

# Proceedings of National Online Student Project Presentation RICERCA 2020

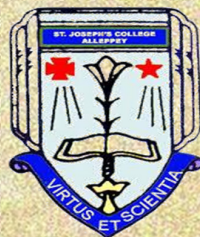
**Research & Innovation For Young Minds**



**18-08-2020 to 24-08-2020**

Editor-in-Chief  
**Dr. Bhagya D**

*Organized By*



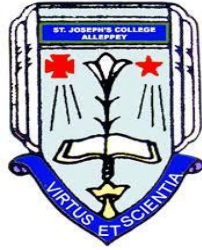
**Research Committee, St Joseph's College for Women, Alappuzha &  
Kerala Sasthra Sahithya Parishath  
Alappuzha, Kerala, India**

**Proceedings of  
National Online Student Project Presentation  
RICERCA 2020**

**Research & Innovation For Young Minds**

**18<sup>th</sup> August to 24<sup>th</sup> August 2020**

*Organized By*



*Research Committee, St. Joseph's College for Women, Alappuzha*

*&*

*Kerala Sasthra Sahithya Parishath*

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<b>Title:</b>	<b>Proceedings of National Online Student Project Presentation, RICERCA 2020, Research and Innovation for Young Minds</b>
<b>Author(s):</b>	<b>Dr Bhagya D</b>
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**Rev. Dr. Sr. Annie Mathew**

Manager, St Joseph's College For Women,  
Alappuzha, Kerala, India

### **MESSAGE**

The world today is witnessing an incredibly fast revolution in the communication front. The swift progress of digital technology is constantly bringing about a rapid evolution with regard to the thought pattern as well as the style and the content of communication. Digital media is influencing changes not only in the means of communication, but also to a great extent, the very thinking of people.

The very title of your webinar "RICERCA" means – search for or pursue something. "Research is to see what everybody else has seen, and to think what nobody else has thought" says Albert Szent Cryorgyi.

We all knew a well said and often repeated proverb „ necessity is the mother of invention“. Till a few months ago the word webinar was rarely used or even pronounced by anyone. Now it became familiar and most uttered word. Before few months we could not think of bringing together students from other states to share their knowledge on online platform other than being physically present. Now educators and knowledge seekers have proved that nothing can come on their way of gaining knowledge and growing in creativity. No lockdown has blocked the mind sets of scientists and teachers in reaching out to society.

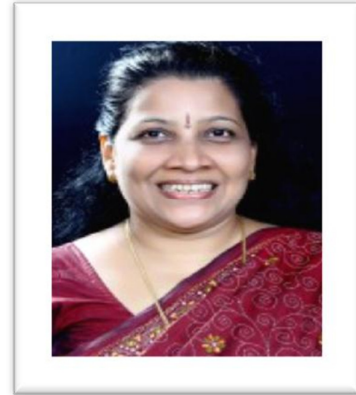
Great personalities are born in the family, scientists are groomed in the classrooms and great innovations are nurtured in the society. The great scientist Thomas Alva Edison is the best example for this. From the position of a newspaper selling boy in the local trains, who never went to school, he rose to be the most prolific inventor in American History. He amassed a record of 1093 patents, total untouched by any other inventors. Strong determination and a desire to do hardwork only will bring laurels in one's life situations.

I congratulate the students who made use of this opportunity to make this event a successful one. I exhort you to grab all the opportunities that come across your life so as to become a creative and successful person with values and character.

I appreciate the Principal, IQAC Co-ordinator and the Research Committee of the College for fanning the flame of innovation – i.e. invention, research and development in young minds. May your tribe increase.

With every bestwish

**Rev. Dr. Sr. Annie Mathew**



**Dr Rita LathaD' Couto**  
Principal, St Joseph's College for Women,  
Alappuzha, Kerala, India

### **MESSAGE**

It is being increasingly recognized that academic institutions need to take the initiative for building research capacity in students, and encourage them to engage in meaningful and relevant research projects at an early stage in their academic life. With a view to foster the spirit of research in the student community, the Research Committee of our institution launched an innovative venture, RICERCA 2020- a National Online Student Research Project Presentation Competition- for providing a platform for students from higher education institutions all over the country to present their research projects undertaken in various disciplines. The response was overwhelming 227 entries were received covering 12 academic disciplines, out of which 105 research projects were presented after the preliminary screening of 127 project abstracts. A special note of appreciation to the subject experts from various institutions who gave useful guidance to the student researchers for refining their project proposals.

I congratulate the Organizing Team of RICERCA 2020, headed by the Programme Coordinator Dr. Bhagya D., for their committed efforts to ensure the success of this venture. It is my belief that RICERCA 2020 has achieved its objective of igniting the spark of research motivation in our young researchers, and strengthened their resolve to embark on the research journey with renewed interest and focus.

**BestWishes**

**Dr. Rita LathaD' Couto**



**Prof Achuthsankar SNair**  
Dept of Computational Biology and Bioinformatics  
University of Kerala, Karyavattom,  
Thiruvananthapuram 695581 India

### **INAUGURAL MESSAGE**

I am very happy to have taken part in **RICERCA 2020** both as a speaker and also as a listener. I found that the programme was designed meaningfully to kindle the latent spirit of innovation in young men and women. That the lockdown period did not deter the organizers from conducting the event in a good manner, in collaboration with **Sasthra Sahithya Parishath** is to be lauded. I hope that the event will leave a indelible message that everyone can innovate.

**My Best Wishes....**  
**Prof Achuthsankar S Nair**



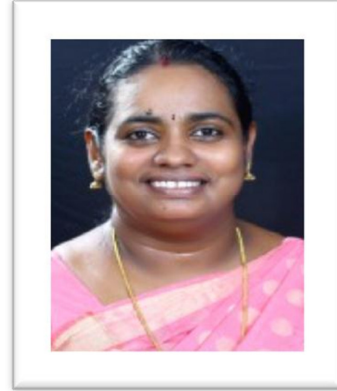
**Dr V N. Jaya Chandran**  
Chairman,  
Scientific Temperament Committee  
Kerala Sasthra Sahithya Parishath District Committee,  
Alappuzha

### **MESSAGE**

It is heartening to note that the Research Committee, St Joseph's College for Women Alappuzha has successfully held a National Online Student Project Presentation series for enhancing the research capacity of students of various universities in the nation. I am happy also to learn that the committee is bringing out the proceedings of the programme in the form of an E book , so that even those teachers and students, who could not attend the same, can be benefited. The development of civilization and evolution of modern human being are attributable to science or knowledge economy in the coming world. Capacity to produce knowledge is of prime importance. Therefore, successful completion of this programme, aiming the enrichment of young researchers with better methodology and scientific temper is appreciable.

I hearty congratulate the academic community, especially the Research Committee of the college for conducting the programme on virtual platform effectively, thereby tiding over the inconveniences caused by COVID-19 pandemic. I really feel proud of being part of this venture as a representative of Kerala Sasthra Sahithya Parishath (KSSP).

**Dr V N. Jaya Chandran**



**Dr BhagyaD**

Editor in Chief, & Research Co-ordinator,  
RICERCA2020

Welcome to the Proceedings: Abstract E Book of RICERCA 2020 organized by Research Committee of St Joseph's College for Women, Alappuzha & Kerala Sasthra Sahithya Parishath, Alappuzha, Kerala, India. Ensuring high quality research requires accepting abstracts that pass a rigorous review process. This is for the first time research committee is organizing a National Online Student Project Presentation with the aim of providing a virtual platform to students of undergraduate and postgraduate from all disciplines to show case their multidisciplinary, and transdisciplinary research talents inspite of pandemic upheaval and exchange of research ideas nationally. Among 227 entries from 12 disciplines 127 papers were selected after screening for quality and innovation and 105 student delegates presented their research papers. The online student project presentation was from 18-08-2020 to 27-08-2020 and the abstracts selected were compiled as abstract book. Among undergraduate and postgraduate category of each subject best researcher with best presentation were evaluated by nationally eminent personalities in respective subjects and was awarded "EXCELSIOR AWARD", for encouragement second and third place were also given certificate of merit.

I would like to express our deepest appreciation to the speakers whose technical contributions are also presented in these proceedings. I am indebted to the contributions of associate editors for their excellent co operation and hard work which made it possible to release the proceedings in an excellent manner.

We would like to thank all our keynote speakers who made all the efforts to synthesize the materials and their wide and rich experiences to deliver distinguished talks. We would also like to thank all our subject experts for their great efforts in delivering interactive and excellent tutorials that address the learning needs of all levels, undergraduates, graduates, and professionals. Finally, I hope that the student delegates enjoyed National Online Student Project Presentation RICERCA 2020 and it have been beneficial for them fostering research aptitude integrated with technology.

**Dr Bhagya D**





**Dr DSuresh**  
Assistant Professor, Department of Chemistry,  
School of Chemical &  
Biotechnology,  
SASTRA Deemed University, Thanjavur, Tamil Nadu

### VALEDICTORY MESSAGE

I am really honoured and humbled to be a part of this year online RICERCA 2020, the national level online student's research project presentation competition series across the diverse fields of arts, science and humanities. I have to appreciate the organizing committee for their efforts in conducting national level competition owing to a difficult time of Covid-19 rather than conducting routine webinars. To be honest, I was really excited to hear the total number (227) of entries for this competition across the fields and very happy that young generations are more enthusiastic in research of their own fields. My dear students, you all made a progressive and impressive start for your carrier. The rapid increase in the development of technology provides a better opportunities and the avenues for the young mind to showcase their talents. Don't let this fire to put off, ignite it every day with your thought process for the development of society and the country. I will say this is the best phase of your life where you can decide your future career. Open up your wings and set up a long term goal for your career and make each step forward every day. HARD WORK never fails and there is no substitute for the HARD WORK. I am quoting a Tamil poem Thirukkural(595),

வெள்ளத் தனைய மலர்நீட்டம் மாந்தர்தம்  
உள்ளத் தனையது உயர்வு

meaning, the stalks of water-flowers are proportionate to the depth of water; so is human's greatness proportionate to their minds. Enrich your knowledge which not only takes you to a newer heights but also your family and eventually the country. Wishing you all a very successful career and a healthy & happier life ahead.

Thankyou,

**Dr DSuresh**



**Dr Menon MeeraRaman**

AssistantProfessor,  
PG DepartmentofZoology,  
The CochinCollege.

### **RESEARCH AND RESEARCH ETHICS**

"Research is to see what everybody else has seen and to think what nobody else has thought"

- **Albert Szent- Gyorgyi.**

"Ethics is knowing the difference between what you have a right to do and what is right to do"

- **PotterStewart.**

"Research and research ethics" is a topic which is very relevant in today's scientific world. Research is a systematic study and careful collection, presentation, analysis and interpretation of quantitative data whereas Ethics is the study of value concepts like good, bad, right or wrong and the principles that justify applying the concepts. Research has many characteristics, be it practical, logical, analytical or critical. Any researcher should have an intellectual curiosity, healthy criticism, intellectual honesty and creativity. A researcher can go for either a basic or applied research depending on their level of interest. Research is important because it improves quality of life, improves instructions, improves student and teachers achievements. It has deep seated psychological aspects and responds to the economic recovery and austerity measures of the country. Research ethics is equally important as it educates and monitors scientists conducting research to ensure a high ethical standards. Ethical principles of honesty, objectivity, integrity, carefulness, openness, respect for intellectual property, confidentiality, responsible publication and mentoring, respect for colleagues, social responsibility and competence need to be strictly adhered so as to achieve success. Care should be taken not to fabricate, falsify or plagiarize data. Today's researchers are tomorrow's assets. So it is very important that the new researchers are given proper guidance so that they can bring their best for the society.

# **INAUGURATION RICERCA 2020**

## **Research & Innovation for Young Minds**

**National Online Student Research Project Presentation Series**

Organized by

**Research Committee, St Joseph's College for Women, Alappuzha 688001, Kerala**

in association with

**Kerala Sasthra Sahithya Parishath**

### **PROGRAMME SCHEDULE**

**18-08-2020 Time: 2:00PM**

- OpeningRemarks** : **Ms ManjuThomas**  
Assistant Professor, Department of English
- WelcomeAddress** : **Dr BhagyaD**  
Research Co-ordinator
- PresidentialAddress:** **Dr Rita LathaD' Couto**  
Principal, St Joseph's College for Women, Alappuzha
- InauguralAddress** : **Prof. Achuthsankar SNair**  
Head, Department of Computational Biology & Informatics  
University of Kerala, Kariavattom, Thiruvananthapuram
- Felicitation** : **Dr V N Jayachandran,Chairman,**  
Scientific Temperament Campaign  
Committee, Kerala Sasthra Sahithya Parishath
- Voteof Thanks** : **Ms Anjali George**  
Assistant Professor, Department of English

**SCHEDULE OF RICERCA 2020 NATIONAL ONLINE STUDENT  
RESEARCH PROJECT PRESENTATION**

**(PARALLEL SESSIONS)**

**18-08-2020 to 24-08-2020**

**18-08-2020, Tuesday**

Session I : **CHEMISTRY** 3:45PM-6:30PM

**Co-ordinators** : Dr Kumari Nisha S  
Dr Ramya K

Session II : **ENGLISH** 2:35PM-6:00PM

**Co-ordinators** : Ms Manju Thomas  
Ms Anjali George

**19-08-2020, Wednesday**

Session I : **MATHEMATICS** 11:00 PM-1:30PM

**Co-ordinators** : Ms Namitha Sara Mathew  
Ms Chithra KS

**20-08-2020, Thursday**

Session I : **ZOOLOGY** 2:30PM-4:45PM

**Co-ordinator** : Ms Remya James

Session II : **PHYSICS & ELECTRONICS** 3:00PM-6:00PM

**Co-ordinator** : Dr Sr Morris Marieli Antoinette

**21-08-2020, Friday**

Session I : **HOME SCIENCE** 2:00PM-5:00PM

**Co-ordinator** : Dr Bhagya D

SESSION II : **BOTANY & ALLIED SCIENCES** 2:30PM -5:30PM

**Co-ordinators** : Dr Diana K J  
Dr R Nisha Nair

**22-08-2020, Saturday**

Session I : **HISTORY** 2:00PM-3:10PM

Session II : **ECONOMICS**

**Co-ordinator** : Ms Sandya AK

Session III : **HOME SCIENCE** 4:00PM- 6:00PM

**Co-ordinator** : Dr Bhagya D

**24-08-2020, Monday**

SessionI : **COMMERCE** 2:00PM – 5:00PM

**Co-ordinator** : Dr Suleena V S

Session II : **PSYCHOLOGY** 2:30PM -5:15PM

Session III : **SOCIOLOGY**

**Co-ordinator** : Dr Bhagya D

**Project Presentation Time :** 8 minutes

**Discussion :** 2 minutes

**Platform :** Google Meet

**RICERCA 2020**  
**ONLINE RESEARCH PROJECT PRESENTATION**  
**COMPETITION**

**EXPERT PANEL (Parallel Sessions)**

**18-08-2020 to 24-08-2020**

<b>Day</b>	<b>Date</b>	<b>Time</b>	<b>Subject</b>	<b>Expert Panel</b>
Tuesday	18-08-2020	2:00PM-3:30PM	<b>INAUGURATION</b>	<b>Dr Achuthsankar S Nair</b> Professor, Department of Computational Biology & Informatics, University of Kerala, Thiruvananthapuram
Tuesday	18-08-2020	3:45PM-6:30PM	<b>CHEMISTRY</b>	<b>Dr Sunish K S</b> , Assistant Professor, Department of Chemistry, CMS College, Kottayam, Kerala  Dr Sarika Sivakumar, Assistant Professor, Department of Chemistry, St Joseph's College for Women, Alappuzha
Tuesday	18-08-2020	2:35PM-6:00PM	<b>ENGLISH</b>	<b>Dr S Mohamed Haneef</b> , Assistant Professor and Head, Research Department of English, Sadakathullah Appa College(Autonomous), Tirunelveli, TamilNadu
Wednesday	19-08-2020	11:00 PM- 1:30 PM	<b>MATHEMATICS</b>	<b>Dr Manilal K</b> , Associate Professor, University College, Thiruvananthapuram
Thursday	20-08-2020	2:30 PM-4:45PM  3:00PM-6:00PM	<b>ZOOLOGY</b>  <b>PHYSICS</b>	<b>Dr Meera Menon</b> , Assistant Professor, PG Department of Zoology, Cochin College, Ernakulam  <b>Dr M Ragam</b> , Assistant Professor, Research Centre of Physics, Fatima College, Madurai, Tamil Nadu  <b>Dr J Emima Jeronsia</b> , Assistant Professor, Department of Physics, Holy Cross College, Thiruchirapalli, TamilNadu
Friday	21-08-2020	2:00PM-5:00PM  2:30PM-4:00PM	<b>HOME SCIENCE</b>  <b>BOTANY</b>	<b>Dr Sunanda Chande</b> , Former Principal & Professor, Home Science, SNTD Womens University, Mumbai <b>Dr Sithara Balan V</b> , Assistant Professor, Department of Home Science, Government College for Women, Thiruvananthapuram, Kerala <b>Mrs. Meera D K</b> , Assistant

				Professor, Department of Home Science, Government College for Women, Thiruvananthapuram, Kerala <b>Dr Elizabeth Cherian,</b> Assistant Professor, Department of Botany, CMS College, Kottayam, Kerala
Saturday	22-08-2020	2:00PM-3:10PM	<b>HISTORY &amp; ECONOMICS</b>	<b>Dr Dhanya B Nair,</b> Assistant Professor, Department of History NSS College, Cherthala, Kerala
	22-08-2020	4:00PM -6:00PM	<b>HOME SCIENCE</b>	<b>Dr Sunanda Chande,</b> Former Principal & Professor, Home Science, SNTD Womens University, Mumbai  <b>Dr Sithara Balan V,</b> Assistant Professor, Department of Home Science, Government College for Women, Thiruvananthapuram, Kerala  <b>Mrs. Meera D K,</b> Assistant Professor, Department of Home Science, Government College for Women, Thiruvananthapuram, Kerala
Monday	24-08-2020	2:00PM-5:00PM	<b>COMMERCE</b>	<b>Dr Krishnan M,</b> Assistant Professor, SD College, Alappuzha, Kerala
		2:30PM-5:15PM	<b>PSYCHOLOGY</b>	<b>Dr Shabu B Raj</b> Scientist F, DRDO, New Delhi
			<b>SOCIOLOGY</b>	<b>Dr Nisha Jolly Nelson,</b> Head, Department of Sociology, Loyola College of Social Sciences, Thiruvananthapuram, Kerala
Thursday	27-08-2020	11:00AM 12:00AM	<b>VALEDICTORY KeynoteAddress</b>	<b>Dr D SURESH</b> Assistant Professor, Department of Chemistry, School of Chemical & Biotechnology, SASTRA Deemed University, Thanjavur, Tamil Nadu

## RICERCA 2020 SELECTED PRESENTATIONS SUBJECT WISE

Date	Subject	Number of Presentations Selected	Number of Students Presented
18-08-2020	CHEMISTRY	13	12
18-08-2020	ENGLISH	11	10
19-08-2020	MATHEMATICS	10	10
20-08-2020	ZOOLOGY	10	09
20-08-2020	PHYSICS	14	12
21-08-2020 & 22-08-2020	HOMESCIENCE (5Specializations)	34	21
21-08-2020	BOTANY	14	12
22-08-2020	COMMERCE	07	07
22-08-2020	HISTORY	05	03
22-08-2020	ECONOMICS	02	02
24-08-2020	PSYCHOLOGY	06	06
24-08-2020	SOCIOLOGY	01	01
<b>TOTAL</b>		<b>127</b>	<b>105</b>

**Both Undergraduates and Post graduates, Total entries :227\*Subjects:12**

**\*(Chemistry, English, Mathematics, Zoology, Physics, Home Science, Botany, Commerce, History, Economics, Psychology, Sociology)**



# Editorial Board



**Dr Bhagya D**

**Editor in Chief**

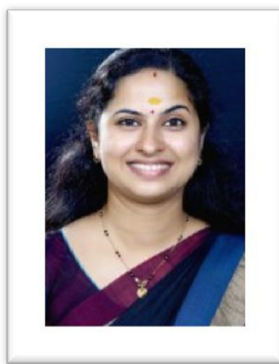
Department of Home Science

## Department Co-ordinators & Associate Editors



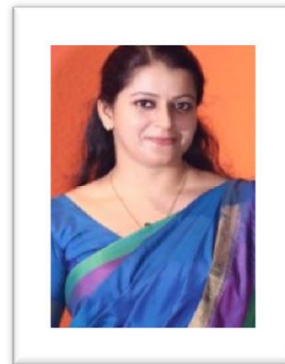
**Dr Kumari Nisha S**

Department of Chemistry



**Dr Ramya K**

Department of Chemistry



**Ms Anjali George**

Department of English



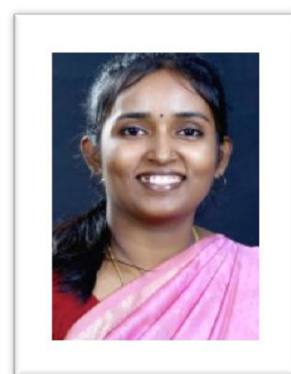
**Ms Manju Thomas**

Department of English



**Ms Namitha Sara Mathew**

Department of Mathematics



**Ms Remya James**

Department of Zoology



**Dr. Diana KJ**

Department of Botany



**Ms. Sandya A K**

Department of History



**Dr. Suleena V S**

Department of Commerce



**Dr. Sr. Morris Marieli  
Antoinette**

Department of Physics

### **Student Co ordinators**



**Fathima Nadeer**

IIPG Home Science



**Anjali Anil**

IIIDC History



**Mery Dincy**

IIIDC History

### **Technical Co-ordinators**



**Mr Akhil A O**



**Ms Akshara Kozhichira**



**Mr Gireesh Michael**

## **Organising Committee**

**Dr Bhagya D**, (Research Co-ordinator), Assistant Professor, Department of Home Science

**Dr V N Jayachandran**, Chairman, Scientific Temperament Campaign Committee, Kerala Sasthra Sahithya Parishath

**Dr Suleena V S**, Head, Department of Commerce

**Ms Anjali George**, Assistant Professor, Department of English

**Ms Manju Thomas**, Assistant Professor, Department of English

**Ms Sandya A K**, Head, Department of History

**Ms Remya James**, Head, Department of Zoology

**Dr Diana K J**, Assistant Professor, Department of Botany

**Dr Ramya K**, Assistant Professor, Department of Chemistry

**Dr Kumari Nisha S**, Assistant Professor, Department of Chemistry

**Dr Sr Morris Marieli Antoinette** Assistant Professor, Department of Physics

**Ms Namitha Sara Mathew**, Assistant Professor, Department of Mathematics

## **National Advisory Committee**

**RevDrSrAnnieMathew**, Manager, St Joseph's College for Women, Alappuzha, Kerala **Dr**

**Rita Latha D' Couto**, Principal, St Joseph's College for Women, Alappuzha, Kerala **Dr**

**Lawrence John Berchmans**, Consultant Scientist, CECRI, Karaikudi, Tamil Nadu **Dr**

**Shabu B Raj**, Scientist F, DRDO, New Delhi

**Dr Sunanda Chande**, Former Principal & Professor, Home Science, SNDT Womens University, Mumbai

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## **RICERCA 2020**

### **NATIONAL ONLINE STUDENT RESEARCH PROJECT PRESENTATION**

**Organized by**

**Research Committee, St Joseph's College for Women, Alappuzha**

**In association with Kerala Sasthra Sahithya Parishath**

#### **VALEDICTORY PROGRAMME**

OpeningRemarks	:	<b>Ms AnjaliGeorge</b> Assistant Professor, Department of English
WelcomeAddress	:	<b>Ms RemyaJames</b> Head, Department of Zoology
Manager'sAddress	:	<b>Rev. Dr. Sr. AnnieMathew</b> Manager, St Joseph's College for Women, Alappuzha
Principal'sAddress	:	<b>Dr Rita Latha D'Couto</b> Principal, St Joseph's College for Women, Alappuzha
KeynoteAddress	:	<b>Dr DSuresh</b> Assistant Professor, Department of Chemistry School of Chemical & Biotechnology SASTRA Deemed University, Thanjavur
Review fromSubjectExpert	:	<b>Dr S MohamedHaneef,</b> Assistant Professor and Head, Research Department of English, SadakathullahAppa College (Autonomous), Tirunelveli, Tamil Nadu

**Announcementof EXCELSIOR AWARD**

**Feedback from Winners &Presenters**

Voteof Thanks	:	<b>Dr BhagyaD</b> Research Co Ordinator & Convenor, RICERCA 2020
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**Date: 27-08-2020**

**Time: 11:00AM**

**Platform: Google Meet**

*St. Joseph's College for Women, Alappuzha*, affiliated to the University of Kerala is situated at Convent Square. Established in 1954, by the Canossian Daughters of Charity, an international congregation of missionary sisters, the college offers 09 undergraduate and 3 postgraduate courses and opens up various settings for the understudies in curricular and extra-curricular fields in accordance with the vital needs of greatness and worldwide standards. The college has been able to combine the core values of higher education upheld by the Higher Educational Council and NAAC with its own vision and mission which stem from the educational policy evolved by the Canossian Congregation, guided by the precepts of St. Magdalene of Canossa, the founder of the order, thus ensuring value based education that aims at global competencies. The college was accredited by the National Accreditation and Assessment Council (NAAC) without precedent for 2004 with a commendable B++ (82.5%). In 2013, it was re-accredited with an 'A' Grade . In 2015, the College was the recipient of grant from **DST - FIST** for the infrastructural development of Science labs. In **2016**, the College was granted the status of "**College with Potential for Excellence**" (CPE) by **UGC**, the only college to be granted it that year among colleges under the University of Kerala. The college was awarded **B++ Grad** with a CGPA of 2.87 on a scale of four in the third NAAC accreditation process conducted in 2018.

The college has made considerable progress academically and in updating of its infrastructure facilities, while continuing to make its presence felt in the co-curricular and extra-curricular scenario.

The college leaves no stone unturned to foster the spirit of Research and Innovation. The newly emerging Research Block bears testimony to this. The Research Promotion Committee headed by a group of committed faculty disseminates information regarding research related events, call for proposals, availability of grants from various funding sources and organize workshops and seminars of relevance. The review committee examines and evaluates the viability, provides seed money, ethical compliance and probity, and methodological correctness of the research proposals submitted and motivates teachers to undertake minor and major projects and participate and present papers at national and international conferences and focus on innovative research practices.

## **Kerala Sasthra Sahithya Parishath (KSSP)**

KSSP played a lead role in making Kerala totally literate. KSSP has established a separate centre to do research and in depth studies in the field of education viz., Education Research Unit (ERU) with three campuses, at Thiruvananthapuram, Thrissur and Kozhikode.

KSSP has been involved in building up models for sustainable and equitable development; campaigning for decentralised planning and local level planning; initiating a large number of field experiments in local level planning; empowering the local communities through volunteer based resource mappings, socio-economic survey, data analysis etc; formulation of people's structures like "Neighbourhood groups" and village committees for transparent democracy; analysing the "Kerala Model" of development to arrive at general conclusions and seeking its improvement. With the help of its members and friends, KSSP undertakes regular studies on developmental issues of Kerala and publish papers, monographs and reference books.

KSSP uses several media to communicate; printed word, posters, spoken word, theatre and to a limited extent electronic media. It has organised massive leaflet campaigns on many subjects. KSSP is the India's largest science publisher, having published more than 1,000 titles and producing 30-40 new titles per year. KSSP is also publishing three Science Magazines separately for primary school students, high school students and the general public. KSSP also organises every now and then massive lecture campaigns on a variety of topics and each campaign will result in several thousand lectures, which reaches out to hundreds of thousands of people.

With a strength of several thousand teachers among its members, KSSP organises in-service teachers training to make them enjoy teaching; promotes pedagogic innovations to make learning an enjoyable activity for children; assesses curriculum and text books; organises massive children's science festivals, teacher exchange programmes and talent festivals for children; publishes science journals and books for children and organises mass movement for quality improvement and mass literacy campaigns.

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## COPG2

**Sissy Babu**



**Won Second Prize**

### **A Study On The Influence Of In-Store Factors On Impulse Buying Behaviour Of Consumers With Reference To Kottayam District**

**<sup>1</sup>Sissy Babu & <sup>\*</sup>Fr. Dinoy Mathew Kavalammackal**

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#### **Abstract**

Impulse buying is an unplanned decision to buy a product or service, made just before a purchase. It disrupts the normal decision making models in consumer's brains. Impulse buying behaviour is described as purchase made by consumer that was not planned in advance. It is a widely recognized phenomenon occurs in the mind set of consumers during purchase. A need for proper understanding of impulse purchase in retail environment is growing quickly. Retail managers are at cross road to choose right methods to keep customer coming and purchase from their stores. The informational need of retail manager is to be fulfilled so that they could run their business effectively and efficiently. Impulsive desires to buy may not always emerge themselves and develop into the concrete expressions of impulsive purchasing; apparently there are a number of factors that could influence these urges, many of them are specific to retail environment. The present study investigates the assumption that impulse purchase tendency is influenced by in-store factors. The study is conducted to understand consumer's impulse purchase behaviour in evolving, systematic, professionally managed and self-service retail environment notionally called as „Organized Retailing“. Organized retail stores are found to be the places which represent large percentage of impulse purchases. The study was carried out among the consumers within the geographical boundaries of Kottayam district. The study aims to explore the influence of in-store characteristics on consumer impulsive buying behaviour. Precisely this paper investigated the impact of window display, promotional schemes, store layout, staff attitude, shelf positioning, shop crowding, self-service etc. on consumer impulse buying behaviour. Study also tries to understand the satisfaction derived by the consumers after making an impulse purchase. The present study is useful and will highlight some of its findings which will be useful to marketer or retailers to understand various factors influencing for impulsive buying behaviours. And based on that they can develop marketing strategies which will help them to increase the sales and footfalls.

**Key words: Impulse Buying Behaviour, In-store Factors, Organised Retail Stores, Window Display, Promotional Schemes**

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NATIONAL ONLINE STUDENT RESEARCH PROJECT PRESENTATION COMPETITION

Organized by  
Research Committee, St Joseph's College for Women  
in association with  
Kerala Sasthra Sahithya Parishath

**Date: 18-08-2020**  
**Time: 2:00 PM**  
**Platform: Google Meet**

**Inauguration By**  
Prof. Achuthsankar S Nair  
Department of Computational Biology & Informatics  
University of Kerala, Kariavattom, Thiruvananthapuram  
Motivational Speaker, Academician & Eminent Writer

*All are Cordially Invited.*

Presentations  
Session I: 2:35 PM CHEMISTRY  
ENGLISH (Parallel Session)

**ST. JOSEPH'S COLLEGE FOR WOMEN**  
ALAPPUZHA - 688 001, KERALA, INDIA  
Affiliated to the University of Kerala, Thiruvananthapuram  
Re-Accredited by NAAC with B++ Grade

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**VALEDICTORY PROGRAMME**

**Date: 27-08-2020**  
**Time: 11:00 AM**  
**Platform: Google Meet**

**KEYNOTE ADDRESS**  
Dr D Suresh  
Assistant Professor,  
Department of Chemistry, School of Chemical & Biotechnology  
SASTRA Deemed University, Thanjavur, Tamilnadu

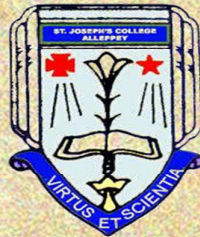
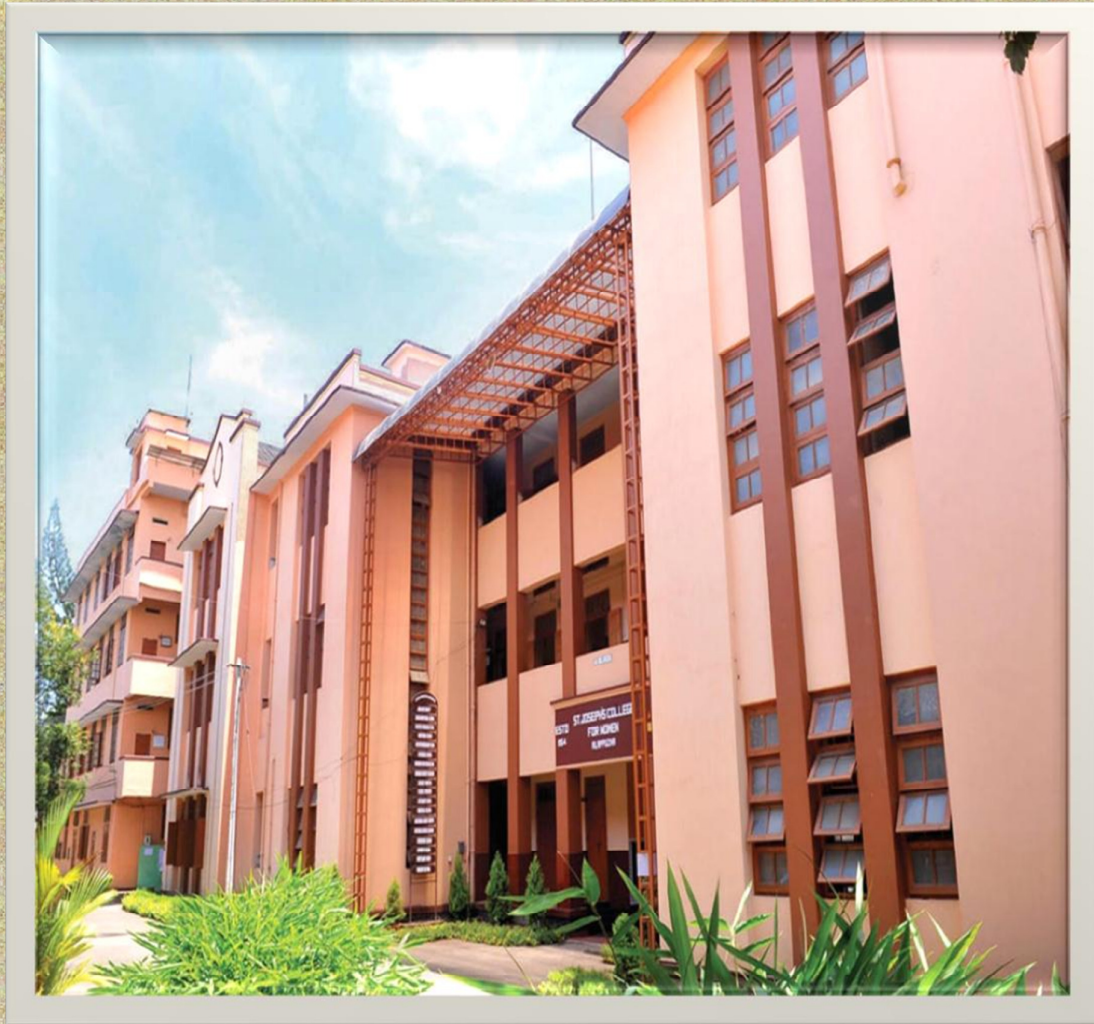
*All are Cordially Invited!*

**ഗവേഷണ പ്രബന്ധ മത്സരം ഇന്നു സമാപിക്കും**

ആലപ്പുഴ • സെന്റ് ജോസഫ് കോളജിലെ റിസർച്ച് കമ്മിറ്റി കേരള ശാസ്ത്ര സാഹിത്യ പരിഷത്തുമായി ചേർന്നു നടത്തുന്ന ഓൺലൈൻ ഗവേഷണ പ്രബന്ധ മത്സരത്തിന്റെ സമാപനം ഇന്നു നടക്കും. കേരള സർവകലാശാലയിലെ കമ്പ്യൂട്ടേഷനൽ ബയോളജി വിഭാഗം പ്രഫസർ അച്യുത് ശങ്കർ എസ്.നായർ ഉദ്ഘാടനം ചെയ്ത മത്സരത്തിൽ 105 വിദ്യാർത്ഥികൾ പ്രബന്ധ അവതരിപ്പിച്ചു.

ഇന്നു രാവിലെ 11നു സമാപന സമ്മേളനത്തിൽ തഞ്ചാവൂർ ശാസ്ത്ര ഡിപിൾ സർവകലാശാലയിലെ ഡോ.ഡി.സുരേഷ്, കോളജ് ഡയറക്ടർ സിസ്റ്റർ ആനി മാത്യു, പ്രിൻസിപ്പൽ ഡോ.നിതലാലി അമ്മ തുടങ്ങിയവർ പങ്കെടുത്തു.

**St. Joseph's College for Women,  
Alappuzha, Kerala, India**



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