

National Mission on Himalayan Studies (NMHS)

HIMALAYAN RESEARCH FELLOWSHIP

(FORMAT FOR THE HALF YEARLY PROGRESS REPORT)

[Reporting Period: July to December 2018]

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| Name of the Institution/ University: | Centre for Aromatic Plants (CAP), Govt. of Uttarakhand, Industrial Estate Selaqui-248011, Dehradun (Uttarakhand) |
| No. of Himalayan Research/Project Associate: | 02 nos. |
| No. of Himalayan Junior Research/Project Fellows: | 03 nos. |

Himalayan Research/Associate

H-RAs Profile Description:

| S. No. | Name of RA | Date of Joining | Name of the PI | Qualification |
|--------|---------------------|--|---------------------------------|--|
| 1. | Dr. S. Zafar Haider | 19-07-2016 | Dr. Hema Lohani, Scientist-E-II | M.Sc., Ph.D (Botany) |
| 2. | Dr. Arvind Negi | 02-04-2018 Date of leaving: 31-08-2018 | Dr. Hema Lohani, Scientist-E-II | M.Sc., Ph.D (Genetic & Plant Breeding) |
| 3. | Dr. Gaurav Naik | 19-07-2016 | Dr. Hema Lohani, Scientist-E-II | M.Sc., Ph.D (Biotechnology) |

Progress Report: To be filled for each HRA in separate row.

| RA No. | Research Objectives | Achievements | Addressed Deliverables | Location of Field Site with Details, if any |
|--------|---|---|--|---|
| 1. | • Resource mapping and utilization of lesser known aromatic species | • Large patches/ locations of target species have been identified for essential oil processing • Remote sensing and GIS based plant acreage estimation in Garhwal region has been completed. | • Survey, Resource mapping and collection of plants - Extensive field survey of Garhwal and Kumaon region of Uttarakhand | Enclosure - 1 |
| 2 | • Extent of Impact of Capacity Building Programme: | • Experiment were conducted for | • Designing and conducting of | Enclosure - 2 |

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|----|--|---|---|----------------------|
| | Development of appropriate field extraction techniques for the minor essential Oils | <p>developing appropriate harvesting and distillation techniques for essential oil extraction in Surai</p> <ul style="list-style-type: none"> • Experiment for essential oil extraction in Lantana was carried out via hydro-steam distillation for improvement and modification in existing hydro-steam distillation techniques | <p>experiment for developing cost effective and sustainable harvesting methods</p> <ul style="list-style-type: none"> • Standardization of distillation unit mechanism and optimization of the distillation parameters | |
| 3. | <ul style="list-style-type: none"> • Study on physicochemical therapeutic properties and safety data. | <ul style="list-style-type: none"> • In safety profiling, the <i>in-vitro</i> cytotoxicity effect of 5 essential oils was determined in Human Keratinocyte Cells (HaCaT) has been completed. | <ul style="list-style-type: none"> • Physico-chemical analysis of essential oils • Therapeutic properties of essential oils | Enclosure - 3 |

Note: Data, table and figures may be attached as separate source file (.docx, .xls, .jpg, .jpeg, .png, .shp, etc.).

Himalayan Junior Research/Project Fellows

H-JRFs Profile Description:

| S. No. | Name of JRF | Date of Joining | Name of the PI | Qualification |
|--------|--------------|-----------------|---------------------------------|-----------------------|
| 1. | Kunal Madhav | 02-01-2017 | Dr. Hema Lohani, Scientist-E-II | M.Sc. (Microbiology) |
| 2 | Pratibha | 12-06-2017 | Dr. Hema Lohani, Scientist-E-II | M.Sc. (Chemistry) |
| 3. | Sonal Bisht | 02-10-2017 | Dr. Hema Lohani, Scientist-E-II | M.Sc. (Biotechnology) |

Progress Report: To be filled for each JRF in separate row.

| JRF No. | Research Objectives | Achievements | Addressed Deliverable | Location of Demonstration/ Study Site with Details |
|---------|--|--|---|--|
| 1. | <ul style="list-style-type: none"> Study of sensory properties for perfumery applications | <ul style="list-style-type: none"> Product Development comprising of <i>C. distans</i> Essential Oil (Hand Sanitizers and Medicated Gels). Quality and antimicrobial activity assessment of Hand Sanitizers and Medicated gels is completed. GC-OD analysis of Essential Oils for the detection of chemo-constituents responsible for fragrance is completed. | <ul style="list-style-type: none"> Isolation of essential oils Sensory profiling of essential oils. | Enclosure-4 |
| 2. | <ul style="list-style-type: none"> Study for applications and compatibility of such minor oils in fragrance and aromatherapy blends | <ul style="list-style-type: none"> Preparation of aromatherapy blends by using minor essential oils is completed. Three blends have been prepared and evaluation of prepared blend is under progress. | <ul style="list-style-type: none"> Isolation of essential oils Physicochemical properties of essential oils. Preparation of blend. | Enclosure-5 |
| 3. | <ul style="list-style-type: none"> Providing supplementary livelihood to local inhabitants through sustainable utilization | <ul style="list-style-type: none"> Demonstration Programme of Local Villagers/ Farmers on Harvesting & Distillation of Lesser known Aromatic <i>Spp.</i> for | <ul style="list-style-type: none"> Development of capacity Building programmes | Enclosure-6 |

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| | (harvesting and distillation) of lesser known aromatic plants, which goes otherwise waste | livelihood improvement is completed. | | |
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Note: Data, table and figures may be attached as separate source file(.docx, .xls, .jpg, .jpeg, .png, .shp, etc.).



(Signature of Registrar/ Head of Department)
Director
Centre for Aromatic Plants (CAP)
 Department of Horticulture, Govt. of Uttarakhand
 Selaqui, Dehradun

Report (hard copy) should be submitted to:

The Nodal Officer, NMHS-PMU
 G.B. Pant National Institute of Himalayan Environment and Sustainable Development (GBPNIHESD)
 Kosi-Katarmal 263 643, Almora, Uttarakhand

Report (soft copy) should be submitted to:

E-mail: nmhspmu2016@gmail.com