

Ram Lal Anand College University of Delhi

Best Practices 2022-23



Objectives of the Practice

Facilitating access to research opportunities for all students and staff

Promoting

active involvement of students in research and innovation efforts.

Research holds paramount importance in higher education as it aids students in comprehending concepts and ideas, ultimately enhancing the overall quality of education.

Higher education institutions not only contribute to the personal growth of individuals but also nurture proactive citizens essential for societal progress.

Context

Optimal outcome necessitate modern and efficient management of both grants and personnel within institutions.

It is crucial to develop strategies and implement measures aimed at bolstering research endeavors in sync with the recommendations of NEP2020 and elevating research standards at these institutions.



Research and Intellectual Property Rights (IPR) cell engages proactively with faculty and students across all departments to inspire and guide for research initiatives and project proposal drafting, with the ultimate objective of securing external mural funding for research endeavors within the college.



College Research Grant is for small projects submitted by faculty and students to the tune of INR 30,000 to 50,000. Due to the disruption caused by the COVID-19 pandemic, the I round of projects were granted time extensions till Dec 2022.

The outcomes of these CRG projects have been very encouraging and enthused faculty members and students to get involved in research and helped in creating an innovative ecosystem in the college.

Under these, more than 50 students, learned to design a research study, devise methodology, to implement the methodology, complete the study, compile and analyse results, write a project report, draw inferences, and plan further study. The students learned scientific writing and communicating the findings in the form of publications and presentations.

5 research articles were published out of this work in international journals of repute by with students as co-authors; A total of 11 papers were presented at international conferences; Seven dissertations were submitted by the students working under these projects.

+ The college issued a second call for CRG with a total grant amount of Rs. 745,000 approved and disbursed for 9 research projects.

	Title	PI and co-PI	Budget
			(Rs.)
1	Examining the stress and stressors among	Dr. Anurag Sharma	15000
	undergraduate students: cross- sectional study in	Dr. Kuldeep S. Chauhan	
	University of Delhi		
2	Implications of Vedic wisdom for youth in 21st Century	Dr. Krishan G. Tyagi	30000
		Dr. Parul Lau Gaur	
3	Isolation and screening of azithromycin resistant	Dr. Swagata Karmakar	100000
	bacteria from Yamuna river in Delhi	Dr. Prerna Diwan	
4	Exploring the plastic degradation potential of microbial	Dr. Sunila Hooda	100000
	consortium isolated from landfill sites in Delhi	Dr. Swagata Karmakar	
5	Bacopa monnieri and Parmotrema perlatum extract:	Dr. Shalini Swami	100000
	LC MS analysis to quest compounds having inhibitory	Dr. Sunila Hooda	
	activity against ESKAPE bacterial pathogens		
6	Evaluating <i>Parmotrema perlatum</i> extracts for the	Dr. Salome John	100000
	presence of antifungal bioactives	Dr. Shalini Swami	
7	Assessment of groundwater quality and associated	Dr. Virendra B Singh	100000
	human-health risk in the area around Bhalaswa landfill	Dr. Prerna Diwan	
	site, Delhi, India		
8	Repurposing drugs through phenotypic screening	Dr. Vandana Gupta	100000
	against Methicillin Resistant Staphylococcus aureus	Dr. Nidhi S Chandra	
	(MRSA)		
9	Evaluation of anti ESKAPE potential of Rauwolfia	Dr. Nidhi S Chandra	100000
	serpentina and Terminalia chebula	Dr. Vandana Gupta	



- + During the session 2022-2023, Research and IPR cell conducted a workshop 'ENTREPRENEURIAL VENTURE WORKSHOP' on 30 Sep 2022, with Mr. Vikas Phogat, a registered patent Attorney, Founder of IPLOEA, expert IPR and Patent firm. This elaborate interactive sessionsaw a participation more than 144 participants
- An offline Startup incubation programme "ENTE-ARISE 1.0" was organized on 7th October 2023 which showcased students entrepreneurs and their innovative business ideas.
- + A seminar "Invest Verse" held on 5 November, 2022, introduced participants to the world of investing and teach them about different asset classes and how to manage their finances.



Centre for Entrepreneurship and **Technology Development (E-cell)**

Ram Lal Anand College | University Of Delhi



PRESENTS

"ROADMAP TO START A SUCCESSFUL **ENTREPRENEURIAL VENTURE"**

A WORKSHOP ON STARTUP INCUBATION

BUSINESS ENTHUSIASTS, JOIN US TO LEARN HOW TO PROCEED FROM HAVING AN IDEA TO MONETIZING IT AS A PROFITABLE BUSINESS!

DETAILS

TIME: 5:30 PM - 7:00 PM

DATE: 30 September, 2022, Friday

PLATFORM: Google Meet

Scan here to register!



■ Speaker Speaker

MR. VIKAS PHOGAT

VP- Campus India & Asia, SET R&D- IDEMIA 22+ years experience working in startups & incubation centers

FOR QUERIES, CONTACT:

Shubhnath Sharma (President): 9589731218 Ujjwal Dingliwal (Vice-President): 8595154001

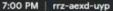
PROF. RAKESH KUMAR GUPTA

PROF. SEEMA GUPTA

MR. SIDDHARTH GUPTA

E-CERTIFICATES TO ALL PARTICIPANTS!















Evidence of Success

+ Best Teacher award to Prof. Prerna Diwan by Microbiologists society India in 2022 for teaching and research.

Evidence of Success

+ Best Researcher
Award to Dr. Nidhi
Chandra by
International
Research Awards on
Science, Technology
and Management in
30 November 2022.

CERTIFICATE OF ACHIEVEMENT

This is to certify that



Dr. NIDHI S CHANDRA

ASSISTANT PROFESSOR, DEPARTMENT OF MICROBIOLOGY, RAM LAL ANAND COLLEGE, NEW DELHI, INDIA.

Has Won

BEST RESEARCHER AWARD

the International Research Awards on Science, Technology and Management - INSO, Organized by VDGOOD Professional Association, India.



Accordation Director







Evaluating Alterations of the Oral Microbiome and Its Link to Oral Cancer among Betel Quid Chewers: Prospecting Reversal through Probiotic Intervention

Prerna Diwan 1,40, Mohit Nirwan 10, Mayank Bahuguna 10, Shashi Prabha Kumari 10, James Wahlang 20 and Rakesh Kumar Gupta 1

- Department of Microbiology, Ram Lal Anand College, University of Delhi, New Delhi 110021, India; mohitnirvan123@gmail.com (M.N.); mayankbahuguna21220@gmail.com (M.B.); shashiprabhakumari6@gmail.com (S.P.K.); rgupta 1965@yahoo.com (R.K.G.)
- Department of Biochemistry, St. Edmund's College, Shillong 793003, India; wahlang.james@gmail.com
- Correspondence: premadiwan.mic@rla.du.ac.in; Tel: +91-9871290711

Abstract Areca nut and slaked lime, with or without tobacco wrapped in Piper betle leaf, prepared as betel quid, is extensively consumed as a masticatory product in many countries across the world. Betel Quid can promote the malignant transformation of oral lesions as well as trigger benign cellular and molecular changes. In the oral cavity, it causes changes at the compositional level in oral microbiota called dysbiosis. This dysbiosis may play an important role in Oral Cancer in betel quid chewers. The abnormal presence and increase of bacteria Fusobacterium nucleatum, Capnocytophaga gingivalis, Prevotella melaninogenica, Peptostreptococcus sp., Por phyromonas gingivalis, and Streptococcus mitis in saliva and/or other oral sites of the cancer patients has attracted frequent attention for its association with oral cancer development. In the present review, the authors have analysed the literature reports to revisit the oncogenic potential of betel quid and oral microbiome alterations, evaluating the potential of oral microbiota both as a driver and biomarker of oral cancer. The authors have also shared a perspective that the restoration of local microbiota can become a potentially therapeutic or prophylactic strategy for the delay or reversal of lip and oral cavity cancers, especially in high-risk population groups.

Keywords: microbiome; precancerous; lesions; betel quid; arecoline; areca nut

1. Introduction

Oral cancer (OC) is a major public health problem in South-Central Asia and Oceania (hotspots), with the highest estimated incidence rates in Papua New Guinea, Pakistan, Bangladesh, and India (one-third of total registered OC cases in 2020). According to the International Agency for Research on Cancer (IARC) Registries, GLOBOCAN (2020), Asia alone accounts for 65.8% of the estimated new cases of Lip and Oral cavity cancer (C00-C06) in comparison to Europe (65,279; 17.3%), North America (27,469; 7.3%), and the Caribbean region (17,888; 4.7%) (Figure 1) [1]. In Asia, India registered the highest number (36%) of C00-C06 in terms of total new cases in the South-East-Asia-specific region [1]. Following India, neighbouring countries Pakistan and Bangladesh report the highest incidences and mortality, thereby increasing the burden of OC in the South-East Asian belt (Figure 2) [1,2]. In this region, the age-old tradition of chewing betel quid (BQ) with or without tobacco is deeply rooted and believed to have an origin in moist tropical climates. The rampant chewing of BQ is due to its abundant availability at a cheap cost and the social and cultural imbibition of the practice.

BQ is prepared with betel leaf (Piper betle), areca nut (Areca catechu), catechu (Acacia catechu), and slaked lime with or without tobacco, popularly known as Paun in India and



check for

Citation: Diwan, P.: Nirwan, M.: Bahuguna, M.; Kumari, S.P.; Wahlang, L. Gupta, R.K. Evaluating Alterations of the Oral Microbiome and Its Link to Oral Cancer among Betel Quid Chewers Prospecting Reversal through Probiotic Intervention. Pathogres 2023, 12, 996. https://doi.org/10.3390/ pathogens12080996

Academic Editor: Lawrence S. Young

Regrived: 22 June 2023 Revised: 18 July 2023 Accepted: 25 July 2023 Published: 30 July 2023



Copyright © 2023 by the authors Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/ligenses/by/

Research Publications

+ Our research activity enhanced with faculty publishing 83 publications, 5 books and 25 book chapters.

frontiers Frontiers in Genome Editing

TYPE Review PUBLISHED 21 June 2023 DOI 10.3389/fgeed.2023.1200987



PEN ACCESS

TED BY gar Arya, alifa University, United Arab Emirates

onam Sashidhar, va State University, United States kim Manghwar,

shan Botanical Garden (CAS), China

ORRESPONDENCE nod Kumar Mahto, rvinod09@gmail.com

nese authors have contributed equally this work

CEIVED 05 April 2023 CEPTED 09 June 2023 BLISHED 21 June 2023

Regulation and safety measures for nanotechnology-based agri-products

Ritika Kumari^{1†}, Kalpana Suman^{1†}, Swagata Karmakar^{2,3†}, Vandana Mishra², Sameer Gunjan Lakra⁴, Gunjan Kumar Saurav^{5,6} and Binod Kumar Mahto¹*

¹University Department of Botany, Ranchi University, Ranchi, Jharkhand, India, ²Bioresources and Environmental Biotechnology Laboratory, Department of Environmental Studies, University of Delhi, Delhi, India, ³Department of Environmental Studies, Ram Lal Anand College, University of Delhi, Delhi, India, ⁴Department of Botany, J. N. College, Ranchi, Jharkhand, India, ⁵Department of Zoology, Rajiv Gandhi University, Doimukh, Arunachal Pradesh, India, ⁶Gut Biology Laboratory, Department of Zoology, University of Delhi, Delhi, India



Biomedical Signal Processing and Control



Volume 83, May 2023, 104633

HGSmark: An efficient ECG watermarking scheme using hunger games search and Bayesian regularization BPNN

Neeraj Kumar Sharma a, Subodh Kumar b 🙎 🖾 , Naveen Kumar b

- a Department of Computer Science, Ram Lal Anand College, University of
- b Department of Computer Science, University of Delhi, Delhi, India

Received 27 August 2022, Revised 21 December 2022, Accepted 25 January 2023, Available online 7 February 2023, Version of Record 7 February 2023.

Biomedical & Pharmacology Journal, December 2022.

Vol. 15(4), p. 1867-1872

Survival Rate Estimation of Cervix Cancer Patients Using K-M and W-K-M

Anurag Sharma1* and Komal2

¹Department of Statistics, Ram Lal Anand College, University of Delhi, Delhi, India. ²Department of Statistics, PGDAV College, University of Delhi, Delhi - 110007, India. *Corresponding Author E-mail: anuragsharma532@gmail.com

https://dx.doi.org/10.13005/bpj/2524

(Received: 08 January 2021; accepted: 27 September 2022)

In clinical practice, survival curves show the fraction of patients who experienced the outcome of interest. Survival rates are estimated using survival curves which are determined using Kaplan-Meier method. However, when in case of large number of censored observations, Kaplan-Meier method tends to provide biased estimates. This research article compares widely used Kaplan-Meier (K-M) method & Weighted Kaplan-Meier (WKM) method as a suitable substitute of KM while dealing with the issue of heavy-censoring by applying them on real life data of 900 Cervix Cancer patients diagnosed and treated during 2012-2018 at Rajiv Gandhi Cancer Institute and Research Center, Delhi are analyzed. Then, Five year survival rate of the patients is estimated by using K-M and WKM methods. It was observed that out of 900, 547 (60.78%) patients experienced the event till last follow up and rest of the patients (39.22%)

Surveillance of two Noida drains for assessing the presence of carbapenem-resistant ESKAPE

Akshay Kundu Department of Biotechnology, Jaypee Institute of Information Technology, Sector-62, Noida, U.P.- 201309, India.

Department of Biotechnology, Jaypee Institute of Information Technology, Sector-62, Noida, U.P.- 201309, India and Department of Microbiology, RLA College, University of Delhi, New Delhi - 110021, India

Shweta Rana Indian Council of Medical Research, New Delhi - 110029, India

Prerna Diwan
Department of Microbiology, RLA College, University of Delhi, New Delhi 110021, India

Rakesh K. Gupta
Department of Microbiology, RLA College, University of Delhi, New Delhi –
110021, India

Department of Biotechnology, Jaypee Institute of Information Technology, Sector-62, Noida, U.P.- 201309, India.

Corresponding author email: vibha.gupta@jiit.ac.in

Abstract---Antimicrobial resistance (AMR) is a major public health concern for clinicians all over the world. It occurs due to careless consumption of antibiotics and not completing the prescribed regimen. In India, environmental factors such as pollucleanliness and hygiene also exacerbate the problem. If efforts are not put into combating this threat it is predicted to have a devastating impact on the economy and will be a deterrent in achieving United Nation's sustainable development goals. Regional and periodical characterization of microbial resistome is essential for timely treatment decisions by doctors and prevention of the spread of drugresistant infections. However, obtaining AMR data from clinical

International Journal of Health Sciences ISBN 2550-6978 E-ISBN 2550-696X © 2022.
Manuscript submitted: 18 March 2022, Manuscript revised: 9 April 2022, Accepted for publication: 27 May 2022
14216

Journal of Positive Psychology & Wellbeing 2023, Vol. 7, No. 2, 1055 - 1066

http://journalppw.com

Prospecting Risk factors for Anxiety and Depression among University Students: A Delhi based Cross-Sectional Study

Dr. Rita Jain¹, Ms. Deboshree Das², Mr. Siddharth Sharma³, Ms. Swastika Mohapatra⁴, Ms. Raajvi Khurana5

Assistant Professor, Department of Statistics, Ram Lal Anand College, University of Delhi, Benito Juarez Marg, South Campus, Dhaula Kuan, Delhi-110021.

ritajain.stat@rla.du.ac.in, ritajain313@gmail.com ORCID ID: 0000-0002-9534-1873

¹Ph D Scholar, International Institute of Population Sciences, B. S. Devashi Marg, Deonar, Mumbai, India 400088 deboshree96@gmail.com

⁵Research Intern, Department of Statistics, Ram Lal Anand College, University of Delhi, Benito Juarez Marg, South Campus, Dhaula Kuan, Delht-110021.

siddharths854@gmail.com

AResearch Intern, Department of Statistics, Ram Lal Anand College, University of Delhi, Benito Juarez Marg, South Campus, Dhaula Kuan, Delhi-110021.

swastikamohapatra2@gmail.com

⁵Research Intern, Department of Microbiology, Ram Lal Anand College, University of Delhi, Benito Juarez Marg, South Campus, Dhaula Kuan, Delhi-110021.

raajvikhurana19058564017.mic@rla.du.ac.in

Corresponding Author: Dr Rita Jain

Recent studies on trends in depression and anxiety have led to raised concern regarding overall health status of college students during this crucial period of transition into adulthood which can potentially adversely affect their social and academic development. The present study aims to examine the association of various socio-demographic factors along with different forms of social and physical activities with prevalence of

Patent

College faculty, Prof. Vandana Gupta, Department of Microbiology has been granted an Indian Patent on "Method of screening inhibitors against Hepatitis C virus" Patent No. 418733.

The Indian Patent applied by Prof. Vandana Gupta from the Department of Microbiology is granted in Jan 2023 with the Patent no. 418733. Patent entitled "Method of screening inhibitors against Hepatitis C virus" was applied in Mar 2017 (application no. 201711011516) and the complete specification filed in March 2018 (no. R20181009113). HCV is a virus of global concern and infects millions of people annually. The virus can cause acute as well as chronic infections including hepato-cellular carcinoma and live cirrhosis. The patent reveals a method of screening the inhibitors against the helicase enzyme of Hepatitis C virus which is crucial for the replication of this deadly virus inside the host cell. The discovery might help in finding novel and effective therapeutic interventions for HCV.



1. Patent Granted: No. 418733 "Method of screening inhibitors against Hepatitis C virus" on March 30, 2017 (application no. 201711011516) and complete specification filed in March 2018 (reference no. R20181009113) Date of Grant Jan 2023 (validity 20 yrs from 30 March 2017)

Research Projects

Two new projects from ICMR of 28.3 and 19.5 lakhs have been granted to Ms Dikscha Sapra in collaboration with the Institute of Bioinformatics, Bangalore and Dr Neeraj Kumar of computer Science.

Research Projects

One project from National Mission on Himalayan studies (NMHS) by MOEF&CC, Government of India of 1.99 Crore granted to Prof. Seema Gupta, Prof. Rakesh Kumar Prof Mukta Mazumdar Dr Rajesh Sachdev Dr Prabhas Pandey (Statistics, History, Geology) of title 'Enhancement of Livelihood Opportunities through Sustainable Development using Multifaceted Support Plans for Village Cluster around Patiya in Takula Block, Almora District, Uttarakhand' in 2019 (ongoing in 2022-23) was completed.



Field Trip at the Project Site at Village Kotyura

4 New Ph.Ds registered during the year 2022-23

S.No	Name of Faculty Supervisor	Name of the scholar	Year of registration of the scholar	Title of the thesis for scholar
1	Dr. Deepti Bhardwaj	Aishwarya Singh	30.01.2023	Pioneer Girl: Colonial Girlhood in Bessie Marchant's Adventure Fiction
2	Dr Seema Gupta	Shreya Sharma	31.1.2023	Design of Experiment
3	Dr Shruti Anand	Shalini Sagar	17.2.23	samkaleen asmitamoolak hindi upanayaso mein hashiye ka vimarsh
4	Dr Pratik Kumar	Ashutosh Kumar Roy	17.3.2017	Debates on Nationalism: Hindi public sphere in the 19th and 20th C.A.D.

Best Practice: 2 2022-23

Towards a Sustainable Campus Community: Promoting environmental Awareness and Action.

Objectives of the Practice

Fostering Students' Social Responsibility towards sustainable Practices

Encouraging Energy Efficiency and Cultivating Social Responsibility Among Students and staff

The Context

- + The continual rise in population and evolving lifestyles are exacerbating environmental issues, rendering them increasingly critical.
- + With environmental sustainability gaining escalating global importance, the role of higher educational institutions in promoting environmental sustainability has become increasingly prominent.
- + It is becoming progressively crucial for educational institutions to embrace ecofriendly practices and implement effective measures for sustainable development.
- + Utilizing environmentally friendly alternatives aids educational institutions in lowering their energy consumption, generate awareness in community through students.

New Monitoring Committees

Swachhata Action Plan Committee (Implementation & Monitoring)

Dr. Parul Lau Gaur	Convenor
Dr. Ritambhara Misra	Co-Convenor
Prof. Sanjay Kumar	NCC Incharge
Dr. Rita Jain	NSS Incharge
Prof. Archana Gaur	
Dr. Neeraj Sharma	
Dr. Swagata Karmakar	
Dr. Virender Bahadur Singh	

Campus Cleanliness & Hygiene Committee

Dr. Ritambhara Misra	Convenor
Dr. Annie Ray	Co-Convenor
Dr. Srishti Pathak	
Ms. Manisha Wadhwa	

E-Waste Management

Dr. Neeraj Sharma	Convenor
Ms. Sakshi Taaresh Khanna	
Ms. Pooja Yadav	

Green Campus

Dr. Rita Jain	Convenor
Dr. Nidhi Yadav	
Dr. Nidhi S. Chandra	
Dr. Anurag Sharma	

Solid Waste Management Including Biowaste

Dr. Vijay K. Bhatia	Convenor
Dr. Virender Bahadur Singh	Co-convener
Prof. Vandana Gupta	

Water Management (Recycling, Safe Drinking Water, Conservation, STP)

Dr. Prabhas Pande	Convenor
Dr. Ravish Lal	Co-convener
Dr. Swagata Karmakar	







The college has become self-sufficient in energy generation through installation of 130 KV solar Panels.

Evidence of Success

- + The institution's commitment to sustainability has been recognized through "Cleanliness Champion," recognition presented by the Municipal Corporation of Delhi (MCD).
- + This accolade acknowledges the College's exemplary efforts in promoting sustainability across various domains, including sanitation, waste management, water conservation, energy management, and greenery.



Composting: Solid waste Management









Herbal Garden

Research and outreach Project related to environment

College organised 'Enhancement of Livelihood Opportunities through Sustainable Development using Multifaceted Support Plans for Village Cluster at Pattiya in Takula Block, Almora District, Uttarakhand'







Field Trip at the Project Site at Village Kotyura



Project highlights

- Augmentation in Agricultural productivity through mitigation of Human Wildlife Conflict (HWC)
- To create Geo-tourism model for conservation of geologically important sites to generate employment for the local population and improve tourism potential of this area.
- Increase Green Cover and water management
- To provide supplementary livelihood opportunities to rural people through cultivation and processing of indigenous cash crops.

College organized Geo-tourism Awareness Campaign at Village Dinapani





Evidence of Success

- + The College actively organised environmental awareness programs
- + Participated in national and international seminars and webinars on topics related to environmental science and policy, such as the 'Saga of Ozone Layer Science and Policy' and 'Climate of the Past from Ice Cores Lessons on Anthropogenic Carbon Emissions.' These events provide valuable opportunities for knowledge exchange and collaboration with experts in the field.