Meenakshi Kumari

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OBJECTIVE:

To associate with an organization where there is an ample scope for organizational as well as individual growth and be part of a highly creative team, learn, grow and gain expertise to utilize my technical knowhow and abilities in the Geo-informatics industry that offers professional growth while being resourceful, innovative and flexible.

PROFESSIONAL PROFILE:

A competent professional with around 13Yrs and 8 months of rich & dynamic experience in websites / Databases design and development with technical expertise in RS-GIS, Hyperspectral Remote Sensing, LIDAR and spectroradiometers like instrument handling with good exposure to project scheduling and planning, development, testing, documentation & drafting, with excellent understanding of programming in ASP.Net framework, using C# Language and MS ACESS, MYSQL, SQL SERVER and ORACLE databases. Currently working with, CSIR-Institute of Himalayan Bio resource and Technology, Palampur, as Technical Officer. Team player with strong communication, leadership, analytical, logical abilities and experience of working under cross-cultural and multi- lingual environments.

ORGANIZATIONAL EXPERIENCE:

- From June 2020 till date with CSIR-IHBT, Palampur as Senior Technical Officer.

- From June 2015 to June 2020 with CSIR-IHBT, Palampur as Technical Officer.

- From June 2008 to June 2015 with CSIR-IHBT, Palampur as Technical assistant.

- From April 2007 to Sep 2007with Govt. Polytechnic College Kangra as a Computer lecturer.

KEY FUNTIONAL AREAS:

- Surveying, Mapping and Database development.

- Databases, application software's and website development by making optimized used of the available resources.

- Instruments handling at Remote Sensing and GIS Lab like (Spectroradiometers, Hyspex Imaging Camera, LIDAR, Drone) etc.

- Provide support to the team members on technical issues, adhering to scheduled milestones for completion of allocated project tasks.

- Deals with RS/GIS activities and software programming of the lab. Digital image processing of satellite data (IRS, LANDSAT etc.) using ERDAS Imagine and ENVI softwares.
- Recording of spectral signature of plants using spectroradiometer, Hyperspectral Imaging System and developing tools for pre-processing of recorded data for further analysis.

- In addition, I am also taking care of various day-to-day activities of lab such as poster printing, demonstration to visitors, etc.

PROJECTS:-

KEY PROJECTS HANDLED WITH PRESENT ORGANIZATION:

- BIOPROSPECTION OF PLANT RESOURCES AND OTHER NATURAL PRODUCTS (BIOPROSPR)- BSC-0106.

- PLANT DIVERSITY: STUDYING ADAPTATION BIOLOGY AND UNDERSTANDING / EXPLOITING MEDICINALLY IMPORTANT PLANTS FOR USEFUL BIOACTIVES (SIMPLE)- BSC-0109.

- DATABASE DEVELOPMENT ON MEDICINAL PLANTS OF INDIAN HIMALAYAN REGION.- GAP-108

- SPECTRAL LIBRARY DEVELOPMENT FOR SELECTED PLANT SPECIES IN HIMALAYAN REGION IN COLLABORATION WITH SPACE APPLICATIONS CENTRE, ISRO, AHMEDABAD- GAP-0111

- INFORMATION CENTER FOR FLORAL RESOURCES OF HIMACHAL PRADESH, WESTERN HIMALAYA (BRIC II) UNDER ESTABLISHMENT OF BIORESOURCE INFORMATION CENTERS (BRICS)- GAP-0144.

- ALPINE ECOSYSTEM DYNAMICS AND IMPACT OF CLIMATE CHANGE IN INDIAN HIMALAYA, SPONSORED BY SPACE APPLICATIONS CENTRE (SAC), ISRO, AHMEDABAD- GAP-0170

- TO DEVELOP METHODOLOGY FOR SPECTRAL DISCRIMINATION AND CLASSIFICATION OF TROPICAL TREE CANOPY CHEMISTRY AND FOREST STRESS ASSESSMENT- GAP-0201

- DEVELOPMENT OF GEO-TAGGED DIGITAL DATABASE AND SPECTRAL LIBRARY OF MEDICINAL PLANTS IN PROTECTED CULTIVATION IN THE FOOTHILLS OF WESTERN HIMALAYA.(NMPB) - GAP-0223.

- UAV BASED HIGH RESOLUTION REMOTE SENSING FOR MODERNIZED AND EFFICIENT CULTIVATION PRACTICES OF COMMERCIALLY IMPORTANT MEDICINAL AND AROMATIC CROPS CSIR (NCP)- MLP-0139.

- SURVEY, DATABASE CREATION, MAPPING AND PHYTO-SOCIOLOGY OF FLORA IN WESTERN HIMALAYAN. MLP- 0029

- ASSESSING, MONITORING, CONSERVING HIMALAYAN BIORESOURCES VIS-A-VIS UNDERSTANDING PLANT STRATEGIES AND FUNCTIONS FOR ITS SUSTAINABLE UTILIZATION (HAB).- MLP-0206

- HIGH RESOLUTION NEXTGEN REMOTE SENSING FOR MEDICINAL, AROMATIC AND COMMERCIALLY IMPORTANT CROPS.- MLP-160

- DEVELOPMENT OF AI MODEL FOR SEGREGATION OF TEA LEAVES IN TERMS OF HARVESTED TEA GRADES.- MLP-0163

- PREPARATION OF DIGITAL FOREST FIRE MAP OF DEHRA FOREST DIVISION OF HIMACHAL PRADESH.- SS075

- USE OF LIDAR SYSTEM FOR REMOTE SENSING.- SSP-0133

MAJOR ACHIEVEMENTS

- Certificate awarded for the year 2020-2021 for the best work in the field of science through Hindi medium.

- Two technologies namely **himFlorIS**('An Information System on Flora of Himalayan region') and **Hyperspectral library**('Spectral library of commonly occurring Himalayan plant species'), were selected for the display **at INDIAN INTERNATIONAL SCIENCE FESTIVAL(IISF) , 2016** held at CSIR-National Physical Laboratory, New Delhi during 7-11 Dec 2016. Under Education Pavilion Demos of these two technologies were also given to Hon'ble Union Minister of Science and Technology and Earth Sciences, **Dr. Harsh Vardhan** during the Festival.

- "Identifying triggers for forest fire and assessing fire susceptibility of forests in Indian Western Himalaya using geospatial techniques" work was being used in **DISTRICT DISASTER MANAGEMENT PLAN of DISTRICT KANGRA.**

- "**Him-hIS",** Application software developed for internationally recognized herbarium at IHBT using VB programming language and MS-Access database.

- "**Him-Van sankat**", Web application developed on threatened plant species of Himalaya using ASP classic, VB script, VB and MS-Access.

- "**HimMed**"- " Application software developed on medicinal plants of Indian Himalayan region in collaboration with NEIST,NEHU,IIM JAMMU.

- The first "Vegetation Spectral library" developed for selected plant species in Himalayan region using ground observations in collaboration with Space Applications Centre, ISRO, Ahmedabad.

- Web portal developed on floral resources of Himachal Pradesh and Linked at Indian Bioresource Information Network (IBIN) website.

- Protocol developed leading to automated plant counting, plant height and canopy estimation with survey through Drone using multispectral camera.

- **KSIS** "kangra Spatial Information System" website developed using ArcGIS Server representing bio- resources, topography, administrative maps and flora of kangra district.

PUBLICATIONS: 12 , Impact Factor : 16.941

- ✓ Kumar Amit, **Meenakshi,** Uniyal SK, Brij Lal, Chawla Amit, Rajkumar S and Ahuja PS, 2010, "HimFlorIS" – An information system for flora in Himachal Pradesh, India, **Current Science,** 99(1): 98-101 (IF: 0.926)

- ✓ Kumar Amit, Manjunath KR, **Meenakshi**, Bala R, Sud RK, Singh RD and Panigrahy S, 2012, Field Hyperspectral data analysis for discriminating spectral behavior of tea plantations under various management practices, **International Journal of Applied Earth Observation and Geoinformation,** 23: 352-359 (IF: 3.470)

- ✓ Kumar Amit, **Meenakshi**, Chauhan Vandana K, Singh RD, 2013, KSIS-A web based information system on bioresources of Kangra region of Indian western Himalaya, **Asian Journal of Geoinformatics,** 13(2):1-6 (IF: NIL)

- ✓ Manjunath KR, Kumar Amit, **Meenakshi**, Renu, Uniyal SK, Singh RD, Ahuja PS, Ray SS and Panigrahy S,2014, Developing Spectral Library of Major Plant Species of Western Himalayas Using Ground Observations, **Journal of Indian Society of Remote Sensing**, 42(1): 201-216 (IF: 0.764)

- ✓ Kumar Amit, Uniyal SK, **Meenakshi,** Singh RD, Ahuja PS, 2014, Digitizing information for wider reach through 'him-Padap-Sanklan', an e-inventory of Himalayan flora, **Computational Ecology and Software,** 4(3): 183-192 (IF: NIL).

- ✓ Kumar Sunil, **Meenakshi**, Bairagi GD, Vandana and Kumar Amit, 2015, Identifying triggers for forest fire and assessing fire susceptibility of forests in Indian western Himalaya using geospatial techniques, **Natural Hazards**, 78: 203-217(IF:1.958)

- ✓ Gupta Astha, Uniyal SK, **Meenakshi**, Kumar Amit and Singh RD, 2016, Designing and developing a Bioresource Information Centre for Floral Resources of Himachal Pradesh, Western Himalaya. **Current Science**, 111(5);808-814.(IF:0.843).

- ✓ Vipin Upadhyay, **Meenakshi,** Srishti Jaiswal, Sunil Kumar and Amit Kumar, 2018, Revisit and optimisation of protocols for Hyperspectral field data acquisition from vegetations using hand held non-imaging spectroscopic sensors, **Vibrational Spectroscopy.**(IF :1.861)

- ✓ Amit Kumar, **Meenakshi** and Benidhar Deshmukh, 2019, Geoecological Information System (GeIS) for the assessment of ecosystem integrity in the north-western Himalayan region, **Environmental Earth Science**.(IF 2.18).

- ✓ Vipin Upadhyay, Kishor Chandra Kandpal, **Meenakshi**, Srishti Jaiswal, Sunil Kumar, Amit Kumar, 2020, Revisit and optimisation of spectral data collection techniques from

vegetation using handheld non-imaging spectroscopic sensor for minimising errors, **Vibrational spectroscopy**(IF: 2.507)

✓ Sonam Bahuguna, Shubham Anchal, Deepak Guleria, Mamta Devi, **Meenakshi**, Devshree Kumar, Rakesh Kumar, PVS Murthy, Amit Kumar, 2021, Unmanned aerial vehicle-based multispectral remote sensing for commercially important aromatic crops in India for its efficient monitoring and management, **Journal of the Indian Society of Remote Sensing**.(IF: 1.563).

✓ Vivek Dhiman, **Meenakshi** , Ramjeelal Meena, Probir Kumar Pal,Chandra Prakash Singh, Amit Kumar, 2022. "LiDAR remote sensing-based above ground biomass estimation for Gingko biloba plantation in the Himalayan region".**Journal of the Indian Society Of Remote Sensing**.(under Review) (IF 0.869).

✓ Amit Kumar, Mr. Kishor Chandra Kandpal, Mr. Sunil Kumar, **Mrs. Meenakshi**, 2022. Patent Submitted on ″Vegetation Indices for non-destructive and onsite determination of leaf chlorophyll content of tree species using hyperspectral reflectance data″ at **CSIR-IHBT Patent Unit.**

✓ Abstract published in workshop: Alka Kumari, **Meenakshi**, Gopichand, Singh RD and Kumar A, 2010, Spectroscopic analysis of arsenic uptake in Pteris cretica L, **International Symposium- Ferns and Fern Allies–Diversity, Bioprospection and Conservation**, P-3.01: 51, 10-12 November 2010, CSIR-IHBT, Palampur.

ACADEMIC CREDENTIALS:

- **IIT Certified ″Advanced Programming & Master Data Science″ certification from IIT Madras (2021).**

- **MTech in Information Technology (2012)**

- **DBA (OCP) in 2007**

- **BTech in Information Technology (2006)**

- **Diploma in Information Technology (2003)**

- **10+2 Med in 2000**

- **Matriculation (1997)**

PERSONAL DETAILS:

Father's Name	**: Sh. Nand Lal**
Mother's Name	**: Smt. Sumna Devi**
Date of Birth	**: 30 April 1982.**
Gender	**: Female**
Nationality	**: Indian**
Language Known	**: English, Hindi, Punjabi**
Marital Status	**: Married**

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(Meenakshi Kumari)

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