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No. 5-1/2020/RCS (Appointment) (24)  
Research & Coordination Section  
Forest Research Institute  
(Indian Council of Forestry Research & Education)  
(An autonomous body of Ministry of Environment Forests & Climate Change, Govt. of India)  
P. O. New Forest, Dehradun-248006

Dated: 25<sup>th</sup> February, 2020

To,

**Mr. Manish Singh**  
Room No. 9,  
Visiting Scientist Hostel  
Forest Research Institute  
Dehradun-248006  
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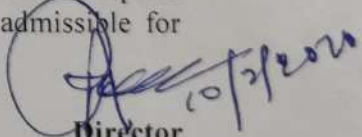
You have been selected for an award of **Junior Research Fellow** of Rs. 31,000/- (Thirty one thousand) only per month, subject to the following conditions: -

1. You will be governed by ICFRE rules for JRF/SRF/RA.
2. If you are employed or holding a fellowship, you will resign from that post and produce a certificate to that effect from your employer before joining at FRI.
3. The term of the fellowship will be initially for one year or up to the project period whichever is earlier and may be extended as per ICFRE rules.
4. You will have to deposit an amount of Rs. 2000/- (Two thousand only) as security, which is refundable.
5. You will carry out research work in **Forest Ecology & Climate Change Division** under the PI ship of Dr. Hukum Singh, Scientist-C in the project entitled "**All India Coordinated Research Project (AICRP) on Study of climate-driven effects on Indian forests through long term monitoring**" (*Component 2 (ii) Phenology study*) funded by ICFRE.

If you are willing to accept the award on the above conditions you should report to the **Dr. N. Bala, National Project Coordinator, AICRP** latest by 28/02/2020 failing, which the offer for award shall be treated as, cancelled.

Please bring original testimonials along with one set of attested copies of each at the time of reporting.

The award of fellowship does not provide any assurance or guarantee of subsequent employment in any Institute under ICFRE. No traveling allowance etc. will be admissible for joining the fellowship.

  
**Director**  
**Forest Research Institute**  
**Dehradun**

**Dr. Hukum Singh, Ph.D.**  
**Scientist**



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## LETTER OF EXPERIENCE

I am writing to wholeheartedly recommend Manish Singh as a distinguished scholar and researcher in the field of environment management. As his supervisor at FRI Dehradun, I have the privilege of closely witnessing his exceptional commitment, passion, and groundbreaking contributions to the field.

He worked as a JRF in AICRP project entitled "Study of climate-driven effect on Indian forests through long term monitoring" for the period of 2 years. He is also pursuing his doctoral research under my supervision, focusing on the physiological and biochemical response of trees against abiotic stress like rising CO<sub>2</sub>, air pollution, temperature etc. The study aims to understand tolerance, adaptation and mitigation potential of forestry species against air pollution and associated environmental circumstances such as elevated CO<sub>2</sub>, temperature, water, nutrient etc. through long-term monitoring. This study would help policymakers and planners to reduce air pollution and improve environmental quality via incorporating forestry interventions to develop plans and strategies. Further, he has more than three years under my supervision in the capacity of research staff involved in various project primarily focused on air pollution, environment and climate change. He has good handling of sophisticated instruments and tools like portable environmental analyzer (CO, CO<sub>2</sub>, O<sub>3</sub>, SO<sub>x</sub>, NO<sub>x</sub>, PM 2.5, PM 10, RH, Temperature etc) for air quality index, atomic absorption spectroscopy (for heavy metal detection), greenhouse gas analyzer, weather station, UV spectroscopy, CHNS analyzer, etc. used in monitoring air pollution and environmental variables. Beyond his scientific and technical expertise, he has exhibited exceptional communication skills, effectively disseminating research findings through presentations at international conferences and publications in reputable journals. He has also received awards like Young Research Scholar Award and Young Scientist Associate Award in field of environmental science and climate change. He has published more than 8 research articles in reputed journals like environmental pollution, urban climate, annals of applied biology etc. He has a keen ability to approach complex problems with creativity and analytical precision, making his work both academically rigorous and practically applicable.

In addition to academic accomplishments, he is an individual of high integrity, demonstrating a strong work ethic and a genuine passion for addressing pressing environmental challenges. He consistently engages with the broader scientific community through outreach programs, contributing to the dissemination of knowledge and fostering collaboration.

I have no doubt that he will continue to make significant contributions to the field of environmental management as per his expertise areas. He possesses the intellect, dedication, and leadership skills necessary to excel in both academic and professional settings. I wholeheartedly recommend for any opportunity that aligns with his expertise and interests.

  
(Hukum Singh)