

RESEARCH CELL

The College has established Research Cell to promote research activities among the students and faculties of the college. Heads of all the departments act as members of the cell which provides valuable suggestions and inputs to carry out the research activities work in the institution.

Research policy

The rapid changes in the areas of science, technology and innovation is always initiated with a solid background in research environment and it is always needed for the economic and societal development accordingly the management of the college has taken strong footing to develop a research atmosphere in the campus that will also builds to knowledge state of the hard facility ,research publications and collaboration with other R&D institutions and that is the main objective of the research policy.

Purpose

The main purpose of the research policy is to develop a very valuable and suitable environment to undertake research activities among the faculties and students of the college.

Scope

The research policy and its applications will have a direct or indirect impact on overall status of the college in both academic and research fronts.

Objectives

- a) To create a valuable environment within the college campus to initiate research culture as well as to provide infrastructural facilities to encourage the research activities.
- b) To strengthen the existing infrastructure facilities to modern research facilities to support the faculties along with the undergraduate and postgraduate students in their research activities .
- c) To encourage publications in high quality journals of impact factor.
- d) To provide the most suitable environment of undertaking regionally / socially important project proposals for societal benefit.
- e) To establish a good research Center of excellence within the college campus.
- f) To encourage the faculties to undertake multi disciplinary collaborations with public / private partnership.

Implementation of authority

The research policy and the guidelines will be strictly followed by the research cell of the college .The progress of the research activities will be reviewed and assessed by an academic and research review committee, a high power body having external experts appointed by management of the college.

Guidelines

- a) The faculties of the college of the respective department are encouraged to undertake research projects of regional / national importance utilizing the regional resources leading to good publications presentation in conferences at nationally or internationally organizations, patent publications with probability for the production of useful products useful to the society.

b) The role of faculty and the students of both graduate and post graduate level will be encouraged to undertake mini projects for a short duration as a part of their academic activities ,and the faculties are encouraged to provide appropriate guidance to them

c) The project proposals and research papers or any form of publication must be submitted to a project and publication committee to review the proposals and research publications to check the plagiarism etc before getting it sent for funding bodies or publication to respective journals respectively.

d) The externally funded projects will be evaluated by a committee at 3 months intervals to assess the progress of the projects, and the same will be assessed by the external experts at the academic and research review committee meetings .

Promotion policies of the faculties

The academic and research performance will be the main criteria for the fresh recruitments, and promotion for a higher grade for the existing faculties. The faculties will always be encouraged for research paper publications, participations at the national / international conference organized by the reputed institution / Universities /Government agencies within and outside India. Faculties may also be encouraged to have patent /chapters for the books / publications of the books by the renowned/well established publishers.

Functions of the Research cell

Entire research activities will be directly coordinated and monitored by the research cell of the college under the direct supervision of Director academic and research .The academic and research review committee constituted by the management with external experts along with head of the department of all the disciplines of the college will review and assess the progress of the research and academic activities and advise for the future course of action in the area of both academic and research related activities.

FUNCTIONALITIES OF RESEARCH CELL

1. To provide excellent facilities for undertaking smooth research in the institution and to develop scientific temper among faculties and students.
2. To encourage faculties for writing books/ chapters and publish at national/ international level.
3. To encourage faculties and students for effective integration of mini projects as a part of curriculum in the academics.
4. To take initiatives for external funding/ grants for supporting the research and related activities.
5. To provide technical assistance for publication.
6. To establish collaboration and linkages including MoU's between various research organizations, R&D institutions, and local agencies to promote the research opportunities and funding possibilities.
7. To encourage innovative/ novel ideas of faculties/ students by providing and recommending financial assistance for proper implementation of the research.
8. To facilitate interdisciplinary research at intra-college and inter-college level.
9. To organize Faculty Development Programs such as Friday Seminar Series and Chairman Lecture Series to be conducted twice in a month and once in two months respectively.
10. To organize Student Seminar Series to encourage students to develop effective communication skill as well as to promote scientific knowledge among them.
11. To ensure the quality of research by assessing the research activities and validating the standard quality specifications.

12. To promote Intellectual Property protection for innovative/ novel research and provide motivation to them.

CONDUCT OF RESEARCH

- All the faculties and students are expected to maintain high standards of honesty, transparency, research ethics and professionalism in all the research works.
- The college ensures the research activities in the institution confirms all the rules and regulations of the affiliating University and U.G.C norms.

The college strictly follows the regulations put forward by U.G.C regarding plagiarism, malpractices, and ethics in research

RESEARCH TEAM



Dr. BALAGOPALAN UNNI

FRES (London), FIANS_c, FISAgB_c, FICCE

Academic & Research Director

Former Chief Scientist and Area Coordinator (Biotechnology & Biological Sciences) and DADD-Fellow (Germany) and Fulbright Fellow (USA) retired from CSIR service on 31st Jan 2015 after 38 years of research career at CSIR North East Institute of Science & Technology Jorhat Assam. Appointed at **Assam down town University** as Director-Research in March 2015 and continued up to June 2019 and then re-designated as **Adviser Research since August 2019**). Back in Kerala, Dr. Unni is appointed as **Director Academic & Research** at **GEMS College of Arts & Science affiliated to University of Calicut since August 2019**. Both the positions are on honorary basis to strengthen the institutions in research areas. He did his BSc Biology (1972-74, Ewing Christian College, Alld University), MSc in Biochemistry (1974-76) (Second Rank) and Ph.D in Biochemistry from Allahabad University (1976-80) and PDF in Molecular Biology from Texas A&M University, USA (1988-91). Dr. Unni is specialized in Biochemistry Molecular Biology, and Biotechnology and well established in his area of research and completed more than 38 years of research in both basic and applied field of research. Dr. Unni got more than 130 research papers 180 abstracts, 35 papers in proceedings, 4 patents, 1 technology. 18 chapters in books, edited 3 books and 29 students received PhD degree under his guidance and supervision. Dr. Unni had completed more than 20 projects sponsored by Commonwealth Science Council, London, Ministry of Non-conventional Energy Sources, Department of Non-conventional Energy Sources Govt of India, North Eastern Council Govt of India, Department of

Science & Technology, Department of Biotechnology, Central Silk Board, GB Pant Institute of Himalayan Environment and Development, CSIR and DRDO, Ministry of Defense, Govt of India during his scientific tenure at CSIR NEIST. Dr Unni received- Fulbright Travel Award/Fellowship (USA) Dr. B.M. Das Memorial Science award, Hebrew University Award-Awarded in the area of Juvenile Hormone Research H.R. Cama Memorial Travel Award, COSTED Travel Award, DAAD- fellowship-Germany, Well Mark International Scholarship (USA) & Technology award in life sciences by CSIR, Govt of India . Best Fulbright Alumni Chapter Leader-South Asia Selected by the United States Education Foundation In India (USIEF), New Delhi .Nominated to represent India at the International Fulbright Scholars meet at Marrakech, Morocco- Nominated by United States Education Foundation In India, New Delhi . Dr. Unni is in the editorial board of more than eight indexed journal in the country .Dr.Unni was nominated to various state and central committees such as High power committee for development of sericulture activities Muga, Eri, Tassar and Mulberry in Assam nominated by Governor of Assam, .Expert in the area of non-mulberry sericulture, Ministry of Textiles, Advisory Board, Post graduate Biotechnology programme, Academic Council, Assam Agricultural University, Research Council, Central Silk Board, Ministry of Textiles , DBT's Nominee for Bio-safety Committee ,Vice President SBC (India) Indian Institute of Science Bangalore, Vice President Indian Academy of Neuro-sciences, Member Fulbright Academy of Science & Technology, USA, Board of studies- Botany Nagaland University and Biotechnology Saugar University Madhya Pradesh., Fellow, Indian Academy of Neurosciences & Indian Society of Agricultural Biochemists, Fellow Royal Entomological Society, London UK and Scientific Advisor International Foundation of Science, Sweden, Member, Board of Studies Raiganj University (2017----), Member Research Review committee Tea Board of India (2016--2018), Member Advisory Committee Cancer Research Advisory Board, North East Cancer Hospital & Research Institute (2017--) President, Tea Improvement Consortium, Ltd, Tocklai Assam (2018-2020) . Dr.Unni visited USA, Germany, Israel, Jordan, France, Morocco ,UK, Thailand ,Jordan, Singapore ,UAE (Dubai) and China under various exchange programmes



Dr. NAYANA P

**Research Officer/ Assistant Professor
PG Department of General Biotechnology**

Dr. Nayana P, did her Master's in Biotechnology from Cochin University of Science and Technology. She has qualified ICAR-ASRB (Indian Council of Agricultural Research- Agriculture scientist Recruitment Board) NET (National Eligibility Test) and KSCSTE JRF (Kerala State Council for Science

Technology and Environment Junior Research Fellowship). She has completed her Ph.D from Cochin University of Science and Technology. Her area of specialization is Plant Biotechnology, Microbiology, Molecular Biology and Enzymology. She has more than 8 years of research experience in plant biotechnology, mycology, enzymology, production parameter optimization, statistical optimization, and protein purification. She had published 8 research articles in peer reviewed journals, 2 book chapters, 7 abstracts in proceedings and 2 patents (applied). She has attended several seminars/workshops and presented her research work. Dr. Nayana P has joined in this college as Assistant Professor, PG Department of General Biotechnology and handled classes for both Under Graduated and Post Graduated students. She had guided 4 Post graduation project works. She has been holding the position of **Research Officer** to promote and monitor the research activities of the college. She has submitted various project proposals to state and national funding agencies.



Dr. SIJI MOL K

Assistant Research Officer/ Assistant Professor
PG Department of General Biotechnology

Dr. Siji Mol K, did her Masters in Biotechnology from Bharathiar University, Coimbatore. She has completed her Ph.D from Forest Research Institute, Dehra Dun in Forest Biotechnology. Her area of specialization is Plant Biotechnology, Bioinformatics, Genomics, Proteomics, Transcriptomics, Molecular Taxonomy. She had years of research experience in plant systematics, population genetics, biogeographical studies and expertise in NGS technology. She had published research articles in peer reviewed journals and book chapters. She has attended several seminars/workshops and presented her research work. Dr. Siji Mol has joined in this college as Assistant Professor, PG Department of General Biotechnology and handled classes for both Under Graduated and Post Graduated students. She has been holding the position of Convenor for Academic and Audit Committee to monitor the academic activities of the college. She had another role as **Assistant Research Officer** to organize research events in the institution. She has submitted project proposals to state and national funding agencies.



Ms. SHIJILA M V
Office Assistant (Research Cell)
GEMS Arts and Science College

Ms. Shijila M V is a highly qualified professional with a **Master's degree in Economics** and a diploma in **Computer Application**. With a strong academic background Shijila has excelled as an **Office Assistant**, demonstrating exceptional administrative skills. Currently, she holds the position of **Nodal officer** for various scholarship programs, showcasing her dedication to education and student support. In addition to her administrative responsibilities, she also serves as a clerk at the college office.

ACADEMIC AND RESEARCH REVIEW COMMITTEE (ARRC)

The Academic and Research Review Committee was constituted in 2019 as per the decision taken by the board of directors. The tenure for the committee is for two years. The first ARRC meeting was held on 15th January 2020. The chairman of the GEMS Arts & Science college, Shri Manjalamkuzhi Ali will be the permanent invitee of the ARRC meeting. Dr. B G Unni is the Chairman of the committee. Every Head of the Departments in this college act as member of the committee.

Functions of ARRC

- a. The committee will assess the quality of research and academic activities and the progress in terms of academic performance, publications, patents and other research activities of the college.
- b. The committee will also encourage the faculties of various disciplines to undertake research in multidisciplinary and multi-institutional nature.
- c. The committee will also assess / review the possibilities of MOU with other institutions.
- d. The research activities includes students projects, submitted project proposals by the faculties and students are encouraged to present during the meeting.
- e. Invited lectures and talks on relevant topics by the faculties and the visiting faculties will also be encouraged at the college campus.
- f. The outcome of the research review committee meeting will be recorded and the report will be submitted to Directors Board / Council
- g. The committee will have a sitting twice in a year to review the progress of the academic and research activities undertaken at different departments of the college

First Academic & Research Review Committee (2020-2022)

External members

Dr. .M.Nasser, Pro Vice Chancellor, University of Calicut, Calicut

Dr.P Indira Devi, Director, Directorate of Research
Kerala Agricultural University, Mannuthy, Thrissur

Prof.A.N Hafiz Mohamad, Professor, Department of Sociology
Farooq College, Malappuram

First Academic and Research Review Committee (ARRC) meeting – 15th January 2020

External members attended the meeting

Dr.P Indira Devi, Director, Directorate of Research
Kerala Agricultural University, Mannuthy, Thrissur

Prof.A.N Hafiz Mohamad, Professor, Department of Sociology
Farooq College, Malappuram

First Academic and Research Review Committee meeting held at GEMS Arts and Science College on 15th January 2020.



First Academic & Research Review Meeting at GEMS College Campus

The First Academic Research Review Committee meeting of GEMS Arts and Science College was held on 15th January 2020 at 10.30am in the Board room, college campus. Sree Manjalamkuzhi Ali, Chairman GEMS Arts and Science College, Mr.M.Vasudevan Vice Chairman, Dr.BG Unni Director-Academic Research and Chairman of the Committee, Dr.Naveen Mohan, Principal and Member

Secretary, Prof.M. Nassar, Director Research, Calicut University, Sri. PT Hamza, Mr.P Kunjali, Directors, GEMS Arts and Science College, HOD'S of the respective departments of the college namely Mr.Sivakumar. K, HOD, Commerce, Ms. Sulabha Das. P HOD, Mathematics, Ms. Shinsy. P,HOD, Biotechnology, Ms. Radhika R Krishna ,HOD, Microbiology, Mr. Anand. C HOD, English, Mr. Anoo Babu. P.K HOD, Computer Science, Mr. Hari HOD, BCA, Ms. Aswathy.C, HOD, Travel and Tourism, Mr. Noufal.P, HOD, Multimedia, Dr.Salini B Nair (HOD, Management Studies), Dr. Poornima. P. S HOD, Sociology & Social Works) and Mr. Abdul Rahman. C.V ,HOD, Geology were attended the meeting. The other external experts Dr.P Indira Devi, Director, Directorate of Research, Kerala Agricultural University and Prof.A.N Hafiz Mohamad, Former Professor of Sociology, Farooq College could not attend the meeting.

The Chairman and Co-Chairman jointly extended a warm welcome to the external experts and all other members of the First Academic Research Review Committee for attending the meeting ,and also appreciated the efforts taken by the Chairman of the committee for organizing such important meeting for the first time at the college campus. Dr.BG Unni (Chairman of the committee) presented the overall preview the research and the Academic activities undertaken at the college, ongoing progress of the various activities with respect to the Research and Academic program that will be benefited to the students and the Faculties in a short time and long time basis. He also highlighted some of the ongoing activities such as SIRO Certification for the college, UGC recognition related issues and other joint collaborative programs with other R&D institutions and universities of the Country. Dr. Naveen Mohan, Principal and Member Secretary of the Committee also briefed about the college and the Academic activities then ,and now and future too.

The research projects based on the topics Cancer, Social Science, Bio fertilizer, 14 C dating and Land Sliding were presented by Dr. Finose A (Asst. Professor, Microbiology), Dr. Poornima. P. S (Assistant Professor Sociology & Social Works), Ms. Shinsy. P (Asst. Professor Biotechnology), Dr. Subin Prakash (Asst. Professor, Geology) and Mr. Abdul Rahman. C.V (Asst. Professor Geology) respectively. The HOD'S of the respective Departments had also briefed about their ongoing Academic and other activities at the meeting. Immediately after the presentation by Faculties and others, the external expert Dr.Nassar delivered his comments related to overall performance of the college. He expressed his happiness and said that GEMS Arts and Science College has shown a unique identity in terms of Academic and Research front within a short span of time under the very active and dynamic leadership of Director-Academic and Research, which is, according to him a unique identity for the college under Calicut University.

The concluding remark was delivered by the Chairman where he said that this Academic Research Review Committee is a unique and most exciting moment for him, and he appreciated the entire effort taken by the leadership for bringing such atmosphere in the college for a long time basis. He also appreciated the efforts taken by the Faculties of the college for formulating projects of regional

importance, and he expect that such projects outcome will give a greater impact for the society. The meeting ended with vote of thanks delivered by Mr.Mohamed Navas, Vice Principal and Joint Member Secretary of GEMS Arts and Science College.

Second Academic and Research Review Committee (ARRC) meeting – 19th December 2020

External expert committee members attended the meeting :

Prof (Dr.) M Nasser. ,Pro Vice Chancellor, University of Calicut

Prof (Dr.) Indira Devi

Professor of Agricultural Economics,Director of Research (Retd),Kerala Agricultural University

Prof (Dr.) N P Hafiz Mohammed,Prof. of Sociology,University of Calicut. Calicut



The programme started at 11 AM by the opening remarks of Shri Manjalamkuzhi Ali, Chairman, Gems Arts and Science College. Shri M Vasudevan, Vice Chairman, Dr. B G Unni, Director-Academics and Research,Chairman-ARRC, Dr. Naveen Mohan, Principal and Member Secretary, ARRC were present. The external expert committee members are Prof (Dr.) Indira Devi, Professor of Agricultural economics, Director of Research (Retd), Kerala Agricultural University, Prof (Dr.) N P Hafiz Mohammed, Prof. of Sociology, University of Calicut. Professor Dr. VS Sharma, Former chief scientist, CSIR- National geophysical research Institute, Hyderabad ,along with Heads of the Departments of the College were present at the meeting .Prof (Dr.) M Nasser. Pro VC, University of Calicut could not attend the meeting due to some official engagements.

Third Academic and Research Review Committee (ARRC) meeting 24th November 2022

External expert committee members attended the meeting:

1)Prof. Dr. M Nassar

Pro-Vice Chancellor
University of Calicut

2)Prof. Dr. P. Indira Devi
Emeritus Professor ICAR
Former Director of Research
Kerala Agricultural University

**Third Academic and Research Review Committee meeting held at
GEMS Arts and Science College on 24th November 2022**



The Third Academic Research Review Committee meeting of GEMS Arts and Science College was held on 24th November 2022 at 11 am onwards at GEMS Theatre , Library and Research Center at the college campus. The Chairman could not attend the meeting, and Co-Chairman Sri Vasudevan M extended a warm welcome to the external experts and all other members of the Third Academic Research Review Committee for attending the meeting, and also appreciated the efforts taken by the Chairman of the committee for organizing such an important meeting at the college campus. Dr.BG Unni, the Chairman of the committee presented the overall preview the research and the Academic activities undertaken at the college since Jan 2021 till November 2022, and also the ongoing progress of the various activities with respect to the Research and Academic program that will be benefited to the students and the Faculties in a short time and long time basis. He also highlighted the current status regarding the SIRO Certification for the college, UGC recognition related issues and other joint collaborative programs with other R&D institutions and universities of the Country. Dr. Naveen Mohan the Principal and Member Secretary of the Committee also briefed about the college and the Academic

SECOND ARRC NEW Committee (2023-2024)

**Academic and Research Review Committee of GEMS Arts and Science College -
Reconstitution for the year 2023 & 2024.....regarding**

The Academic and Research Review Committee of GEMS Arts and Science College was constituted in the year 2019 as per the decision taken by the board of directors. **The tenure for the committee is for two year.**The tenure of the first ARRC committee was over in December 2022 , and a new committee is being re-constituted with the following members as given below . **The chairman of the GEMS Arts & Science college will be the permanent invitee of the ARRC meeting all the time**

The members of the committee are as follows.

Dr..B.G Unni, Director Academic and Research (**Chairman**)
(Former Chief Scientist (Director Grade CSIR, DSIR , Govt.of India)

Prof.Dr.P Indiradevi (**Member-Expert**)
Emeritus Professor (Former Director Research) Kerala Agricultural University ,Kerala

Prof. N.P Hafiz Mohammed (**Member-Expert**)
Former Prof. of Sociology, Farook college, Maanasam, Harithapuram, Kozhikode.

Prof.Dr. Anitha P.M, MBBS, MD (**Member-Expert**)
Prof. & Head Dept. of Microbiology ,Calicut Govt. Medical College, Calicut

Prof. Dr. A Hameed (**Member- Expert**)
Dept. of Education , University of Calicut

Mr.Vasudevan .M
Vice chairman , (**Permanent Invitee**)

Mr. P.T Hamza
Director , Board of Directors , (**Permanent Invitee**)

Dr.Naveen Mohan (**Member –Secretary**)
Principal GEMS Arts and Science College,

Mr.Mohammed Navas (**Joint –Member secretary**)

Mr. Mohammed Ashraf (**Joint Member Secretary**)
Vice Principals), GEMS Arts & Science College

Mr. Mohammed Ali Kalakkal (**Member**)
Director , Board of Directors

Mr.Sivakumar . K , HOD Commerce –**Member**

Mr.Sandeepan K.,M HOD Management Studies – **Member**

Mr. Anand .C , HOD English – **Member**

- Mrs. Jayasree K.G , HOD Mathematics – **Member**
- .
- Mr. Anoo Babu , HOD Computer Science – **Member**
- .
- Dr.Sandhya Balakrishnan P.K . , HOD BCA -**Member**
- .
- Mr. Mohammed Binshad .K , HOD Multimedia- **Member**
- .
- Mrs.Resna .N.K, HOD Microbiology – **Member**
- .
- Mrs. Ranjusha V.P , HOD Biotechnology – **Member**
- .
- Mr.Abdul Rahman , HOD Geology - **Member**
- .
- Dr.Sulfikar.C, HOD MSW –**Member**
- .
- Mrs. Arathy .P. Rajan, HOD BTTM - **Member**
- .
- Dr. Gopala Krishnan Guest Prof. - **Member**
- .

Fourth Academic and Research Review Committee (ARRC) meeting 05th August 2023

Report on Fourth Academic and Research Review Committee meeting held at GEMS Arts and Science College (University of Calicut) on 05th August 2023





Review meeting under progress



Review speech by the external Experts of ARRC

The Fourth Academic Research Review Committee meeting of GEMS Arts and Science College was held on 05th August 2023 at 10:30 am onwards at GEMS Theatre, Library and Research Centre at the college campus. The Chairman of the college **Sri. Manjalamkuzhi Ali** delivered the opening remarks of the Fourth Academic Research Review Committee. He briefed about the origin and history of the college. A short video 'About the college as on today' was also aired before the members of ARRC and other Director Board members. **Dr. B G Unni**, Director- Academic & Research and the Chairman of the ARRC presented the overall preview of the research and the academic activities undertaken at the college since December 2022 till June 2023, and also the ongoing progress of the various activities with respect to the Research and Academic program, that will be benefited to the students and the faculties in a short time and long time basis. The newly constituted committee members were introduced, and a warm welcome was proposed by the Academic & Research Director. He appreciated the students and faculties for their achievements in Swadeshi Science Congress and Talent Search Contest of Guwahati Biotech Park. He specially mentioned about one of the important project submitted by **Dr. Sijimol K** (Assistant Professor, Biotechnology) in collaboration with Assam Down Town University on the topic entitled 'Standardisation of fermented process for preparing khorisa with identified beneficial microbes, high nutritional and therapeutic properties from *Bambusa balcooa* and it's molecular profiling'. He also highlighted the current status regarding the SIRO Certification for the college,

challenges to obtain 12(b), and other joint collaborative programs with other R&D institutions and universities of the Country.

Faculties presented the projects submitted/ received appreciation certificates in collaboration with R & D Institutions/ Universities/ Guwahati Biotech Park. The faculties who presented were **Dr. Naveen Mohan** (Principal and Member Secretary, ARRC), **Dr. Finose A** (Assistant Professor, Biochemistry), **Dr. Nayana P** (Assistant Professor, Biotechnology) and **Dr. Sijimol K** (Assistant Professor, Biotechnology) respectively. The research papers presented by the PG students, **Ms. Ashfena C** and **Ms. Safeeda K** (4th Sem M.Sc Biotechnology) at 30th Swadeshi Science Congress held in May 2023 at National Institute of Technology, Calicut was presented by their supervisor **Dr. Nayana P** on behalf of them. **Dr. Nayana P** (Assistant Professor, Biotechnology) briefed about the application of patents originated from the M.Sc projects under her supervision. The two patent applications 'Single Cell Protein from *Cucumis sativus*' and 'Nanofertilizer' were submitted to National Research Development Cooperation, a Government of India Enterprise established under the Department of Scientific and Industrial Research.

Brief reviews about the progress of Academic and Research Activities in each department were presented by the respective Head of the Departments. Each department described their highlights, achievements, different activities organized by the departments and their action plans. The HOD's presented their progress of activities in the meeting were **Ms Resna N K** (PG Department of Microbiology), **Ms Ranjusha V P** (PG Department of Biotechnology), **Mr. Sandeepan K M** (Department of Management Studies), **Dr. Sandhya Balakrishnan** (Department of Computer Applications), **Ms. Soumya P S** (For HOD, Department of Computer Science), **Mr. Sivakumar K** (Department of Commerce), **Mr. Binshad** (Department of Multimedia), **Mr. Anand C** (PG Department of English), **Mr. Abdul Rahman C V** (Department of Geology), **Ms. Jayasree K G** (Department of Mathematics), **Ms. Swathi S Nambiar** (For HOD, Department of Travel and Tourism) and **Dr. Sulfikar C** (Department of Sociology and social work). Achievements of the faculties and students in academic/sports and extracurricular activities were detailed by **Prof. Mohammed Ashraf**, Joint Member Secretary ARRC & Vice Principal- Academic of GEMS Arts and Science College. Different achievements like C-zone winners, Interzone winners and the position of the college in both C zone and Interzone competitions were highlighted in the presentation. He also gave an account of the publications, book chapters, abstracts presented, patents and competitive exams cleared by the faculties during the period.

The external experts present in the review meetings were **Prof. Dr. P. Indira Devi**, Emeritus Professor ICAR, Former Director of Research, Kerala Agricultural University **Prof. Dr. N P Hafiz Mohammed**,

Professor of Sociology, University of Calicut, **Prof. Dr. P A Anitha**, Prof & Head Microbiology, Calicut Medical College (On-line) and **Dr. A Hameed**, Associate Professor, Department of Education, University of Calicut. The external experts were satisfied with the progress that the institution has made during the period. The put forward large number of suggestions and recommendations for the college in terms on short term and long term basis

Sri Vasudevan M, Vice- Chairman, felicitated the gathering and delivered the concluding remarks at the closing session of the meeting and assured that all support will be extended from the management side to strengthen both academic and research activities of the college. He also insisted all the departments work together for the progress of the Institution. **Shri P T Hamsa**, Director, GEMS Arts and Science College, felicitated the gathering and appreciated the progress of the college at all levels. The meeting ended with a vote of thanks delivered by **Mr. Mohammed Navas**, Joint Member Secretary ARRC & Vice Principal- Administration of GEMS Arts and Science College

The recommendations of the External members namely **Prof. Dr. P. Indira Devi**, Emeritus Professor ICAR, Former Director of Research, Kerala Agricultural University **Prof. Dr. N P Hafiz Mohammed**, Professor of Sociology, University of Calicut, **Prof. Dr. P A Anitha**, Prof & Head Microbiology, Calicut Medical College (On-line) and **Dr. A Hameed**, Associate Professor, Department of Education, University of Calicut. The external experts were satisfied with the progress that the institution has made during the period and put forward number of suggestions are as follows

Prof. Dr. Indira

- (i). Appreciated the progress of the college in both Academic and Research.,
- (ii) Employability and skill based studies to be incorporated as a part of Add on courses,
- (iii) Improvement or develop student entrepreneurship,.
- (iv) Faculties may be encouraged to take up consultancy Project /Mini projects Improve the communication skill, this may be taken seriously by the English department.
- (v) Research stream to be strengthened in terms of writing winning proposals by the faculties.
- (vi) Faculties should undertake consultancy projects so that this will help the students to get in touch with external environments other than college.
- (vii) Should conduct regular programmes for competitive examinations (All India Service Examinations) and to improve communication skills
- (viii) Faculties and management should maintain a good relationship with the alumni so that this will provide opportunities to outgoing students.
- (ix) Establish linkages with government sectors
- (x) Organize workshops on how to write winning proposals for the faculties to seek funding

(.xi) The important suggestions pointed out from her side was the lack of project proposals from Commerce, Arts and Management streams.

Prof. Hafiz Mohammed

(i)He seeks the possibility to submit project proposals as well as presented papers for the Sociology department in seminars and proceedings.

(ii)He motivated students and faculties to present papers in national and international conferences.

(iii) He had given importance to BMMC and MSW, BTTM departments to undertake mini projects and provide media coverage to each and every event that happened in the college. .

(iv) Suggested for the presentation of the Research paper and motivation to be given to the students to attend conferences at the state and National level college has to bring out a journal regularly or multidisciplinary nature..

(v) He also suggested starting a new course, MA Sociology.

(vi) Other suggestions were to introduce FM radio, design internships for students, introduce more field works, do local studies and publish in the media..

(vii) Collaboration with other colleges of the same subject and organize joint programs.Certificate course,

(viii) Add-on course is very good, and must be very methodical and systematic.

Prof. P A. Anitha joined the meeting through online mode.

(i)She suggested the faculties undertake projects in multicentric methods.

(ii)Focused more visibility on publicity about the college.

(iii)To encourage students to take mini projects and faculties to submit projects of multidiscipline and multi institutional in nature.

(iv) Also suggested seeking sponsorship from a private organization.

Dr. A Hameed

He was appreciated for having a Research Policy, and best Infrastructure of the Institution.

(i)He suggested publishing papers as interdisciplinary aspects and developing a research blog if possible.

(ii)He noticed the college website and suggested updating everything systematically.

(iii) Other suggestions where to start Research journal, Research blogs,

(iv) Deposit the research works in google scholars and research gate to improve the citations.

(v) Encourage faculties for external funding in collaboration with others Research Institution also

(vi) Suggested to have seed money by the management to initiate the new idea leading to major Projects.

(vii) Suggested to bring out publications to all other departments in the form of a journal.

(viii) Organize workshops for students and faculties for writing research papers etc

(xi) The Website of the college must be updated.

(x) Each department must have a Research Coordinator to coordinate the activities.

OTHER PROGRAMS ORGANIZED

CHAIRMAN'S LECTURE SERIES (In Association with IQAC)

GEMS Arts & Science college (Affiliated to University of Calicut) is going to organize Chairman's lecture series from March 2022. Four lectures (one lecture in every 3 months) will be arranged every year. The lecture will be delivered by acclaimed speakers of Universities and R&D institutions within India and abroad, and they will speak on recent developments in Science, Technology , arts and other related areas for the faculties and students. The talk will be for 45 minutes and students and faculties will get an opportunity to interact the experts after the talk. The main objective of such talks is to provide awareness about the recent developments in science and technology, and also provide a platform for the students to interact with the experts in their specialized area through this lecture series and to enrich their knowledge .

- **Dr. Kamalesh K Gulia**, Scientist F/ Assistant Professor, **Sree Chithira Thirunal Institute of Medical Sciences and Technology** presented on the topic 'Sleep for good health and happiness: Nature's samurai'(Dated 21st March 2022).
- **Dr. Shashi Bala Singh**, Director, **National Institute of Pharmaceutical Education and Research** presented on the topic 'Scientific Insights in Yoga' (Dated 21st June 2022).
- **Dr. Asha Bhanu Soletti**, Professor, **Centre for Health and Mental Health** presented on the topic 'Ensuring Mental Health and Well Being For All: A Global Priority' (Dated 20th October 2022).
- **Dr. Hanumanthu Purushotham**, DPIIT-IPR Chair, **National Research Development Corporation** presented on the topic 'IP Key for achieving Athmanirbhar Bharat (Dated 16th December 2022).
- **Dr. V K Khanna**, Chief Scientist, **CSIR- Indian Institute of Toxicology Research** presented on the topic 'Neuroprotective Phytochemicals: Magic of Curcumin and Quercetin in Protecting Chemical Induced Neurodegeneration' (Dated 31st March 2023).
- **Dr. Ms. Vibha Ahuja**: Chief General Manager **Biotech Consortium India Limited New Delhi - 110 002** spoke on Gene Editing in Agriculture: Science, Potential and Policy on 20th June 2023
- **Dr. Anil D Sahasrabudhe**, Chairman NAAC & Former Chairman AICTE spoke on "Faculty and Leadership Development for pursuing excellence in Academic Institutes", &
- **Dr. Gauri Dutta Sharma**, President Association of Indian Universities and Vice Chancellor **University of Science & Technology, Magalaya** spoke on "" Quality Assurance in educational institutions" on 23rd September 2023

Faculty Development program

Lecture series by the faculties of the college for the faculties during the weekend of every week (Friday)-“Lecture by the faculties for the faculties)

Our college has currently enrolled **more than 80+faculties comprising more than 14+ disciplines**. All these faculties are encouraged to give lectures of their own choice on every Friday. The name of the faculties in order will be **chosen based on lottery basis** and each faculties selected in the order will be requested to prepare a topic in their area for presentation at the college on **every Friday during lunch break.(The timing for each lecture will be for 25 minutes and 5 minutes for the interaction)**. The Best Speaker **from 2 semesters** will be evaluated based on the subject of the lecture, in depth knowledge in the subject, confidence of the speaker and how best the faculty is at the time of presentation and interaction amongst the audience. The whole process is being evaluated by a committee comprising of **4 members (one Subject - External subject Expert from a Government Institution/college or University nearby, Head of the respective department** of the faculty, another **non subject expert from the same college** and the entire program will be **coordinated by Director Academic & Research, in his absence it will be coordinated by Principal or vice principals of the college.**

The **total score will be in 100** and divided under **four sections** such as (The novelty of the idea, Quality of the work/Slides and Presentation, In depth Knowledge of the subject and Ability in interaction/ Question Answer Session.) The best speaker among this (Two semester) will be selected based on **the maximum scorer** and honored /felicitated at a special

External subject experts interacted with the faculties of the college :

The following subject experts of all the areas of the college interacted with all the faculties of the college during the regular Friday seminar. Such interaction has also provided a better platform for the faculties to have a chance to discuss the recent developments in their areas of interest in both academic and research point of view.

Dr. Santhosh kumar vallikkad
Asst Professor & Head of the Department
NSS College Manjeri

Dr.Prasenjit Manna,
Principal Scientist, Ramalingaswami Fellow
CSIR-NEIST Jorhat Assam

Dr. Bhababhuti Sarma
Department of Commerce

K.C. Das Commerce College, Assam

Dr.Seema Sharma
Dean Faculty of Commerce & Management
Assam Downtown University
Gauhati Assam

Dr.Mohamed Abdallah AboEl-Eneen Mabrouk Gad
Senior Scientist
Plant Pathology Research Institute,
Agricultural Research Center, 12619, 9
Caro University St., Giza, Egypt.

Shri :Sakkeer Hussain Faizy
Asst professor
Anvarul Islam Arabic college thirurkad-
Malappuram- 679351
Kerala

Dr.Prateeti Barman
Dean Incharge & Faculty of Humanities and Social Sciences
Assam Down Town University.

Prof. Dr.Ben Jhonson
Professor and Head of the Department
School of Business studies
Department of Commerce & Management Studies
University of Calicut, Calicut Kerala

Prof. Dr. Vinod Chandra S.S
Professor of Computer Science
Department of Computer Science
University of Kerala

Prof.Dr.Ms Germina KA
Prof of Mathematics ,School of Physics
Central University
Kasargode , Periya Kerala 671316

Dr, Anand Kumar Pandey
Senior Principal Scientist
CSIR –National Geophysical Research Institute
Hyderabad

Dr.Parvathi. A
Professor & Head Biotechnology
Cochin University of Science and Technology ,Cochin
Kerala

Dr.Sajitha M.A
Associate Professor Department of English
University of Calicut

Dr. P. Milinth
Associate Professor
Department of Commerce and Management studies
Farook College
Kozhikode

Prof .E.Sulaiman (External Subject Expert)
School of Management and Business Studies
MG University
Kottayam , Kerala

Dr.Vincent B Netto
Associate Professor
Department of English
Kannur University, Kannur

Dr. A C Pandey
Assistant Professor
Department of Commerce
Allahabad Central University,Allahabad

Dr.Preethi Kuttipulackal.
Associate Professor & Head of the Department
Department of Mathematics

Mr. Hiron Bose
Scientist E,C-DAC , Technopark Campus,
Karyavattom

Prof. Utpal Sharma (M.S. (BITS, Pilani), Ph.D (Tezpur)
Professor & Head ,Design
Department of Computer Science & Engineering
Tezpur Central University, Tezpur -784028
Assam

Prof.Syed Ibrahim Rizvi
Professor & Head of the Department
Department of Biochemistry, Central University of Allahabad Prayagraj
(Allahabad), Uttar Pradesh - 211002

Dr.Santanu Baruah
MSc PhD (Seiesmology)
Sr.Scientist Department of Geology
CSIR North East Institute of Science & Technology(DSIR)DST

Jorhat -785006(Assam)

Dr. Ms.LakshmiPradeep
Associate Professor
School of Information and Communication Studies
Department of Mass Communication & Journalism
University of Calicut

Dr. Abdul Majeed KC
Associate
Department of Library & Information Science
Kannur University, Kannur Kerala

Mr. Dibakar Bhattacharyya,
HoD, Dept of Commerce,
Sonapur College, Sonapur Assam. 782402-

FRIDAY SEMINAR – By the Faculties, For the Faculties (In Association with IQAC)

- **Ms. Seethal P**, Head of the Department, Department of Malayalam presented on the topic 'Idappallyude Maninaadham oru Avalokanam' (Dated 28/01/2022).
- **Ms. Shaheena A**, Assistant Professor, PG Department of Microbiology, presented on the topic 'Common Monsoon Diseases in India and It's Prevention' (Dated 11/02/2022).
- **Mr. Safvan K**, Assistant Professor, PG Department of Commerce, presented on the topic 'Pros and Cons of Insurance' (Dated 25/02/2022).
- **Mr. Ajeesh T**, Assistant Professor, Department of Multimedia, presented on the topic 'Miller and Modigliani's Dividend Irrelevance Theory: A Criticism' (Dated 11/03/2022).
- **Ms. Shameema M**, Assistant Professor, PG Department of Microbiology, presented on the topic 'Antibiotic Resistance' (Dated 25/03/2022).
- **Mr. Muhammad Ali**, Head of the Department, Department of Arabic presented on the topic 'Jibran Khaleel Jibranum Adhehathinte Odinja Chirakukal Enna Novelum Sahithyathinula Adhehathinte Sambavanakalum' (Dated 10/06/2022).
- **Mr. Arun K**, Head of the Department, PG Department of Sociology and Social Work presented on the topic 'Social Work Education and Different Areas of Specialization' (Dated 25/06/2022).
- **Mr. Midhun K**, Head of the Department, PG Department of Commerce presented on the topic 'National Education Policy' (Dated 08/07/2022).
- **Ms. Soumya P S**, Assistant Professor, Department of Computer Science presented on the topic 'Artificial Intelligence' (Dated 22/07/2022).
- **Ms. Shiba C K**, Assistant Professor, Department of Mathematics presented on the topic 'Magic Graphs' (Dated 12/08/2022).
- **Ms. Haritha Baburaj V**, Assistant Professor, PG Department of Applied Geology presented on the topic 'Artificial Groundwater Recharge' (Dated 26/08/2022).
- **Mr. Rihis K T**, Assistant Professor, PG Department of English presented on the topic 'The Search for meaning in Hesse's Siddhartha' (Dated 30/09/2022).

- **Dr. Nayana P**, Assistant Professor, PG Department of General Biotechnology presented on the topic 'A Fluorescent Protein With Staying Power' (Dated 07/10/2022).
- **Ms. Vidhya K**, Assistant Professor, PG Department of Commerce presented on the topic 'Today's Electronic Gadgets, Tomorrow's Electronic Waste' (Dated 14/10/2022).
- **Ms. Ruxsana P M**, Assistant Professor, Department of Management Studies presented on the topic 'Corporate Social Responsibility' (Dated 11/11/2022).
- **Ms. Sreethini K**, Assistant Professor, PG Department of English presented on the topic 'Post Covid Understanding of Coelho's Veronica Decides to Die' (Dated 25/11/2022).
- **Ms. Jayasree KG**, Head of the Department, Department of Mathematics presented on the topic 'Data Science' (Dated 22/12/2022).
- **Mr. Sivakumar K**, Head of the Department, PG Department of Commerce presented on the topic 'Motivation' (Dated 13/01/2023).
- **Mr. Raghu M D**, Head of the Department, Department of Multimedia presented on the topic 'Disintegration of Media Ethics and Agenda Setting Media Policies on Article 19(1) (a)' (Dated 13/01/2023).
- **Ms. Swathi K G**, Assistant Professor, Department of Computer Science presented on the topic 'Switchable Frequency Antenna' (Dated 10/02/2023).
- **Ms. Ranjusha V P**, Assistant Professor, PG Department of General Biotechnology presented on the topic 'A breast cancer overview' (Dated 24/02/2023).
- **Mr. Abdul Rahman C V**, Head of the Department, PG Department of Applied Geology presented on the topic 'Plate tectonism and Indian Lithospheric Evolution' (Dated 24/02/2023).
- **Mr. Mohammed Shammak K**, Assistant Professor, Department of Multimedia presented on the topic 'Enhancing Interpersonal Communication: Building Meaningful Connections in a Digital Age' (Dated 09/06/2023).
- **Ms. Smitha Pramod**, Head of the Department, Department of Library and Research Centre presented on the topic 'Role of Academic Libraries in Media and Information' (Dated 23/06/2023).
- **Mr. Mohammed Ramees P**, Assistant Professor, PG Department of Commerce presented on the topic 'Application of Artificial Intelligence in E-Commerce' (Dated 19/08/2023).

STUDENT SEMINAR SERIES (In Association with IQAC)

All these programs are very much essential to improve the quality of our academic level, and will also provide an opportunity for the faculties and students to interact with their subject experts to enrich their knowledge. Such programs will also be necessary for all sorts accreditations for the college in future.. This programs were initiated from 2022 and a committee will be constituted from the faculties to run both the activities.

- **Ms. Asna Farhath**, First Semester M.Sc Microbiology, PG Department of Microbiology, presented on the topic 'Potential transmission sources of *Helicobacter pylori* infection: detection of *Helicobacter pylori* in various environmental samples' (Dated 30/ 01/2023).
- **Mr. Mohammed Soud Risal. T**, Fourth Semester B.Sc Computer science , Department of Computer Science, presented on the topic 'Artificial Intelligence' (Dated 13/02/2023).

- **Ms. Hadiya Harim K**, Second semester MSW, PG Department of Sociology and Social Work, presented on the topic 'Cyber crimes against children and measures to prevent it in India' (Dated 03/03/2023).
- **Ms. Ramseena M P**, Second Semester M.Sc Applied Geology, presented on the topic 'Soil erosion prospect zonation of Wayanad district using Analytical Hierarchy Process (AHP)' (Dated 17/03/2023).
- **Ms. Ashfena C**, Fourth semester MSc General Biotechnology, PG Department of General Biotechnology presented on the topic 'Single Cell Protein and its importance' (Dated 07/07/2023).
- **Ms. Fathimath Afeefa NP**, S5 BSc mathematics, Department of Mathematics, presented on the topic 'Permutations' (Dated 31/07/2023).
- **Ms. Wafa Elachola**, Fifth Semester BBA, Department of Management Studies, presented on the topic 'Consumer Relationships Management(CRM)' (Dated 17/08/2023).
- **Ms. Fathima Noora T**, Second Semester MA English, PG Department of English, presented on the topic 'An escalate of emotional detachment in modern world' (Dated 05/09/2023).

PROJECTS APPLIED/SUBMITTED/UNDER REVIEW BY VARIOUS EXTERNAL FUNDING

BODIES

- Functional efficacy of convenient traditional recipe using different nutraceuticals for boosting immunity, **Science and Engineering Research Board (SERB), 2020 - Dr. Finose A (Principal Investigator)**
- Potential Secondary Metabolites focusing colorectal Cancer from Natural Sources, submitted to **Department of Biotechnology (DBT), 2020- Dr. Finose A (Principal Investigator)**
- Potential Secondary Metabolites Preventing Proliferative Potential of Cancer cells from Natural Sources, submitted to **Indian Council of Medical Research (ICMR), 2021- Dr. Finose A (Principal Investigator)**
- Bioaugmented rapid biodegradation of polyethylene using actinomycetes, submitted to **Guwahati Biotech Park, IIT Guwahati, 2023- for invention award Dr. Naveen Mohan (Principal Investigator)** .Selected and received appreciation certificate
- Potential Secondary Metabolites against Lung Adenocarcinoma from Natural resources, **Indian Council of Medical Research (ICMR), 2023- Dr. Finose A (Principal Investigator)** (Result awaiting)
- Topical Ayurvedic Prophylactic for COVID-19 in Rural Area, submitted to **Guwahati Biotech Park, IIT Guwahati, 2023- For invention award Dr. Finose A (Principal Investigator)** Selected for Appreciation certificate
- Development of an efficient microbial consortium for bioremediation of real textile effluent, submitted to **Council of Scientific & Industrial Research (CSIR)-ASPIRE Scheme, 2023- Dr. Nayana P (Principal Investigator)** (**Result awaiting**)

- Biological treatment of real textile effluent using microbial consortium, submitted to **Science and Engineering Research Board (SERB)_Core Research Grant, 2023 - Dr. Nayana P** (Principal Investigator) (**Result awaiting**)
- Non-targeted metabolite identification in *Cinnamomum agasthyamalanum* of the Western Ghats, submitted to **Science and Engineering Research Board (SERB)_Core Research Grant, 2023 -Dr. Siji Mol K** (Principal Investigator) (**Result awaiting**)
- The targeted and untargeted metabolite exploration in *Cinnamomum agasthyamalanum* of the Western Ghats, submitted to **Council of Scientific & Industrial Research (CSIR)-ASPIRE Scheme, 2023- Dr. Siji Mol K** (Principal Investigator) (**Result awaiting**)
- Non-targeted metabolite identification in a medicinal plant in response to stress condition, submitted to **Guwahati Biotech Park, IIT Guwahati, 2023- For invention award Dr. Siji Mol K** (Principal Investigator).Selected for appreciation certificate

ACHIEVEMENT IN RESEARCH PROGRAM :

Innovative research ideas of GEMS Arts & Science college, Malappuram Kerala selected for the Appreciation certificates by the Gauhati Biotech Park Guwahati Assam



The GEMS Arts & Science college participated in the 7th Edition of GBP's Talent Search Contest On Innovative Research Ideas Leading to Entrepreneurial Venture in Biotechnology and Allied Areas held on 22nd May, 2023 and called for participation from all over India The three Innovative Research ideas namely (1) Bioaugmented rapid biodegradation of polyethylene using actinomycetes by Dr.Naveen Mohan, (2) Biological treatment of real textile effluent using microbial by Dr.Nayana and Topical Ayurvedic Prophylactic for COVID-19 in Rural Area by Dr.A.Finose were screened from the large number of proposals received from various institutions, and selected fifteen. Among the fifteen, **three were selected from GEMS Arts & Science College, Malappuram, Kerala** . These proposals were invited for presentation online on 30th May 2023 . The Principal investigators of the proposals were invited to attend a special function held at auditorium Guwahati Biotech Park Guwahati Assam on 20th June 2023, and the Appreciation certificates were awarded to Dr.Naveen Mohan Principal of the college , Dr.A Finose and Dr.Nayana Asst Faculties of the College for their participation and selection at the first screening by **Shri.Keshav Mahanta, Minister of Science & Technology Govt of Assam** at the function.

PUBLICATIONS

- 2023

- Ranjusha V P: Pharmacological potentials of Dalbergia Sissoo-A mini review. International Journal for Research Trends and Innovation (IJRTI): 2023.
 - Ramisha Kathhon M.C, Nayana.P and Balagopalan Unni: Studies on Lipase from Monomorium Species: *IN SILICO* and *IN VITRO* approaches. International Journal of Recent Scientific Research:2023
 - Anooos babu PK: A study of network security with intrusion prevention system in different environment. Karpagam Journal of Computer Science: 2023
 - Veena C Vasanth: Sthree vimarsh -Mridula Garg ke samkaleen upanyasom ke pariprekshy meim. International Journal of literature, arts, culture, humanities and Sciences: 2023
- **2021**
- Lhakit lepcha, Manash P Sarma, Amal C Kataki, Wankupar Wankhar, B G Unni: Protein Profile of Human Saliva as a Predictive and Prognostic Tool for OSCC in Tamol Chewer's Population in Assam. Asian Pacific Journal of Cancer Prevention:Vol 22, June 2021
 - Lhakit Lepcha, Manash Pratim Sarma, Amal Chandra Kataki, Bala Gopalan Unni: Association of X-ray Repair Cross-Complementing Group 1 Arg399Gln Polymorphisms with the Susceptibility to Develop Oral Squamous Cell Carcinoma in Tamol Chewer's Population in Assam, India. Indian Journal of Dental Sciences: Volume 13: Issue 2, March 2021
- **2020**
- K. Susan John, P.S. Anju, S. Chithra, S.U. Shanida Beegum, I.P. Anjana Devi, M.N. Sheela and G. Suja: Utilization of Resources as a Component of Integrated Nutrient Management Strategy in Tropical Tuber Crops. Indian Journal of Fertilisers 16 (2) : 142-148, February 2020.
- **2019**
- Ajitha Nath K.G.R: Biochemical Characterization and Biological Evaluation of Royal Jelly from Apis cerana. ScholArena: Journal of Food Technology and Food Chemistry: February 2019
 - Sebrin J Islam, Prasenjit Manna, Balagopalan Unni and Jatin Kailta: Higher concentrations of heavy metals impair antioxidant defense mechanism and growth response of muga silkworm, Antheraea assamensis (Lepidoptera: Saturniidae). Journal of Entomology and Zoology Studies: February 2019
 - Sudip Some, Onur Bulut, Kinkar Biswas, Anoop Kumar, Anupam Roy, Ipsita Kumar Sen, Amitava Manda, Octavio L. Franco, İkbāl Agah İnce , Kartik Neog, Sandip Das, Sayantan Pradhan, Subhadeep Dutta, Debjoy Bhattacharjya, Soumen Saha, Pradeep K. Das Mohapatra, Anil Bhuimali, B. G. Unni, Ahmet Kati, Amit Kumar Mandal, M. Deniz Yilmaz & Ismail Ocsoy : Effect of feed supplementation with biosynthesized

silver nanoparticles using leaf extract of *Morus indica* L. V1 on *Bombyx mori* L. (Lepidoptera: Bombycidae). SCIENTIFIC REPORTS (2019) 9:14839, October 2019.

▪ **2018**

- Kabita Gogoi, Prasenjit Manna, Tapan Dey, Jatin Kalita, Bala Gopalan Unni, Dibyajyoti Ozah, Pranab Kumar Baruah : Circulatory heavy metals (cadmium, lead, mercury, and chromium) inversely correlate with plasma GST activity and GSH level in COPD patients and impair NOX4/Nrf2/GCLC/GST signaling pathway in cultured monocytes. *Toxicology in Vitro* 54 (2019) 269–279, October 2018.
- Ajitha Nath Koomankode Ganapathi Ramanathana: A review on Royal Jelly proteins and peptides. *Journal of Functional Foods*: March 2018
- Ajitha Nath Koomankode Ganapathi Ramanathan: Antimicrobial Activity of Royal Jelly from Indian Honeybee, *Apis Cerana*. *IJAPRR International Peer Reviewed Refereed Journal*, February 2018
- Ajitha Nath KGR: Comparison of proteins in two honey samples from *Apis* and stingless bee. *International Journal of Research in Pharmacy and Pharmaceutical Sciences*, March 2018

▪ **2017**

- Moonmee Bharadwaz, Prasenjit Manna, Dhruvajyoti Das, Niren Dutta, Jatin Kalita, Balagopalan Unni, Hari Prasanna Deka Boruah : Isolation, purification, and characterization of staphylocoagulase, a blood coagulating protein from *Staphylococcus* sp. MBBJP S43. *International Journal of Biological Macromolecules* 102 (2017) 1312–1321, May 2017.
- Tapan Dey, Prachurjya Dutta, Prasenjit Manna, Jatin Kalita, Hari Prasanna Deka Boruah, Alak Kumar Buragohain and Balagopalan Unni : Anti-Proliferative Activities of Vasicinone on Lung Carcinoma Cells Mediated via Activation of Both Mitochondria-Dependent and Independent Pathways. *Biomolecules & Therapeutics (Biomol Ther, 1-8 (2017))*, January 2017.

▪ **2016**

- Tapan Dey, Prachurjya Dutta, Prasenjit Manna, Jatin Kalita, Hari Prasanna Deka Boruah, Alak Kumar Buragohain, Balagopalan Unni, Dibyajyoti Ozah, Mihir Kumar Goswami and Ratan Kumar Kotokey : Cigarette smoke compounds induce cellular redox imbalance, activate NF- κ B, and increase TNF- α /CRP secretion: a possible pathway in the pathogenesis of COPD. *Toxicology Research (Toxicol. Res., 2016, 5, 895)*, March 2016

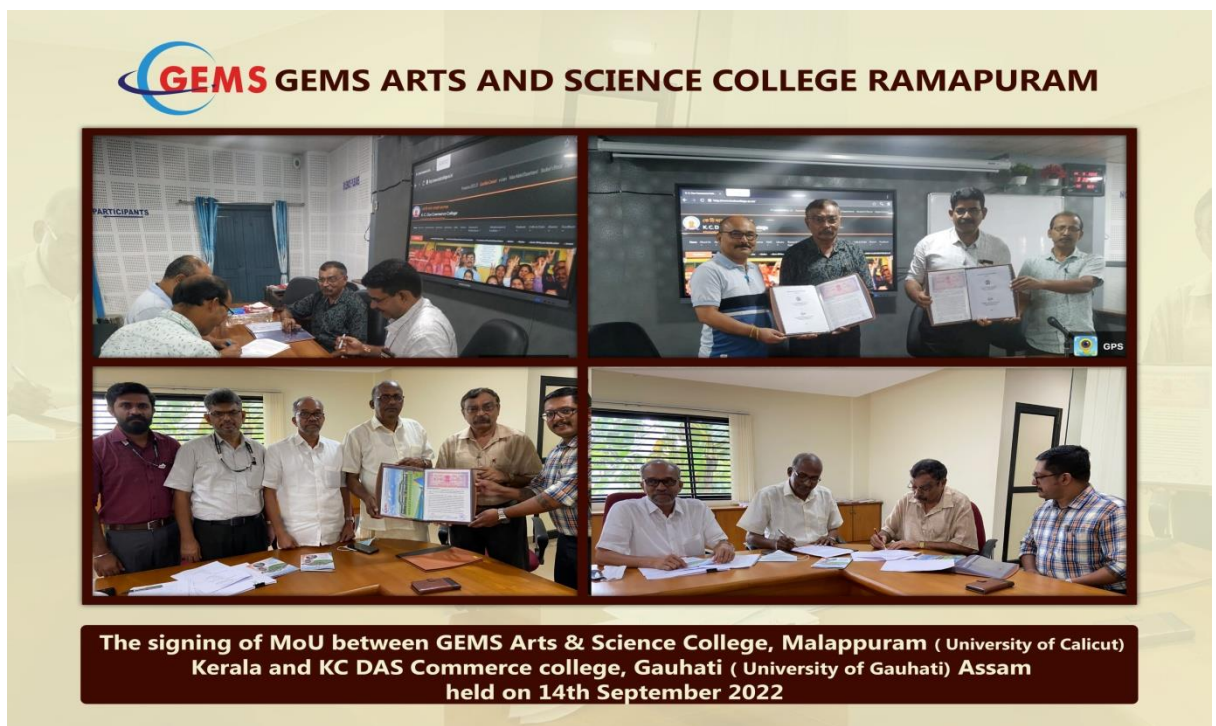
▪ **PATENTS Granted/Filed**

- **Usha & Naveen Mohan (2022)** A process for rapid biodegradation of polyethylene by streptomyces isolated from garbage soil (**Patent No :384196**)

- **Nayana P, Ashfena C, and Balagopalan Unni (2023).** Single Cell Protein and its process of preparation (**Patent Application No.: 202341058836**)
-
- **Nayana P, Safeeda K, and Balagopalan Unni (2023).** Nanofertilizer composition and its process of preparation (**Patent Application No.: 202341058794**)
-
- **Daisy Sharma ,Manash Pratim Sarma ,Nanam Ronya ,Balagopalan Unni ,Chandana Choudhury Barua (2023)LOW-COST NUTRIENT DENSE MULTIGRAIN WEANING FORMULATION (Patent Application No : 202231014874)**
-
- **Ankurpan Saikia, Sunandan Baruah, Balagopalan Unni, Taraprasad Das, Ananya Kalita,Rajeev Kumar Pappuru (2023) Smmart Biometric eye to overcome blindness (Patent Application No :202231068097)**
-

Memorandum of Understanding (MoU)

- GEMS Arts & Science college is encouraging the faculties to submit research projects utilizing the available resources for external funding from various funding bodies such as Department of Science & Technology, Department of Biotechnology, Council of Scientific & Industrial Research and Indian Council of Medical Research Etc. For all such project submissions, the college is going for collaboration with nearby institutions/universities within Kerala and outside Kerala. For that, MoU is being signed with such collaborative institutions /universities. Such MoU will help the faculties for mutual collaboration with project submission, student training program and faculty exchange program for short term too.:





The signing of MoU between GEMS Arts & Science college (University of Calicut), Malappuram Kerala & Assam Downtown University, Gauhati Assam held on 23rd August 2023

FUTURE PLANS/programs

Up gradation of research laboratory infrastructure in respective departments

- Expanding the research community through collaborative programmes and encouraging more researchers to adopt facilities from different laboratories/ institutions.
-
- Organising workshops/seminars on identified areas of research to promote participation of researchers from other institutions and universities
- Publication of articles in peer reviewed journals having good impact factor, filing of patents, books and proceedings
- Encourage faculties participation in national /international conferences organized by the well recognized R7D institutions/Universities
-