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A College with Potential for Excellence (CPE) All India 92nd Rank in NIRF by MHRD (2017),
Recognized as Band PERFORMER in ARIIA by Ministry of Education, Govt. of India

Two-Day National Seminar on

RECENT ADVANCES IN BIOLOGICAL SCIENCES

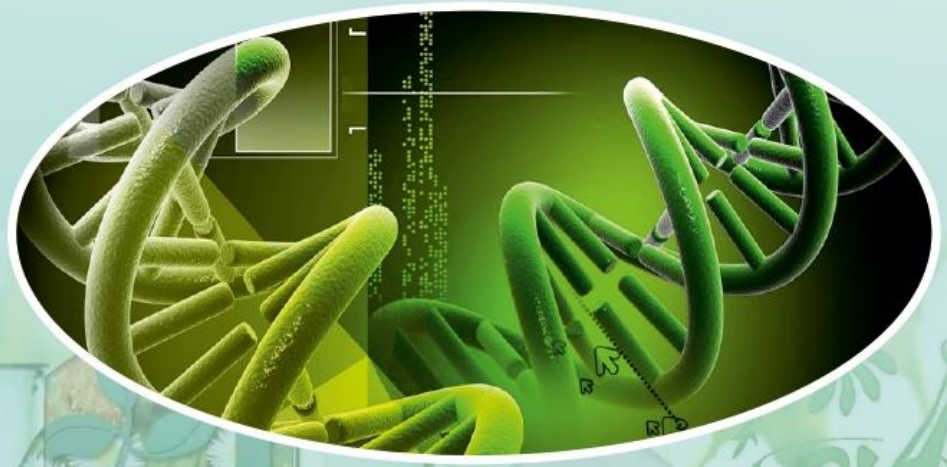
(RABS-2022)

(Under Autonomous Funds)

In collaboration with Krishna University, Machilipatnam

On

28th & 29th October, 2022



Organised by

Departments of Botany & Zoology

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KAKARAPARTI BHAVANARAYANA COLLEGE

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Invitation

You are Cordially invited to the Inaugural Session of

Two-Day National Seminar on

RECENT ADVANCES IN BIOLOGICAL SCIENCES

(Under Autonomous Funds)

In collaboration with Krishna University, Machilipatnam

(28th & 29th October, 2022)

28TH OCTOBER, 2022 @ 10:00 A.M.

Venue: UG Seminar Hall.

Chief Guest

Dr. Ramesh Rathod

Scientist, ICAR-CIFA

Presided by

Dr. V. Narayana Rao

Principal , K.B.N. College

Organized by

Departments of Botany & Zoology

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KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

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Kothapeta, Vijayawada – 520 001.
A College with Potential for Excellence (CPE) All India 92nd Rank in NIRF by MHRD (2017)
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TWO-DAY NATIONAL SEMINAR ON
RECENT ADVANCES IN BIOLOGICAL SCIENCES (RABS-2022)
28TH & 29TH OCTOBER, 2022

SESSION-WISE PROGRAMME SCHEDULE (Day – 1 – 28.10.2022)

TIME	THEME	RESOURCE PERSON
DAY - 1 (28.10.2022)		
9.00 AM to 10:00 AM	**Registration**	
10:00 AM - 10:30 AM	Inaugural Session	Presidential Remarks by **Dr. V. Narayana Rao,** Principal, K.B.N. College.
		Inaugural Address by the Chief Guest **Dr. Ramesh Rathod,** Scientist, Regional Research Centre, ICAR-Central Institute of Freshwater Aquaculture, Vijayawada.
10:30 AM - 11:15 AM	Keynote Address	**Dr. B. Rajesh,** Head & Chief Scientist, Research & Development design, International Healthcare Limited, Mangalagiri.
11:15 AM - 11:30 AM - Tea Break		
Technical Session-1 11:30 AM - 12:15 PM	Biochemistry & Medicinal Biochemistry, Agricultural, Pharmaceutical & Medicinal Biotechnology	**Dr. B. Kishore Babu,** Associate Professor, Dept. of Engineering Chemistry, Andhra University, Visakhapatnam.
12:15 PM - 1:00 PM - Followed by Paper presentations by Participants		
1:00 PM - 2:00 PM - Lunch Break		
Technical-Session-2 2:00 PM -2:45 PM	Recent trends in Animal Sciences and Aquaculture	**Prof. P. V. Krishna** Dept. of Zoology & Aquaculture, Acharya Nagarjuna University, Guntur.
2:45 PM - 3:30 PM - Followed by paper and poster presentations by Participants		
03:30 PM -03:45 PM - Tea Break		
Technical-Session-3 3:45 PM - 4:15 PM	Microbiology and microbial techniques	**Dr. Naga Rathna Supriya** Assistant Professor, Uka Tarasdia, University, Surat, Gujarat.
4:15 PM - 5:00 PM - Followed by paper and poster presentations by Participants		

SESSION-WISE PROGRAMME SCHEDULE (Day – 2 – 29.10.2022)

TIME	THEME	RESOURCE PERSON
DAY - 2 (29.10.2022)		
Technical-Session-4 10:00 AM to 11:15 AM	Genetics & Genetic Engineering and Ecology & Evolution	**Dr. K. Sudhakar** Assistant Professor of Zoology, Government Degree College, Tiruvuru
		Dr. Venkatesh Rampilla Department of Botany, Government College (A), Rajamahendravaram
11:15 AM - 11:30 AM - Tea Break		
Technical Session-5 11:30 AM - 12:15 PM	Recent Trends in Plant Science, Phytochemistry & Pharmacology	**Dr. Ahmed Abdul Haleem Khan** Dept. of Botany, Telangana University, Dichpally, Nizamabad.
12:15 PM - 1:00 PM - Followed by Paper presentations by Participants		
1:00 PM - 2:00 PM - Lunch Break		
Technical-Session-6 2:00 PM -2:45 PM	Bioinformatics and Computational Biology and & Nano Biotechnology	**Dr. J.N. Lavanya Latha** Assistant Professor, Dept. of Biosciences & Biotechnology, Krishna University, Machilipatnam.
2:45 PM - 3:15 PM - Followed by paper and poster presentations by Participants		
03:30 PM -03:30 PM - Tea Break		
3:30 PM - 4:30 PM	Valedictory Session	

TWO-DAY NATIONAL SEMINAR ON
RECENT ADVANCES IN BIOLOGICAL SCIENCES (RABS-2022)

28th & 29th OCTOBER, 2022 @ UG Seminar Hall

Organized by

Departments of Botany and Zoology

REPORT

Introduction

The Departments of Botany and Zoology organized **"Two-Day National Seminar on Recent Advances in Biological Sciences (RABS-2022)" on 28th & 29th October, 2022.** On the first day of the seminar, inauguration programme commenced at 10.00 AM under the chairmanship of Dr. V. Narayana Rao, Principal, K.B.N. College. Ms. M. Sahiti and Mr. S. Ismaiel Ali Basha welcomed the gathering and invited the dignitaries on to the dais. Opening remarks were given by the Principal, Dr. V Narayana Rao, followed by the lighting up the lamp by the dignitaries on the dais. The theme of the seminar and technical sessions were explained by the Convener, Dr. M. Rahamtulla, Department of Botany. Further, Mr. S. Ismaiel Ali Basha, faculty from the Department of Botany introduced the Chief Guest, Dr. Ramesh Rathod, Scientist, Regional Research Centre-Central Institute of Freshwater Aquaculture (CIFA) Andhra Pradesh. The Chief Guest addressed the gathering in the inauguration session and delivered an informative talk on the Aquaculture. He shared valuable information regarding revenue and advancement of Aquaculture in India. Later, Key note speaker Dr. B. Rajesh, Chief Scientist, Research & Development Department, International Health Care Limited, Mangalagiri, gave a Keynote address regarding Probiotics. He highlighted the importance of probiotics in day-to-day life. He also stressed about the production and application of probiotics. Further, the dignitaries, Sri. T. Srinivasu, Secretary & Correspondent of KBN College (Autonomous), Sri. P. L. Ramesh, Vice-Principal, Dr. M. Venkateswara Rao, Vice-Principal conveyed their warm wishes to the participants. Further, the dignitaries on the dais released the ISBN book entitled **"Recent Advances in Biological Sciences Volume-I".** Finally, Mrs. G. Krupa Jayasree, Head, Department of Zoology proposed vote of thanks for the inaugural session.

Objectives of the Seminar

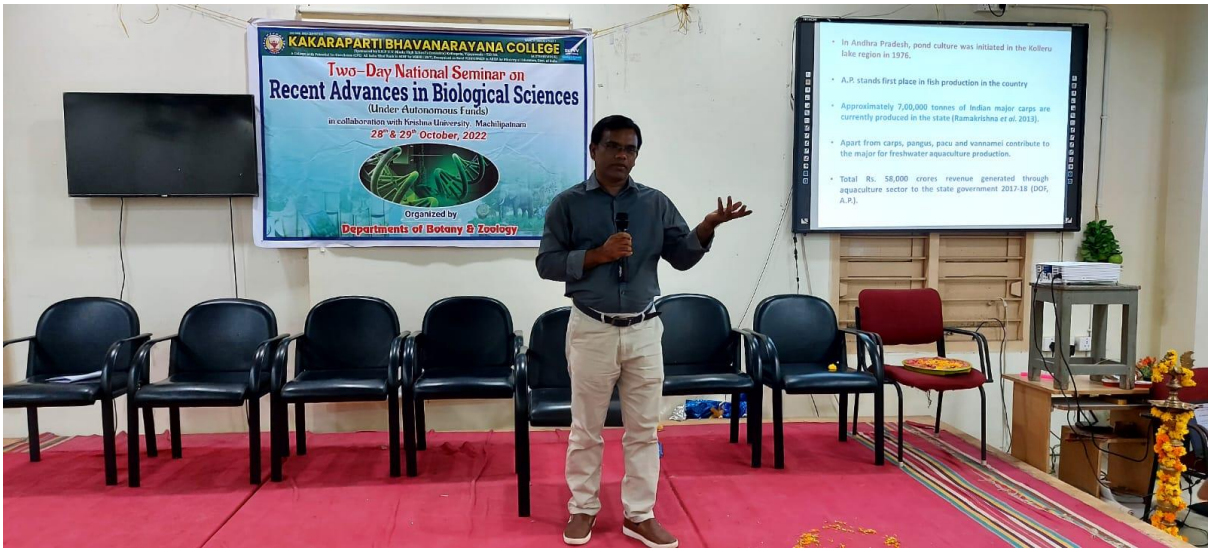
The main aim of this seminar is to foster strong interaction among scientists, teachers and student of Biological Sciences from various universities and research institutes. The other

purpose of this seminar is to provide an academic platform for discussion on the latest achievements in Biological Science research. This seminar will also provide opportunity for Research Scholars, PG students to gather and exchange ideas and views, which would enrich their scientific temper.

Presidential remarks by Dr. V Narayana Rao, Principal, K.B.N. College

Lamplighting event by the dignitaries on the dais

Release of the ISBN book entitled "Recent Advances in Biological Sciences Volume-I" by the dignitaries on the dais.



Inaugural Address by Dr. Ramesh Rathod, Scientist, Regional Research Centre-Central Institute of Freshwater Aquaculture (CIFA)

Keynote Address by Dr. B. Rajesh, Chief Scientist, Research & Development Department, International Health Care Limited, Mangalagiri

Participants and delegates in the inaugural session

Technical Session-I

11:30 AM – 12:15 PM

Title of the Session: Biochemistry & Medicinal Biochemistry, Agricultural, Pharmaceutical & Medicinal Biotechnology

Session Manager & Rapporteur: Dr. G. Sakunthala

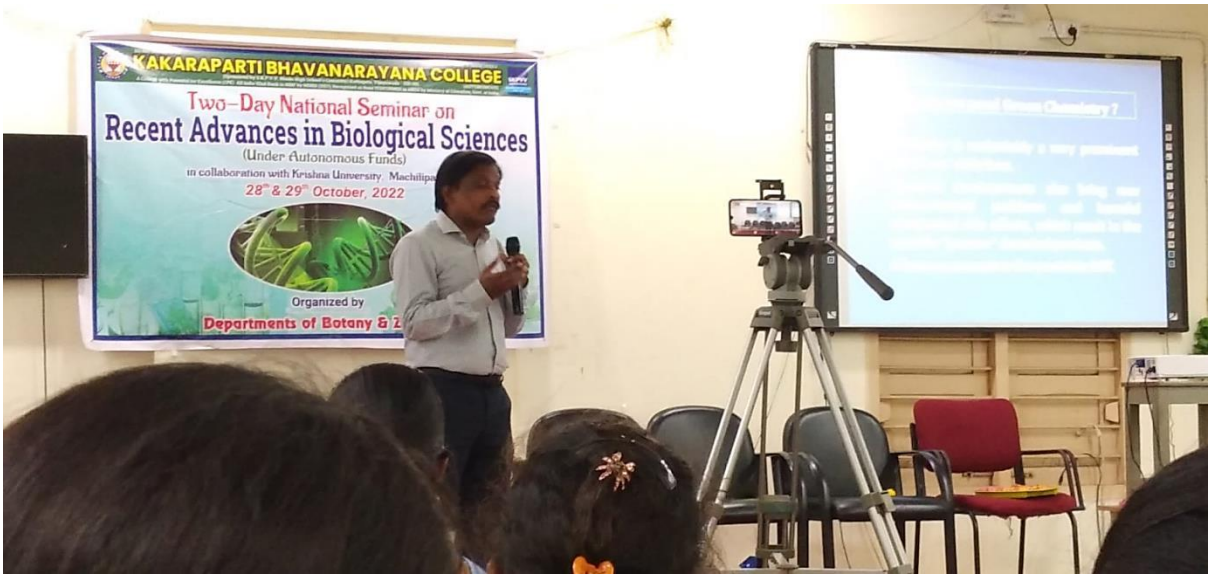
Session Chairman: DR. B. Rajesh, Chief Scientist, Research & Development Department, International Health Care Limited, Mangalagiri.

Speaker: Dr. B. Kishore Babu, Associate Professor, Dept. of Engineering Chemistry, Andhra University, Visakhapatnam.

In the technical session-1, Dr. B. Kishore Babu gave an informative talk on importance of Nanoparticles in the field of medicine. He emphasized that Nanotechnology has a great potential to transform society and molecular nanotechnology or nanotechnology is a unique type of manufacturing applied science, with the aid of this technology we can build things from the atom up and can rearrange the matter with atomic accuracy.

Paper presentations

S. NO	Name & Designation of the Presenter	Title of the Paper	Paper Highlights
1	**Dr. G Ramesh,** Assistant Professor Department of Botany Hindu College, Guntur	Role of Bio-fertilizer on production of Brinjal (*Solanum melongana* L.)	Bio-fertilizers showed significant effect on growth of *Solanum* root & fruit
2	**Dr. B. Ravi Babu, Research Scholar** Department of Environmental Science Acharya Nagarjuna University	Cardio protective activity of *Aegle marmelos* leaf extract in doxorubicin induced cardiotoxicity rats	*The extracts of Aegle marmelos* are potential anticancer agents.
3	**Dr. J. Madhavi Assistant Professor Department of Botany &Microbiology**	Pharmacological significance of *Boerhaavia diffusa*	*B. diffusa* has a good number of traditional uses for ameliorating multiple diseases, which were supported by several pharmacological and clinical studies.



Technical session-I Invited talk by Dr. B. Kishore Babu, Associate Professor, Dept. of Engineering Chemistry, Andhra University, Visakhapatnam.

Technical Session-II

2:00 PM – 2:45 PM

Title of the Session: Recent trends in Animal Sciences, Aquaculture & Sericulture

Session Manager & Rapporteur*:* Mrs. G. Krupa Jayasri

Session Chairman: **Dr. Ramesh Rathod,** Scientist, Regional Research Centre-Central Institute of Freshwater Aquaculture (CIFA) Andhra Pradesh.

Speaker: **Prof P.V. Krishna**, Department of Zoology & Aquaculture, Acharya Nagarjuna University, Guntur.

Prof. P.V. Krishna gave an elaborative talk on the different aspects of Aquaculture. He emphasized the pros and cons of Aquaculture. He also highlighted that unfortunately Indian aquaculture system facing several challenges in cope up with sustainable production of fish food which include availability of good quality seeds, land leasing tenure, water availability, feed availability, access to technology at grass root level, climate change and pollution are the prominent constraints of aquaculture development in India. Further, he suggested that it is essential for appropriate operational conditions to be established at all levels (local, national, regional, and international) to make development of aquaculture in a sustainable and environmentally sound manner attractive to farmers, fishers, local communities and other entrepreneurs and stakeholders.

Invited talk by Prof P.V. Krishna, Department of Zoology & Aquaculture, Acharya Nagarjuna University, Guntur.

Paper presentations

S. NO	Name & Designation of the Presenter	Title of the Paper	Paper Highlights
1	T. Pradeep Sastry, Assistant Professor, Department of Zoology, Ideal College of Arts and Sciences, Kakinada	Impact of environmental degradation on Aquatic life.	The maintenance of effective biosecurity in aquaculture is becoming more and more essential.Promising technologies that employ the principles of traditional aquaculture to contribute to the sustainability of modern aquaculture are outlined.
2	S. Manjula Sree Veni, Assistant Professor, Department of Zoology, Noble College, Machilipatnam.	Enzymatic changes of LDH and ACHE in tissues of fish, *Cirrhinus mrigala* under lethal and sub-lethal exposure to cypermethrin (10%)	The test organisms were exposed to sublethal and lethal concentrations of Cypermethrin for a period of 24h and 96h and were sacrificed for tissues such as gill, kidney, liver, brain and muscle. A significant increase in the LDH activity in gill, liver and muscle were observed.

TECHNICAL SESSION-III

3:00 AM – 3:45 PM

Title of the Session: Microbiology and microbial techniques.

***Session Manager & Rapporteur*:** Dr. G. Krishna Veni

Session Chairman: **DR. B. Rajesh**, Chief Scientist, Research & Development Department, International Health Care Limited, Mangalagiri.

Speaker: **Dr. Naga Ratna Supriya,** Assistant Professor, Uka Tarsadia University, Surat, Gujarat.

Dr. Naga Ratna Supriya gave an interesting talk on plant growth promoting Rhizobacteria. She emphasized that PGPR has a determined neutral or beneficial effect on plant growth and suggested Bio-formulators for sustainable agriculture. She stressed that over-dependence on artificial fertilizers and pesticides has led to the circulation of life-threatening substances in the environment which are not only hazardous for human and animal consumption but can also disturb the ecological balance. So, there is an urgent need to manipulate and exploit rhizosphere microflora such as PGPR in an efficient way and expand their usage to serve as a key for sustainable agriculture via improving soil fertility, crop tolerance, productivity, and maintaining a balanced nutrient cycling.

Invited talk by Dr. Naga Ratna Supriya, Assistant Professor, Uka Tarsadia University, Surat, Gujarat.

Paper presentations

S. no.	Name & Designation of the Presenter	Title of the Paper	Paper Highlights
1	Ravi Ketipally, Assistant Professor, Department of Basic Humanities and Science, Chalapathi Institute of Engineering and Technology, Lam, Guntur.	Isolation and Screening of Industrially important enzymes producing fungi from the crop fields of Guntur district, Andhra Pradesh.	The fungal isolate *Alternaria sp.* is promising living organisms that might be useful in producing these valuable biocatalysts for the commercial use in the near future.
2	Mallika Dondapati, Research Scholar, Department of Microbiology, Acharya Nagarjuna University, Guntur.	Microbial and Analytical techniques for the discovery of bioactive compounds from marine fungi.	The encouraging investigation findings on the use of marine species as possible sources of bioactive substances promote the ongoing quest for novel chemicals with intriguing therapeutic uses.
3	Swarna L Gudapati Lecturer, Department of Microbiology, Hindu college, Guntur.	Microbiology and microbial techniques	Various techniques involved in culturing the microorganisms are discussed.

DAY 2

Technical Session-IV

10:30 AM – 12:15 PM

Title of the Session: Genetics & Genetic Engineering and Ecology & Evolution

Session Manager & Rapporteur: Dr. K. Kiran Kumar

Session Chairman: **Dr. Naga Ratna Supriya,** Assistant Professor, Uka Tarsadia University, Surat, Gujarat.

Speaker 1: **Dr. K. Sudhakar,** Asst. Professor, Government Degree College, Tiruvuru, Andhra Pradesh

Dr. K. Sudhakar gave an informative talk on the applications of Modern Neuro-imaginary Techniques in Diagnosis. Modern imaging technology has improved the ease and accuracy of the detection of cognitive impairments and the differential diagnosis of Alzheimer's disease. The detection of the anomalies of Alzheimer's disease can be used for both experimental studies and clinical diagnosis. Through clinical analysis and experimental exploration, expert consensus with evidence-based medical data will be more widely used in the diagnosis and study of Alzheimer's disease.

Invited talk by Dr. K. Sudhakar, Asst. Professor, Government Degree College, Tiruvuru, Andhra Pradesh

***Speaker 2*: Dr. Venkatesh Rampilla,** Asst. Professor, Government College Rajahmundry.

He highlighted the importance of sacred groves. He also stressed the ecological adaptions of ethnomedicinal plants. Further, he concluded that therapeutic efficacy and geography are other underlying factors that influence the collection and use of medicinal plants in traditional medicine systems. Geographic isolation has strengthened the indigenous knowledge of plant use. Human communities inhabiting remote and rugged ecosystems adopt diverse livelihood strategies such as collecting and utilizing locally available medicinal plants.

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Invited talk by Dr. Venkatesh Rampilla, Asst. Professor, Government College Rajahmundry.

Paper presentations

S. No.	Name & Designation of the Presenter	Title of the Paper	Paper Highlights
1	P. Chiranjeevi Raju Department of biochemistry. Acharya Nagarjuna university. Nagarjuna nagar, Guntur, Andhra Pradesh	Evaluation of the nephroprotective activity of *Heliotropium indicum* L. In Rifampicin-Induced nephrotoxicity	The ethanolic extract of *Heliotropium indicum* possesses nephroprotective activity and thus supports the traditional application of the same under the light of modern science.
2	N. Sreenivas Lecture in zoology, P R Government College(A), Kakinada	Bioluminescence for Mankind	Bioluminescence has even played a part in warfare. Medical applications of Bioluminescence are of great use to mankind application in the identification of pollutants is the current trend in research.

Technical Session-V

11:30 AM – 12:15 PM

Title of the Session: Recent Trends in Plant Sciences, Phytochemistry and Pharmacology

Session Manager & Rapporteur: **Mr. S. I. A. Basha**

Session Chairman: **Dr. Venkatesh Rampilla,** Asst. Professor, Government College Rajahmundry.

Speaker: **Dr. Ahmed Abdul Haleem Khan, Assistant Professor, Department of Botany Telangana University, Nizamabad.**

In this technical session, Dr. A.A.H. Khan gave an elaborative talk on metal tolerance in plants. Particularly he emphasized cadmium stress in plants. The anthropogenic activities deposit heavy metals to agroecosystems that lead to reduced crop yield with huge economical loss. Cadmium is the third abundant non-essential heavy metal with a long biological half-life that is known to suppress the growth and development of plant species. He carried the exogenous application of plant growth regulators- Salicylic acids (SA) and Homobrassinolide (HBL) on tiny periwinkle (*Catharanthus pusillus*) an annual herb to evaluate the cadmium stress in a pot experiment. The concentrations of plant growth regulators in combination compared with individual significantly enhanced plant parameters. He concluded that SA and HBL attribute a positive role in plant vegetative growth under Cd stress.

Invited talk by Dr. Ahmed Abdul Haleem Khan, Assistant Professor, Department of Botany Telangana University, Nizamabad.

Paper presentations

S. No.	Name & Designation of the Presenter	Title of the Paper	Paper Highlights
1	Dr. G. Krishna Veni Associate Professor, Department of Chemistry KBN College, Vijayawada	Phytochemical screening and quantitative estimation of metals in Nut grass using flame photometry	Quantitative determination of Na and K in these extracts using flame photometry reveals the presence of 12.56 ppm, 5.67 ppm and 3.32ppm of Na in acetone.
2	Dr. K. Kiran Kumar Associate Professor, Department of Chemistry KBN College, Vijayawada	Phytochemical analysis and qualitative estimation of leaf extracts of *Ixora coccinea* by UV-spectrophotometry.	The presence of phytochemicals such as flavonoids, phenolic compounds, and steroids. Quantitative estimation of phytochemicals present in the plant extracts by UV

			spectrometry showed that the amount of flavonoids, phenolic compounds and steroids were found to be 2.1,1.84mg and 8.47mg respectively.
3	Dr. E. Prabhavati Post-Doctoral Fellow Department of Botany and Microbiology, Acharya Nagarjuna University, Guntur	Silver effect on photosynthetic performance and symbiotic efficiency of horse gram.	Horse gram plants inoculated with Rhizobium strains HGR-4, 6, 13 and 25 besides having nitrogen fixation also have ability to grow in Ag soils.
4	Mrs. O. Sailaja Department of Chemistry KBN College, Vijayawada	Quantitative determination of alkaloids in methanol extracts of some selected plants by UV-spectrophotometry	The Quantitative results reveal that more quantity of alkaloids (99.49 mg) is present in musli plant extract.
5	K. Suneetha Department of Biochemistry, Acharya Nagarjuna University.	Qualitative and quantitative estimation of Quercitin using high-performance liquid chromatography (HPLC)	*Moringa olifera* leaves contain more percentage of Quercetin.

Technical Session-VI

2:00 PM – 2:45 PM

Session Manager & Rapporteur: Ms. M. Sahithi

Session Chairman: DR. B. Rajesh, Chief Scientist, Research & Development Department, International Health Care Limited, Mangalagiri,

Title of the Session: Biochemistry & Medicinal Biochemistry, Agricultural, Pharmaceutical & Medicinal Biotechnology

Speaker: **Dr. J. Naveena Lavanya Latha, Assistant Professor, Department of Biosciences & Biotechnology, Krishna university, Machilipatnam**

- Dr. J. Naveena Lavanya Latha elaborately explained how to identify candidate genes that improve the organic traits in *Oryza sativa* through an enhanced trapped system. She also stressed that molecular tools provide more advantageous plants by increasing productivity and reducing the abiotic and biotic stress effects.

Highlights

- The ROS detoxification process in plants is essential for the protection of plant cells and their organelles against the toxic effect of these species.

- Ascorbate peroxidase is a key enzyme regulating ROS levels acting in different subcellular compartments.
- When ROS species are produced in the plant cells the 4x Enhancer activated and expressed the APX enzyme 4 times more than its normal expression and overcomes the effects caused by ROS.
- Because of 4X Enhancer and its overexpression, the plant will survive and give better yield even though the plant is exposed to hard abiotic conditions.

Poster presentations

Valedictory session

The Valedictory session began at 4:00 PM. Mr. S.I.A. Basha, faculty from the department of Botany welcomed the gathering. Dr. V. Narayana Rao, Principal of K.B.N. College Presided over the function. Dr. M. Rahamtulla, Convener gave a brief report about the seminar. The valedictory address was delivered by the Chief Guest Dr. J. Naveena Lavanya Latha, Assistant Professor, Department of Biosciences & Biotechnology, Krishna university, Machilipatnam. She said the importance of skills required by today's youth for a successful career. Volumes and Certificates were distributed by the Chief Guest of the valedictory function. Scholars from different universities and colleges gave their feedback about the two-day day national seminar and its importance. They said that because of the two-day day national seminar they gained a lot of information about the Biological Sciences. Students shared their valuable feedback about the seminar and hospitality of our college, they said it was an excellent seminar and added value to their involvement. Felicitation to the chief guest Dr. J. Naveena Lavanya Latha by our Principal DR. V. Narayana Rao, Vice- Principals Sri. P. L. Ramesh and Dr. M. Venkateswara Rao, and IQAC Coordinator Dr. G. Krishna Veni. Finally, a vote of thanks was proposed by Mrs. G. Krupa Jayasree, faculty from the Department of Zoology.

Felicitation to the Chief Guest, Dr. J. Naveena Lavanya Latha, Assistant Professor, Department of Biosciences & Biotechnology, Krishna university, Machilipatnam

Conclusion

With the encouragement and support from the Management and Principal, and the assistance of the co-convener and co-ordinators from the departments of Botany and Zoology it was possible to make all arrangements for the smooth and successful conduct of the seminar. More than 125 members participated in this seminar. The seminar has six technical sessions and six lectures were delivered by eminent personalities of various capacities in this seminar.

Group photo of RABS2022 participants

The outcome of the Seminar:

- The faculty, students, and research scholars showed their contribution in presenting the papers.
- A wealth of knowledge usually presented by many speakers at one time in one place.
- Improved own skills and knowledge by learning from others in their research field.
- Gained and shared new ideas and best practices
- Made new contacts and stay connected with friends and colleagues.
- Created goodwill among the participating colleges and universities.