANVA STORIES



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CANVA STORIES

Dr. Anurag Linda at Samudra Tapu glacier expedition along with IIT Ropar to study dynamics of Samudra Tapu Glacier, Lahul and Spiti Valley , Himachal Pradesh

Students of Environment Sciences taking Geological measurements at the Campus site for Central University at Jadrangal, Dharamshala,H.P



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CANVA STORIES

# ACADEMIC EVENTS

Visit of Prof A.k Mahajan to Geen panchayat Landslide in Nagrota Block distt Kangra on request of District Disaster Management center



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CANVA STORIES



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CANVA STORIES

HVC and Prof A.K.Mahajan onh with Dr Suman Sharma visiting Dehra campus to exceletate the process of construction of CUHP campus at Dehra

Awareness program was done by Himachal Pradesh Central University Environment Department under Green Brigade group in Dohab village of Shahpur under the Know River campaign. In which the students, scholars , faculty and dean of the department participated. Through this awareness campaign, the Dean made the students and the villagers aware about the plight of the river in Dohab and was informed about how to keep the river clean. Samples of the river were also taken by the students. In the campaign, students took out a rally in Dohab with slogans like नदी को जानो, जल है तो कल है.



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CANVA STORIES

# ACADEMIC EVENTS

Landslide near Mehla taken during visit of Professor A.K.Mahajan as an expert on 29-30 January 2022



# FAREWELL



Faculty Family get-together on farewell of Dr. Subhankar Chatterjee to Pondicherry University