

Ram Lal Anand College University of Delhi

Best Practices
2021-22



Best Practice: 1

2021-22

**Creating an Environment for Research and
Innovation**

Objectives of the Practice



Enabling All Students and Staff to Access Research Opportunities.



Encouraging Students to Actively Engage in Research and Innovation

Context

- + Research and innovation play a significant role in the growth and advancement of countries by boosting the economic growth, strengthening technological progression, and enhancing job creation.
- + Research is important in higher education because it helps students to understand concepts and ideas that leads to improvement in overall quality of education.
- + Higher education institutions contribute to the personal development of individuals and help educate proactive citizens in society.
- + To achieve the best possible outcome, the institutions require modern and effective management of resources and people.
- + There is an urgent need for reassessment of our research policies and practices in the higher education in the light of changing world scenario. In this very context, there is a need to develop strategies and take necessary measures for enhancing research and promoting research quality at higher education institutions

The Practice

- + Following a goal-oriented and focused approach, members of the Research and IPR cell of Ram Lal Anand College are actively involved in the interactions with the faculty members and students of all the departments to motivate and guide them for research, project proposal writing to get extra-mural funding for research in the college.
- + In its efforts to further augment the research activities at undergraduate level and motivate the fellow colleagues and generate some preliminary data to apply for extramural grants, college introduced a new scheme “**College Research Grant**”. Under the scheme college provide a seed money of Rs. 30,000 to 50,000 to selected proposals.

The Practice

- + **Research and IPR cell successfully developed guidelines for inviting proposals.** The committee received 12 project proposals in the current session. Screening and evaluation of the proposals was done by the committee and after thorough discussion with the principal and co-investigators finally shortlisted and recommended 8 proposals for funding. These projects were sanctioned and are running in the college from 1st January 2020.
- + **A 4-6 weeks summer internship programme** was initiated by Research and IPR Cell for giving research exposure to 56 students.
- + We have upgraded our laboratories through purchase of equipment including 40 computers, smart boards, Fluorescence Microscope, BOD and Biosafety Level II cabinet. Two new research Labs have been added.
- +

The Practice

- + Initiatives such as graduate research conferences where graduate students can present their own research findings, research symposiums for both students and faculties, and research awards which reward excellence are also important for fostering a scientific research culture in a higher Education institution.
- + During the session 2021-2022, Rn IPR cell successfully conducted a webinar ‘Why, What and How of IPR and Patents’ on 3 Sep 2021, by Ms Latika Khanduja, registered patent Attorney, Founder of IPLOEA, expert IPR and Patent firm. The webinar saw a participation from more than 100 participants, with elaborate interactive session.
- + An offline seminar on “Intellectual Property rights in Biological Sciences: A Kaleidoscope of Opportunities” was organized on 7 Apr 2022. Renowned speaker Dr. Chitra Arvind (PhD. Pharma, MBA, PGDIPRL, LLB, registered patent attorney was invited for the talk.

Microbiologists Society, India

(Reg.No.MAH/4814/SAT)



Dr. A. M. Deshmukh
President

www.microbiosociety.org

Dr. S. D. Patil
Chairman (MSI Awards)

Ref. No.: MSI/ Awards/20-21/44

Date: 08.12.2021

MSI AWARDS-2020-21

With reference to announcement for awards by **Microbiologist's Society, India**, following departments selected for state level **Best Department Award** for the session 2020-21.

Sr. No.	State	Name of the Department
1	Maharashtra	Department of Microbiology, Smt CHM College, Ulhasnagar. Head - Dr Bela. M. Nabar
2	Goa	Department of Microbiology, Government College of Arts, Science and Commerce Khandola Marcela Goa. Head - Dr. Dilecta D'Costa
3	Tamil Nadu	Department of Microbiology, Muthayammal College of Arts & Science, Rasipuram, Namakkal, Tamil Nadu. Head -Dr. S. Shahitha
4	Odisha	Department of Biotechnology, GIET University, Gunupur-765002, Dist-Raygada, State- Odisha, INDIA Head -Dr. Manoj Das
5	Haryana	Department of Microbiology, Central University of Haryana, Mahendergarh, Haryana Head- Dr. Gunjan Goel
6	Karnataka	Department of Microbiology, M. S. Ramaiah College of Arts, Science and Commerce, Bengaluru. -Head --Dr. Pushpa. H
7	Delhi	Department of Microbiology, Ram Lal Anand College, University of Delhi, New Delhi -Head -Dr. Sudha Chaudhry

Evidence of Success

+ Best Department award to Microbiology by Microbiologists society India in 2021 for various parameters including research.

Research Publications

- + Our research activity exceeded pre-pandemic levels, faculty published 59 research publications, 2 books and 15 book chapters. The average impact factor of research publications and h index of journals of our science departments was 1.7 and 57, respectively.
- + Most interestingly, 15 research/review papers out of these have been authored by our undergraduate students.



Contents lists available at ScienceDirect

Physics and Chemistry of the Earth

journal homepage: www.elsevier.com/locate/pce

In-silico screening to delineate novel antagonists to SARS-CoV-2 nucleocapsid protein

Mohd Fardeen Husain Shahanshah^{a,b}, D. Anvitha^a, Vandana Gupta^{a,*}^a Ram Lal Anand College, University of Delhi, New Delhi, India^b Delhi Technological University, New Delhi, India

ARTICLE INFO

Keywords:
SARS-CoV-2
Nucleocapsid
FDA
Docking
COVID-19

ABSTRACT

Since its inception, SARS-CoV-2 has crossed all borders and continues rampaging around the globe, causing profound economic damage and heavy burden on the scientific community and the healthcare fraternity and facilities. With the emergence of new variants, the global pandemic has prolonged and raised concerns regarding the existing therapies. Most of the identified mutants have the potential to exacerbate the already existing crisis. In line with the urgent need for promising antivirals against the novel coronavirus, we conducted an in-silico drug docking study using SeeSAR and other bioinformatics tools and identified prospective molecules that target the nucleocapsid protein of SARS-CoV-2. The highly conserved N protein plays a crucial role in viral assembly and pathogenicity by interacting with the host ribosomal subunits and suppressing nonsense mediated decay (NMD) of viral mRNA by the host cell. In the current study, FDA approved drugs were docked into pockets created within the N protein including the crucial conserved residues and analyzed for their affinity. The docked compounds give us novel plausible models that can be inspected further and paves way for the development of potent therapeutics against SARS-CoV-2.

JMID/
Journal of Microbiology and Infectious Diseases

2022; 12 (1):38-51
doi: 10.5799/jmid.1086226

REVIEW ARTICLE

Comparative Analysis of B.1.617.2 (Delta) Variant of SARS-CoV-2

Mohd Fardeen Husain Shahanshah, Saloni Jain, Bhawna Sharma, Ananya Grewall, Shalini Swami

Ram Lal Anand College, University of Delhi, New Delhi, India



Bioremediation Journal

ISSN: (Print) (Online) Journal homepage: <https://www.tandfonline.com/loi/bbrm20>*In silico* approach for identification of polyethylene terephthalate hydrolase (PETase)-like enzymes

Poorvi Saini, Ananya Grewall & Sunila Hooda

To cite this article: Poorvi Saini, Ananya Grewall & Sunila Hooda (2022): *In silico* approach for identification of polyethylene terephthalate hydrolase (PETase)-like enzymes, Bioremediation Journal, DOI: 10.1080/10889868.2022.2054931

To link to this article: <https://doi.org/10.1080/10889868.2022.2054931>

ORIGINAL ARTICLE

e-ISSN: 2349-0659 p-ISSN: 2350-0964

Cross-sectional Study on Prevalence of Betel Nut Chewing among the Youth of Meghalaya, North East Region of India: Development of Multifaceted Prevention Strategy

Shrabani Snigdha¹, Tavleen Bajwa¹, Shaubhik Anand¹, Lalit Mohan¹, Keshav Goyal¹, Muskan Mittal¹, Kusum Rani Gupta¹, James Wahlang², Rakesh Kumar Gupta¹, Prerna Diwan^{1*}

ABSTRACT

Introduction: Betel (Areca) nut intake, one of the most common oral chewing habits in the world, has been linked to the development of oral cancer, with India having an alarming situation with the highest number of registered oral cancer cases in the world. **Method:** A cross-sectional analysis was done among the young population of Meghalaya in the North Eastern Region of India, where this habit is prevalent. A questionnaire for on-ground data collection was administered to a total of n = 315 participants of both sexes from institutions in and near Shillong, Meghalaya. The relationship of this habit with social structure, knowledge, attitude, and risk perception was done. **Result:** A high prevalence rate of 78.09% was found among the school and undergraduate students from Shillong urban and adjoining rural areas for betel nut (BN) chewing with a higher female to male BN chewing ratio. This habit usually starts at the school level and persists for life. Peer pressure, lack of awareness, habituated families, and strong cultural linkage encourage children and adolescents to start chewing BN at an age as early as of 10 years. Lack of adequate awareness programs highlighting the ill-effects of BN and associated masticatory substances adds to the problem. **Conclusion:** Strategic, structured region-specific multifaceted awareness programs highlighting the potential health risks from uncontrolled, habitual usage of Areca nut has been proposed to prevent initiation of this habit.

Keywords: Areca nut, Betel nut, Betel quid, North-East India, Oral cancer
Asian Pac. J. Health Sci., (2021); DOI: 10.21276/apjhs.2021.8.3.32



DEPARTMENT OF MICROBIOLOGY
Ram Lal Anand College
 University of Delhi
 IS ORGANISING
A TALK
 on
"Intellectual Property Rights in Biological Sciences: A Kaleidoscope of Opportunities"
 by
DR. CHITRA ARVIND
 Partner, LEX IP CARE LLP
 (Ph.D. (Pharm), M.B.A., PGDIPRL, LL.B., Advocate, Regd. Pat. Agent)

Under the DBT Star College Scheme
 In Collaboration with
RESEARCH AND IPR CELL



ABOUT THE SPEAKER:
 Dr. Chitra holds M.S. degree in Pharmacy, with specialization in Natural Products from National Institute of Pharmaceutical Education and Research (NIPER, Chandigarh), and her Doctorate in the field of natural products from the same Institute in 2005. She is a registered patent agent and an advocate having a wide experience in techno-commercial and techno-legal background. She has hands on experience on isolation, characterization and biological testing of natural products with respect to both small molecules and macromolecules; synthesis of chemical compounds and biological assays including screening of compounds in-vitro and in-vivo.

Date: 07th April 2022 **Venue:** Seminar Room **Time:** 11:00 AM



Prof. Rakesh Kumar Gupta Prof. Prerna Diwan Prof. Vandana Gupta

Research and IPR Cell, Ram Lal Anand College
 Department of Microbiology, Ram Lal Anand College



In collaboration with



Present Webinar at 4 PM on Friday, September 3rd

WEBINAR ON INTELLECTUAL PROPERTY RIGHTS (IPR) FOR STUDENTS AND FACULTY

WHY, WHAT, and HOW of IPR and Patents

- Why you need to register a Patent?
- What can be Patented?
- How to get a Patent in India?
- Overview of patent commercialization
- What are the other forms of IPR?
- How are patents different from other IPR forms?



Speaker

Latika Khanduja
 Founder of IPL OEA, Expert IPR & Patent firm
 Registered Indian Patent Agent
 Lawyer
 Engineering in Electronics & Instrumentation
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Webinar Link: <https://us06web.zoom.us/j/81466491183?pwd=aE55MDhYUUJibCtWZmZFM0VG5kUzUzOj09>
 Meeting ID: 814 6649 1185
 Passcode: 662981

To join by phone, find your local number here - <https://us06web.zoom.us/j/kdYgDUALD1>

Under patronage of
Prof. Rakesh Kumar Gupta

Organizer
Prof. Vandana Gupta
Dr. Nidhi S Chandra

The talk was attended by over 100 students and faculty members and culminated into an interactive and enlightening session about the prospects of creating IPR in life sciences.

New Research Grants funded by ICMR: 84 lakhs.

- + Resistome Metagenomic profiling of bioaerosols in metro network in Delhi
- + Development of computational framework for COVID- 19 multi-omics data analysis in collaboration with the Institute for Bioinformatics and Biotechnology, Bengaluru.
- + At present the faculty has 3.85 Crore extramural funding for research.

Patent

One of our faculty, Dr. Arun Kumar Gautam, Department of Computer Science has been granted an Australian Innovation Patent on “INTERNET OF THINGS SENSOR NETWORK BASED INTELLIGENT SYSTEM FOR MONITORING & SECURING SMART ENVIRONMENT FROM UNAUTHORISED OBJECTS”.

CERTIFICATE OF GRANT INNOVATION PATENT

Patent number: 2021105696

The Commissioner of Patents has granted the above patent on 3 November 2021, and certifies that the below particulars have been registered in the Register of Patents.

Name and address of patentee(s):

Mohit Kumar of Assistant Professor, Dept. of Computer Science & Engineering, University Institute of Engineering Chandigarh University, Mohali Punjab 140413 India

Ajay Kumar Shukla of Professor (Mathematics), Applied Sciences and humanities Department, SRIMT Lucknow 226201 India

Vinay Kumar of Assistant, Professor, Department of Computer Science, Dyal Singh Evening College (University of Delhi) Delhi 110003 India

Arun Kumar Gautam of Assistant professor, Department of computer science, Ram Lal Anand college, University of Delhi South Campus Delhi 110021 India

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Title of invention:

INTERNET OF THINGS SENSOR NETWORK BASED INTELLIGENT SYSTEM FOR MONITORING & SECURING SMART ENVIRONMENT FROM UNAUTHORISED OBJECTS

Name of inventor(s):

Kumar, Mohit; Shukla, Ajay Kumar; Kumar, Vinay; Gautam, Arun Kumar; Patil, Pratap Paraji; NA, Chandni; Pradhan, Anup; Sharma, Viresh; Srivastava, Saloni; Singh, Digvijay and Yadav, Ajay Singh

Term of Patent:

Eight years from 17 August 2021

NOTE: This Innovation Patent cannot be enforced unless and until it has been examined by the Commissioner of Patents and a Certificate of Examination has been issued. See sections 120(1A) and 129A of the Patents Act 1990, set out on the reverse of this document.



Dated this 3rd day of November 2021

Commissioner of Patents

PATENTS ACT 1990

The Australian Patents Register is the official record and should be referred to for the full details pertaining to this IP Right.

This data, for application number 2021105696, is current as of 2021-12-17 21:00 AEST

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Problems Encountered and Resources Required

- + Due to COVID pandemic situation, the work of sanctioned College Research Grants could not be carried out.
- + The investigators were provided an extension till 31-12-2021, but due to non-opening of the college a further extension till 31-12-2022.
- + High End Computers for metagenomic Data Analysis
- + Manpower for Labs (Selection in progress)

Best Practice: 2

2021-22

Promoting Environmental Awareness among Students and Staff while Advancing Sustainable Development.

Objectives of the Practice

Instilling Social Responsibility in Students towards Environmental Issues and Best Practices.

Promoting Energy Efficiency and Fostering Social Responsibility Among Students in the Institution.

The Context

- + The ever-increasing population and changing lifestyles are making the environmental problems more critical.
- + Higher education can play a crucial role in sustainable development of any nation. As environmental sustainability is becoming an increasingly important issue for the world, the role of higher educational institutions in relation to environmental sustainability has become more prominent.
- + The Higher Education Institutions in India are highly motivated towards environmental issues thereby making youth assume responsibility to create environmental awareness to safeguard environment. It is becoming increasingly important for educational institutions to become eco-friendly and take effective measures towards sustainable development.
- + Environmentally friendly alternatives help educational institutions reduce their energy use, as well as inculcate social consciousness among students.



The Practice

- + Following United Nations' goals for sustainable development, Ram Lal Anand College has undertaken various effective measures towards solid, liquid and e-waste management.
- + The college also makes conscious efforts towards water conservation through rainwater harvesting
- + The college has been taking regular initiatives since many years to develop and maintain Green and clean Campus.
- + Every year, the volunteers of NSS, NCC and several departments and societies under the guidance of staff members conduct tree-plantation drives.



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

Evidence of Success

- + The college has been recognised for best work in making the campus sustainable in the areas of sanitation, hygiene, waste management, water management, energy management and greenery by Mahatma Gandhi National council of Rural education, Department of Higher Education, Ministry of Education.



Evidence of Success

- + Continuing with its tradition of preserving Environment and having eco-friendly activities, Vasudha Eco Club of Ram Lal Anand College, University of Delhi organized a *Pan India Plantation drive 2021-22* to sensitize community about environment consciousness.



BIHAR

Sipaul, Bihar

Trisha Gupta, student of history hons took part in this initiative and organised the plantation drive at Pipra Bazaar, Sipaul, Bihar. It was a community outreach where she gathered around 25 school students and they planted peepal, Rose, money plant and Neem saplings.



Dhumka, Jharkhand

Sharmishta Das, 1st year history student motivated her friends for this plantation project and planted saplings of Mahogany tree in Western English School ground, Dumka, Jharkhand.

No. Of participants: 7

- 1. Sharmishta 2. Rohit 3. Rimil 4. Priyanshu Raj 5. Tushar Singh 6. Yash Dubey 7. Chandan Kumar



Evidence of Success

- + Continuing with its tradition of preserving Environment and having eco-friendly activities, Vasudha Eco Club of Ram Lal Anand College, University of Delhi organized a *Pan India Plantation drive 2021-22* to sensitize community about environment consciousness.
- + Various national and international seminars and webinars were organised by various department and societies all through the year to help students increase their awareness and enable them to take concrete steps in this direction. Some of the seminars organised were: '*Gandhi and Environment*' to understand Gandhi's views on the environment in a holistic manner and realize how Gandhi is still an inspiration to modern day environmentalists.
- + The webinars and events encouraged students to gain a changed perspective and fruitful insight on how human practices can affect the ecology and helped enlighten the students for their responsibility towards saving and taking care of nature.
- + The college is planning to constitute committees specifically aiming at covering and catering to all areas and aspects related to maintaining cleanliness, hygiene and ecological equilibrium on campus

Problems Encountered and Resources Required

- + Manpower to manage green and clean campus (process underway) and new committees of teachers to be constituted to guide the students and staff.