

Date: 03 July 2025

The  
Director General  
Uttarakhand State Council for Science and Technology (UCOST)  
Vigyan Dham, Jhajra  
Dehradun - 248007

**Subject:** Submission of Project Proposal for UCOST Research Grant

**Respected Sir,**

We are pleased to submit a research project proposal titled: "**Epidemiological Assessment of Breast Cancer among Urban and Rural Women of Uttarakhand: A Focus on Impact of Breast Density, Hormonal, Lifestyle and Environmental Influences**" for consideration under the UCOST research funding scheme.

The study aims to generate evidence-based insights to support early detection, prevention strategies, and public health policy relevant to Uttarakhand. The required documents are enclosed as per guidelines.

**I humbly request your kind consideration for the financial support of this research initiative.**

Regards,

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**Attachment:**

1. Proforma for submission of R&D projects.



**R&D AND DEMONSTRATION**

**UTTARAKHAND STATE COUNCIL FOR SCIENCE & TECHNOLOGY**  
**(GOVT. OF UTTARAKHAND)**  
**DEHRADUN- 248007**

**PROFORMA FOR SUBMISSION OF R&D  
AND DEMONSTRATION PROJECTS IN THE IDENTIFIED AREAS**

*(Only the Online Mode of Application Will Be Accepted on Call Basis)*

**PART I : GENERAL INFORMATION**

**1. Project Title:**

"Epidemiological Assessment of Breast Cancer among Urban and Rural Women of Uttarakhand: A Focus on impact of Breast Density, Hormones, Lifestyle and Environmental Influences"

**2. Name of the Institute/University/Organisation:**

School of Pharmaceutical Sciences, Swami Rama Himalayan University, Jolly Grant, Dehradun, Uttarakhand

**3. Status of the Institute:**

NAAC A+ Accredited, Private University established under Act No. 12 of 2013 by the Government of Uttarakhand; recognized by University Grants Commission (UGC), New Delhi.

**4. Name and designation of the Executive Authority of the Institute / University forwarding the application:**

Commander Challa Venkateswar, Registrar, Swami Rama Himalayan University, Jolly Grant, Dehradun

**5. Category of the Project:**

R& D

**6. Specific Area:**

Data-Driven Policy & Interdisciplinary R&D

**7. Duration:**

2 Years

**8. Total Cost (Rs.):**

₹13,62,690

**9. Is the project Single Institutional or Multiple-Institutional:**

Single Institutional

**10. If the project is multi-institutional, please furnish the following:**

**Name of Project Coordinator:** NA

**Affiliation:** NA

**Address:** NA

**11. Project Summary:**

Breast cancer is the most common cancer among women in India, with rising incidence across both urban and rural regions (Malvia et al., 2017). In Uttarakhand, this burden is compounded by challenging geographic terrain and (Dev Pandey & Shekhar, 2024), including limited access to diagnostic tools like mammography, delayed referrals, and lack of awareness about early symptoms (Acharya et al., 2023) in women and their families. These factors contribute to late-stage diagnoses, poorer outcomes, and inequities in cancer care access (Tyagi et al., 2023).

This study seeks to explore the role of modifiable and non-modifiable risk factors in breast cancer development among women aged 20–70 years, across urban and rural Uttarakhand. Key focus areas include: (1) mammographic breast density patterns, (2) long-term use of hormonal contraceptives and hormone replacement therapy (HRT), (3) reproductive and lifestyle indicators (e.g., age at menarche/menopause, nulliparity, breast feeding, BMI, alcohol intake), (4) environmental exposures (e.g., Endocrine-Disrupting Chemicals) and

(5) disparities in early detection methods and healthcare access across urban vs. rural settings, (6) most cost-effective screening and early detection methods.

A case-control study involving 400 participants (200 cases and 200 matched controls) will be conducted, with stratification by residential location and menopausal status. Data will be collected from both private and government medical colleges in Uttarakhand, which together are expected to represent the majority of breast cancer cases diagnosed in the state. This comprehensive sourcing ensures coverage of diverse demographic, socio-economic, and geographic segments.

Data collection will include structured interviews, clinical and reproductive history, anthropometric assessments, mammography, and hormonal profiling. Multivariate regression will be applied to identify significant predictors of breast cancer risk and assess differences in detection patterns and health-seeking behaviour (Holford et al., 1978).

The study will generate evidence-based insights tailored to the local epidemiological and healthcare context. It aims to inform public health strategies, raise community awareness, and recommend feasible screening interventions that can be integrated into the rural healthcare delivery system. By addressing the urban-rural gap in early detection and diagnosis, the project seeks to support equitable cancer control initiatives in Uttarakhand. Findings are expected to support policy advocacy for stratified screening and promote targeted interventions to reduce diagnostic delays, particularly in underserved areas.

## PART II : PARTICULARS OF INVESTIGATORS

12. Name : Dr. Srishti Dora (Pharm. D.)

### *Principal Investigator*

Date of Birth : 07/02/1997 Sex : Female  
Designation : Assistant Professor  
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No. of Projects being handled at present : Nil

13. Name : Prof. (Dr.) Preeti Kothiyal

### *Co-Principal Investigator*

Date of Birth : 04/06/1966 Sex : Female  
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No. of Projects being handled at present : Nil

