

The Facilities/Special Status at King George's Medical University, Lucknow

1. Cochrane India Network (CIN)

King George's Medical University, Lucknow, is an official affiliate center of Cochrane, United Kingdom. The primary mandate of Cochrane is to generate evidence and train different stakeholders about systematic reviews and meta-analyses.

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King George's Medical University

- All India Institute of Medical Sciences, New Delhi
- Christian Medical College Vellore
- India Council of Medical Research, New Delhi
- Indian Institute of Public Health, Hyderabad
- Institute of Dental Sciences, Bhubaneswar
- King George's Medical University, Lucknow
- Manipal Academy of Higher Education, Manipal
- Postgraduate Institute of Medical Education and Research, Chandigarh
- Tata Memorial Centre, Mumbai



The foundation stone of King George's Medical College was laid by the Royal Highness, Prince of Wales, in 1906, during his second visit to India for his Coronation Durbar as King Emperor. His Majesty gave his consent to establish the institution and to designate it by his name. Since then, this institution has been a pariah for excellence in medical education, unparalleled medical ethics, groundbreaking research, and exceptional patient care.

KG MU (King George's Medical University) located in Northern India, is amongst the premier medical and research institutes of the country. Alumni of this University are working at many key positions as policy makers in many eminent Institutions in India. KG MU will share evidence from Cochrane results with various stakeholders and policy makers of India to imbibe advantage of translational research.

Cochrane affiliate centre at KGMU have organized “Refresher workshop on Cochrane Protocol Development” on April 11-12, 2022 at Kalam centre. It was organized as training of trainers mode to prepare pool of speakers from King George's Medical University, Lucknow affiliate center who had already some experience or attended Cochrane Protocol Development workshop.

Twenty-five faculty members were trained in this workshop and speakers were Prof. Prathap Tharyan and Mr. Richard Kirubakaran from CMC, Vellore.



Link of Cochrane India Network – KGMU Affiliate can be found at <https://india.cochrane.org/cochrane-india-network/king-georges-medical-university>
Link of this report can be found at <https://community.cochrane.org/organizational-info/resources/resources-groups/geographic-groups-portal/reporting/115361>

Bal

Prof. Balendra Pratap Singh
Director, Cochrane India: KGMU Affiliate
Department of Prosthodontics
King George's Medical University, Lucknow

2. SARANSH (Systematic Reviews and Networking Support in Health) **Department of Health Research, New Delhi**

A four-day Systematic Review & Meta-analysis workshop under SARANSH was organized jointly by King George's Medical University and its Research Cell at the Kalam Centre, Lucknow, from 4–7 December 2024. Funded by the Department of Health Research, MoHFW, Government of India, it hosted 60 participants from 15 medical institutions across Uttar Pradesh and Uttarakhand. Renowned experts **Dr. Siddharth Kapahtia**, **Mrs. Pranita Pradhan**, and **Mr. Richard Kirubakaran** served as external speakers. The workshop covered all aspects of systematic reviews and meta-analyses, including hands-on training in literature search, data extraction, risk of bias assessment, and statistical analysis.



Bal

Prof. Balendra Pratap Singh
PI
SARASH Grant
Department of Prosthodontics
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3. Technical Resource Centre (TRC) funded by DHR, New Delhi

The Technical Resource Centre (TRC) under the Centre for Evidence for Guidelines, Department of Health Research, MoHFW, was sanctioned on 8th October 2024, with **Prof. Balendra Pratap Singh as Principal Investigator**. The centre focuses on evidence synthesis and conducting systematic reviews. It was assigned three systematic reviews and organized a GRADE workshop on 15–16 February 2025 at KGMU, Lucknow. Prof. Singh also participated in a strategic conclave at Mahabalipuram in January 2025. **Four faculty members from KGMU conducted workshops at AIIMS Bhopal, Deoghar, and New Delhi, promoting evidence-based practices and training in the GRADE framework.**



Balendra

Prof. Balendra Pratap Singh
Principal Investigator
Technical Resource Centre, KGMU
Department of Prosthodontics
King George's Medical University, Lucknow

4. Institutional Animal House (IAH)

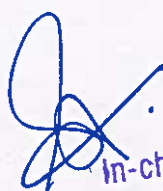
Institutional Animal House (IAH), Department of Pharmacology, registered in 2002 by the Committee for Control and Supervision of Experiments on Animals (CCSEA), New Delhi, to keep small animals for research, **where MD/MDS/MCh/PhD students carry out their thesis work along with extramural projects by the faculties of various departments of KGMU.**

The Institutional Animal Ethics Committee (IAEC) **meets quarterly and approves around 40 basic science and clinical proposals annually.** We house ~600 - 800 small animals, such as mice, rats, guinea pigs, and rabbits, annually. The university has upgraded the facilities and area of the IAH to obtain permission from CCSEA to breed small animals. Now, we are in the process of breeding transgenic mice for biomedical research.

The IAEC includes experts from diverse biological disciplines, veterinarians, socially aware nominees, and scientists outside the institution. It ensures ethical compliance and scientific rigour in **Animal-based research.** **Prof. Amod Kumar Sachan** chairs the committee, which is coordinated by **Dr. Satyendra Kumar Singh**, who serves as Member Secretary.

IAH is an isolated germ-free facility with an air shower at the entrance, air curtains, and a heating, ventilation, and air conditioning (HVAC) system in the facility. CCTV nicely covers this area for monitoring and supervising activities 24/7. We have a veterinary officer supervising animal health and supporting students with their research work. IAH has the facility to maintain immunocompromised mice in an Individually Ventilated Cages (IVC) system, a Stereotaxis system with drill and injector to study brain disorders, a μ CT machine to study bone-related disorders, a well-equipped animal handling and OT room, etc.

The facility ensures that CPCSEA approval is sought for research involving animals. The IAEC ensures that research protocols comply with national guidelines and are reviewed and monitored regularly. The committee is responsible for maintaining annual inspection reports and adhering to CPCSEA's Standard Operating Procedures (SOPs).


In-charge
Institutional Animal House
King George's Medical University U.P.
Lucknow-226003

Institutional Animal House

IAH registration letter (2002)

No. 251/08 - AHD (PL)
Government of India
Ministry of Environment & Forests
(Committee for the Purpose of Control and Supervision of Experiments on Animals)
Bhawan Bhawan, New Delhi-110001
Dated 15th July 2002

To
The Principal/Director/Dean
King George's Medical College
Lucknow University
Lucknow - 226 003
Uttar Pradesh

Subject: Registration of Establishment/Institution under Rule 15 of the "Breeding of and Experiments on Animals (Control and Supervision) Rules 1986"

Sir/Madam,
With reference to your application on the above-mentioned subject, we are to inform that your Establishment is hereby registered for "Pharmacy". Your Registration Number is 646020/CPCSEA. The name of CPCSEA or the Institutional Animal Ethics Committee (IAEC) of your Establishment will be intimated in due course.

- You are requested to quote the above Registration Number in all your future correspondence with the Committee.
- You are also requested to ensure IAEC meeting at the earliest.
- For further correspondence you are requested to contact CPCSEA at Chennai at the address given below.

Office of the CPCSEA
Ministry of Environment & Forests
27, Second Floor, Vignesh Nagar
Thiruvananthapuram, Chennai-600 041 (Tamil Nadu)

Yours faithfully,
M. J. Jaisankar
(M. J. Jaisankar)
MEMBER SECRETARY (CPCSEA) DIRECTOR (IAEC)
Tel. No. 23311000

IAH registration and IAEC renewal letter (2022)

No. 25114/2012-ABD
Ministry of Education, Government of India
Department of Animal Husbandry and Dairying
One Committee for the purpose of Control and Supervision of Experiments on Animals (CPCSEA)
Dr. P. M. S. Choudhary, Secretary
Ministry of Education, Government of India
New Delhi - 110002
Date: 11/06/2022

To
Prof. Anand Kumar Sharma, Chairman, IAEC,
King George's Medical College,
Lucknow University,
Lucknow - 226 003, Uttar Pradesh.
Email: dr.anandkumarsharma@gmail.com
Mobile: 9958514999

Subject: Renewal of Registration and Reconstitution of Institutional Animal Ethics Committee (IAEC) regarding

Sir,
The registration of Animal House Facility of your establishment with CPCSEA has been renewed for a period of five years from the date of issue of this letter.

- The new registration number of Animal House Facility of your establishment is 646020/CPCSEA. In the event of any change in the name of the establishment, the new registration number may kindly be quoted in all your future correspondence with this office.

- The CPCSEA has accepted the following members recommended by the establishment:

Name of the Member	Designation in IAH
1) Prof. Anand Kumar Sharma	President / Secretary, Chairperson
2) Dr. Nandini Kumar Singh	Member in charge of Animal Welfare & Ethics, Member Secretary
3) Dr. Anil Kumar	Member from a foreign biological discipline
4) Dr. P. M. S. Choudhary	Member from a foreign biological discipline
5) Dr. P. M. S. Choudhary	Member from a foreign biological discipline

IAH Annual Inspection



Veterinarian



[Signature]
In-charge
Institutional Animal House
King George's Medical University U.P.
Lucknow-226003

Central Facility usage by other institutes and universities

Centre for Advance Research

Center for Advance Research (CFAR) has state-of-the-art facilities in Molecular biology lab, Stem cell/ Cell culture lab and Cytogenetics lab. These laboratories are equipped with facilities like microCT, Drug screening on *ex vivo* patient samples, Gene expression analysis lab, Metabolomics, Pesticide estimation, flow cytometry, Stem cell isolation and characterisation, etc.

Several investigators from different universities and Institutes have been used/ using these facilities on a collaborative and reagent-sharing basis. These collaborations have culminated into several good publications as well as trained several manpower.

Infrastructure Development and Upgradation at Center for Advance Research

S.No.	Facility Developed	Year
1	Molecular and Genomics facility established	2016
2	Stem Cell/ Cell Culture facility established	2016
3	Cytogenetics facility established	2017
4	Agena and Nanostring with HPC installed for high throughput expression analysis	2017
5	An ultracentrifuge was installed for several biological applications in cell and molecular biology	2017
6	MicroCT facility was started for small animals and other extracted bones like human teeth, mice and rat femur etc.	2018
7	The cytogenetics facility has been upgraded.	2020
8	The stem cell research facility procured 12 parameter 3 laser flow cytometer for adult stem cell as cancer research.	2025

MicroCT-based Imaging of animals as well as teeth:

μ CT is a very powerful equipment to study the bone architecture in small animals and human teeth at 10 μ m resolution.

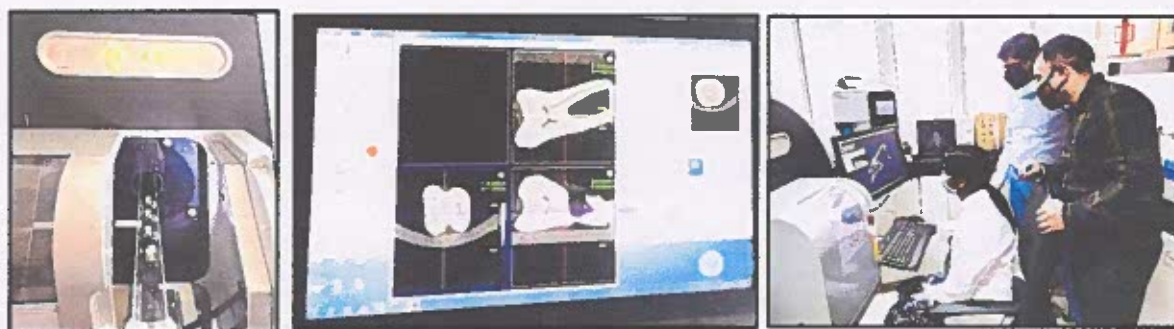


Figure 1: Scanning of teeth, canal centering and animal scanning procedure.

S. No.	Name of Investigator	University participated	Duration of work	Experiment performed
1	Prof. Sanjeev Srivastava	SPPGIDMS, Lucknow	2018-2021	Dental microcracks estimation in RCT procedure
2	Dr. Rohit Grover	SPPGIDMS, Lucknow	2018-2021	Canal centering ability of RCT procedure

Drug Screening in *ex vivo* cultured patient samples

Stem Cell/ Cell Culture facility can generate primary cells from different cancers and normal tissues. Various investigators from several universities have used this facility to test their drugs and crude molecules to evaluate the effect on *ex vivo* patient samples after getting ethical approvals.



Figure 2: BD FACS AriaIII and AccuriC6 for drug screening assay in cancer stem cells

S. No.	Name of Investigator	University participated	Duration of work	Experiment performed
1	Dr. Negi and Dr. Lukman	As KGMU - CIMAP-CSIR, Lucknow institutional collaboration	2018-2020	Screening of drug for preclinical study on TNBC and hormone-positive breast cancer <i>ex vivo</i> culture.
2	Dr. Pradeep Naik	University of Sambhalpur, Odissa	2018-2020	Screening of 50 noscapine derivatives in breast cancer patients for preclinical testing.
3	Prof. Gajanan Panday	Department of Chemistry, Babasaheb Bhimrao Ambedkar University, Lucknow, Uttar Pradesh, India	2020- 2023	Antitumor efficacy of synthesized Ag–Au nanocomposite loaded with PEG and ascorbic acid in human lung cancer stem cells

Metabolomics and Pesticide Estimation Facility:

GC/MS/MS is a very sensitive equipment that can be used to estimate metabolites as well as pesticides in any biological sample. Several labs have used this facility for their biological samples analysis.



Figure 3: GC-MS/MS equipment analysing metabolites and pesticides in various biological samples.

S. No.	Name of Investigator	University participated	Duration of work	Experiment performed
1	Dr. A.K. Tamrakar	Central Drug Research Institute-CSIR, Lucknow	2021-2022	Distinct Metabolomic Profiling of Serum Samples from High-Fat-Diet-Induced Insulin-Resistant Mice
2	Dr. Baisakhi Moharana	Central Drug Research Institute-CSIR, Lucknow	2022-2024	Regeneration capability of neonatal lung-derived decellularized extracellular matrix in an emphysema model
3	Dr. Ashok Kumar	AIIMS Bhopal	2022-2024	Estimation of pesticide levels in chronic kidney disease patients
4	Dr. Pankaj Kumar Srivastava	National Botanical Research Institute-CSIR, Lucknow	2022-2024	Focused on highlighting the potential of novel microbial strains and their mixed cultures for the effective bioremediation of lindane contamination.
5	Dr. N. Chattopadhyay	Central Drug Research Institute-CSIR, Lucknow	2022-2024	Osteogenic effect of an adiponectin-derived short peptide that rebalances bone remodeling: a potential disease-modifying approach for postmenopausal osteoporosis therapy
6	Dr. Madhav Nilakanth Mugale	Central Drug Research Institute-CSIR, Lucknow	2022-2023	Benzo[a]pyrene treatment modulates Nrf2/Keap1 axis and changes the metabolic profile in rat lung cancer


Faculty Incharge
Centre for Advance Research
King George's Medical University
Lucknow

Gene Expression Analysis Facility:

The gene expression analysis facility is equipped with Nonosting, Affimatrix, Gene Titan and RT-PCR (2 and 5 plex). High throughput bioanalyzer is used for Quality Check of library DNA & RNA.

S. No.	Name of Investigator	University participated	Duration of work	Experiment performed
1	Prof. Ravi Kant	AIIMS, Rishikesh	2016-2019	Molecular Mechanisms of Novel microRNAs in Cellular Processes of Non-Small Cell Lung Carcinoma



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Department of Pharmacology, KGMU



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IAH is an isolated germ-free facility with an air shower at the entrance, air curtains, CCTV and heating, cooling and ventilation (HVAC) system in the facility. IAH has the facility to maintain immunocompromised mice in an Individually Ventilated Cages (IVC) system, a Stereotaxis system with drill and injector to study brain disorders, a μ CT machine to study bone-related disorders, a well-equipped animal handling and OT room, quarantine room, washing and autoclave room etc.

Infrastructure Development and Upgradation of Institutional Animal House

S.No.	Facility Developed	Year
1	Infrastructure developed as per CCSEA guideline, which include making facility sound proof, 12 hr day/night light cycle regulator, HVAC system, air shower and curtain installation, and a closed facility with authorised entry etc.	2016
2	Installation of Individually ventilated Cages (IVC) and cage changing station for immunocompromised mice housing and research.	2016
3	Stereotaxis system Installation for brain research.	2017
4	Big autoclave for animal cage, bedding, water and other required items.	2017
5	A separate facility to keep rabbits.	2020
6	Expansion of IAH as per IAEC recommendations to get breeding permission for small animals from CCSEA.	2023
7	IAH facility got approval for in-house breeding of small animals.	2024


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Immunocompromised mice housing and experimentation facility:

This facility has a separate area with IVC cages and a cage-changing station. The facility also has a class A2 biosafety cabinet for animal handling during experiments.



Figure 1: Individually Ventilated Cages (IVC) with cage changing station.



Figure 2: Stereotaxis system with drill and injector for brain research.

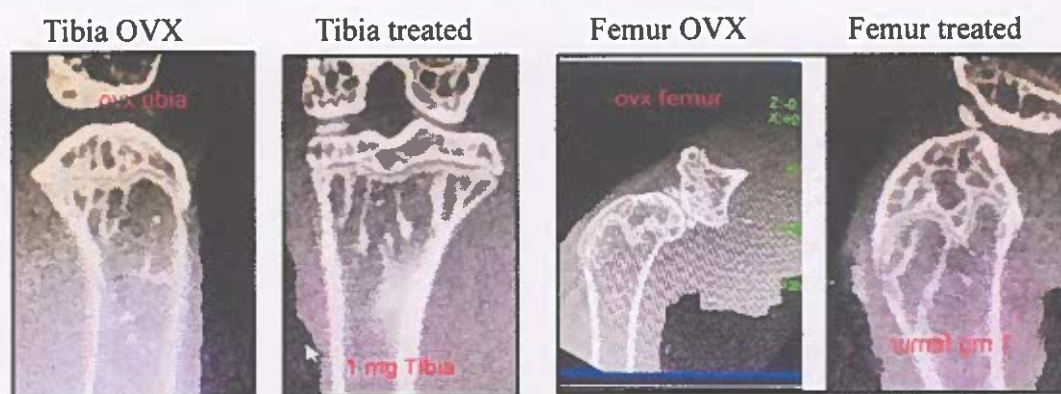


Figure 2: MicroCT scan of femur and tibia of osteoporotic mice before and after the treatment


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S. No.	Name of Investigator	University participated	Duration of work	Experiment performed
1	Dr. Vinod Verma Co-PI Dr. Satyendra Singh	SGPGIMS, Lucknow	2019 - 2022	Generation and differentiation of footprint free human induced pluripotent stem cell into pancreatic beta cells; a giant leap toward a clinical grade cell source for diabetes treatment in immunocompromised mice.
2	Prof. Vishal Rai Co-PI Dr. Satyendra Singh	IISER Bhopal	2022 - 2027	Immunocompromised mice facility for Antibody Drug Conjugates (ADC) against Her2+ breast cancer cells <i>in vivo</i> .

There are other users from Era University, Integral University, and Lucknow University. They use this facility by taking one Co-PI from KGMU.


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