PRINCIPAL’S NOTE

It is with immense pleasure that I pen down this message for the newsletter issued by the Department of Biosciences of our college. The outstanding performance of the Department of Biosciences deserves strong appreciation. The department actively organized and conducted various sponsored programmes and national seminars with perfection. The excellence exhibited by the students of the department in curricular and co-curricular aspects is noteworthy. This newsletter provides an insight into various activities and achievements of the department. A note of congratulation to the editorial board for their tireless effort. I wish the department all success in their future endeavours.

Dr. A. Biju  
Principal

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5 JUNE 2015  
2 FEBRUARY 2016  
18 & 19 FEBRUARY 2016  
24 FEBRUARY 2016  
29 SEPTEMBER 2015

COLLEGE MANAGING COMMITTEE

Mr. K.M. Shamsuddin (Chairman)  
Mr. M.A. Abdul Salam (Vice Chairman)  
Dr. K.A. Zakkariya (Secretary and Correspondent)  
Adv. C.K. Arif (Joint Secretary)  
Mr. T.M. Zakeer Hussain (Treasurer)

WE HOLD OUR HEAD HIGH

Shabnamm A.A., S6 B.Sc. Biotechnology has been secured ‘A Grade’ in CBCSS Biotechnology Degree Examinations -2015 conducted by M.G. University, Kottayam.

Rashmi P. Kumar, won second place in Poetry Recitation (Hindi) in M.G. University youth festival ‘Saparya 2016’.

Lulu S. Kumar, S6 B.Sc. Biotechnology received best outgoing student award of the year 2015-16.
MESSAGE ...... chasing perfection to catch excellence

We have immense pleasure to publish the fourth issue of the OPERON to showcase the activities and achievements of the Department. The Department of Biosciences has evolved with novel thoughts and ideas which was a vital addition to the curricular and co-curricular stature of the college. DST-FIST support is yet another milestone which has further strengthened the initiatives to become a research department.

The quality initiatives of the department in the present academic year have witnessed six funded programmes viz. KSCSTE sponsored Environmental Day, International Ozone Day, World Wetland Day, National Science Day, UGC sponsored National Seminar and M.G. University student services sponsored Drug abuse awareness programme. There are five ongoing funded student projects and four UGC minor research projects in the department. KSCSTE has sanctioned fund for science popularization which is another highlight of the year. The students’ participation in curricular and extra curricular activities at University level was exemplary in the year.

I express my deep sense of appreciation to the Management, Principal, colleagues and students for the laurels they brought to the department. The department will strive to continue its efforts to bring innovations and thus to catch excellence.

Students Achievements

Shaheen S. Salam, S4 MSc Biotechnology won II Prize in Essay competition organized by the Department of Biotechnology CUSAT, as part of National Science Day Celebrations on 25 February 2016.

Athulya C.J., S4 MSc Biochemistry won II Prize in Quiz Competition conducted as part of the seminar on ‘drug designing’ at Sree Sankara College Kalady on Dec 2015.

Lulu S. Kumar has been selected as Kalathilakam in Fine Arts and Literary Fest ‘Thira 2016’ organized by Fine Arts and Literary Club, MES College Marampally.

Lulu S. Kumar, K. A. Aisha Ansari, Shahana Fathima and Athira Nair, are members of the Oppana team which secured First Prize; Adil, S2 B.Sc. Microbiology is the member of the Kolkali team which secured first place and Ameesh Muhammed, S4 B.Sc. Microbiology is the member of the Duffmuttu team which secured third place in M.G. University Youth Festival ‘Saparya 2016’.

Vaishnav A. B., got ‘A grade’ in Mimicry in M.G. University youth festival ‘Saparya 2016’. Shukkoor is the member of Basket Ball winning team.
The Department organized a two-day National Seminar on "Recent Advances in Molecular Medicine" in association with Department of Biotechnology, CUSAT on 18-19 February 2016. The seminar was inaugurated by Dr. Sarita G. Bhat, Professor and Head, Department of Biotechnology, CUSAT. The seminar included paper presentations of experts and research scholars. More than 90 participants from university and departments registered for this seminar.

1. Dr. Sarita G Bhat, ("CRISPR cas9 for genome engineering") 2. Prof. M. Haridas, (Emeritus) Director, Inter University Centre for Bioscience, Kannur University, ("How harmful are the Ayurvedic metal preparations?") 3. Rajeev K. Sukumaran, Centre for Biofuels, Biotechnology Division, CSIR-NIIST ("Novel therapeutic targets through transcriptome analysis") 4. Dr. C.M. Girish, DST Inspire Fellow, Amrita University, ("Emerging trends in cancer nanotechnology") 5. Dr. Kaushik Chatterjee, Department of Materials Engineering, IISc, Bangalore, ("3D Tissue scaffolds: Biology’s New Dimension") 6. Dr. Vinod Kumar G.S., Scientist, RGCB, Trivandrum ("Current trends in medicinal chemistry").
WORLD ENVIRONMENT DAY CELEBRATIONS - 2015

direction given by the Hon’ble Vice Chancellor, Mahatma Gandhi University, Kottayam.
On the day, the students and teachers planted different types of trees in a specified area of the college, named as ‘Santhithal’.
The first session on “Think and Reduce the Pressure on Environment” handled by Sri. Venu Variath.
The second session on “Biodiversity of Western Ghats and the Role of Organisms in Ecosystems” led by Sri. Dharmaraj P.K., Member, One Earth, One Life.
An Inter-collegiate Essay writing Competition was organized on the topic ‘Is sustainable development possible without hindering the pristine existence of nature’. The winners are First prize - Krithika Ramakrishnan, St. Teresa’s College, Ernakulam. Second Prize - Arya K.J., St. Xaviers College, Aluva.

Third Prize- Roibi Merlin, St. Teresa’s College, Ernakulam.
A poster designing competition on the topic “Think Eco Friendly Live Eco Friendly” was conducted. The winners are, First prize - Arya Das, St. Xaviers College, Aluva. Second Prize- Nabil T.M., MES College, Marampally and third Prize- Jishnu Raj, Sree Sankara College, Kalady.

Publications
KSCSTE Funded student projects

Topic: Comparative study on the effect of Azotobacter and Rizhobi as fertiliser on vegetable plants.
Principal Investigator: Anu Ruby Benny

Topic: Small scale production of rhizobial inoculants-nitrogenase activity and field application studies.
Principal Investigator: Neelima TK

Topic: Extraction of dietary fibre from different food stuffs and the comarative study including bile acid binding capacity.
Principal Investigator: Neelima TK

Topic: Isolation of phosphate solub-illising bacteria and their effect on germination of rice seeds as well as seedling growth. PI: Dr Mini K Paul

UGC Supported Minor Projects

Principal Investigator: Mrs. Resiya Karim.
Subject: Bioprocessing of Banana Peel for Pectinase Production.

Principal Investigator: Mrs. Nimai K.A.
Subject: Isolation and Characterization of Oil Degrading Microorganism from Oil Contaminated Sites.

Principal Investigator: Mrs. Anu Ruby Benny.
Subject: Isolation and Characterization of Plastic Degrading Actinomycetes from Garbage Soil.

Principal Investigator: Mrs. Shalet Varghese.
Subject: Microbial Degradation and Metabolic Profile of Organo-phosphorous insecticides by Soil Bacteria.

NATIONAL SCIENCE DAY CELEBRATIONS - 2016

The Department organized National science day celebrations - 2016 on 24 February with the focal theme: "Make in India: S & T driven innovations sponsored by KSCSTE & supported by DST. The event was inaugurated by Prof (Dr.) I. Iburna, Director, Institute for Intensive researches in Basic Sciences, M.G. University. During his lecture he has given an insight to our students about the need of 'skill development' & the possibilities to turn 'make in India': the vision into a reality. He also talked about the role of science & technology in promoting the growth of India in the global scenario.

The session was succeeded by Poster Designing Competition for College students. Anusree, S4 M. Sc. BT & Johnvin Baby of S4 M.Sc. BC came up in the First and Second positions respectively.

We organized a Science Model Making Competition for School Students in Govt. U.P. School, North Vazhakulam. About 20 students have actively participated with various models depicting the science & technology innovations in India. The meeting presided over by Mini Mathew, Head mistress, Govt. U.P. School and our Principal has distributed the cash prizes to the winners.
INTERNATIONAL OZONE DAY OBSERVANCE

“International ozone day observance -2015” with the focal theme ‘30 years of healing the ozone day together’ on 29 September 2015 sponsored by KSCSTE. The programme was inaugurated by Dr. K. P. Joy and he led the first session on “Environmental Issues of 21st Century”. The second session was inter-collegiate quiz competition. First place: Bharath Matha College, Thirukakkara, Second Place: Marthoma College, Perumbavoor, and Third place: U.C. College, Aluva and St. Theresa’s College. Third session was a poster competition on the topic “Health and Environmental Effects of Ozone Layer Depletion” for students of nearby UP Schools. Students’ creativity and environmental sensitiveness reflected in the posters. First place: Sreelakshmi Rajeev, GUPS, North Vazhaikkulam, Second Place: Muhammed Haif, Nusrathul Islam UP School, Marampally & Third place: Jibin P. S, GUPS, North Vazhaikkulam.

DRUG ABUSE AWARENESS PROGRAMME

The Department organized Drug abuse awareness programme with the financial assistance from Department of student services, MG University Kottyam on 13 August 2015. Sri Joy Mukkudas, Counselor, Nirmala College delivered a valuable session on alcoholism and drug abuse with his attractive skill on magic. The first year UG students of the college attended the program. Mr. Varghese Paul, Director, Centre for alternative Learning and Living, Chalakkudy led the second session on the ill effect of alcoholism on health and productivity of youth.

BEST OUT OF WASTE

The students of S6 BSc Biotechnology have made the course assignment of Environmental biotechnology to a creative assignment. The large hue and cry for the protection of the environment was represented by making valuable items from waste. The assignment activity was exhibited on the World Wet Land Day exhibition and was attracted by the visitors.

JOURNAL CLUB

Journal club seminar by the students is organized in every year to familiarize with the journals and to keep abreast with the developments in life sciences. The programme is focused on PG students and advanced learners of BSc Biotechnology and Microbiology. Twenty presentations were carried out in the present academic year. Discussion on the paper presented by the students was very effective and thought provoking.
ON SITE LEARNING
Second year B.Sc. Biotechnology and B.Sc. Microbiology students visited RGCB, Trivandrum on 5 February 2016. The students were excited to see the ongoing research carried in the plant biology, cancer biology and reproductive biology. They interacted with scientists and research scholars in RGCB. Many of them have motivated to take up research as career.

CUSAT VISIT
The final year PG students visited Department of Biotechnology, CUSAT on 25 February 2016. The students visited the Instrumentation facility, Microbial genomics lab, Microbial technology lab and Neurobiology lab. The students discussed various topics with the teachers and research scholars of the various labs.

STUDENTS AS RESOURCE PERSONS
Reshmi P. Kumar, Sreekutty and Sruthy satheshan (S6 B.Sc. Biotechnology) have taken classes for Kudumbasree workers of Marampally on waste management.

They organized an awareness class on ‘solid waste management’ for Mathematics students of our college on 9 February 2016. The students are highly appreciated.

Santhisthal: A Biodiversity Hot Spot
In collaboration with Kerala State Biodiversity Board, the Department is maintaining a nature-loving programme- ‘Santhisthal’ in accordance with the directions specified by Kerala Biodiversity Board. As per this, the department maintaining 10 cents of land of the college to the proposed project.

The project is intended to build an area to invite the small animal species, birds and butterflies and make the area a small forest and propagation of endemic species. For this purpose, we have planted rare and endangered fruit trees, flowering plants and other species in this land.

VISIT TO MODERN BREAD
The PG students of the department has visited Modern Bread Ernakulam to get squinted with the Bioprocess technology of fermentation. The students were enthralled by the techniques they used for the fermentation and fortification of dough, automation of the process.

CROSS BATCH TEACHING
Nikhil Thanakhan, Abinil, Vaishnav A.B., Basim and Mansiya (M. Sc. Biotechnology) took classes for UG students on Teachers Day. They discussed various topics related to biochemistry, rDNA technology and molecular biology.
World Wetland day Celebrations

The Department organized World Wetland day Celebrations - 2016 sponsored by KSCSTE on 4 February 2014. Dr. A. Biju, Principal inaugurated the function. Dr. Sreekanth, DST Young Scientist, CUSAT and Mr Rajendran, Retired DCF, Social Forestry, Emakulam handled the sessions. Exhibition, Documentary and Field Visit to Mongalavanam, Kochi with school students are the highlights of the programme.

Participation in Arts Festival

Christmas celebrations and Arts and Literary festival (THIRA 2016) were conducted in our college on 23 December 2015 and 10-12 February 2016 respectively. The students of our Department participated in various events such as group dance, bharathanatyam, thiruvathira, oppana, mimicry, literature events, card designing etc. Lulu S. Kumar, Rashmi Pradeep Kumar, Aysha Muhammed Kabeer (S6 B.Sc. Biotechnology) and Anusree (S2 M.Sc. Biotechnology) won many prizes in off stage events and Lulu S. Kumar selected as Kalathilakam in THIRA 2016.

Best Outgoing students

Lulu S. Kumar  
B.Sc. Biotechnology

K.A. Aysha Ansari  
B.Sc. Microbiology

Vaishnav A.B.  
M.Sc. Biotechnology

Shyamjith T.A.  
M.Sc. Microbiology

Johnwin Baby  
M.Sc. Biochemistry

Published by Head, Department of Biosciences, Editors: Mr. Vivas salim and Ms. Annu Mary Albert