



PSGR Krishnammal College for Women



DBT STAR STATUS PROGRESS REPORT 2020 - 2021

Submitted to



सत्यमेव जयते

**Department of Biotechnology
Ministry of Science and Technology
Government of India, New Delhi**

By

**DEPARTMENT OF COMPUTER SCIENCE
DEPARTMENT OF INFORMATION TECHNOLOGY
DEPARTMENT OF COMPUTER APPLICATIONS**

DBT STAR STATUS

DEPARTMENT OF COMPUTER SCIENCE

DEPARTMENT OF INFORMATION TECHNOLOGY

DEPARTMENT OF COMPUTER APPLICATIONS

PSGR KRISHNAMMAL COLLEGE FOR WOMEN

COIMBATORE - 641004

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PROGRESS REPORT 2020 - 2021

Departments of Computer Science, Information Technology, Computer Applications

1. Name of the College : PSGR Krishnammal College for Women,
Coimbatore
2. Name of Departments Supported : Computer Science, Information Technology,
Computer Applications
- Name of Coordinator, Designation, Address, Phone Nos : **Dr. M. S. Vijaya**
Associate Professor and Head
Department of Computer Science
Ph. No. 0422- 4295959 Fax: 0422- 4295888
E-mail : msvijaya@psgrkcw.ac.in

3. No. of regular faculty with Ph.D. in each participating department

Department	No. of faculty with PhD
Computer Science	06
Information Technology	06
Computer Applications	05

4. List of courses (B.Sc./M.Sc./PG Diploma, Certificate etc.) run by different participating departments

Department	Courses Offered				
	UG	PG	M. Phil	Ph.D	Job Oriented Course
Computer Science	B.Sc Comp. Science B.Sc. Comp. Science with Cognitive Systems (New Programme)	M.Sc. Comp. Science	Computer Science	Computer Science	Amazon Web Services
Information Technology	BSc Info. Technology	M.Sc. Info. Technology			Mobile Application using Android
Computer Applications	BCA	M.Sc. Data Analytics			PHP / MYSQL

5. Cut off percentage for admission in different courses in participating departments, positions in university, percentage of result in 2018 - 2019 academic session

Department	Batch	Cut off % for admission	No. of Students Admitted	% of Result	Position in University	No. of Dropout Students
Computer Science	2014-15	80%	120	100 %	Autonomous & Affiliated to Bharathiar University	08
	2015-16	85%	120	100%		05
	2016-17	85%	120	100%		02
	2017-18	85%	120	100%		03
	*2018-19	85%	120	-		03
	*2019-20	85%	120	-		03
	*2020-21	85%	120	-		02
Information Technology	2014-15	80%	61	100%	Autonomous & Affiliated to Bharathiar University	00
	2015-16	85%	61	100%		03
	2016-17	85%	120	100%		03
	2017-18	85%	120	-		02
	*2018-19	85%	120	-		02
	*2019-20	85%	120	-		02
	*2020-21	85%	120	-		02
Computer Applications	2014-15	80%	121	100%	Autonomous & Affiliated to Bharathiar University	03
	2015-16	85%	120	100%		09
	2016-17	85%	120	100%		04
	2017-18	85%	120	-		03
	*2018-19	85%	120	-		03
	*2019-20	85%	120	-		03
	*2020-21	85%	120	-		03

***Results awaited for some students**

DEPARTMENT OF COMPUTER SCIENCE

6. List of projects undertaken by students, industrial visits by students, summer training in last one year

(i) List of projects taken by students

- LDTAMIL- Learning app for Dyslexia Children, Cognito Academy, Coimbatore
- Mathematics Learning app for LD Children, Cognito Academy, Coimbatore
- Dashboard for Diabetic Patients, Duratech Solutions, Coimbatore
- LDMATH- Learning app for Dyscalculia Children, Cognito Academy, Coimbatore
- LDTAMIL- Learning app for Dyscalculia Children, Cognito Academy, Coimbatore
- IOT Temperature Scan Entry System, Arris Automation and Solutions, Coimbatore
- Dataset Creation for Western Ghats birds, VG Veterinary Hospital, Coimbatore
- Marker based Augmented Reality Insect specimen Tagging system, Innovative Plans, Mumbai
- Augmented Reality Based Butterfly Museum Image Tagging System, Innovative Plans, Mumbai
- Diabetic data classification using deep learning, Duratech Solutions, Coimbatore
- Marker based Augmented Reality experience for Insects, Innovative Plans, Mumbai
- Flower Classification using Deep Learning, Smartway Industrial Automation, Coimbatore
- AR based Butterfly museum image tagging, Innovative Plans, Mumbai
- Feature Extraction for Western Ghats Birds, VG Veterinary Hospital, Coimbatore
- Predicting Protein Cellular Localization, Seattle Technologies, Coimbatore
- Software tool for Bio Molecular interactions, Bioline laboratory, Coimbatore
- Software tool for DNA Sequences Analysis for Plant Identification, Shifa clinical laboratory, Coimbatore
- Streetlight Controlling system using IOT, Embuzz Technologies Private Limited, Coimbatore
- Health Detector In Covid Quarantine, Dhivya Hospital, Coimbatore
- Augmented reality based tree tagging system, Innovative Plans, Mumbai
- Water Level Monitoring System, Embuzz Technologies Private Limited, Coimbatore
- Automated fruit detection by using convolutional neural network, Pazhamudirnilayam, Coimbatore
- Iot based Wildlife Animal Tracking System, Pacs Vision solution, Coimbatore
- Website for butterfly classification, Primary Union Middle School, Dharmapuri
- Marker based augmented reality experience to trees, Innovative Plans, Mumbai

(ii) Summer School

- M. Aarthi of II B.Sc. Computer science underwent an internship on Agri Product and Sales Management at Kumaran & Co, Coimbatore
- S. Agasdhiyaa of II B.Sc. Computer Science underwent an internship on A Study on Online Database for Forestry Species at PSGR Krishnammal College for Women, Coimbatore
- V. Christina of II B.Sc. Computer Science underwent an internship on A Study on Mobile Application for Analyzing Biological Data at PSGR Krishnammal College for Women, Coimbatore
- R.S. Indumathi of II B.Sc. Computer Science underwent an internship on A Study on Online Tools for Phylogenetic Analysis of Biological Data at PSGR Krishnammal College for Women, Coimbatore
- J. Janani of II B.Sc. Computer Science underwent an internship on An Analysis of Whole Genome Sequence of Biological Data at PSGR Krishnammal College for Women, Coimbatore
- M. Janani of II B.Sc. Computer Science underwent an internship on Study of Testing Diabetics at Sular Laboratories, Coimbatore
- J. Kavipriya of II B.Sc. Computer Science underwent an internship on Utilization pattern of Information and communication Technology Tools For Uzhavan App at TamilNadu Agriculture University, Coimbatore
- R. Kiruthika of II B.Sc. Computer Science underwent an internship on Bioinformatics in Textile Enzymology at Menaka Textiles, Coimbatore
- S. Narmatha of II B.Sc. Computer Science underwent an internship on Down Syndrome at Sana Diagnostic Centre, Coimbatore
- M. Nithya Shree of II B.Sc. Computer Science underwent an internship on Sickle Cell Anemia at Sana Diagnostic Centre, Coimbatore
- N.B. Reethaneesha Yazhini of II B.Sc. Computer Science underwent an internship on Protein Sequential Analysis at PSGR Krishnammal College for Women, Coimbatore
- N. Ridhu Varshini of II B.Sc. Computer Science underwent an internship on Detection of Single Nucleotide Polymorphism at PSGR Krishnammal College for Women, Coimbatore
- L. Salini of II B.Sc. Computer Science underwent an internship on Plant and Medicinal Plant Gene Analysis at PSGR Krishnammal College for Women, Coimbatore
- P. Sindhuja of II B.Sc. Computer Science underwent an internship on Cancer Genomics Sequencing at PSGR Krishnammal College for Women, Coimbatore

(iii) Seminars / Workshops Attended

- **4 Students** of III B.Sc. Computer Science attended **National Science Series: Igniting Young Minds** conducted by Bhaskaracharya College of Applied Sciences, New Delhi from 04.08.2020 to 07.08.2020.
- **4 Students** of II B. Sc Computer Science attended the **Cyber Safety and Security for Girls and Women** from 02.01.2021 to 03.01.2021 conducted by Coimbatore Institute of Technology – Teaching Learning Centre.
- **4 Students** of II B. Sc Computer Science attended the **Short Term Training Programme in Bioinformatics** from 04.01.2021 to 11.01.2021 conducted by NIELIT, Guwahati.
- **10 Students** of II B. Sc Computer Science attended the **workshop Augmented Reality / Virtual Reality Technology and Platforms** on 04.02.2021 organised by the department of Information Technology, PSGR Krishnammal College for Women, Coimbatore.
- **10 Students** of II B. Sc Computer Science attended the **workshop Android App Development** on 11.02.2021 organised by the department of Computer Applications, PSGR Krishnammal College for Women, Coimbatore.

(iv) Papers Published

- Dr. R. Kavitha, Dr. S. Karpagavalli, T. Gopiga, J. Gayathri, **Design and Development of Mobile Application for Diabetic Patient Blood Glucose Level Management**, Journal of Critical Review, Vol. No: 7; Issue No: 9, July 2020, PP. No: 2284 - 2289. ISSN:1598 - 1604 - **Indexed by Scopus**
- V.E. Chahana, S. Abirami, Dr.S. Karpagavalli and Dr. C. Arunpriya, **A Novel QR Code Tagging System for Campus Vegetation to Promote Eco-forestation**, Bioremediation and Green Technologies, Springer 1st edition, Chapter 22, Feb 2021, PP. No: 319 - 327. ISBN 978-3-030-64122-1 - **Indexed by Scopus**

(v) On-line Course

- **110 Students** had completed more than 10 online courses on disruptive technologies in New India Learnathon 2020 organized by **ICT Academy**.
- **116 students** of II B.Sc. Computer Science have completed Bio-python and **112 students** of I B.Sc. Computer science have completed C++ Programming through **Spoken Tutorials, IIT Bombay**.
- **118 Students** had completed Web development, SAS Programming and Cyber Security through **Coursera** online courses.
- **95 Students** had participated in the online **Covid '19 Awareness Quiz** conducted by Sri Ramakrishna college for Women, Coimbatore.

7. Training received by faculty from participating departments

- Dr. C. Arunpriya, Mrs. N. Deepa and Mrs. V. Deepa attended the **National Science Series: Igniting Young Minds** from 04.08.2020 to 07.08.2020 conducted by Bhaskaracharya College of Applied Sciences, New Delhi.
- Dr. R. Kavitha and Mrs. N. Deepa attended the National Level Hands on **Training E-Workshop on use of Animation in creating virtual lab for Bioscience** from 25.08.2020 to 29.08.2020 organised by Atmiya University, Rajkot.
- Dr. C. Arunpriya, Dr. R. Kavitha, Dr. J. Viji Gripsy and Mrs. V. Deepa attended the AICTE sponsored one week Short Term Training Programme on **Practical Approaches for Next Generation Sequencing Technologies and Data Analysis towards Health Care** from 04.01.2021 to 09.01.2021 conducted by K.S. Rangasamy College of Technology, Tiruchengode.
- Dr. J. Athena and Dr. K. Nandhini attended the workshop on **Cyber Safety and Security for Girls and Women** from 02.01.2021 and 03.01.2021 organized by Coimbatore Institute of Technology – Teaching Learning Centre.
- Dr. S. Santhanalakshmi attended the faculty development programme on **Deep Learning and Emerging Trends and Research Challenges** from 29.01.2021 and 30.01.2021 organized by the Department of Information Technology, PSG College of Technology, Coimbatore.
- Dr. C. Arunpriya and Dr. R. Kavitha attended the faculty development programme on **Cloud Computing** from 08.02.2021 to 09.02.2021 organized by the Department of Computer Applications in association with EICT-IIT-K at PSGR Krishnammal College for Women, Coimbatore.
- Mrs. S. Ponmalar and Mrs. V. Deepa attended the faculty development programme on **Biomedical Big Data** from 12.02.2021 to 13.02.2021 organized by the Department of Information Technology, PSGR Krishnammal College for Women, Coimbatore.

8. List of exhibitions/seminars/training courses conducted by the college:

(i) Training Courses Organized

- Workshop on **Computational Biology** was conducted by **Dr. S. Shiva Shankari**, Assistant Professor, Department of Bio-Informatics, Nirmala College for Women, Coimbatore, from 07.01.2021 to 08.01.2021 and 11.01.2021 to 12.01.2021. A total of 112 students from II B.Sc. Computer science of our college were benefitted.
- Inter departmental workshop on **Cheminformatics Tools** was conducted by **Dr. P. Lalitha**, Associate Professor, Department of Chemistry, Avinashilingam Institute for Home Science

and Higher Education, Coimbatore from 29.01.2021 to 30.01.2021. A total of **60 students** from various science departments of our college were benefitted.

- Workshop on **Augmented Reality - Bringing world into Class Room** was conducted by **Mr. Akshay U Dhone**, Android Developer, Innovative Plans, Mumbai from 02.02.2021, to 05.02.2021. Around **118 students** from III B.Sc. Computer Science got benefitted.
- Workshop on **Python Programming** was conducted by **Mr. Visak Raj**, Developer, Litz Tech India Pvt. Ltd, Coimbatore from 15.02.2021 to 19.02.2021. Around **112 students** of II B.Sc. Computer Science got benefitted.
- Workshop on **Java Programming** was conducted by **Mr. Sathish Ragul**, Developer, Seattle Technology, Coimbatore from 24.03.2021 to 27.03.2021. Around **118 students** of I B.Sc. Computer Science got benefitted.

(ii) Faculty Development Programme Organized

- Intercollegiate Faculty Development Programme on Artificial Intelligence and Machine Learning in Biological Data Analysis was organized by the Departments of Computer Science, Information Technology and Computer Applications on 29.03.2021. The resource persons were **Dr. U. Deva Priyakumar**, Center for Computational Natural Science and Bioinformatics, International Institute of Information Technology, Hyderabad, **Mr. Santhosh Kumar Selvaraj**, Senior Software Engineer, Robert Engineering and Business Solutions, Coimbatore and **Mr. S. Srinivasan Raghavan, Head of R & D Department, Smart Ant Technologies Pvt Ltd, Chennai**. Around **128 faculty members** from various institutions of Tamil Nadu participated in this event.
- Inter departmental Faculty Development Programme on Augmented Reality for E - Content Development was conducted by **Mr. Akshay U Dhone**, Android Developer, Innovative Plans, Mumbai from 08.02.2021 to 09.02.2021. A total of **38 faculty members** from various science departments of our college were benefitted.

(iii) Competitions Organized

- Inter Collegiate Fete **BioHyphenzia'2021** was organized by the Departments of Computer Science on 30.03.2021. Around **38 students** from 17 institutions in and around Coimbatore showcased their talents in the event.
- Inter departmental Competition **TechiTrendz 2021** was organized by the Departments of Computer Science on 05.03.2021. A total of **269 students** of Physics, Chemistry, Mathematics, Botany, Zoology, Computer Science, Information Technology and Computer Applications of our college actively participated in the event Connesione finding related to the concept biological data processing.

(iv) Adjunct Faculty Organized

- **Dr. M. Milner Kumar**, Propreitor, BlackBuck Technologies, Chennai served as an adjunct faculty and handled session on the topic **Bioinformatics in Python Programming** from 01.02.2021 to 05.02.2021. A total of **112 II B.Sc. Computer Science Students and 5 faculty members** were benefitted. The resource person created awareness on the functions use to analyze biological data using Python.

(v) Book and Lab Manual Published

- Dr. S. Karpagavalli. S and et.al., **Biological Data Analysis**, Blue Hill Publishers, 2021. ISBN: 978-81-951362-0-9
- Dr. S. Karpagavalli. S and et.al, **Robotic Process Automation for Beginners**, Blue Hill Publishers, 2021. ISBN: 978-81-951362-1-6

9. Name, designation, host institute of guest faculty invited

- Guest lecture on **Bioinformatics based Interdisciplinary Projects** was delivered by **Dr. Modhumita Dasgupta, Scientist G, Plant Biotechnology and Cytogenetics Division, IFGTB, Coimbatore** delivered a lecture on 31.08.2020. Around **12 faculty members and 120 students** were benefitted.
- Guest lecture on **Augmented Reality - Challenges and Opportunities** was delivered by **Mr. Akshay U Dhone**, Android Developer, Innovative Plans, Mumbai on 31.10.2020. A total of **11 faculty members and 112 students** were benefitted.
- Guest lecture on **Applications of Artificial Intelligence- Butterfly Classification** was delivered by **Mr. H. Theivaprakasham, Co-founder, The Nature and Butterfly Society, Coimbatore** on 08.01.2021. A total of **10 faculty members and 60 students** from various science departments were benefitted.
- Guest lecture on **Application of UI Path and Vuforia** was delivered by **Mr. Akshay U Dhone**, Android Developer, Innovative Plans, Mumbai on 13.03.2020. A total of **12 faculty members and 146 students** were benefitted.
- **Mentor meeting** was held on 09.10.2020 where **Dr. J. Sridhar**, UGC-Commonwealth Doctoral Fellow-UK, Assistant Professor, Department of Biotechnology (DDE), Madurai Kamaraj University, Madurai mentored the session and **20 faculty members** were benefitted.

10. Date of Advisory committee meeting: 17/02/2021

11. List of new practicals / demonstrations introduced in different departments in last one year

- Retrieve nucleotide sequences and perform local alignment and global alignment using EMBOSS
- Retrieve nucleotide sequences and perform pair wise and multiple sequence alignment using BLAST tool and analyze the output
- Retrieve nucleotide sequences and perform multiple sequence alignment using CLUSTALW tool and generate phylogenetic tree
- Retrieve two nucleotide sequences to align and generate PAM & BLOSUM scoring matrix
- Convert gene sequence into its corresponding amino acid sequence using translate tool
- Convert RNA gene sequence into its corresponding amino acid sequence using RNA prediction Tool
- Retrieve the structures of the compounds from PubChem: Xylitol, Saccharine, Aspartame
- Perform the PHI-BLAST and PSI-BLAST for the protein sequence Q1A232. Write the top 4 E scores values and the Sequence ID until convergence
- Perform Pair wise alignments for the proteins Insulin from the organism's homo sapiens and Musmusculus. Calculate the Percent Similarity and Identity using BLOSUM 62 and PAM 250 Compare the results
- Perform the protein – ligand docking using ARGUSLAB for the given receptor and ligand (select the compounds from the databases) and compare the dock score
- Find the super secondary structure for any protein database

12. Details of equipment purchased in each department from DBT grant (item, no., cost, date of order placed, purchase/installation)

**A) Non- recurring expenditure
(Three departments, Rs. 15 Lakh Per Department - Rs.45 Lakhs)**

S. No	Details	Amount in Rs
1	Computers	Rs. 8,27,770 /-
2	UPS	Rs. 5,41,620 /-
3	Networks	Rs. 1,13,074 /-
4	Projector	Rs. 32,900/-
Total		Rs. 15,15,364 /-

B) Recurring Details – Amount Sanctioned: 5,00,000 /-

S. No	Particulars	Amount Spent
1	Internship	Rs. 20,000/-
2	Staff & Students Activities	Rs. 5,860 /-
3	Guest Lectures	Rs. 10,000/-
4	Workshops	Rs. 62,747/-
5	FDP's	Rs. 15,486/-
6	Intercollegiate Competition	Rs. 7,323/-
7	Inter departmental Competition	Rs. 2,250/-
8	Projects	Rs. 44,000/-
9	Consumables	Rs. 1,00,738
10	Books	Rs. 75,143/-
11	Journal	Rs. 75,000/-
12	Progress Report and News letter	Rs. 12,357/-
13	Book & SOP (Manual)	Rs. 14,396/-
14	Publication charges	Rs. 47,200/-
15	Adjunct Faculty	Rs. 7,500/-
Total		Rs. 5,00,000

13. Details of books & journals subscribed from DBT grant

S. No	Bill No	Date	Company Name	Author	Title	Amount (in Rs.)
1	CBSH20CR B183	29.12.2020	Sapna Book House (P) Ltd.	William R Stanek	Microsoft Server 2016 The Administrators Reference Set of 2	Rs. 8268.00
2	CBSH20CR B183	29.12.2020	Sapna Book House (P) Ltd.	Bharth Ramsundar	Deep Learning for the Life Sciences: Applying Deep Learning To Genomics Microscopy	Rs. 722.50
3	CBSH20CR B302	19.03.2021	Sapna Book House (P) Ltd.	Allen Downey	How to think like a computer scientist Learning with Python	Rs. 593.30
4	CBSH20CR B302	19.03.2021	Sapna Book House (P) Ltd.	Stuart Russell	Artificial Intelligence A Modern Approach	Rs. 719.20
5	SINV02929	31.03.2021	TBH Publishers & Distributors	Goldstein	Cognitive Psychology Connecting Min	Rs. 13978.34

6	SINV02929	31.03.2021	TBH Publishers & Distributors	Bharthi Motwa	Data Analytics with R	Rs. 988.50
7	277	31.03.2021	Global Books Syndicate	Chee	Cloud Computing (2 Copies)	Rs. 891.00
8	277	31.03.2021	Global Books Syndicate	Ligus	Effective Monitoring and Alerting for Web operations (2 Copies)	Rs. 585.00
9	277	31.03.2021	Global Books Syndicate	Rossum	An Introduction to Python (2 Copies)	Rs. 855.00
10	277	31.03.2021	Global Books Syndicate	Downey	Think Python (2 Copies)	Rs. 945.00
11	277	31.03.2021	Global Books Syndicate	Rubin	Essential Scrum	Rs. 1039.20
12	277	31.03.2021	Global Books Syndicate	Gothelf	Lean UX (2 Copies)	Rs.1125.00
13	277	31.03.2021	Global Books Syndicate	Gothelf	Lean VS Agile VS Design Thinking (2 Copies)	Rs.6398.40
14	277	31.03.2021	Global Books Syndicate	Schneider	Understanding Design Thinking Lean and Agile (2 Copies)	Rs. 495.00
15	277	31.03.2021	Global Books Syndicate	Gupta	Digital Marketing (2 Copies)	Rs.1192.00
16	277	31.03.2021	Global Books Syndicate	Deiss	Digital Marketing for Dummies (2 Copies)	Rs. 1188.30
17	277	31.03.2021	Global Books Syndicate	Russell	Artificial Intelligence (2 Copies)	Rs.1348.50
18	277	31.03.2021	Global Books Syndicate	Godfellow	Deep Learning (2 Copies)	Rs. 10390.40
19	277	31.03.2021	Global Books Syndicate	Motani	Data Analytics using Python (2 Copies)	Rs. 1188.30
20	277	31.03.2021	Global Books Syndicate	Motwani	Data Analytics with R (2 Copies)	Rs. 1120.30
21	278	31.03.2021	Global Books Syndicate	Deiss	Digital Marketing for Dummies (5 Copies)	Rs. 2970.75
22	278	31.03.2021	Global Books Syndicate	Godfellow	Deep Learning (2 Copies)	Rs. 10390.40
23	278	31.03.2021	Global Books Syndicate	Motani	Data Analytics using Python (5 Copies)	Rs. 2970.75
24	278	31.03.2021	Global Books Syndicate	Motwani	Data Analytics with R (4 Copies)	Rs. 2240.60
25	278	31.03.2021	Global Books Syndicate	Gupta	Digital Marketing (2 Copies)	Rs. 1192.00
26	278	31.03.2021	Global Books Syndicate	Russel	Artificial Intelligence (2 Copies)	Rs. 1348.50
Total						Rs.75, 143.00

Journal

S. No	Title	Frequency	Print Price
1	International Journal Of Artificial Intelligence and Soft Computing	4 Issue	Rs. 66980.00
2	Journal of Computer Technology and Applications	3 Issue	Rs. 4010.00
3	Journal of Web Engineering and Technology	3 Issue	Rs. 4010.00
Total			Rs. 75, 000.00

14. Qualitative improvements due to DBT support

- Establishment and effective utilization of Bioinformatics lab
- Hands-on knowledge and skills in biological data processing
- Interdisciplinary courses in curriculum
- Research paper publication in Scopus indexed and Web of Science journals
- Online courses on disruptive technologies
- Intensive interaction with basic science departments and more interdisciplinary projects
- Mentoring institutions in implementing DBT Star College programme
- Published a lab manual on Biological Data Analysis.
- Published a book on Robotic Process Automation for Beginners.

15. Problems faced, if any, in implementation of the programme and utilization of DBT grant

- Nil

DEPARTMENT OF INFORMATION TECHNOLOGY

6. List of projects undertaken by students, industrial visits by students, summer training in last one year

(i) List of projects taken by students

- Ampicillin Resistance E-Coli and It's Gene Studies at Centre for Bioscience and Nanoscience Research ,Coimbatore
- Analysis of Bacillus Toxin Gene and Application at Centre for Bioscience and Nanoscience Research, Coimbatore
- Organ Donation Management System at at Accent Techno Soft, Coimbatore
- Bioactive Compounds from Plants at Centre for Bioscience and Nanoscience Research, Coimbatore
- Gas Leakage Detection using IoT at Craper Soft, Coimbatore
- Bacterial RAPD Analysis a Dendrogram at Centre for Bioscience and Nanoscience Research, Coimbatore
- Vaccination Information for Child Safety at Insource Technologies, Coimbatore.
- Diabetes Health Care in Young and old Patients at Accent Techno Soft, Coimbatore.
- Application Based Agricultural Market(AGROMART), at Browzone Infotect, Coimbatore
- Automatic Hand Sanitizer at Twirltact Technology Solutions Pvt Ltd, Coimbatore
- Molecular Analysis of S Protein and it's Cancer Gene at Centre for Bioscience and Nanoscience Research, Coimbatore
- Antibiotic Compounds from Plants at Centre for Bioscience and Nanoscience Research, Coimbatore
- Isolation of Fungi from Greengram Seed Centre for Bioscience and Nanoscience Research, Coimbatore
- Farmer Product for Direct Selling at Insource Technology, Coimbatore
- Prediction and Analysis of Covid-19 Symptoms and it's Prevention at Accent Techno Soft, Coimbatore
- Insilico Interaction Analysis of Phytoterpenes in Biofilm Biology at Biozone Research Technologies Pvt, Ltd, Chennai
- Soil Moisture Detection And Supplementation at Twirltact Technology Solutions Pvt Ltd, Coimbatore
- Climate Change Prediction using ARIMA Model at Accent Techno Soft, Coimbatore
- Molecular Docking of Arylpiperazines Against RND Efflux of Pseudomonas Aeruginosa at Biozone Research Technologies Pvt, Ltd, Chennai

- Agricultural Product Buying and Selling APP at Accent Techno Soft, Coimbatore
- Air Quality Monitoring System at Twirltact Technology Solutions Pvt Ltd, Coimbatore
- Heart Disease Prediction Using Machine Learning at Accent Techno Soft, Coimbatore
- IoT Based Patient Health Monitoring System at Craper Soft Innovation Leeds Technology, Coimbatore
- Agriculture Assist Through APP at Browzone Infotech, Coimbatore
- Antibiotic Compound from Bacillus at Centre for Bioscience and Nanoscience Research, Coimbatore

(ii) Summer School

- Akshaya Dharshana J of II B.Sc Information Technology underwent an internship on RNA Secondary Structure at Centre for Bioscience and Nanoscience Research, Coimbatore
- Aqmal Ameena A of II B.Sc Information Technology underwent an Internship on DNA Sequence Analysis at Centre for Bioscience and Nanoscience Research, Coimbatore
- Archana J of II B.Sc Information Technology underwent an Internship on DIET APP at Accent Techno Soft, Coimbatore.
- Brindha V of II B.Sc Information Technology underwent an Internship on Prediction Methods of Protein Structure and Function at Centre for Bioscience and Nanoscience Research, Coimbatore.
- Fahima Parveen M of II B.Sc Information Technology underwent an Internship on Microbial Whole Genome Sequencing at Centre for Bioscience and Nanoscience Research, Coimbatore
- Harshini T of II B.Sc Information Technology underwent an Internship on BMI Calculator APP through Intershala
- Janani D V of II B.Sc Information Technology underwent an Internship on RNA and DNA Primary Structure at Centre for Bioscience and Nanoscience Research, Coimbatore
- Kiruthika G of II B.Sc Information Technology underwent an Internship on Bacterial Diversity of Soil Ecosystem at Centre for Bioscience and Nanoscience Research, Coimbatore
- Mohana M of II B.Sc Information Technology underwent an Internship on Currency Detector for Visually Impaired through Intershala
- Mohana Priya S of II B.Sc Information Technology underwent an Internship on Single Nucleotide Polymorphism at Centre for Bioscience and Nanoscience Research, Coimbatore
- Nivethitha R and Ramyadevi G of II B.Sc Information Technology underwent an Internship on Healthcare monitoring using IoT at Twirltact Technology Solutions Pvt Ltd, Coimbatore
- Ramya A of II B.Sc Information Technology underwent an Internship on PBC Biliary Cirrhosis Detection in Liver of Humans at BioXplora, Coimbatore

- Ramya V of II B.Sc Information Technology underwent an Internship on Indian Liver Patients Recordat BioXplora, Coimbatore
- Subitha H N of II B.Sc Information Technology underwent an Internship on To detect lung carcinoma at Accent Techno Soft, Coimbatore
- Swathi V and Vinodhini N of II B.Sc Information Technology underwent an Internship on Diabetes prediction model at Accent Techno Soft, Coimbatore
- Umarani S of II B.Sc Information Technology underwent an Internship on Weather Condition Dataset Prediction at Accent Techno Soft, Coimbatore

(iii) Seminars / Workshops Attended

- **13 students** attended the Workshop on **Drug Designing and Discovery using Bioinformatics** organized by **BioXplora, Coimbatore** on 05.06.2020
- **4 Students** attended **National Science Series: Igniting Young Minds** conducted by Bhaskaracharya College of Applied Sciences, New Delhi from 04.08.2020 to 07.08.2020
- **4 Students** of II B.Sc Information Technology attended the **Cyber Safety and Security for Girls and Women** from 02.01.2021 and 03.01.2021 by Coimbatore Institute of Technology – Teaching Learning Centre.
- **4 Students** of II B.Sc Information Technology attended the **Short Term Training Programme in Bioinformatics** from 04.01.2021 to 11.01.2021 by NIELIT, Guwahati.
- **10 Students** of II B.Sc Information Technology attended the workshop on **Cheminformatics Tools** on 29.01.2021 and 30.01.2021 organised by the department of Computer Science, PSGR Krishnammal College for Women, Coimbatore
- **10 Students** of II B.Sc Information Technology attended the workshop on Android App Development on 11.02.2021 organised by the department of Computer Applications, PSGR Krishnammal College for Women, Coimbatore
- **10 Students** of B.Sc Information Technology attended the workshop on Immersive Technology – Extended Reality (XR) on 13.03.2021 organised by Accent Techno Soft, Coimbatore

(iv) Paper Published

- S. Sowmiya Sri, V. Suji and G. Sophia Reena **Microbiome Analysis of Pesticide Contaminated Soils its Impact on the Microbial Isolates**, Bioremediation and Green Technologies, Springer 1st edition Chapter 22, Feb 2021, PP. No: ISBN 978-3-030-64122-1. - **Indexed by Scopus**
- S.Swathi Priya., C. Shanmuga Priya and J. Maria Shyla, **Analysis of Microbial Isolate from Contaminated Street Food with a Potential to Degrade Food Waste**,

(v) On-line Course

- **106 students of II B.Sc., Information Technology** has completed Introduction to Computer Science course through Spoken Tutorials, IIT Bombay
- **63 students of III B.Sc., Information Technology** has completed various online courses through Intershala
- **94 Students of II B.Sc., Information Technology** has completed Enhancing Soft Skills and Personality course through NPTEL
- **61 Students of I B.Sc., Information Technology** has completed Java Programming through SoloLearn
- **86 Students** had participated in the online Covid '19 Awareness Quiz conducted by Sri Ramakrishna college for Women, Coimbatore

7. Training received by faculty from participating departments

- Mrs. J. Maria Shyla, Mrs. G. Rubadevi and B. Sivaranjani attended the **National Science Series: Igniting Young Minds** from 04.08.2020 to 07.08.2020 conducted by Bhaskaracharya College of Applied Sciences, New Delhi
- Mrs. J. Maria Shyla, Mrs. G. Rubadevi attended the National Level Hands on **Training E-Workshop on use of Animation in creating virtual lab for Bioscience** from 25.08.2020 to 29.08.2020 organised by Atmiya University, Rajkot
- Mrs. J. Maria Shyla attended the AICTE sponsored one week Short Term Training Programme on **Practical Approaches for Next Generation Sequencing Technologies and Data Analysis towards Health Care** from 18.01.2021 to 23.01.2021 conducted by K.S. Rangasamy College of Technology, Tiruchengode
- Mrs. B. Sivaranjani attended the workshop on **Cyber Safety and Security for Girls and Women** from 02.01.2021 and 03.01.2021 organized by Coimbatore Institute of Technology – Teaching Learning Centre.
- Dr. S. Nithya attended the faculty development programme on **Deep Learning and Emerging Trends and Research Challenges** from 29.01.2021 and 30.01.2021 organized by the Department of Information Technology, PSG College of Technology, Coimbatore
- Mrs. J. Maria Shyla and Mrs. R. Jayasree attended the faculty development programme on **Cloud Computing** from 08.02.2021 to 09.02.2021 organized by the Department of Computer Applications in association with EICT-IIT-K at PSGR Krishnammal College for Women, Coimbatore

- Mrs. G. Sophia Reena and Mrs. A.Sindhu attended the faculty development programme on **Augmented Reality for E-content Development** from 08.02.2021 to 09.02.2021 organized by the Department of Computer Science, PSGR Krishnammal College for Women, Coimbatore.
- 4 of our faculty attended workshop on **Internet of Things** at Twirltact Technology Solutions, Coimbatore from 27.03.2021 to 31.03.2021.

8. List of exhibitions/seminars/training courses conducted by the college:

(i) Training Courses Organized

- Workshop on **Protein Structure Visualization using Virtual Reality** was conducted by **Dr. R. Ragunathan**, Director, Centre for Bioscience and Nanoscience Research, Coimbatore on **22.01.2021 and 23.01.2021**. Around **91 students from I B.Sc Information Technology** and **4 faculty members** were benefitted
- Interdepartmental Workshop on **AR/VR Technology and Platforms** was conducted by **Mr. M. K. Ganeshmoorthi, 3D Visualizer, Accent Technosoft**, Coimbatore on **04.02.2021**. Around **60 students** from various science departments and **5 faculty members** were benefitted.
- Workshop on **Internet of Things (IoT)** was conducted by **Mrs. Mayukha Selvaraj, CEO, Maylancer Techios Pvt. Ltd**, Coimbatore on **25.03.2021 and 26.03.2021**. Around **117students** from III B.Sc Information Technology and **8 faculty members** were benefitted.
- **Community Development program on Smart Farming** was organized at Rural Women Techno Park, PillaiyappanPalayam, Annur on **25.03.2021**. Around **24 farmers, 10 students and 3 faculty** were benefitted.

(ii) Faculty Development Programme Organized

- Intercollegiate Faculty Development Programme on Artificial Intelligence and Machine Learning in Biological Data Analysis was organized by the Departments of Computer Science, Information Technology and Computer Applications on 29.03.2021. The resource persons were **Dr. U. Deve Priyakumar**, Center for Computational Natural Science and Bioinformatics, International Institute of Information Technology, Hyderabad, **Mr. Santhosh Kumar Selvaraj**, Senior Software Engineer, Robert Engineering and Business Solutions, Coimbatore and **Mr. S. Srinivasan Raghavan, Head of R & D Department, Smart Ant Technologies Pvt Ltd, Chennai**. Around 128 faculty members from various institutions of Tamil Nadu participated in this event.
- Inter departmental Faculty Development Programme on **Biomedical Bigdata** was conducted by **Mr. B. Imran**, Full Stack Developer, Crayond Digital Pvt. Ltd., Chennai from

12.02.2021 to 13.02.2021. A total of **25 faculty members** from various science departments of our college were benefited.

(iii) Competitions Organized

- Inter departmental Competition **BioEsparanza – 2021** was organized by the Department of Information Technology on 16.02.2021. Around **70 students** of Physics, Chemistry, Mathematics, Botany, Zoology, Computer Science, Information Technology and Computer Applications, Commerce of our college actively participated in the events Rapid fire, connection, Guess a word and Quiz
- Inter Collegiate Fete **BioHyphenzia’2021** was organized by the Departments of Computer Science, Information Technology and Computer Applications on 15.03.2021. Around **90 students** from various institutions in and around Coimbatore showcased their talents in the event **BioConcorso**

(iv) Adjunct Faculty Organized

- **Dr. R. Ragnathan**, Director, Centre for Bioscience and Nanoscience Research, Coimbatore served as an adjunct faculty and handled the workshop on the topic BioPython on 11.01.2021 and 12.01.2021. A total of **100 students of III B.Sc. Information Technology and 4 faculty members** were benefited.

(v) Lab Manual Published

- Mrs. G. Sophia Reena , Mrs. J. Maria Shyla and Mrs. S. Karpagarm, IoT Applications, Coimbatore, Ciit, 2021. ISBN: 9789389105568.

9. Name, designation, host institute of guest faculty invited

- Guest lecture on **Roles of Cyber Security in Health Care** was delivered by **Mr. Dinesh Paranthagan**, Founder & CEO, Hackup Technology Pvt. Ltd, Coimbatore delivered a lecture on 11.11.2020. Around **101 Students and 4 faculty members** were benefited.
- Guest lecture on **Structural Analysis of Covid 19** was delivered by **Dr. Aneesh Nair**, Scientist & Head, Biozone Institute of Life Science, Chennai on 15.02.2021. A total of **88 students and 10 faculty members** were benefited.
- **Mentor meeting** was held on **11.09.2020** where **Dr. Selvi Subramanian**, Professor, Department of Biotechnology, PSG College of Technology, Coimbatore mentored the session and gave suggestions to carry out the effective planning activities which improve the quality, **20 faculty members** were benefited.

10. Date of Advisory committee meeting: 17/02/2021

11. List of new Practicals / demonstrations introduced in different departments in last one year

- Pairwise Sequence Alignment using Needleman-Wunsch, and Smith-Waterman method
- Pairwise Structure Alignments by using different methods and Visualize the structure in Jmol
- Parse BLAST output files with BioPerl's BPlite module.
- Mutate nucleotides & store mutated DNA in an array and generate random mutations
- Bio-Python function retrieve_sequences(search_term,number,outfile) that retrieves the first number of sequences from NCBI's "nucleotide" database having a search term term (hint: use term and retmaxparameters of Entrez.esearch) and stores them in a fasta file outfile (hint: use SeqIO.write). Test your code retrieving the first 5 entries having search term "starch AND MalusDomestica [Organism]".
- Bio- Python function that reads a genbank file given in input and prints off the following information: (i) Identifier, name and description (ii) The first 100 characters of the sequence; Retrieve Sequence from the NCBI Sequence database and find out how many genomes have been sequenced or currently being sequenced for a particular species
- Read DEN1 Dengue virus sequence data with seqinR, and to find local variation in GC content and sliding window analysis and plot.

12. Details of equipment purchased in each department from DBT grant (item, no., cost, date of order placed, purchase/installation)

A) Non- recurring (Equipment) - 2019 - 2020

(Three departments, Rs. 15 Lakh per department – Rs.45 Lakhs)

S. No	Details	Amount in Rs
1	Computers	Rs. 7,91,780 /-
2	Furniture	Rs. 1,22,733 /-
3	IoT Lab Setup	Rs. 5,70,556 /-
Total		Rs. 14,85,069 /-

B) Recurring Details – Amount Sanctioned: 5, 00,000 /-

S. No	Details	Amount in Rs
1.	Internship	Rs. 21,600/-
2.	Staff Activities	Rs. 8,500 /-
3.	Student Activities	Rs. 6,860/-
4.	Guest Lectures	Rs. 6000/-
5.	Workshops	Rs. 43,000 /-
6.	Faculty Development Programs	Rs. 13,272/-
7.	Community Development Programme	Rs. 10,530/-
8.	Competitions	Rs. 10,739 /-
9.	TBI- Agri Incubator Workshop	Rs. 18,000/-
10.	Projects	Rs. 48,000 /-
11.	Publications	Rs. 47,200 /-
12.	Lab Manual & SOP	Rs. 3,125/-
13.	Books & journals	Rs. 1,50,000/-
14.	Report	Rs. 12,175
15.	Consumables	Rs. 1,00,999/-
Total		Rs. 5,00,000 /-

13. Details of books & journals subscribed from DBT grant

No	Bill No	Date	Company Name	Author	Title	Amount (in Rs.)
1.	286	31.03.2021	Global Books Syndicate	Motani	Data Analytics using Python (2 copies)	Rs. 1150.00
2.	282	31.03.2021	Global Books Syndicate	Bahga	Internet of Things (3 copies)	Rs. 1976.25
3.	282	31.03.2021	Global Books Syndicate	Vasudevan	Internet of Things (4 copies)	Rs. 1798.40
4.	282	31.03.2021	Global Books Syndicate	Subramanian	Blockchain Technology (5 copies)	Rs. 3378.75
5.	282	31.03.2021	Global Books Syndicate	Goodfellow	Deep Learning	Rs. 4889.60
6.	281	31.03.2021	Global Books Syndicate	Minteer	Analytics for the Internet of Things (IoT):Intelligent analytics for your intelligent devices (3 copies)	Rs.8637.30
7.	281	31.03.2021	Global Books Syndicate	Pangilian	Creating Augmented and Virtual Realities: Theory and Practice for Next-Generation Spatial Computing	Rs.1147.50

8.	281	31.03.2021	Global Books Syndicate	Shetty	Augmented Reality - Theory, Design and Development	Rs. 796.00
9.	281	31.03.2021	Global Books Syndicate	Artasanchez	Artificial Intelligence with Python (3 copies)	Rs.9177.30
10.	281	31.03.2021	Global Books Syndicate	Schmalstieg	Augmented Reality: Principles & Practice (2 copies)	Rs. 1502.40
11.	281	31.03.2021	Global Books Syndicate	Lea	IoT and Edge Computing for Architects	Rs. 2789.10
12.	281	31.03.2021	Global Books Syndicate	Baker	Artificial intelligence a modern approach (3 copies)	Rs. 7197.60
13.	281	31.03.2021	Global Books Syndicate	Subramanian	Blockchain Technology	Rs. 675.75
14.	281	31.03.2021	Global Books Syndicate	Kapoor	Hands-on Artificial Intelligence for IoT	Rs. 3149.10
15.	281	31.03.2021	Global Books Syndicate	Kogent	HTML5 Black book (6 copies)	Rs.4075.20
16.	282	31.03.2021	Global Books Syndicate	Russell	Artificial intelligence a modern approach (2 copies)	Rs. 1348.50
17.	282	31.03.2021	Global Books Syndicate	Good Fellow	Deep Learning	Rs. 4889.60
18.	282	31.03.2021	Global Books Syndicate	Poole	Artificial Intelligence: Foundations of Computational Agents	Rs. 5274.89
19.	282	31.03.2021	Global Books Syndicate	Greengard	Internet of Things	Rs. 1096.72
20.	CBSH 20CRB 341	31.03.2021	Sapna Book House	Shriram K Vasudevan	Internet of Things (5 copies)	Rs. 2120.75
21.	CBSH 20CRB 341	31.03.2021	Sapna Book House	Chris Dotson	Practical Cloud Security (4 copies)	Rs. 3420.00
22.	CBSH 20CRB 340	31.03.2021	Sapna Book House	Jeff Gothelf	Lean UX: Designing Great Products with Agile Teams (2 copies)	Rs. 1125.00
23.	SINV0 2931	31.03.2021	TBH Publishers & Distributers	Hidary	Quantum Computing an Applied Approach	Rs. 2276.31
24.	SINV0 2931	31.03.2021	TBH Publishers & Distributers	Shriram Vasu	Internet of Things	Rs. 434.25
25.	SINV0 2931	31.03.2021	TBH Publishers & Distributers	Russell	Artificial Intelligence	Rs. 674.25
Total						Rs. 75,000

Journal

S. No	Title	Frequency	Print Price
1	International Journal of Computing Vision and Image Processing	4 Issue	68340.00
2	International Journal of Next Generation Computing	3 Issue	3860.00
3	Journal on Information Technology	2 Issue	2800.00
Total			75000.00

14. Qualitative improvements due to DBT support

- Highly equipped Bioinformatics lab provides an ideal opportunity to emphasize quantitative approaches to solving biological problems.
- Establishment of IoT lab helped the students to develop prototype of IoT projects like Automatic Soil Moisture Detection and Supplementation, Smart Dustbin, Smart Tap, Smart Classroom, Automatic Hand Sanitizer etc.,
- Smart Farming community oriented programme created awareness among farmers and students.
- Published Lab Manual on IoT Applications
- 2 Scopus Indexed Book Chapter were published
- Mentoring neighbouring institutions in implementing DBT star college programme

15. Problems faced, if any, in implementation of the programme and utilization of DBT grant

- Nil-

DEPARTMENT OF COMPUTER APPLICATIONS

6. List of projects undertaken by students, industrial visits by students, summer training in last one year

(i) List of projects taken by students

- Density Based Traffic Control System at Twril Tact, Coimbatore
- Smart Bus Ticket System Using Android Application at Pantech Software Solutions, Coimbatore
- Digitalization of Fossils at Botany Department, PSGR Krishnammal College for Women, Coimbatore
- IoT Based Automatic Pet Feeder at Aakkam Industrial Training and Research Institution, Coimbatore
- Amino acid And Gene Structure Of Cancer Gene And Its Analysis at Centre for Bioscience and Nano Science Research, Coimbatore
- Automated Weather Operating And Analysing System Using IoT at Aakkam Industrial Training and Research Institution, Coimbatore
- Smart Travel Guide Using Android Applications at Pantech Software Solutions, Coimbatore
- Sports Buddy Using Android With Php And Mysql at Kice Info Tech, Coimbatore
- Ecommerce Product Finder Using Geo Fencing at Aakkam Industrial Training and Research Institution, Coimbatore
- Patient Health Monitoring System Using IoT at Ascent Solution System, Coimbatore.
- Extraction Of Amino Acid Sequence Analysis From Cashew Nut at Centre for Bioscience and Nano Science Research, Coimbatore
- Featured Car Parking Using IoT at Pantech Software Solutions, Coimbatore
- Bacterium Protein From Lactobacillus And Its Genetic Sequences Analysis Using Curd at Centre for Bioscience and Nano Science Research, Coimbatore
- Smart Online Examination And Result Application at Kice Info Tech, Coimbatore
- Android Bluetooth Based Chatting App at Pantech Software Solutions, Coimbatore
- Hospital Management System Using Android Application at Pantech Software Solutions, Coimbatore
- Automatic Gate Operation Using IoT at Pantech Software Solutions, Coimbatore
- Genetic Diversity Of Lactobacillus From Milk at Centre for Bioscience and Nano Science Research, Coimbatore

- Molecular Studies Of Extracting Bioactive Peptides From Oyster Mushroom at Centre for Bioscience and Nano Science Research, Coimbatore
- Molecular Studies of Extracting Bioactive Peptide From Button Mushroom at Centre for Bioscience and Nano Science Research, Coimbatore

(ii) Summer School

- R Akalya of II BCA has done her Internship Project on *Aspergillus rugulosus* strain PSF-2 small subunit ribosomal RNA gene, partial sequence at Center for Bioscience and Nano Science Research, Coimbatore.
- P Deepika of II BCA has done her Internship Project on *Stenotrophomonas maltophilia* strain ZSB-1 16S ribosomal RNA gene, partial sequence at Center for Bioscience and Nano Science Research, Coimbatore.
- S Ilakya of II BCA has done her Internship Project on *Lactococcus lactis* strain PSGR CK2 16S ribosomal RNA gene, partial sequence Genbank: MT007545.1 at Center for Bioscience and Nano Science Research, Coimbatore.
- S Jayasudha of II BCA has done her Internship Project on *Pantoea dispersa* strain BAC 3 16S ribosomal RNA, partial sequence; at Center for Bioscience and Nano Science Research, Coimbatore.
- S Jesmithaa of II BCA has done her Internship Project on *Mycobacterium brisbanense* strain ZSB4 16S ribosomal RNA gene, partial sequence at Center for Bioscience and Nano Science Research, Coimbatore.
- N Jayalakshmi of II BCA has done her Internship Project on *Leucas aspera* NHX1 antiporter gene, partial cds at Center for Bioscience and Nano Science Research, Coimbatore.
- T Madhushree of II BCA has done her Internship Project on *Pediococcus acidilactici* strain PSGR CK 1 16S ribosomal RNA gene partial sequence Genbank: MT007540.1 at Center for Bioscience and Nano Science Research, Coimbatore.
- M Mageshwari of II BCA has done her Internship Project on *Mycobacterium cosmeticum* strain PSB-3 16S ribosomal RNA partial sequence at Center for Bioscience and Nano Science Research, Coimbatore.
- R Rathisha of II BCA has done her Internship Project on serum albumin precursor partial pelophylax *shpipericus* at Center for Bioscience and Nano Science Research, Coimbatore.
- R Roja of II BCA has done her Internship Project on *Bacillus cereus* strain SGAir0260 plasmid unnamed_5 at Center for Bioscience and Nano Science Research, Coimbatore.

- J Sneha Smiley of II BCA has done her Internship Project on Mycobacterium brisbanense strain ZSB4 16S ribosomal RNA gene partial sequence at Center for Bioscience and Nano Science Research, Coimbatore.
- K Sofia of II BCA has done her Internship Project on Lactococcus lactis strain LLKS7 16S ribosomal RNA gene partial sequence at Center for Bioscience and Nano Science Research, Coimbatore.
- K G Srinidhi of II BCA has done her Internship Project Lactococcus latis strain 16s ribosomal RNA gene partial sequence at Center for Bioscience and Nano Science Research, Coimbatore.
- J Swathika of II BCA has done her Internship Project on Mycobacterium brisbanense strain ZSB10 16S ribosomal RNA gene, partial sequence at Center for Bioscience and Nano Science Research, Coimbatore.
- D Vaishnavi of II BCA has done her Internship Project on Bacillus licheniformis strain SS 16S ribosomal RNA gene, partial sequence at Center for Bioscience and Nano Science Research, Coimbatore.

(iii) Seminars / Workshops attended

- **2 Students** of II BCA **National Science Series: Igniting Young Minds** conducted by Bhaskaracharya College of Applied Sciences, New Delhi from 04.08.2020 to 07.08.2020
- Four students completed short term training on Bioinformatics conducted by NIELIT Guwahati from 04.01.2021 to 11.01.2021
- Four Students attended two days **A course on Cyber Safety and Security for Girls and Women** on 02.01.2021 and 03.01.2021 at Coimbatore Institute of Technology, Coimbatore.

(iv) Online Course

- **95 students of II BCA** has completed R Programming course through Spoken Tutorials, IIT Bombay.
- **40 students of I BCA** has completed C++ Programming course through Spoken Tutorials, IIT Bombay
- **75 Students** had participated in the online Covid '19 Awareness Quiz conducted by Sri Ramakrishna college for Women, Coimbatore

(v) Sequence Publication

- MZ410562 - Serratia sp. strain BCA CBNR 16S ribosomal RNA gene, partial sequence is published

7. Training received by faculty from participating departments

- **Mrs. K. Geethalakshmi** attended the **two days Faculty Development Program on Deep Learning: Emerging Trends and Research Challenges** on 29.01.2021 and 30.01.2021 at PSG College of Technology, Coimbatore.
- **Mrs. T. Saranya** attended the two days **A course on Cyber Safety and Security for Girls and Women** on 02.01.2021 and 03.01.2021 at Coimbatore Institute of Technology, Coimbatore.
- **Mrs. T. Saranya and Mrs. J. Angel** attended the **two days Faculty Development Program on Augmented Reality for E- Content Development** on 08.02.2021 and 09.02.2021 by Department of Computer Science, PSGR Krishnammal College for Women, Coimbatore.
- **Mrs. G. Sangeetha and Mrs. S. Kavitha** attended the **Two Days Faculty Development Program on Biomedical Big Data** on 12.02.2021 and 13.02.2021, by Department of Information Technology, PSGR Krishnammal College for Women, Coimbatore.
- **All Faculty** attended one day Intercollegiate **FDP on Artificial Intelligence and Machine Learning in Biological Data Analysis** organized by Department of Computer Science, Information Technology and Computer Applications on 29.03.2021 at PSGR Krishnammal College for Women, Coimbatore.
- **All Faculty** attended **ten days “Hands on Training on Python”** from 01.03.2021 to 17.03.2021 at PSGR Krishnammal College for Women, Coimbatore.

8. List of exhibitions/seminars/training courses conducted by the college

(i) Training Courses Organized

- Workshop on **BioInformatic Analysis of Next Generation Sequencing Data** was conducted by **Dr. R. Subhashini**, Assistant Professor, Department of Bioinformatics, Dr. G. R. Damodaran College of Science, Coimbatore, from 21.01.2021 to 23.01.2021. **90 Students and 2 faculty members** were benefitted.
- **Workshop on Basics of Next Generation Sequencing** was conducted by **Dr. S. Divya**, Post Doctorate Research Fellow, Department of Biotechnology, Bharathiar University, Coimbatore, from 27.01.2021 to 29.01.2021. 90 students and 2 faculty members were benefitted.
- **Interdepartmental Workshop on App Development** was conducted by **Dr. Bright Gee Vargees**, Assistant Professor, Department of Computer Science, Karunya University, Coimbatore, on 11.02.2021. 85 students were benefitted.

- **Departmental Workshop on R Programming for Bioinformatics** was conducted by **Dr. K. Chandra**, Associate Professor, Department of Computer Science, Christ (Deemed to be university), Bangalore on 27.02.2021. 75 Students and 2 faculty members were benefitted.
- **Workshop on Intellectual Property Rights and IP Management Startups** was conducted by **Dr. Rene Robin**, Professor & Dean, Sai Ram Group of Institutions, Chennai on 27.03.2021. Around 150 students were benefitted.
- Workshop on **AR/ VR**, was conducted by **Mr. Ganesh**, Accentz Techno Soft, Coimbatore on 26.03.2021 to 31.03.2021. 60 students were benefitted.

(ii) Faculty Development Programme Organized

- Inter Departmental Faculty Development Program on **Cloud Computing for Biomedical Researchers** conducted by Rahul Gupta, Head Trainer, IIT, Kanpur, on 08.02.2021 and 09.02.2021. 50 Faculty members from Science Departments got benefitted.
- Intercollegiate Faculty Development Programme on **Artificial Intelligence and Machine Learning in Biological Data Analysis** was organized by the Departments of Computer Science, Information Technology and Computer Applications on 29.03.2021. The resource persons were **Dr. U. Deva Priyakumar** Professor, Center for Computational Natural Sciences and Bioinformatics (CCNSB), International Institute of Information Technology (IIIT), Hyderabad, **Mr. Santhosh Kumar Selvaraj** Senior Technical Architect, Robert Bosch Engineering & Solutions ltd Coimbatore. **Mr. S. Srinivasa Raghavan**, Head of R&D Department, Smart Ant Technologies Pvt Ltd, Chennai handled the sessions. Around 100 faculty members from various institutions of Tamil Nadu participated in this event.

(iii) Competitions Organized

- **Inter Departmental Competition Zinesis** was organized by the Department of Computer Applications on 26.03.2021. 90 students from various departments were benefitted.
- Inter Collegiate Fete **BioHyphenzia – Tech Intellect** was organized by the Department Computer Applications on 11.03.2021 and 12.02.2020. Around **200 students** from 15 institutions in and around Coimbatore showcased their talents.

(iv) Standard Operating Procedure and Lab Manual Published

- Mrs. Geethalakshmi. K and et.al, Java Programming, CiiT, Coimbatore, ISBN No: 978-81-951822-6-8
- Mrs. Geethalakshmi. K and et.al, Software Testing Tools, CiiT, Coimbatore, ISBN No: 978-81-951822-2-04
- Mrs. Geethalakshmi. K and et.al, Bioperl Programming Language, CiiT, Coimbatore, ISBN No: 978-81-951822-1-3

9. Name, designation, host institute of guest faculty invited

- **Mentor meeting** was conducted by **Dr. J. Angarikanni**, Associate Professor & Head, Department of Microbial Biotechnology, Bharathiar University, Coimbatore on 16.09.2020. **15 faculty members** were benefited.
- Guest lecture on **Next Generation Sequencing** was delivered by Dr. R. Subash Kumar, Assistant Professor, Department of Biotechnology, Ramakrishna College of Arts & science, Coimbatore on 21.10.2020. **9 faculty members and 320 students** were benefited.
- Guest lecture on **Nano Biotechnology in Agriculture** was delivered by Dr. J. Angarikanni, Associate Professor & Head, Department of Microbial Biotechnology, Bharathiar University, Coimbatore. On 20.01.2021. **9 faculty members and 320 students** were benefited.
- Adjunct Faculty on **Bioformatics** was delivered by **Dr. S.Divya**, Post Doctorate Research Fellow, Department of Biotechnology, Bharathiar University, Coimbatore from 10.11.2020 to 26.11.2020. **120 first year students** were benefited.
- Lecture on **Technology Trends in 2021** was delivered by **Mr. Philip Clements Samuelraj**, CEO, Techjays, USA on 18.03.2021. **150 Students** got benefitted.
- Lecture on **Impact of Digital Business Eco System on Young Minds**, was delivered by **Dr. R. Shiva Shankar**, Lecture, International College of Digital Innovation, Chiang Mai University, Thailand on 19.03.2021. Around **150 students** got benefitted.
- Lecture on **Accelerators / Incubation – Opportunities for Students and Faculties – Early Stage Entrepreneurs**, was delivered by **Dr. Lakshmi Meera**, AVP & Head – Forge Academy, Coimbatore on 29.03.2021. Around **100 students** got benefitted.

10. Date of Advisory committee meeting: 17/02/2021

11. List of new Practicals/demonstrations introduced in different departments in last one year

- Program for Appending two DNA Sequences
- Program using Hashes to combine sequences
- Program using Arrays for combining sequences
- To Compute sequences using Looping
- Program to count the number of Blank spaces in a sequence

12. Details of equipment purchased in each department from DBT grant. (Item, no., cost, date of order placed, purchase/installation)

A) Non- recurring (Equipment) - 2019 - 2020

(Three departments, Rs. 15 Lakh per department – Rs.45 Lakhs)

S. No	Details	Amount in Rs
1	Computers	Rs. 6, 83, 810 /-
2	Centralized Server	Rs. 3, 90, 957 /-
3	Windows 10	Rs. 4, 24, 800 /-
Total		Rs. 14, 99, 567 /-

B) Recurring Details – Amount Sanctioned: 5, 00,000 /- (2020 - 2021)

S. No	Details	Amount in Rs
1	Internship	Rs. 20,000 /-
2	Staff Activities	Rs. 15, 160 /-
3	Student Activities	Rs. 4,360 /-
4	Guest Lectures	Rs. 19, 000 /-
5	Workshops	Rs. 57,500 /-
6	Faculty Development Programs	Rs. 5,408 /-
7	Competitions	Rs. 12,430/-
8	Projects	Rs. 45,000 /-
9	Publications	Rs. 47,200 /-
10	Lab Manual & SOP	Rs. 10,870 /-
11	Books	Rs. 75,000 /-
12	Journals	Rs. 74,497 /-
13	Report	Rs. 11,951/-
14	Consumables	Rs. 1,01,624/-
Total		Rs. 5,00,000/-

13. Details of books & journals subscribed from DBT grant

S. No	Bill No	Date	Company Name	Author	Title	Amount (in Rs.)
1	280	31.03.2021	Global Books Syndicate	Andrew S Tanenbaum	Computer Networks	2958.75
2	280	31.03.2021	Global Books Syndicate	Morris Mano	Digital Logic & Computer Design	2921.25
3	280	31.03.2021	Global Books Syndicate	James A O'Brien & George M Marakas	Management Information Systems	2535.00
4	280	31.03.2021	Global Books Syndicate	Kenneth C Laudon & Jane p.Laudon	Management Information Systems Managing the Digital Firm	2022.75
5	280	31.03.2021	Global Books Syndicate	Waman S Jawadekar	Management Information Systems Text and Cases	1620.00
6	280	31.03.2021	Global Books Syndicate	Arun k. Pujari	Data Mining Techniques	2528.75
7	280	31.03.2021	Global Books Syndicate	Jared P. Lander	R for Everyone	3285.00
8	280	31.03.2021	Global Books Syndicate	Norman Matloff	Art of R Programming	7287.30
9	280	31.03.2021	Global Books Syndicate	E. Balaguruswamy	Object Oriented Programming with C++	2246.25
10	280	31.03.2021	Global Books Syndicate	Rajesh K.Shukla	Object Oriented Programming in C++	2036.00
11	SINV02 573	04.03.2021	TBH Publishers & distributors	Andrew S Tanenbaum	Computer Networks	1775.25
12	SINV02 573	04.03.2021	TBH Publishers & distributors	Morris Mano	Digital Logic & Computer Design	1752.75
13	SINV02 573	04.03.2021	TBH Publishers & distributors	S.Salivahanan, S.Arivazhagan	Digital Circuit & Design	1012.50
14	SINV02 573	04.03.2021	TBH Publishers & distributors	E.Balagurusamy	Object Oriented Programming with C++	2246.25
15	SINV02 573	04.03.2021	TBH Publishers & distributors	Bjarne Stroustrup	C++ Programming Language	2193.75
16	SINV02 573	04.03.2021	TBH Publishers & distributors	E. Balagurusamy	Programming with JAVA	1347.75
17	SINV02 573	04.03.2021	TBH Publishers & distributors	Patrick Naughton & Hebert Schildt	The complete reference java 2	2160.00
18	CBSH2 0CRB3 01	19.03.2021	Sapna Book House	Seymour Lipschutz	Data Structures	479.20
19	CBSH2 0CRB3 01	19.03.2021	Sapna Book House	N.P.Gopalan, J.Akilandeswari	Web Technology A Developer's-Perspective	260.00

20	CBSH2 0CRB3 01	19.03.2021	Sapna Book House	RameshGaonkar	Microprocessor Architecture Programming and applications with the 8085RameshGaonkar	505.75
21	CBSH2 0CRB3 01	19.03.2021	Sapna Book House	Kenneth C Laudon& Jane p.Laudon	Management Information Systems managing the digital firm	639.20
22	CBSH2 0CRB3 01	19.03.2021	Sapna Book House	James A O'Brien & George M Marakas	Management Information Systems	676.00
23	CBSH2 0CRB3 01	19.03.2021	Sapna Book House	Jared P. Lander	R for Everyone	1752.00
24	CBSH2 0CRB3 01	19.03.2021	Sapna Book House	Rajesh K.Shukla	Object Oriented Programming in C++	432.65
25	SINV02 932	31.30.2021	TBH Publishers & distributors	Mohamed Rafiquzzaman	Microprocessor & Microcomputer-based system design	596.25
26	SINV02 932	31.30.2021	TBH Publishers & distributors	Andrew S Tanenbaum	Computer Networks	591.75
27	SINV02 932	31.30.2021	TBH Publishers & distributors	Morris Mano	Digital Logic & Computer Design	584.25
28	SINV02 932	31.30.2021	TBH Publishers & distributors	Seymour Lipschutz	Data Structures	449.25
29	SINV02 932	31.30.2021	TBH Publishers & distributors	James A O'Brien & George M Marakas	Management Information Systems	633.75
30	SINV02 932	31.30.2021	TBH Publishers & distributors	S.Salivahanan, S.Arivazhagan	Digital Circuit & Design	543.75
31	CBSH2 0CRB3 39	31.03.2021	Sapna Book House	Seymour Lipschutz	Data Structures	479.20
32	CBSH2 0CRB3 39	31.03.2021	Sapna Book House	RameshGaonkar	Microprocessor Architecture Programming and applications with the 8085	505.75
33	CBSH2 0CRB3 39	31.03.2021	Sapna Book House	James A O'Brien & George M Marakas	Management Information Systems	1352.00
34	CBSH2 0CRB3 39	31.03.2021	Sapna Book House	Kenneth C Laudon& Jane P Laudon	Management Information Systems managing the digital firm	1917.60
35	CBSH2 0CRB3 39	31.03.2021	Sapna Book House	Mt Somashekara, Ds Guru, Hs Nagendraswamy	Object Oriented Programming With C++	952.00
36	CBSH2 0CRB3 39	31.03.2021	Sapna Book House	Robert Lafore	Object Oriented Programming in C++	559.20
37	279	31.03.2021	Global Books Syndicate	Achyut S.Godbole, Atulkahate	Data Communications and Networks	1856.25
38	279	31.03.2021	Global Books Syndicate	Kogent Learning Solutions Inc	HTML 5 Black Book	3396.00

39	279	31.03.2021	Global Books Syndicate	Mohamed Rafiquzzaman	Microprocessor and Microcomputer Based System Design	3180.00
40	279	31.03.2021	Global Books Syndicate	Dr.KumarSaurabh	Cloud Computing	1501.60
41	279	31.03.2021	Global Books Syndicate	Arun k. Pujari	Data Mining Techniques	1517.25
42	279	31.03.2021	Global Books Syndicate	Norman Matloff	The Art of R Programming	7207.30
43	279	31.03.2021	Global Books Syndicate	Nageswara Rao Pusuluri	Software Testing Concepts and Tools	343.20
Total						Rs. 75,000 /-

Journal


S. No	Title	Frequency	Print Price
1	ACM Trans on Computer Science	4 Issues	Rs. 73,496.80 /-
2	ICFAI Journal of Computer Science	4 Issues	Rs. 1,000 /-
Total			Rs. 74, 496.80/-

14. Qualitative improvements due to DBT support

- Students were highly benefited by supplementary knowledge and information in interdisciplinary field
- Students skilled with biological data processing tool and bio-visualization tool
- Students undertaken group projects to support science department in digitization process
- 2 Papers were under process for publishing in International Journals.

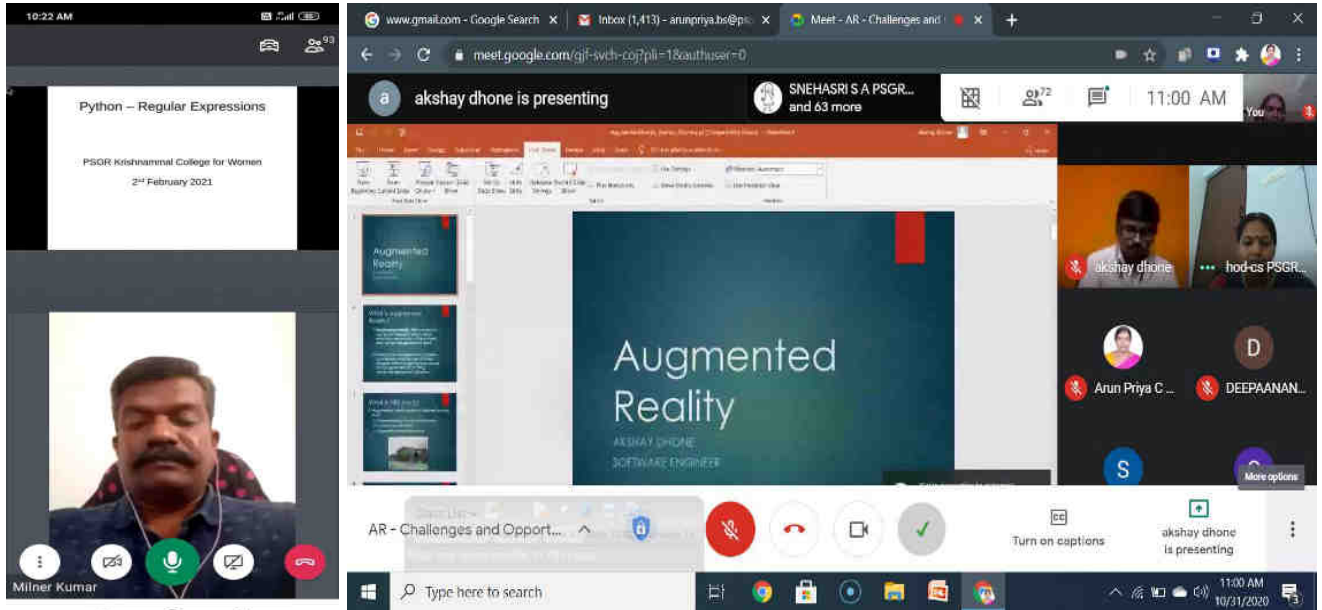
15. Problems faced, if any, in implementation of the programme and utilization of DBT grant

Nil


Signature of the Coordinator
 COORDINATOR DBT STAR COLLEGE SCHEME
 PSGR KRISHNAMAHAL COLLEGE FOR WOMEN
 Peenamedu, Coimbatore - 4

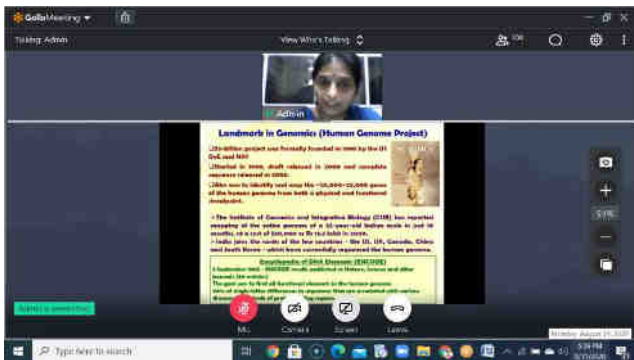

Signature of the Principal
 PRINCIPAL
 PSGR KRISHNAMAHAL COLLEGE FOR WOMEN
 COIMBATORE - 641 064.

Department of Computer Science

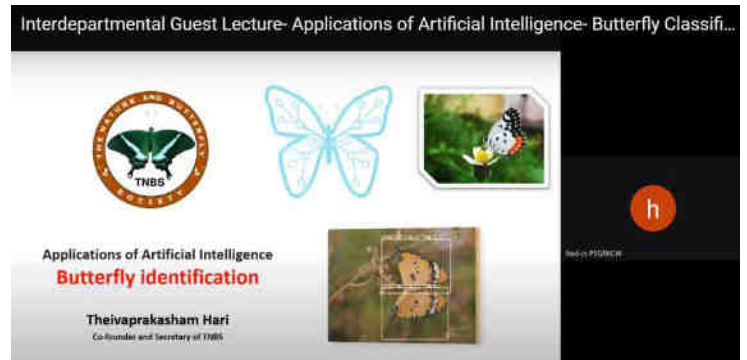


Adjunct Faculty

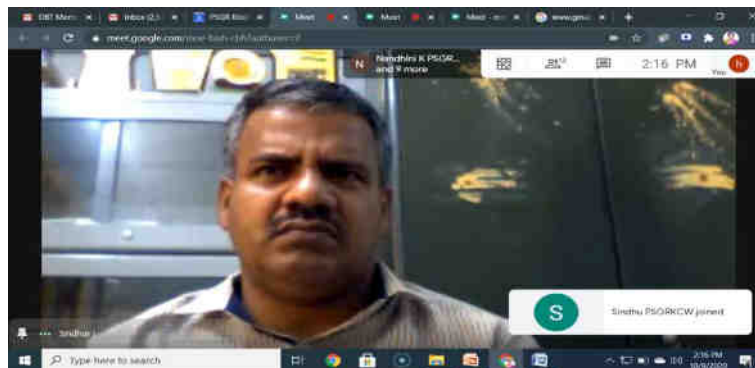
Guest Lecture – Mr. Akshay U Dhone



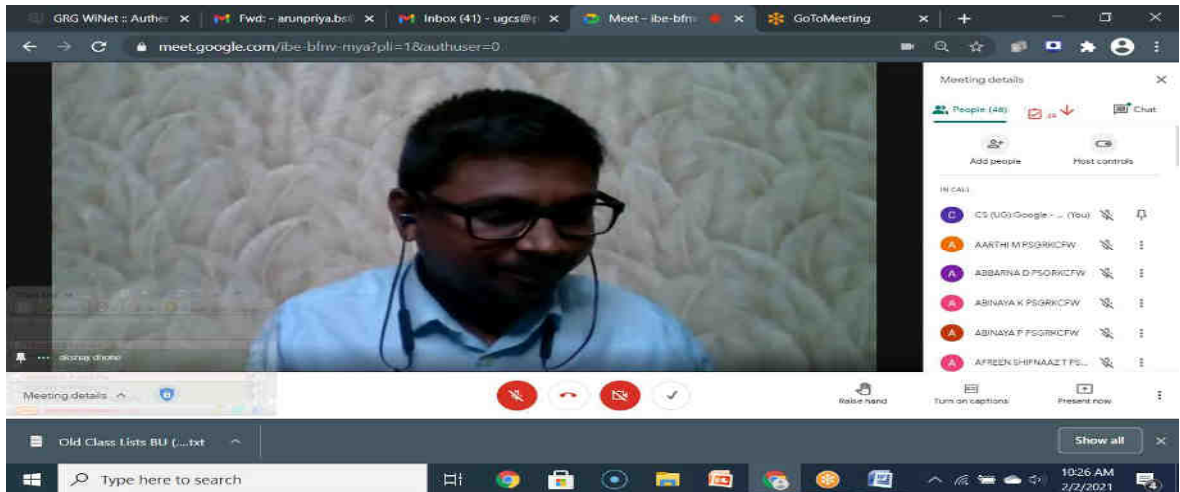
Guest Lecture – Dr. Modhumitha Dasgupta



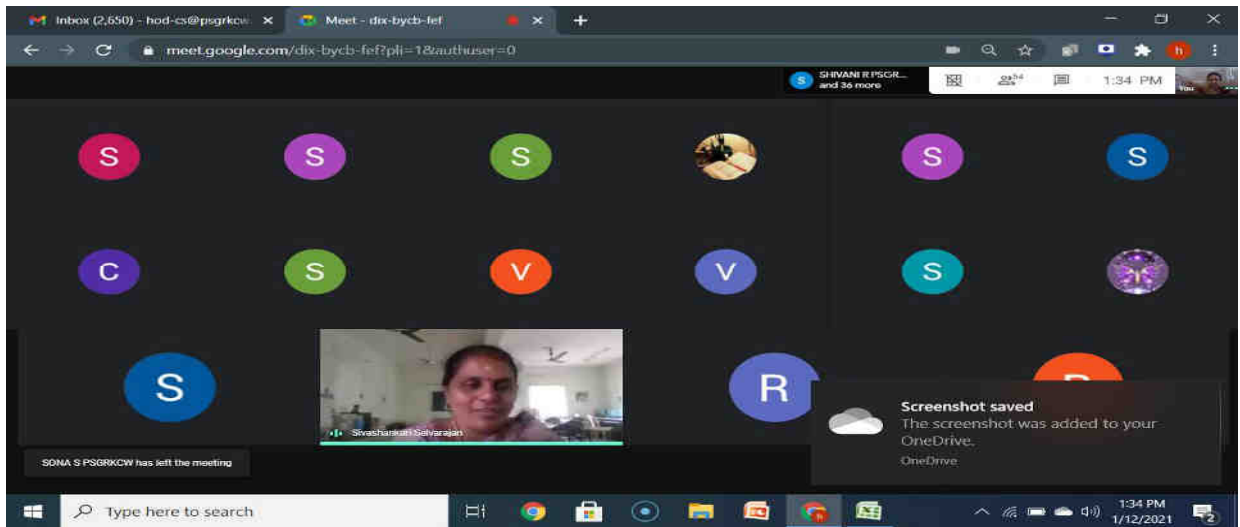
Guest Lecture – Mr. H. Theivapraksham



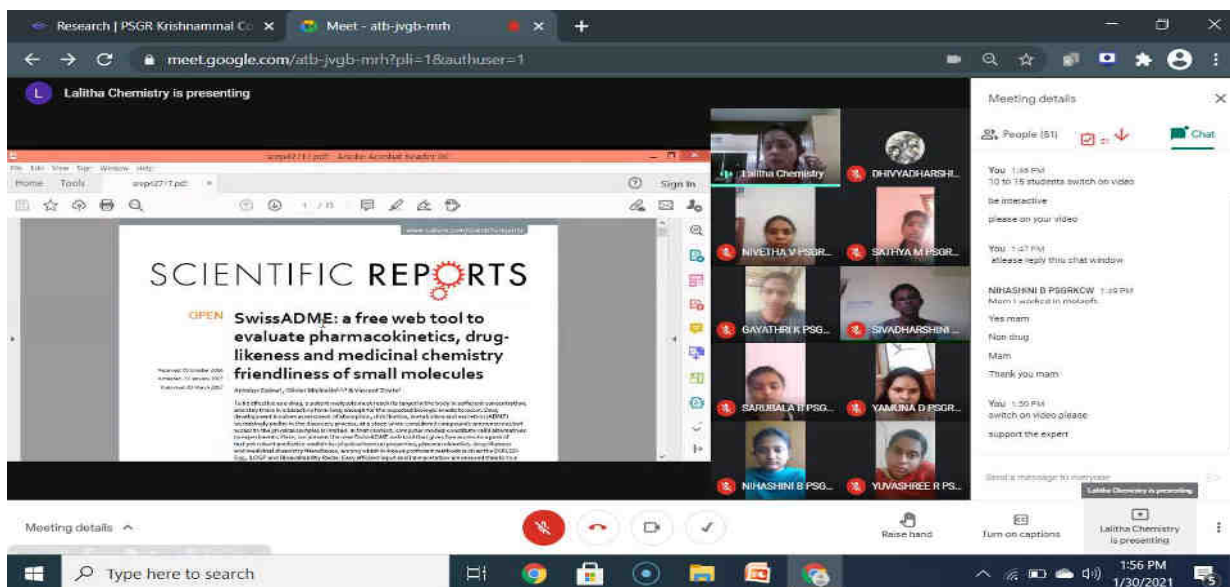
Mentor Meeting



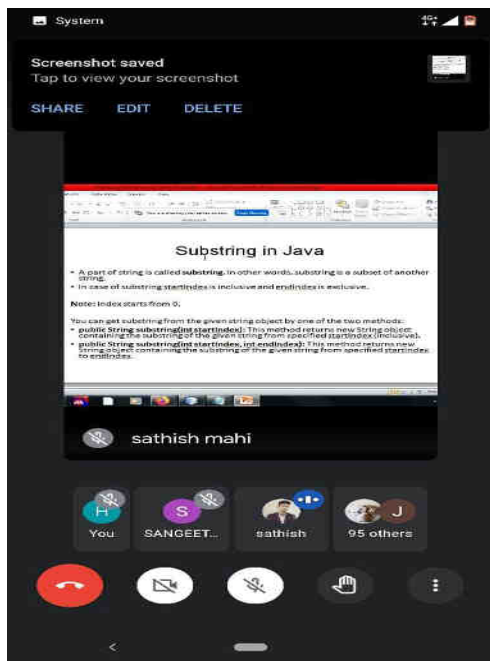
Augmented Reality - Bringing world into Class room



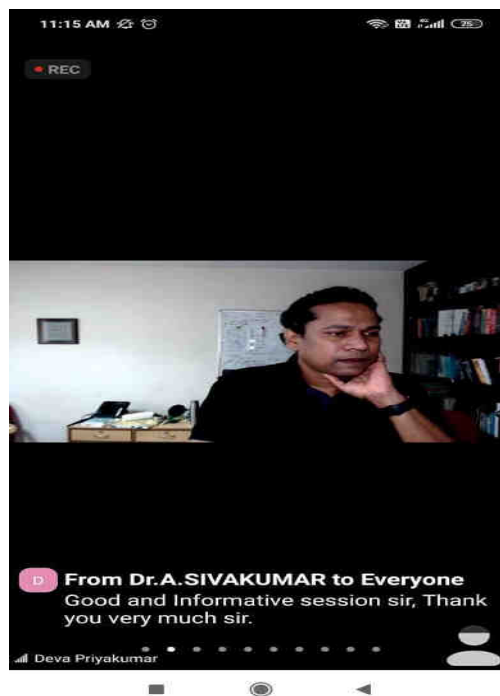
Workshop on Computational Biology



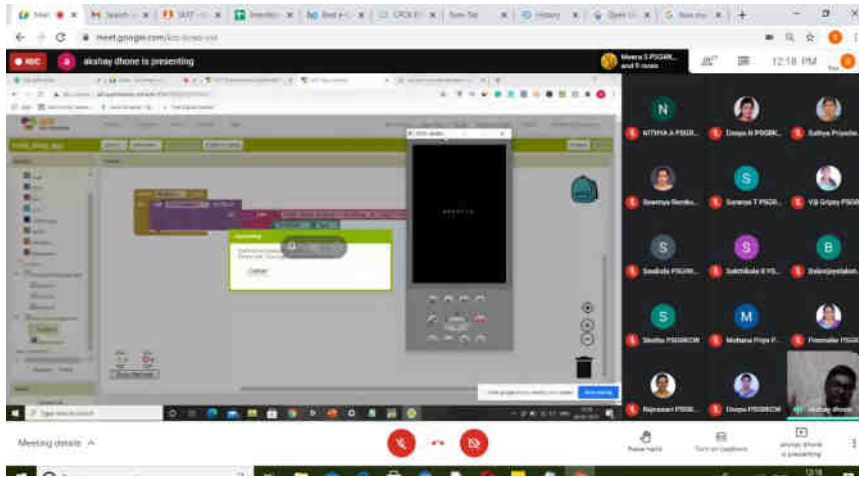
Interdepartmental Workshop on Cheminformatics Tools



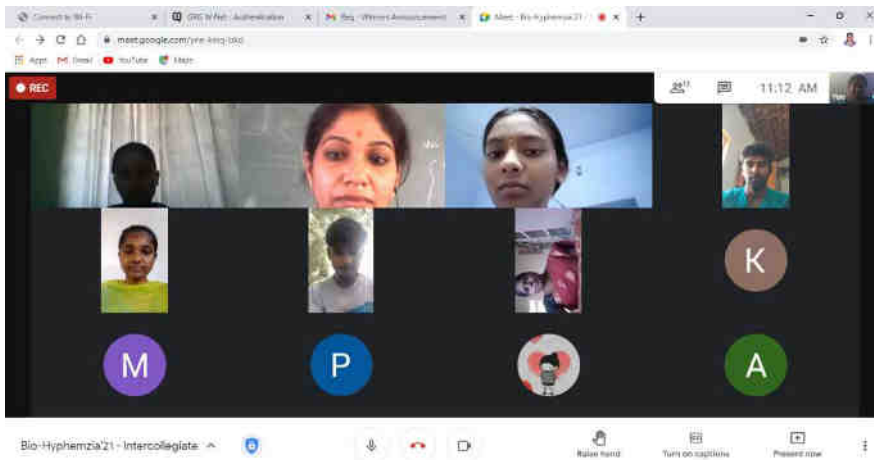
Workshop on Java Programming



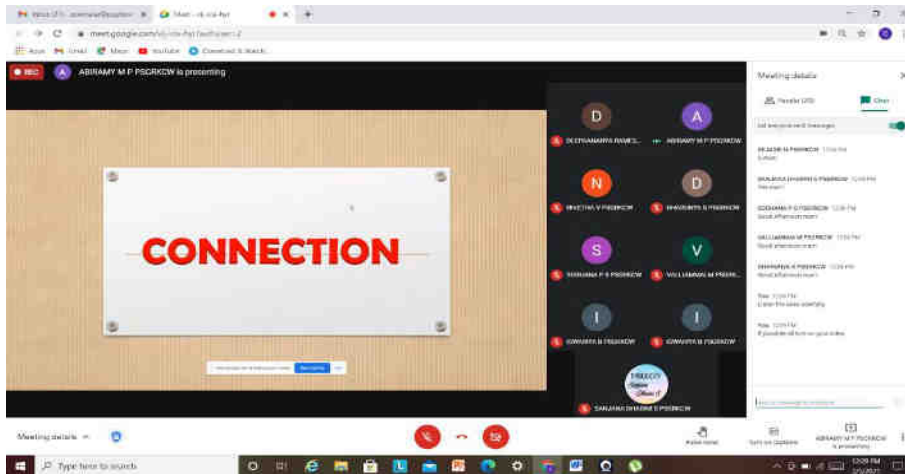
FDP on AI and ML in Biological Data Analysis



FDP on Augmented Reality for E- Content Development

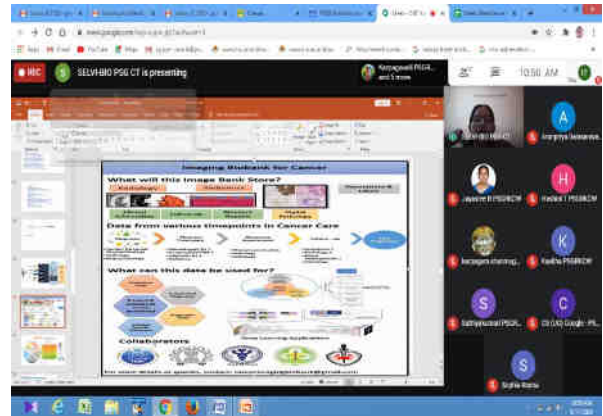
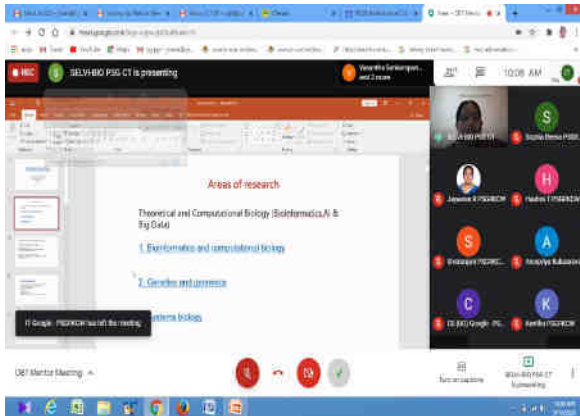


Intercollegiate – Biohyphenzia-2021

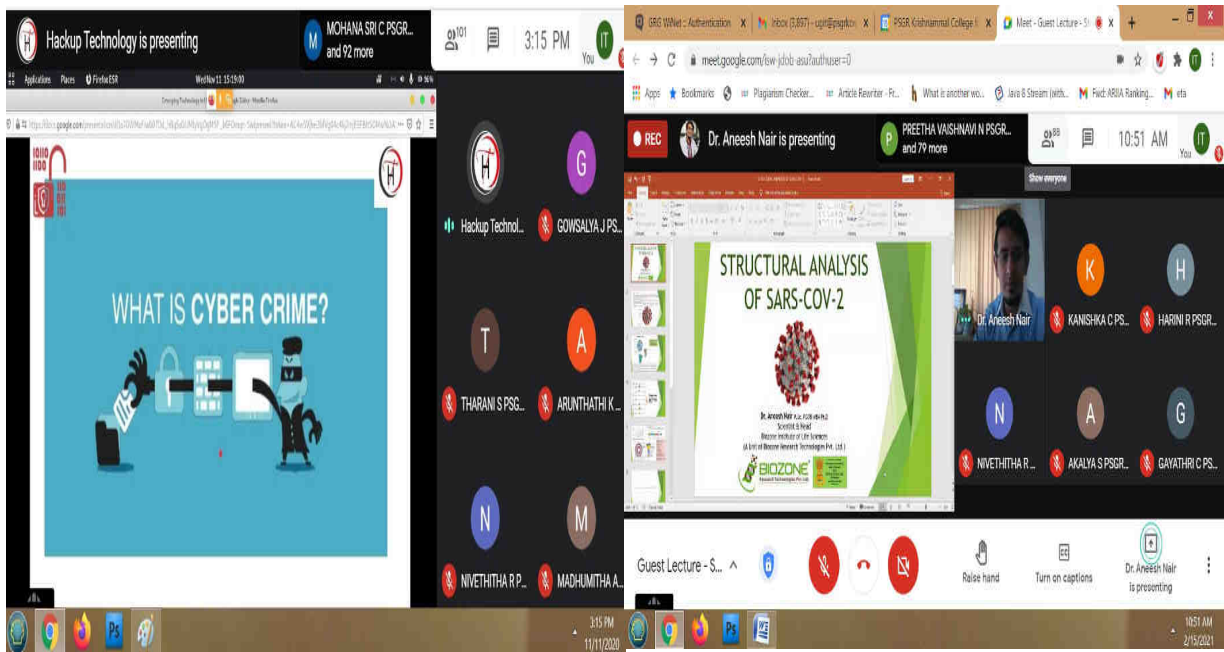


Inter departmental Competition – Techitenz-2021

Department of Information Technology

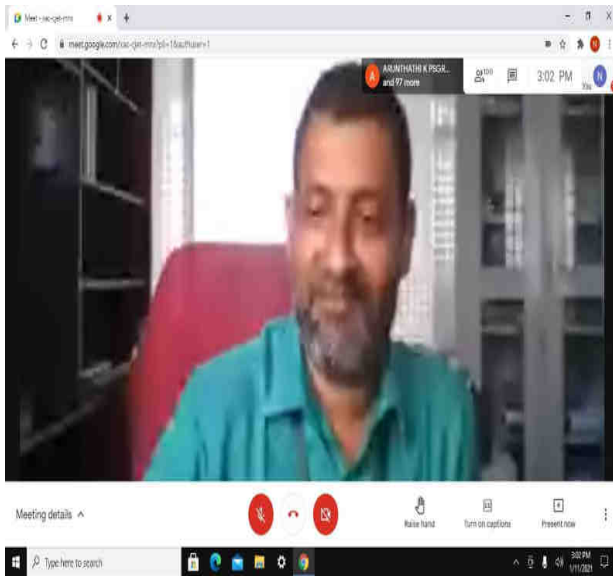


Mentor meeting- Dr. SelviSubramanian

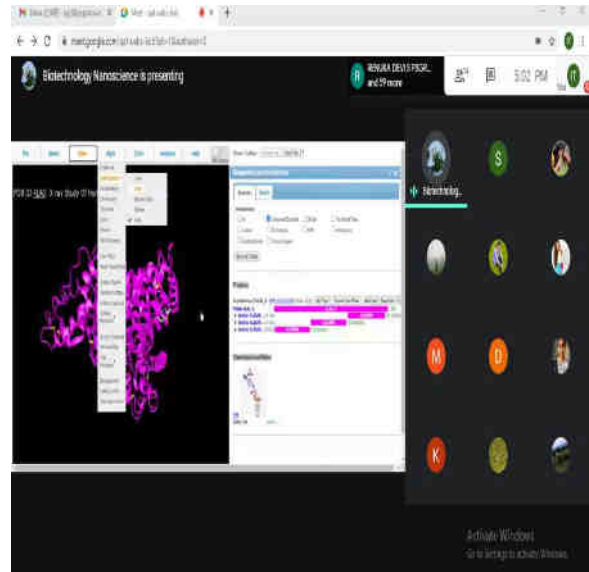


Guest Lecture – Mr. Dinesh Paranthangan

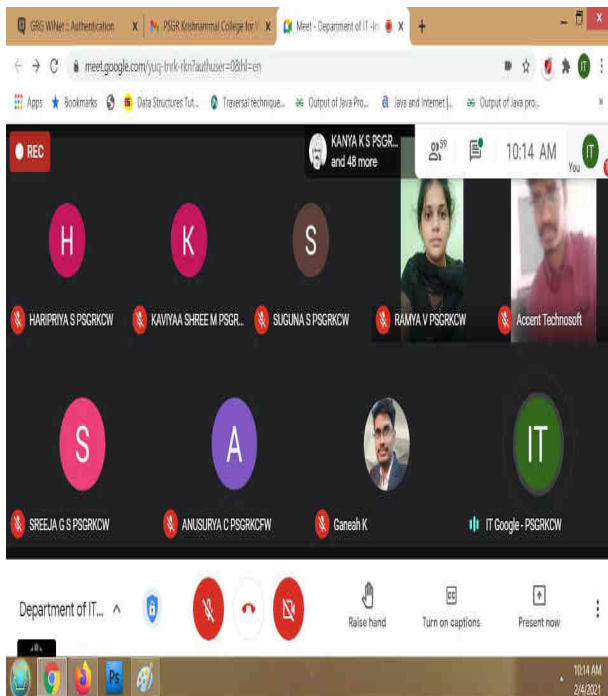
Guest Lecture – Dr. Aneesh Nair



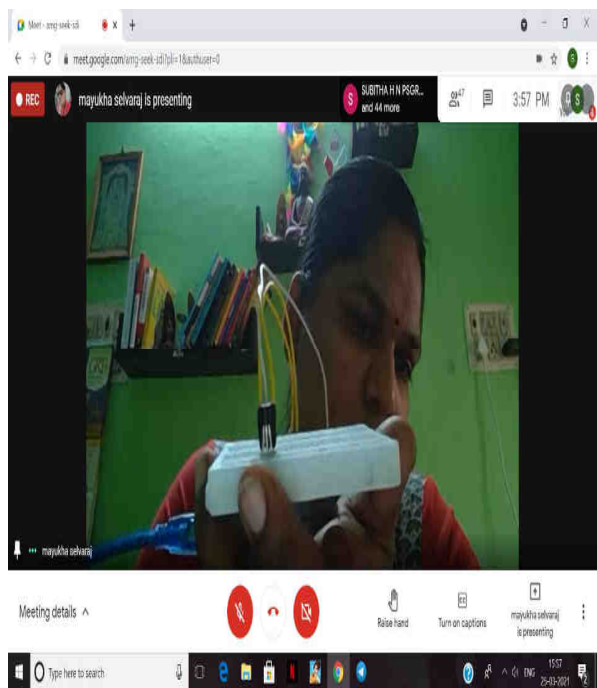
Workshop on Biopython



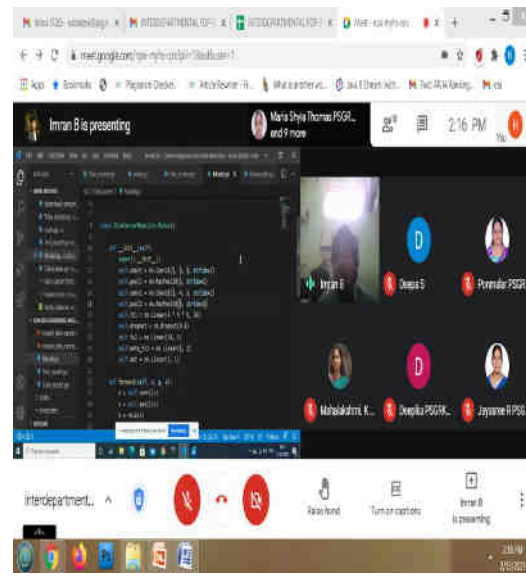
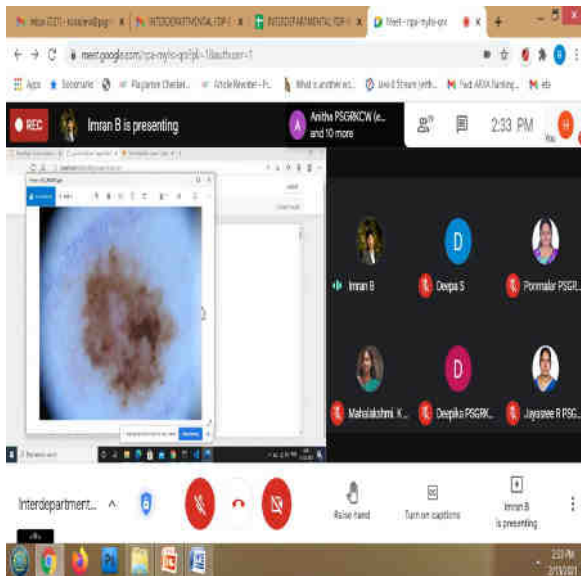
Workshop on Protein Structure Visualization Using VR



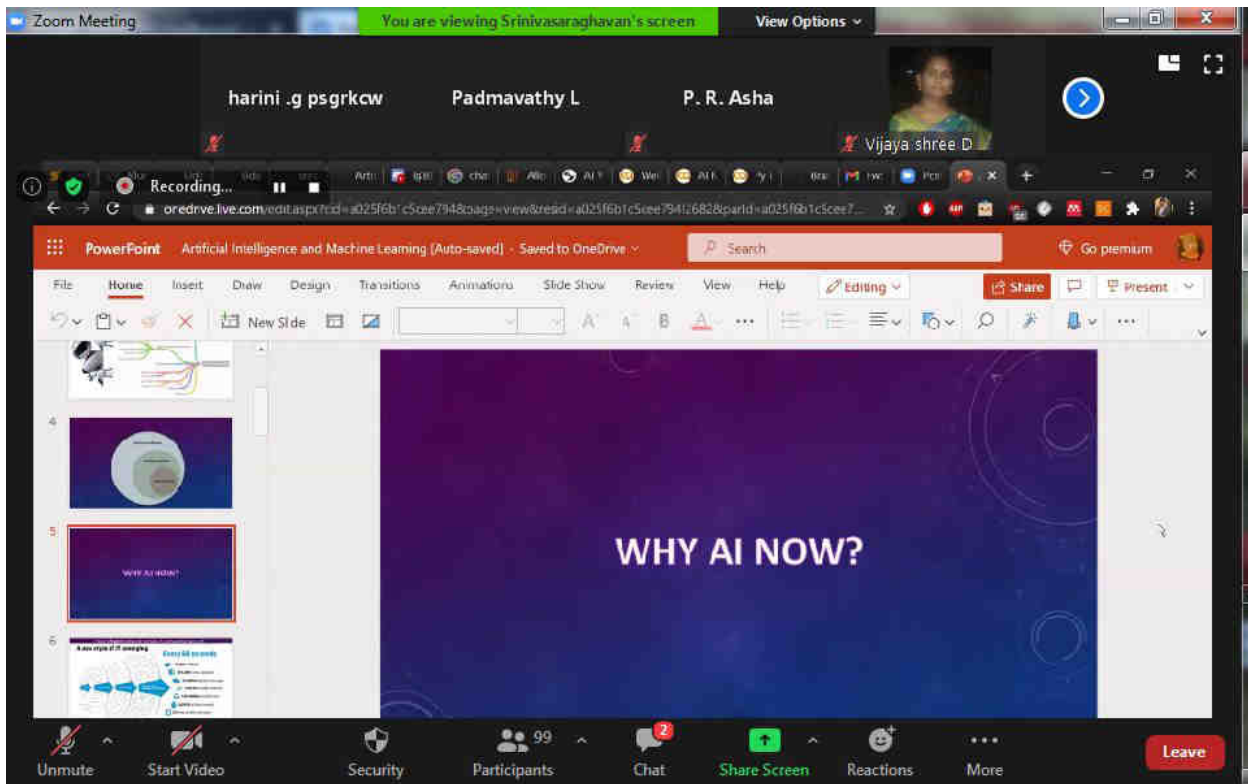
Interdepartmental Workshop on AR/VR Technology and Platforms



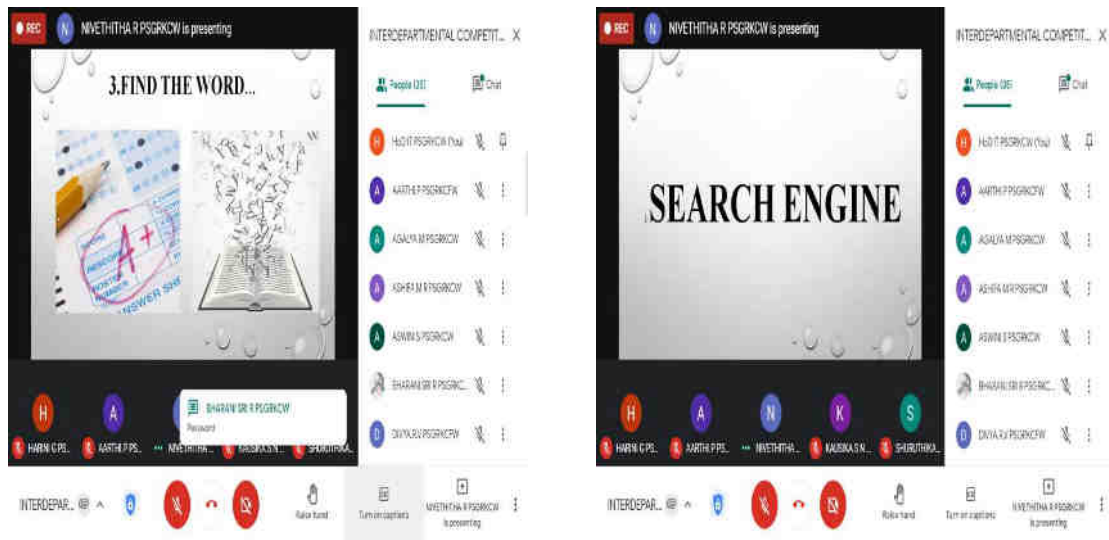
Workshop on Internet of Things



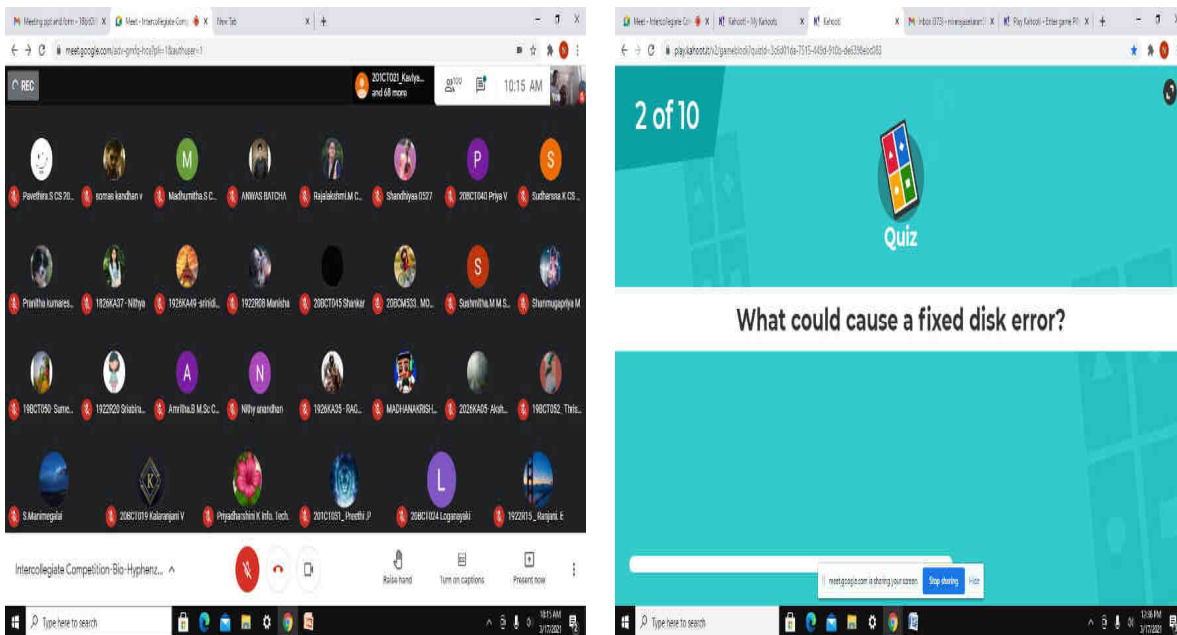
FDP on Biomedical Bigdata



FDP on AI and ML in Biological Data Analysis



Interdepartmental Competition – BioEsparanza 2021

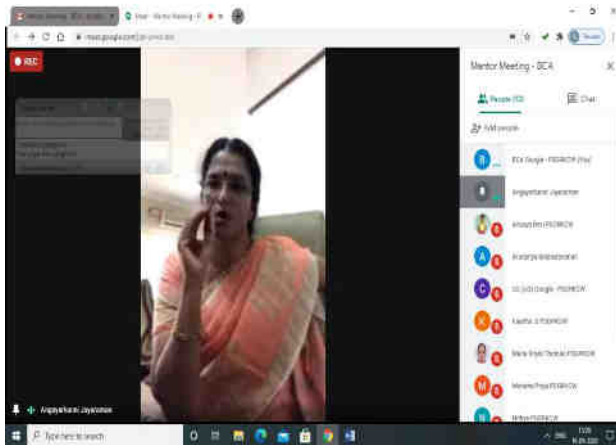


Inter collegiate – BioHyphenzia 2021

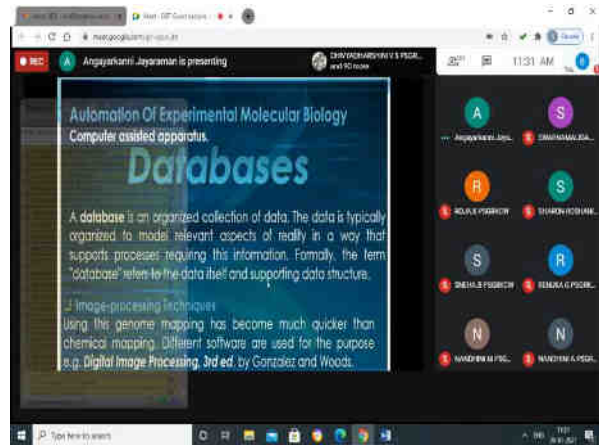


Community Development Programme on Smart Farming

Department of Computer Applications



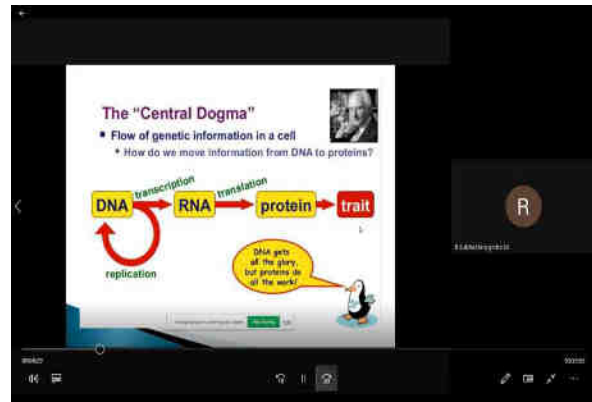
Mentor Meeting



Guest Lecture on Nano Technology



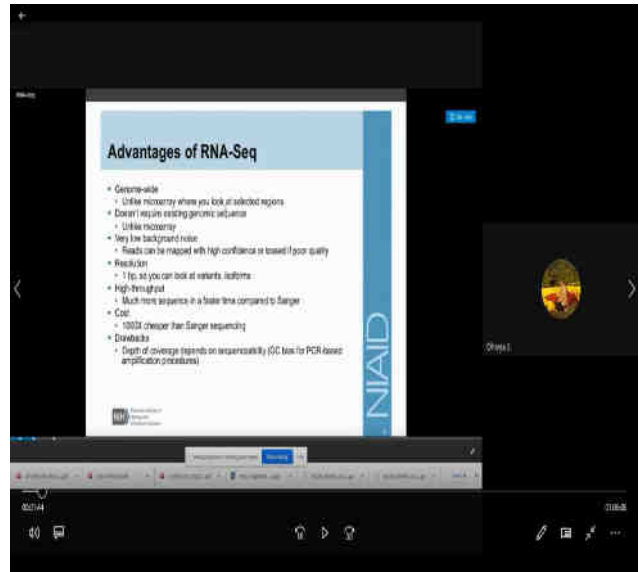
Guest Lecture on Next Generation Sequencing



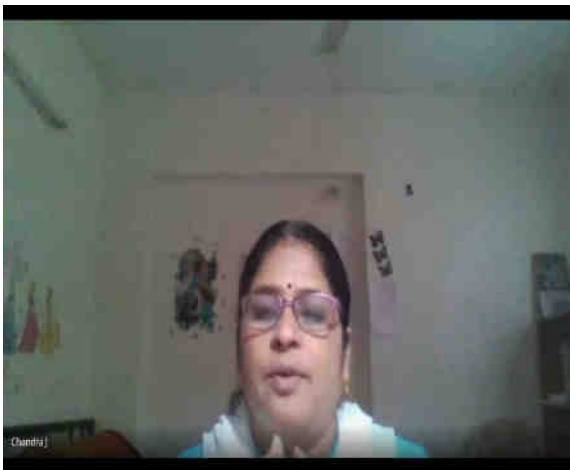
Workshop on Bioinformatic Tools



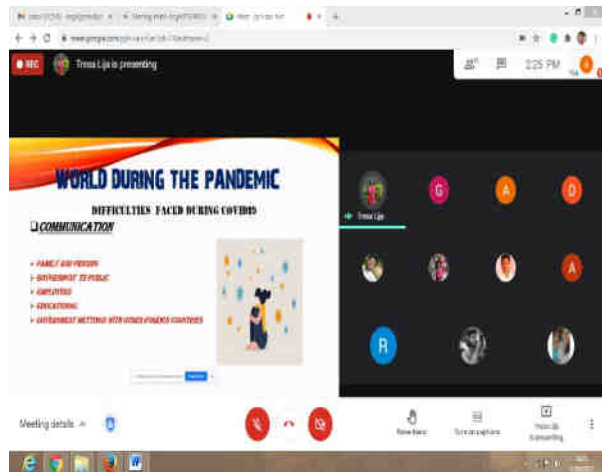
Workshop on Next Generation Sequencing



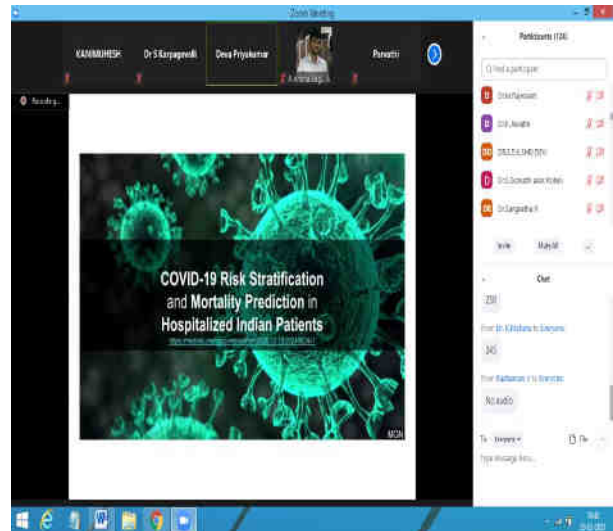
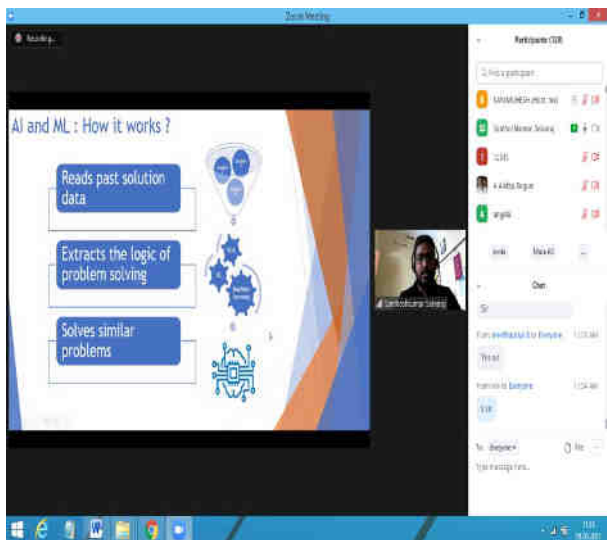
Workshop on App Development



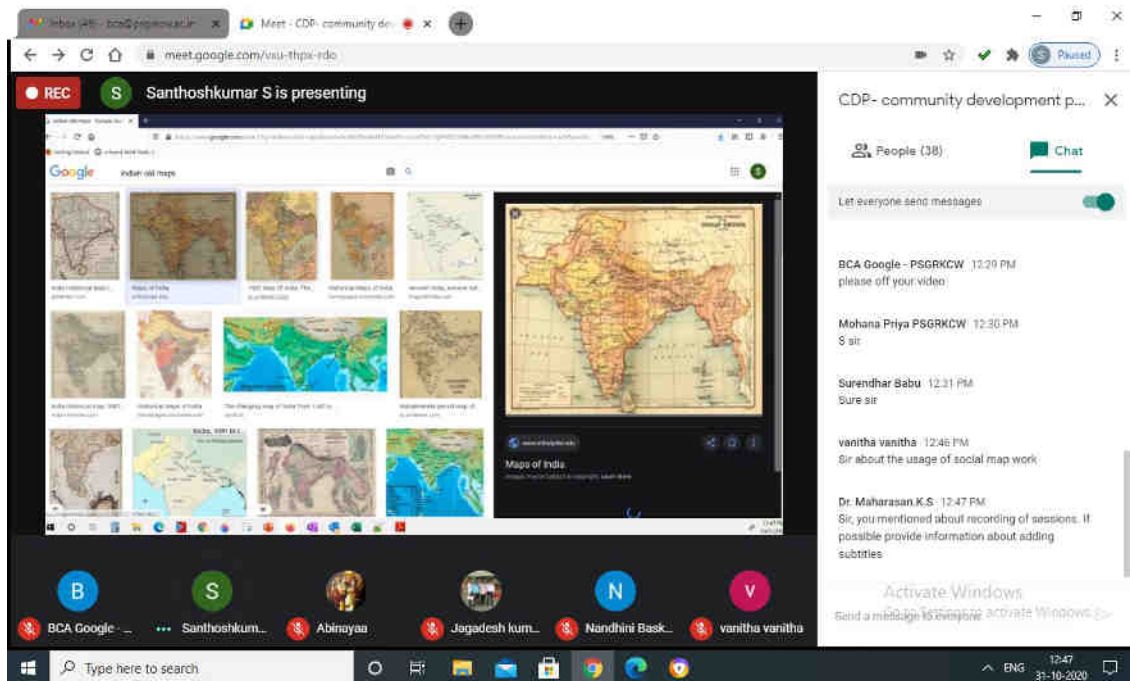
Workshop on App Development



Inter Collegiate Competition - 2021



Inter Collegiate Faculty Development Program on Artificial Intelligence and Machine Learning in Biological Data Analysis



Online Community Development Program for School Teachers

PSGR KRISHNAMMAL COLLEGE FOR WOMEN

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Minutes of the DBT Star College Status

Advisory Committee Meeting

Date : 17.02.2021
Time : 12.30 PM
Meeting Link : <https://meet.google.com/pvb-ziob-amd>

An Advisory Committee meeting for the departments under DBT Star Status of Department of Biotechnology (DBT), Government of India was held on 17th February, 2021 through online mode to discuss and review the progress of computer science, information technology and computer applications departments in the academic year 2020 -2021.

Dr. N.Yesodha Devi, Secretary welcomed Dr. Garima Gupta, Scientist 'E' Department of Biotechnology, Government of India, New Delhi, others members of the advisory committee, Dr. R. Rajendran, Associate Professor, Department of Microbiology, PSG College of Arts & Science, Coimbatore Principal, Dr. D.Mangalaraj, UGC-BSR Faculty Fellow, Department of Nanoscience and Technology, Bharathiar University, Coimbatore and Dr. P. Shanmugavel, Managing Director/Coordinator BTISNET, Professor, Department of BioInformatics, Bharathiar University, Coimbatore, deans of various capacities, co-ordinators and heads of various participating departments. In her welcome speech, she expressed her gratitude to the authorities of the Department of Biotechnology, Government of India, for their support to Computer Science, Information Technology and Computer Applications departments under the star status. She also expressed her gratitude to the authorities of DBT for enhancing the infrastructure to the science departments which paved way for applying to e-yuva and DBT – Builder. She also assured that a national level consortium will be organized by the college to promote DBT star college scheme all over India.

The activities of Computer Science, Information Technology and Computer Applications for the year 2020-2021 were presented by Dr. S. Karpagavalli, Dr. G. Sophia Reena and Mrs. K. Geethalakshmi respectively.

Dr. P.B. Harathi, DBT Coordinator presented the activities executed in the academic year 2020-2021 by basic science departments such as Physics, Chemistry, Zoology, Botany and Mathematics. The presentation emphasized on the sustenance of the activities (project, internship, virtual tour, FDP, competitions, guest lectures, hands on training, interface meeting, community reach, popularization of science) based on the infrastructure and networking established with the institutions / industries across the country. Some of the notable achievements of science departments are e-museum of biological specimen, e-modules and you-tube lectures prepared by the students and faculty for the teaching learning process, mentoring other colleges located in and around Coimbatore for effective implementation of DBT star college scheme, cluster formation among DBT star colleges facilitated in organizing collaborating workshops, seminar and faculty among DBT star college scheme. She thanked DBT for providing support in developing infrastructure which enabled to carry out activities virtually in this pandemic and also in networking established with eminent scientists, various intuitions, industries and universities.

The advisory committee members appreciated the activities carried out effectively during this pandemic and suggested to carry out more interdisciplinary activities.

Recommendations and suggestions put forth by the advisory committee member

Dr. Garima Gupta

- Acknowledged the activities carried out by the departments as outstanding
- Appreciated the college for having the most successful model in the whole country and for acting as a hub of activities for the colleges under the scheme
- Suggested to enhance interconnectivity and evolve as a community to cater to the needs of socially and economically weaker schools and colleges so that they can compete with other main stream colleges
- Proposal for taking up new avenues through DBT Builder was much appreciated

Dr. R. Rajendran

- Initiatives taken to knowledge transfer for digitization of lab specimens by life science departments is commendable
- Training programme in digitization of biological specimen to the life science departments may be organized to other colleges recognized by DBT Star College Status
- Activities carried out by the department related to the specialization that was assigned to them was appreciated
- Projects of interdepartmental and interdisciplinary can be enhanced
- Suggested to conduct activities based on biological and biotechnological components by all the three departments

Dr. D. Mangalaraj

- The Computer Science, Information Technology, Computer Applications departments have developed highly equipped laboratories and have come out with good number of SOPs and lab manuals
- Impact of the star status programme is highly commendable
- Interface with other science departments has to be improved
- Digitization of lab specimens and e-Museum is well appreciated

Dr. P. Shanmugavel

- The inclusion of cheminformatics lab exercises in curriculum as suggested by the committee during the previous advisory committee meeting was appreciated

The meeting was concluded with the vote of thanks by Dr. S. Nirmala, Principal. She thanked advisory committee members for all their suggestions and support.

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