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**BHARATA MATA  
COLLEGE  
THRIKKAKARA**

Affiliated to MG University, Re-accredited by NAAC with 'A+' Grade, ISO 9001-2015 Certified



# **ANNUAL REPORT 2022-2023**

**DEPARTMENT OF PHYSICS**



## *Department at a Glance*

The Department of Physics was established in 1965 with the commencement of the science groups in the Pre-Degree course. The Physics Department is currently offering two UG Degree courses and one PG course. BSc. Physics Model I was started on 7th August 1980 and BSc Physics Model II (Computer Applications as Vocational Subject) was started on 4th August 2001. The new generation aided post graduate courses, MSc. Space Science was started in the academic year 2020-21. Department upgraded as a research center in 2022.

The department aims to facilitate quality teaching and learning, provide proper exposure to theories and experiments in the discipline of physics and motivate the students to higher learning and research. We strive to inculcate scientific temper, ethical values and a sense of morality aiming at overall personality development and holistic excellence.

The Department is blessed with seven well experienced, eminent and committed permanent faculties. All of them are PhD holders in various disciplines such as Astrophysics, Plasma Physics, Material Science, Nanotechnology etc. Many former students of this department have secured admission in IITs, IIMs, National Universities and other prestigious Universities. The Department is rich in infrastructure and facilities. Seminars, workshops, orientation programmes and co-curricular activities are conducted regularly. An Astronomy Club is also functioning under the Department. Alumni members of our department are holding responsible positions in various Educational Institutions, IT Companies and some of them are top business Executives.

The Department of Physics has two well-equipped UG Physics labs and one PG lab. The labs are equipped with instruments such as Interferometer, Optical fiber and Lasers which are useful in Optical based projects. The lab is also equipped for basic nanotechnology projects. We also have a computer lab with 20 computers. The department library has a huge collection of books which comes around 2500 books in various disciplines.

## *Department Vision*

The department aims to facilitate quality teaching and learning, provide proper exposure to the theories and experiments in the discipline of physics and motivate the students to higher learning and research. We strive to inculcate scientific temper, ethical values and a sense of morality aiming at overall personality development and holistic excellence.

## *Department Mission*

- Bharat Mata College, Department of Physics under the M G University which offers the new generation aided course MSc. Space Science.
- BSc Physics Model II degree course specialized in Computer Applications.
- Provide training to students for small scale manufacturing of LED lamps, Remedial coaching for slow learners, Special coaching for advanced learners, Subscription of research Journals and Periodicals.
- Our next mission is to develop productive research collaboration with various universities and industrial institutes

## ***Courses offered***

<b>UG</b>	<b>BSc Physics model I</b>
<b>UG</b>	<b>B Sc Physics Model II (Computer application)</b>
<b>PG</b>	<b>M. Sc. Space Science</b>
<b>Ph. D</b>	<b>Ph. D Physics</b>
<b>Certificate/ Addon</b>	<b>1. Python programing</b>
	<b>2. Data analytics using Python</b>

## ***Department Highlights***

**Research Guides - 2**  
**Paper Publications -10**  
**Books Authored - 1**  
**Awards and Recognitions - 3**  
**Paper Presentations/ Publications - 4**  
**University Rank Holders - M Sc. -7, B Sc.-3**  
**MoUs - 3**  
**Gate -1**  
**JAM-1**  
**WorkShop-1**  
**Seminar-2**  
**Invited Talk-2**  
**ISRO Start Nodal Center-1**  
**IIRS -ISRO – Distance Center-1**  
**Registered Alumni – 154**

## *Faculty Profile*

### ***Dr. Anu Philip***

Assistant Professor

Qualification: M.Sc., Ph.D, PDF

Joining Year: 2014



### ***Dr. Shibi Thomas***

Assistant Professor

Qualification: M.Sc.,M.Phil, Ph.D, PDF

Joining Year: 2019



### ***Dr. Sr. Rintu Varghese***

Assistant Professor

Qualification: MSc, PhD

Joining Year: 2019



### ***Dr. Manesh Michael***

Assistant Professor

Qualification: MSc, PhD

Joining Year: 2019



## *Faculty Profile*

### ***Dr. Riju K Thomas***

Assistant Professor

Qualification: MSc, M Phil, PhD

Joining Year: 2019



### ***Dr. Neson Varghese***

Assistant Professor

Qualification: MSc, NET, PhD, PDF

Joining Year: 2021



### ***Dr. Lini Devassy***

Assistant Professor

Qualification: MSc, MPhil, PhD

Joining Year: 2021



### ***Dr. Divya NG***

Assistant Professor

Qualification: MSc, B. Ed, MPhil, PhD

Joining Year: 2021



## Faculty Profile

### **Ms. Giju V**

Guest Faculty

Qualification: M.Sc., M. Phil

Joining Year: 2022



### **Ms. Meera K. Jayan**

Guest Faculty

Qualification: M.Sc., M. Phil

Joining Year: 2022



## Student Representatives

Class	Batch (eg.2021-24)	Male	Female	Total
UG – 1st Year Model I	2022-25	7	16	23
UG – 1st Year Model II	2022-25	18	4	22
UG – 2nd Year Model I	2021-24	13	17	30
UG – 2nd Year Model II	2021-24	4	11	15
UG – 3rd Year Model I	2020 - 23	13	24	37
UG – 3rd Year Model II	2020 - 23	13	16	29
PG – 1st Year	2022-24	6	8	14
PG – 2nd Year	2020-23	0	14	14
	Total	74	113	184



## Student Representatives

Class	Male (Name)	Female (Name)
I BSc. Model 1	Nikul P S	Ayana Rajendran
I BSc. Model 2	Albin V J	Jessy Saju
II BSc. Model 1	Samson Davis	Sneha Mohandas
II BSc. Model 2	Naveen P A	Fathima Saffrin
III BSc. Model 1	Shalem Roy	Lidiya Benny
III BSc. Model 2	Hidash Majeed	Nell Mariyam Finni
I M.Sc. Space Science	Amal K S	Gouri Sudarsan
II M.Sc. Space Science	--	Jisra T K

## Result analysis of Students 2020-23 (UG)

### B Sc Physics Model 1

Semester							
SEM	I	II	III	IV	V	VI	Over All
Pass %	81.08	75.67	73	81.08	81.08	54.05	54.05

### B Sc Physics Model 2

Semester							
SEM	I	II	III	IV	V	VI	Over All
Pass %	96.55	93.1	93.1	96.55	89.66	68.96	68.96

### *Result analysis of Students 2020-22 (PG)*

PG					
Semester					
SEM	I	II	III	IV	Over All
Pass %	66.67	66.67	66.67	83.33	58.33

### *Result analysis of Students 2021-23 (PG)*

PG				
Semester				
SEM	I	II	III	IV
Pass %	78.57	64.28		

### *Result analysis of Students 2021-24 (UG)*

B Sc Physics Model 1						
Semester						
SEM	I	II	III	IV	V	VI
Pass %	67.74	66.67				

B Sc Physics Model 2						
Semester						
SEM	I	II	III	IV	V	VI
Pass %	73.33	53.3%				

## Result analysis of Students of other batches

Program	Batch	Semester	No of Students registered	No of Students Passed	Percentage
B. Sc. Chemistry	2020-2023	I	35	34	97.14
	2020-2023	II	35	28	80
	2020-2023	III	35	32	91.4
	2020-2023	IV	35	33	94.28
B. Sc. Maths	2020-2023	I	35	33	94.28
	2020-2023	II	35	25	71.43
	2020-2023	III	35	29	82.85
	2020-2023	IV	32	24	75
B. Sc. Chemistry	2021-2024	I	34	33	97.06
	2021-2024	II	34	24	70.59
B. Sc. Maths	2021-2024	I	31	29	93.54
	2021-2024	II	31	29	93.54

## Ranks: M Sc Space Science

SI No.	Name	M G University Rank Position
1	Aswathy Sasi	1
2	SWATHI SURESH	2
3	PARVATHY THANKACHY P	3
4	INDHUJA S	4
5	NITHYA V S	4
6	ANJALI G	5
7	LINTA PREM KUMAR	6

**BMC** BHARATA MATA COLLEGE THRIKKAKARA  
Mahatma Gandhi University Rank Holders

Aswathy Sasi Swathi Suresh Parvathy Thankachy P

1<sup>st</sup> Rank 2<sup>nd</sup> Rank 3<sup>rd</sup> Rank

M. Sc Space Science (2020 - 23 Batch)

*Congratulations*

## Rank: B Sc Physics Model -2

Sl No.	Name	M G University Rank Position
1	CHRISTINA J THATTIL	5
2	ANNA THERESSA C	8
3	AUGEN JOE	9
GATE		PARVATHY THANKACHY P
JAM		TONY JOSE
Ph D Admission in IIT		PARVATHY THANKACHY P

## Mahatma Gandhi University Rank Holders

### B. Sc Physics (2020 - 23 Batch)



### A Holders



## Department Contribution to Examinations

Name of the Faculty	Role Taken
Dr. Anu Philip	Additional examiner (UG 1,2,3,4,5 & 6 Sem) PG (2,3) Additional Examiner, External Practical Examiner for second Sem PG External Practical Examiner 6th Sem UG Internal Practical Examiner and Skill for UG
Dr. Shibi Thomas	UG Additional examiner (1,2,3,4,5 and 6th Sem) PG Additional Examiner (1,2 and 4 Sem) Internal Practical Examiner and Skill for UG
Dr. Manesh Michael	Additional examiner, Answer Scheme setter, Additional Question bank setter for PG course
Dr. Rintu Varghese	Additional examiner (UG 1st and 4th Sem)
Dr. Riju K Thomas	Additional examiner (UG 1st and 4th Sem),
Dr. Neson Varghese	Additional examiner, M G University Chief question bank setter and answer scheme setter for IVth Sem MSc Space science, M G University Question Paper and Answer Scheme Setter for the IIIrd and IVth Sem M.Sc. Degree Examination of Maharajas College Examiner for the pass board of S4 BSc Physics of Mar Athanasius College, Kothamangalam Examiner for the question bank scrutiny of S2 MSc Physics of Mar Athanasius College, Kothamangalam
Dr.Lini Devassy	M. G. University-Chief question bank setter-MSc Space science-introduction to atmospheric science and space physics, University Exam-answer scheme for open course -our universe, University Exam-answer scheme for First MSc Space science Introduction to atmospheric science and space physics, University Exam-answer scheme for third Sem MSc Space science Solar & Astrophysics paper. External practical examiner 2nd Sem UG. Internal Practical Examiner and Skill for UG 6th sem. UG Additional examiner (1,2,3,4,5 and 6th Sem) PG Additional Examiner (1 and 3 Sem) Additional examiner of I Sem integrated MSc in Basic Science, M.G University
Dr. Divya N G	Mentor of Physics model II (7 students) and 1 MSc (13 students)

Ms. Ginu V G	Mentor of 21 students from I BSc Physics Model I
Ms. Meera K. Jayan	Mentor of 4 students from 1st BSc Model I & 16 students from 1st BSc Model II

## *Institutional responsibilities held by the faculty*

Name of the Faculty	Responsibilities Held
Dr. Anu Philip	Council Member Head of the department RUSA coordinator FIST coordinator Purchase Committee Member Tutor of II BSc Physics Model II Member of the International conference organizing committee Centre Coordinator APT TSE 2022-2023
Dr. Shibi Thomas	Mentor of 1st B.Sc. Physics Model I Editor of Bharata Mata Journal of Multidisciplinary Science In Charge of College Hand book and Calendar Nodal officer of Minority Scholarships Coordinator of International Conference on Materials Science Addon Course coordinator Coordinator of Equal Opportunity Cell Member of Quiz Club Mentor of 19 students of II BSc Physics Model II
Dr. Sr. Rintu Varghese	NSS programme officer Coordinator of Higher Education cell Tutor of III BSc Physics Model I Coordinator of Jesus Youth Coordinator of "Patheyam" outreach programme

Dr. Manesh Michael	<p>IQAC Core Committee Member          UGC JRF Nodal Officer          University Exam committee member          Research Committee Member          Coordinator Astronomy club and Quiz club          MSc Tutor          Coordinator of International conference</p>
Dr. Riju K Thomas	<p>Mentor of IST B.Sc. Physics Model 2          Member of Research Committee          Member of scholarship cell          NCC caretaker officer          Coordinator ANERT programs          Coordinator of Webinar by ANERT          Association Coordinator Department of Physics</p>
Dr. Lini Devassy	<p>IIRS-ISRO distant learning center Bharata Mata College coordinator          Centre Coordinator IAPT NGPE 2021-2022          UG Admission Committee          Astronomy club COSMOS-one of the coordinators          International webinar series as part of international space week (oct 4 -10): one of the coordinators          Tutor of 3RD BSc Physics model II computer application          Mentor of 19 students from Third physics model I</p>
Dr. Neson Varghese	<p>Tutor of II BSc Physics Model 1          Association Coordinator Department of Physics          Member of Attendance Committee          Coordinator of Gender equity cell          Coordinator of Life skills club          Member of International conference organizing committee          MOOC mentor Physics model I (2021)          Mentor of 19 students from 3BSc Physics model I</p>



## Department Association

The Department of Physics was established in 1965 with the commencement of the science groups in the Pre-Degree course. The very first Physics Association was formed and functioned in 1980 by the commencement of BSc Physics model I course in our department. Currently our department is offering two UG courses and one PG course. Association members include current and retired faculties from the department and current UG and PG students.

Staff In charge: Dr. Anu Philip and Dr. Neson Varghese

President: Dr. Anu Philip

Secretary: Joseph Raju, III BSc Physics Model II (student)

Other office bearers: Joint Secretary: Devananda II BSc Physics model II

PhZysics Association of the Academic year 2022-23 “Comienzo” was formally inaugurated on August 17th, 2022. A few prizes were distributed. A Technical session was started by Dr. Neson Varghese with the introduction of Resource Person Dr. Maju Kuriakose, Acting Instructor, Bioengineering, University of Washington, Seattle, WA 98105. Dr. Maju delivered a talk on “Ultrasound and photoacoustic techniques for biomedical imaging”. His session



started with an introduction to the geographical and technical importance and carrier opportunities in Washington. He also introduced various imaging techniques and detailed the importance and current developments in various imaging Techniques. On 2nd September 2022, The Post Graduate Department of Physics celebrated Onam “KICHADI 2K22”. The program began at 10 O’clock. Keerthana from third year regular Anchored the function. Dr. Manesh Micheal gave the Onam message. The program was followed by Cultural activities, games and onam sadhya. The department also participated in the flower carpet competition conducted by the nature club. The Association conducted a Christmas tree-making competition which was held on the 16th of December. We emphasized reusing waste materials for making Christmas trees. A total of 12 teams participated and Prizes were distributed. On 23rd December, the Christmas celebration “Holidaze” was conducted. The program was anchored by Neha and Nazrin of second year. Christmas message was delivered by Dr. Shibi Thomas. The program was followed by cultural activities, games and cake was distributed by Santa himself. The Association also coordinated the student’s efforts to participate in the arts festival Navarang 2.0. We had representation in a lot of competitions and received prizes for a total of 12 individual and 5 group events. The Physics Department also received the overall second in Navarang 2.0. A science department getting a second surpassing several art departments is an achievement in itself. The Association also coordinated the department’s participation in sports day. Our department participated in all the group events and most of the individual events conducted. Our students received four individual prizes. I conclude, by thanking and appreciating the effort and support of all teachers and students for the successful conduct of all the programs.



## *Department Academic activities*

### *International Conference on Materials Science*

**Date and Time** : January 9th & 10 th, 2023

**Coordinator** : Dr. Shibi Thomas and Dr. Anu k John

**Resource Person/s** : Dr. Suresh C. Pillai, Dr. Praveen C.S, Dr. Ajith R. Mallia,  
Dr. M Mayarani

**Number of Participants** : 400

The International Conference on Materials Science jointly organized by the Postgraduate and Research Departments of Chemistry and Physics, Bharata Mata College, Thrikkakara was held on 9th and 10th January 2023 at the BIMM Seminar Hall of Bharata Mata College. Dr. Anu K John and Dr. Shibi Thomas from the Departments of Chemistry and Physics respectively were the coordinators of this conference.

This conference was aimed to bring together the academicians, scientists, technologists and experts to share their knowledge on recent developments and advances in Materials Science. This provided a platform for undergraduate and postgraduate students, research scholars, faculty and scientists to refine their knowledge and share their ideas and to broad-



en their horizon. This conference discussed current research trends and future research directions in Material Science. The conference featured thematically- arranged invited lectures by eminent faculty from top Universities in the areas such as Material Science, Nano-



technology, Energy harvesting and storage etc.

The inaugural session of the conference commenced with the blessings of God almighty with a prayer song by Ms. Swathy of I BSc Chemistry. Dr. Sindhu Joseph, Head, Department of chemistry & Research Dean welcomed the gathering. Dr. K. M. Johnson, Principal, Bharata Mata College delivered the presidential address. Dr. Suresh C. Pillai, Director, Health and Biomedical Centre, & Head of Nanotechnology and Bio-Engineering Research Group, Atlantic Technological University, Sligo, Ireland inaugurated the conference. Ms. Lissy Kachappilly, Vice Principal felicitated the gathering. Conference Convenor Dr. Shibi Thomas delivered the vote of thanks for the inaugural session.

The scientific sessions of Day 1 began at 10.00 AM with the technical session of Dr. Praveen C. S, Asst. Professor, International School of Photonics, CUSAT on the topic “Bridging the gap between theory and experiments”- The synergetic way of thinking. The session was

chaired by Dr. Sindhu Joseph, Research Dean and HoD, Department of Chemistry.

Session 2 was started at 12.00 PM after the inaugural meeting. The session included the keynote address of Dr. Suresh C. Pillai, Director, Health & Bio-Medical (HEAL) Centre & Head of Nanotechnology & Bio-Engineering Research Group, Atlantic Technological Uni-



versity, ATU Sligo, Ireland on the topic, “Nanotechnology for Energy and Environmental Applications”. This session was chaired by Prof. Dr. Shiny Palatty, Former Principal, Bharata Mata College, Thrikkakara.

Session 3 was again handed by Dr. Suresh C. Pillai on “Connecting Research, Technology and Innovation” which was followed by the interaction of the keynote speaker with the faculty and the students and it was a dynamic session.

On the 2nd day of the Conference, there were two technical sessions and oral/poster presentations. The first technical session was by Dr. Ajith R. Mallia, Assistant Professor, Department of Chemistry SB College Changanassery addressed the topic “Organic Semiconducting Materials for Solar Light Harvesting”. Dr. Manesh Michael, Assistant Professor, Department of Physics chaired the session. The second session was handled by Dr. M Mayarani, DST INSPIRE faculty, Department of Physics, IIT Palakkad on the topic, “Soft Matter: Matter that Matters a lot!”. Dr. Jinsa Mary Jacob, Assistant Professor, Department of

Chemistry has chaired the session.

The technical sessions were followed by oral and poster presentations. About 16 papers were presented during the oral presentation and 6 posters were also presented. Prof. Jessy George, Retired Faculty, Department of Physics and Dr. Litty Sebastian, Assistant professor, Department of Chemistry evaluated the presentations/posters. Mr. Praveen P, Research Scholar, International School of Photonics, CUSAT got first prize in oral presentation and Ms. Meenu Eldose, Research Scholar, Department of Chemistry, Newman college Thodupuzha got first prize in poster presentation.

During the valedictory session, the prizes were distributed and some of the participants shared their feedback about the conference. Conference convenor Dr. Anu K John, Assistant Professor, Department of Chemistry proposed the vote of thanks. Around 400 participants which includes faculty members, students and research scholars from our college and various institutions benefited from the conference. Certificates were issued for all the registered participants.



# Day Observations

## Independence Quiz

A quiz competition was organized by the Physics department and quiz club on the topic 'Independence struggle' on 17th of August 2022. Students from six departments participated in the competition in which the English department represented by Ajay Tomy and Anagha TM won the first prize and Physics department represented by Aravind Krishna and Sarah S Panikulangara won the second prize.



## *International Space Week Celebration Inauguration*

International Space Week is observed from 4th October to 10th October every year commemorating the launch of Sputnik-1 - earth's first artificial satellite - on October 4, 1957 as well as to observe the signing of the historical treaty, for "peaceful use of outer space", 10 years later on October 10, 1967. And this year's theme was 'Space and sustainability'. As a part of this event The Research and postgraduate department of Physics, Bharata Mata college in association with Cosmos - Astronomy club has conducted international space week celebration Astrophel 2k22 Inauguration of International space week celebration ASTROPHEL 2K22 was conducted on 6th October 2022 at the management hall. Chief guest of the programme was Dr. Ajith Kottayil, Scientist C, Advanced center for atmospheric radar research, CUSAT. The programme started at 10 am with the prayer followed by the welcome speech of HOD, Physics department Dr. Anu Philip. The presidential address was delivered by the Principal Dr. Johnson K M and faculty coordinator of cosmos astronomy club Dr. Manesh Michael introduced the chief guest/speaker to the audience. Official inauguration of Astrophel 2k22 was done by Dr. Ajith kottayil followed by his talk on the topic 'Climate crisis - A reality'. The class was informative and there was an interactive session as well with the speaker. The programme was concluded by the vote of thanks of student coordinator Alkha P George.





## ***Intercollegiate Presentation Competition***

As part of Space week celebration, an online Intercollegiate presentation competition was held on 12th October 2022 by Research and Post Graduate Department of Physics, Bharata Mata College, Thrikkakara. The competition was organized by Dr. Anu Philip HOD physics department and Dr. Manesh Michael Assistant professor and coordinator of Cosmos astronomy club. The competition began at sharp 2.00 pm with a welcome address by bhavana Pavithran, student coordinator of the program. Five participants from different colleges participated in the competition. The judges of the event were Dr. Shibi Thomas and Dr. Manesh Michael, Assistant professors Department of Physics. The competition was based on the topic Space Exploration and Future of Human Kind. The participants presented their ideas and cleared their doubts during the interactive session. We concluded the program around 4.00 pm. The winners were announced after the competition. E certificates were given to all the participants and cash prize was awarded to the first and second prize owners.

First prize: Anu Krishnan CUSAT, Kalamasery

Second prize: Muhammad Ashid MES college, Marampilly

Student coordinators of the program: Alkha P George, Bhavana Pavithran

## ***Letter writing competition***

As part of space week celebration, a letter writing competition was conducted on Oct 6, 2022 at Physics lab. Several students from various departments of our college have participated in the competition. The duration of the competition was one hour. First prize was awarded to Akhil suresh from 3rd DC physics model 2 And the second prize to Augen Joe from 3rd DC physics model 2.

Sky watch

As part of Space Week Celebration, Research and Post Graduate Department of Physics conducted a sky watch on 10th October 2022. It was open to public. We started our program 6.00 pm. Many students and people from around also participated in the program. Dr. Mahesh Michael and 2 nd PG space science students was the conducted by the program, former students jinu Jose and Muhammed Ameen are also be a part of the programme. We saw Jupiter and its moon, Mars and our Moon through the telescope. Dr. Manesh Michael explained us through the observations. We concluded our program around 10.00 pm.

## Department Non-Academic activities

### Elamkunnapuzha Data Collection Survey in Association With Before

Date and Time : 20-08-2022

Coordinator : Department coordinators: Dr. Lini Devassy, Dr. Sr. Rintu Varghese

Number of Students : 55

Survey Report on the data collection program which was conducted on 20-08-2022 by the UG students of BSc physics model 1 and model 2 in association with BEFORE CLUB under the supervision of Dr. Divya Jose from Chemistry Department and Tony sir from MSW Department. Both the classes started their survey from the wards of Elamkunnappuzha Panchayat at 10 am. Students turned into groups with respective ward members and started surveys. Each Group was supposed to take 50 surveys. For the students, it was not just taking a survey. Through this, they could see, talk and understand the difficulties and experiences of different classes of people. We are living in a selfish world. Through this survey, the students were able to walk into the life of many and influence society. Expressing the love and gratitude of having such a great experience, the survey wound up at 1 pm.



## *Harithamithram Survey*

**Date and Time** : 22/10/2022

**Coordinator** : Department coordinators: Dr. Lini Devassy, Dr. Sr. Rintu Varghese

**Number of Students** : 18

Haritha Kerala aims to promote eco-friendly environment sustainable development of natural resources, effective solid waste management, rejuvenation of the water reserves, sanitation and social hygiene, promotion of organic cultivation, zero pesticide food products, healthy foods, propagation of herbicides and Organic farming, protection of biodiversity and so on. Environmental sustainability is framed with a biocentric approach which places humans within the greater context of their natural environment. ensure that no havoc is wrecked to our Water sources, Earth, Air, Soil and Water. The Haritha Mithram app is being introduced in phases to bring segregated garbage collection onto a virtual platform that will enable better tracking, management and grievance response. The app developed by Keltron is provided to local bodies by Suchitwa Mission free of cost. In college keltron is collaborated with BHARATA MATA COLLEGE, BEFORE club the scheme is well organized with college students. They divided many groups accordingly the area ward . The coordinators assigned seniors of MSW to each group. Coordinators also collaborated with the harithakarma sena labors. In each group there was also a harithakarma sena member.



## ***Training Programme on Neon Star Making and Exhibition cum Sale***

**Date and Time** : 14.12.2022, 15.12.2022, 16.12.2022

**Coordinators** : Ginu V G, Meera K Jayan

**Number of Students** : 57

As a part of Christmas celebration at Bharata Mata college, the department of physics planned to conduct an exhibition and sales of Christmas decors in the college.

The head of the department Dr. Anu Philip organized a small meeting with the students and provided the guidelines for the program and asked for suggestions. Students gave their ideas and finally arrived at a decision to make neon stars; light decors of different shapes were made.

Under the supervision of the teachers of the department of physics, students made neon stars and LED light decors in various shapes such as reindeer, snowman, Santa Claus and so on, at the electronics lab on 15th and 16th of December 2022. All the students and faculty members contributed their part. Various names for the event were suggested by students and teachers and finally decided to be named as “Etoiles an neon “.

After making the decors, it was decided to exhibit and sell them in college on 16/12/2022 at 3pm. The digital notice for the sale was created and send to students and teachers via social media.

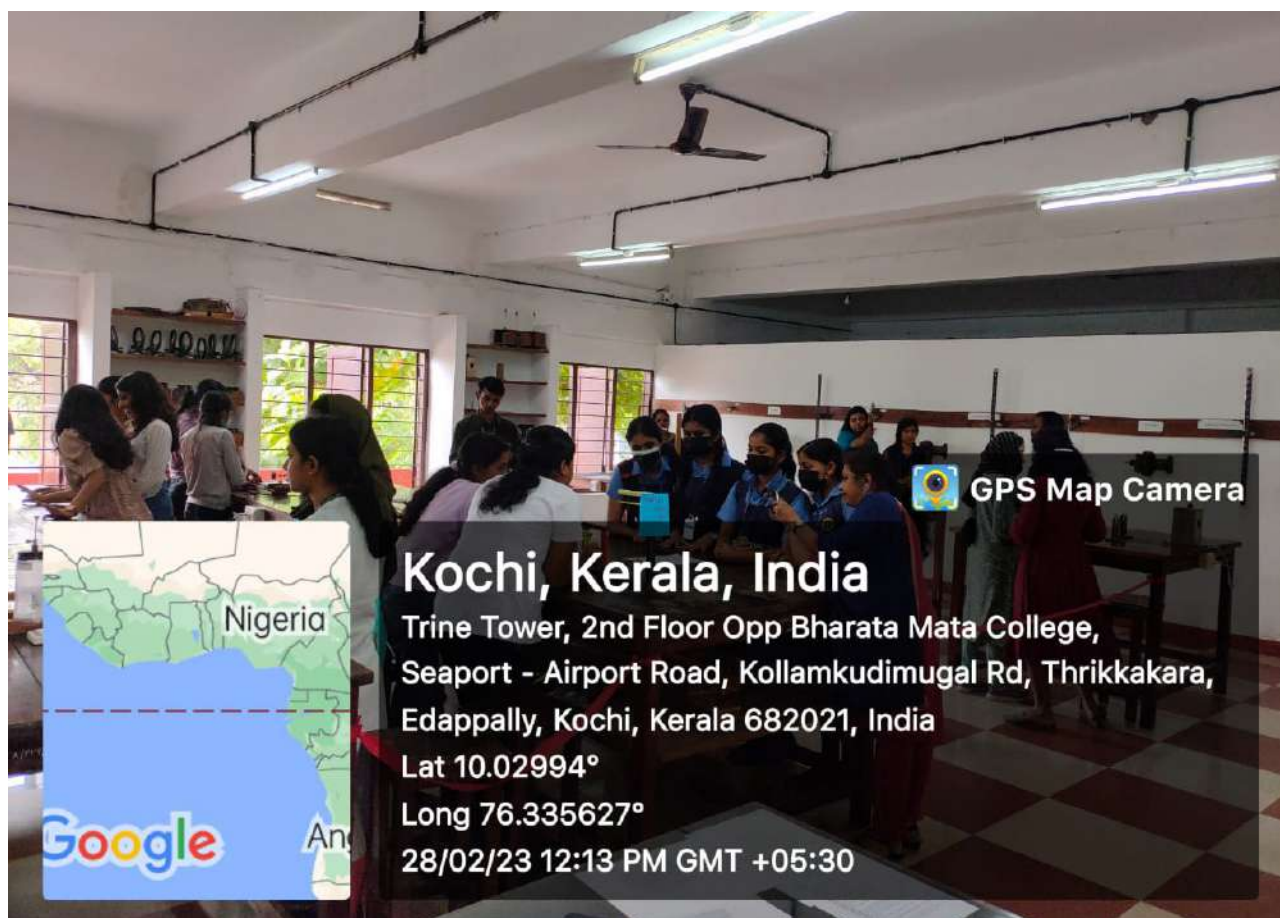
The venue for the exhibition was near IQAC. Many students and teachers bought the items and expressed their positive feedbacks. All the items were sold out by the end of the day.

The program was a great success. The cooperation and enthusiasm of the teachers and students were remarkable. The program helped to create the spirit of group work and coordination among the students. Also, students could enrich their knowledge in the field of electronics by applying what they learned about optics and semiconductors practically.



## ***EUREKA 2023 - A Journey Through Science***

Our college organized a science exhibition on the 28th February, 2023 as part of National Science Day exhibition. The exhibition was conducted by Physics department and had whole department participated and collaborated hand in hand to make the event successful. The science fair was named EUREKA. This exhibition was open to public mainly for school students. The event started at 10 am and continue till 4 pm. Students presented their works based on key areas in Physics which applied on current technology. Inter-School quiz for Windermere Rolling Trophy, exciting opportunity to visit different labs are the main event highlights. A seminar was taken by PG students on the exhibition day on the topic 'Gravity'. Our telescope, a device used to form magnified images of distant objects and an important investigative tool in astronomy became an attractive element in exhibition. Our Principal, Dr. Johnson K.M Sir surveyed the entire exhibition and also interact with the respective students about each of their models. We hope that everyone at the exhibition thoroughly enjoyed the event.



## *Pencil Drawing Competition*

Date of Event: August 12, 2022

Time of Event: 12:00 PM – 2:30 PM

Location of Event: Department of Physics,

Bharata Mata College, Thrikkakara

Event Organizer: Postgraduate Department of Physics,

Bharata Mata College, Thrikkakara

Faculty Coordinator: Dr. Anu Phillip

Student Coordinators: Navin PA (2nd year)

Ananthakrishnan C V (2nd year)

Number of participants: 9

**EVENT SUMMARY:** On August 12th, 2022 the Postgraduate Department of Physics, Bharata Mata College, Thrikkakara conducted a Pencil Drawing Competition as part of the 75th Azadi Ka Amrit Mahotsav. The event was organized by student coordinators: Navin PA and Ananthakrishnan CV under faculty coordinator Dr. Anu Phillip. The competition was open to all undergraduates and post-graduate batches of the Physics Department. 9 students participated in the event. During the event, the participants exhibited their artistic talents on the topic “Freedom”. The competition ended by 2:30 PM with all students submitting their completed works.

### Industry Interaction

The link between what we learn and what is happening in the real world may sometimes be fragmented. What is learned in schools and colleges may be different from what happens in the industry. To plug this gap, students must step out of their textbooks and discover means to acquire practical knowledge of what they learn.

It is with this objective in mind that the Post Graduate Department of Physics, Bharata Mata College, hosted an online Industrial Interaction. The event took place on July 16th, 2022 from 05:00 pm via Google Meet. Mr. Deol Peter, product application engineer at KLA+ California, was the distinguished resource person for the event. The master of ceremony of the day Ms. Christina J Thattil hosted the event and ensured that the program went on smoothly. Invoking the presence of God, Ms. Jincy Justin rendered the prayer song. This was followed by the welcome address by Ms. Dilshana Sherin. The presidential address was delivered by Dr. Manesh Micheal, assistant professor department of physics, which was followed by

the webinar session with the resource person Mr. Deol Peter. He spoke about the booming semiconductor industry of which he is a part. Starting with the history of semiconductors, he brilliantly guided the students through the world of semiconductors. He spoke about how the industry originated, starting right from Thomas J Seeback's Seeback effect, through the development of the first computer, up to the multi-billion dollar industry that semiconductors have become. Each step of semiconductor manufacturing, testing, and launching was expounded clearly. He also explained the major role of physicists in this industry. Details about the latest iPhone chip, which his team developed, were also shared. The exhilarating session came to an end by 06:30 pm following which we had an interactive session with the resource person. Both students and teachers used the opportunity to improve their understanding of how chips work. Many opined that such sessions should be conducted more frequently in the future. Questions were asked by Dr. Anu Philip, Dr. Manesh Micheal, Mr. Augen Joe and Ms. Anjali Binu. This was followed by a brief felicitation by Dr. Anu Philip, head of the department of physics. The vote of thanks was delivered by Ms. Fairoos Kilab and the program came to an end by 07:00 pm.



## ***Adios 2k22- Farewell***

The PG second year students conducted farewell to their seniors on 29th September 2022, at Management Hall in the afternoon. 14 students from PG 2nd year and 9 students from PG 1st year and all faculty members attended the programme. The programme started with prayer by Gopika S Nair followed by the welcome speech of Alkha P George.

Among the dignitaries the principal Dr. Johnson K M delivered the presidential address. HOD in charge Dr Shibi Thomas shared experience and wished them. PG class tutor Dr Manesh Michael Dr. Neson Varghese, Dr Lini devassy, Dr Rintu Varghese, Dr Riju K Thomas and Devika VS from second year PG also shared their experience.

After the formal session, the senior students started to share their experiences and in between there were some entertainment programs also. The programme was concluded by the vote of thanks by Gopika S Nair.





## *Industrial Visit Report*

On 23rd of November 2022, first and second year Msc Space Science students of Bharata Mata College, Thrikkakara had visited Advanced Center for Atmospheric Radar Research Center (ACARR), Cochin University of Science and Technology. Altogether we were 28 students in guidance with Head of the Department, Dr. Anu Philip, Assistant professors Dr. Manesh Michael and Dr. Lini Devassy.

Firstly, we were taken to the seminar hall and a brief and interesting introduction about the weather estimation and radar facility was given by Dr. Manoj (scientist). Then we were taken to the automatic weather station where we got to know more about the instruments used for weather estimation, also measurements of rainfall, sunlight, surface pressure, temperature, humidity etc. Some of the instruments that we come across are:

St Radar

Ceiliometer

2d Video Disdrometer

Microradiometer

Micro Rain Radar

Automatic Weather Station

All of us are very curious to know about the ST Radar, which is the first wind profiler radar in the world in the 200MHz Club- used for the measurement of wind in the entire troposphere and lower stratosphere. Then we



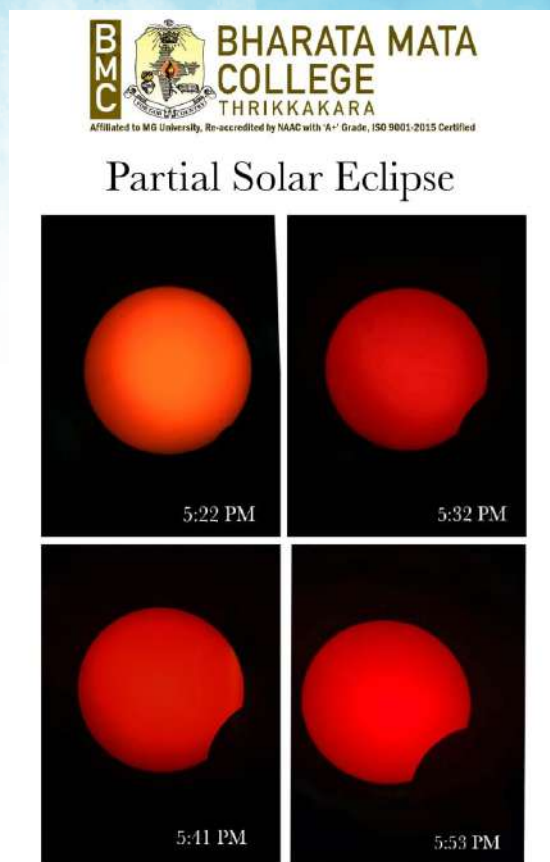
were taken to the control room and we had an elaborated session about all the estimations they had noted in their center. One of it was about response of the Tonga volcanic eruption on the ionospheric F-region over the near-equatorial sector has been studied using the 205 MHz VHF radar.

All the collected data has been recorded in data logger and it will be noted in their FTP server and are used for further research. Throughout the journey we were assisted and supported by Mr. Rakesh V, Mr. Shivan C and Mr. Sarath Krishna, engineers of ACARR Cochin. Lastly, we ended the visit by clicking a group photograph and we moved out of the center.

## ***Partial Solar Eclipse Observation at Campus***

A program for observing the Solar Eclipse was conducted by the Department of Physics on 25th October 2022 at 5 PM. The aim of the program was to observe the partial Solar Eclipse that can be viewed from our country.

The students from MSc Space Science of Bharata Mata College, Thrikkakkara participated in the program. The program was guided by Assistant Professor Dr. Manesh Michael. In this program the students got a basic understanding of how a Solar Eclipse happens and also got the opportunity to know more about how an OTA (Optical tube assembly) works.



Captured by  
**Research & Postgraduate  
Department of Physics**

## ***Plasma Exhibition***

A scientific outreach programme was organized by Bhavan's Adarsha Vidyalaya, Kakkanad Ernakulam in association with Institute for Plasma Research, Gandhinagar from 19th - 24th September 2022. The programme vision was to create a scientific awareness on plasma and its development mainly in India among students and others.

The students from Msc. Space Science, Bharata Mata College, Thrikkakara, had visited the above-mentioned place on 20th September 2022 in guidance with Head of the Department. Dr. Anu Philip and Asst. Prof. Manish Michael. The programme started with a class by a speaker from IPR about a detailed explanation of plasma followed by an interactive session. In that session students got an opportunity to learn more about plasma, aspects of plasma science including basic plasma physics research and plasma technology for industrial application also cleared their doubts regarding this. After this session, we visited the exhibition.

There were lots of static (7), working (15), semi-working (1) and 3D display models related to plasma such as ITER Tokamak model, Glow-discharge plasma, Plasma globes, super-conductivity and Meissner effect and Plasma ion engine. The exhibition was a door which opens a fascinating world of plasma in front of the visitors. The students got an opportunity to know more about the institute and the research works being carried out which includes both scientific and socially benefited. It was a big exposure into the plasma research and development potential of India.



## *Sky watch at Nirmala College, Muvattupuzha*

Date: 06/01/2023

Time: 5.30 PM onwards

Venue: Nirmala College Campus

The first outreach programme of Cosmos – Astronomy club of BMC was conducted at Nirmala College Muvattupuzha on 06/01/2023. The programme was started at 05.30 PM with the tutorial

lecture of Dr. Manesh Michael, Assistant Professor and Coordinator of Cosmos club on the topic

observational astronomy. Followed by the class, the sky watching started at 07.00 PM. The function was formally inaugurated by Dr. K.V. Thomas, Principal of Nirmala College. Sky watching session was handled by Jinu Jose and Muhammed Ameen of Cosmos club. Over 100 students and faculties of Nirmala College participated in the event. Programme concluded at 10.00 PM.



## Entry Level Examination

Date of Examination: 21/10/22

The Entry level test was conducted on 21/10/22 for both Model 1 and Model 2 students. Forty-six students from model 1 and model 2 wrote the exam and they were categorized as slow, average and advanced learners.

Category	No of Students	
	Model I	Model II
Advanced Learners	4	3
Average Learners	23	12
Slow Learners	1	3
Total	28	18

## Bridge course

**Date/s of Bridge course:** 14/9/22 to 20/10/22 for Model 1 and Model 2  
**Teacher In charge :** Dr. Shibi Thomas and Dr. Divya N G for Model 1  
Dr. Riju K. Thomas and Dr. Divya N G for Model 2

Model 1:

Bridge Course in the Department of Physics was conducted for 1st year BSc Physics Model1 students from 14/9/22 to 20/10/22. It's based on the well-defined syllabus prepared by our faculty and the course was handed by Dr. Shibi Thomas, Dr. Riju K Thomas and Dr. Divya N.G.

Model 2:

Bridge Course in the Department of Physics was conducted for 1st year BSc Physics Model 2 students from 14/9/22 to 20/10/22. It's based on the well-defined syllabus prepared by our faculty and the course was handed by Dr. Shibi Thomas, Dr. Riju K Thomas and Dr. Divya N.G.

## *Mentoring Report*

The Department of Physics, Bharata Mata College, follows the Mentoring System initiated by the Mentoring Cell. The students of each class are grouped and each group is assigned with a mentor teacher who is primarily responsible for collecting and monitoring the academic performance and class attendance of the assigned group on a regular basis. The mentor teacher often arranges meet-ups with the mentees to gather information regarding the mentees and the mentor is expected to take up necessary action to improve the academic performance of the mentees by offering guidance and counseling if required. In some special cases, the parents of the mentee may be called up for meetings with the principal. This has produced a significant improvement in the teacher-student relationships. This process is very effective in identifying the slow learners and advanced learners, and necessary steps can also be taken to improve and motivate the mentees by providing individual care and attention. The department also conducts remedial classes on different subjects within the syllabus for poor/slow learners.

### *Department Mentor list 2021-22*

SI No.	Name of the Mentor	No. Mentees
1	Dr. Anu Philip	16
2	Dr. Shibi Thomas	20
3	Dr. Rintu Varghese	19
4	Dr. Manesh Michael	19
5	Dr. Riju K Thomas	19
6	Dr. Neson Varghese	19
7	Dr. Lini Devassy	19
8	Dr. Divya N G	20
9	Ms. Ginu V	21
10	Ms. Meera K. Jayan	20

## *Addon / Certificate courses (2021-22)*

Course name: Python Programming

Objective: Python programming languages help students to excel in multiple fields like

- Scientific and mathematical computing
- Computer graphics
- Game development

Course coordinator: Dr. Riju K. Thomas

No of students benefited-28

Course name: Data analytics using Python

Objective: Installation and working with Python, GUI widgets, Creating Tkinter widgets, creating NumPy arrays, downloading and parsing data

Course coordinator: Dr. Shibi Thomas

No. of students benefited- 23

## *Physics Model II 2020-23 Batch*



## MOOC Courses Attended details

(Organic Farming, Edu net, SWAYAM Courses Details can be also included)

Students Details: BSc Physics Model I(2020 admission)

SI No.	Name of the Student	Platform (SWAYAM, Edu net etc.)	Name of the Course	Duration
1	ABIN K UDAYAN	MOOC	Organic Farming	6 Months
2	ALTHAF T S	MOOC	Organic Farming	6 Months
3	AMAL.K.M	MOOC	Organic Farming	6 Months
4	AMEESHA THOMAS	MOOC	Organic Farming	6 Months
5	ANANDU DINESAN	MOOC	Organic Farming	6 Months
6	FATHIMA SHAHNA	MOOC	Organic Farming	6 Months
7	FIDHA FATHIMA KH	MOOC	Organic Farming	6 Months
8	GANGA SAJAN	MOOC	Organic Farming	6 Months
9	HENIN MARY ELDO	MOOC	Organic Farming	6 Months
10	MAALAVIGAA RAJESH	MOOC	Organic Farming	6 Months
11	NANDANA S	MOOC	Organic Farming	6 Months
12	SIYA TOMY	MOOC	Organic Farming	6 Months
13	SREENANDANA BAL- AKRISHNAN	MOOC	Organic Farming	6 Months
14	SWATHYMOL V B	MOOC	Organic Farming	6 Months
15	ABDUL SHIRAZ N N	MOOC	Organic Farming	6 Months
16	ADITHYAN KAILAS	MOOC	Organic Farming	6 Months
17	AMINA V S	MOOC	Organic Farming	6 Months
18	ANANTHAKRISHNAN C V	MOOC	Organic Farming	6 Months



19	ARJUN SHAJI VETTIYATTIL	MOOC	Organic Farming	6 Months
20	BHARATH P.C.	MOOC	Organic Farming	6 Months
21	CHRISTINA JACOB	MOOC	Organic Farming	6 Months
22	DEVIKA M B	MOOC	Organic Farming	6 Months
23	GOWTHAM KRISHNA R	MOOC	Organic Farming	6 Months
24	KAVYA S	MOOC	Organic Farming	6 Months
25	LENETT JOSEPH	MOOC	Organic Farming	6 Months
26	NAVYA BIJU	MOOC	Organic Farming	6 Months
27	SAMSON DAVIS	MOOC	Organic Farming	6 Months
28	SMIJITH C S	MOOC	Organic Farming	6 Months
29	SNEHA MOHANDAS	MOOC	Organic Farming	6 Months
30	VISHNU M SASI	MOOC	Organic Farming	6 Months
31	AMRUTHA. T	MOOC	Organic Farming	6 Months
32	DEVANANDA RAVEEN- DRAN	MOOC	Organic Farming	6 Months
33	JAGAN ANTONY PUTHUSSERY	MOOC	Organic Farming	6 Months
34	MEENAKSHY K. R	MOOC	Organic Farming	6 Months
35	NADIYA P.T	MOOC	Organic Farming	6 Months
36	NAVIN P A	MOOC	Organic Farming	6 Months
37	SALU APPUKUTTAN	MOOC	Organic Farming	6 Months
38	SREELAKSHMI JITHESH	MOOC	Organic Farming	6 Months
39	VISHNU P V	MOOC	Organic Farming	6 Months
40	VYSHNAVI M B	MOOC	Organic Farming	6 Months
41	AKSHITHA P S	MOOC	Organic Farming	6 Months

42	AMALA BABU	MOOC	Organic Farming	6 Months
43	FATHIMA SAFFRIN V.A	MOOC	Organic Farming	6 Months
44	M MEENAKSHI	MOOC	Organic Farming	6 Months
45	VISHNU VINOD	MOOC	Organic Farming	6 Months

## *Students Details*

Sl No.	Name of the Student	Platform (SWAYAM, Edu net etc.)	Name of the Course	Duration
1	Vishnu Vinod	Progressum Edutech Pvt Ltd	Internship on Internet of Things (IOT)	MAy 2022
2	M Meenakshi	Progressum Edutech Pvt Ltd	Internship on Internet of Things (IOT)	MAy 2022
3	Amrutha T	Progressum Edutech Pvt Ltd	Internship on Internet of Things (IOT)	MAy 2022
4	Fathima Saffrin	Progressum Edutech Pvt Ltd	Internship on Internet of Things (IOT)	MAy 2022
5	Amrutha T	Kodacy, Scientific Platforms and Cosmic Exploration, SPACE	Robotics	7 hours and 30 minutes
6	Sreelakshmi Jithesh	Kodacy, Scientific Platforms and Cosmic Exploration, SPACE	Robotics	7 hours and 30 minutes
7	Haritha Haridas	Geo-spatial Applications for Forest Ecosystem Analysis	IIRS-ISRO Distant learning center	7 hours and 30 minutes
8	Joyal George	Geo-spatial Applications for Forest Ecosystem Analysis	IIRS-ISRO Distant learning center	7 hours and 30 minutes
9	Diya Antony	Geo-spatial Applications for Forest Ecosystem Analysis	Distant learning center	7 hours and 30 minutes

10	Vishnu AM	Geo-spatial Applications for Forest Ecosystem Analysis	Distant learning center	7 hours and 30 minutes
11	Nandana N Kamath	Geo-spatial Applications for Forest Ecosystem Analysis	IIRS-ISRO Distant learning center	7 hours and 30 minutes
12	Sanjay Justin	Geo-spatial Applications for Forest Ecosystem Analysis	IIRS-ISRO Distant learning center	7 hours and 30 minutes
13	Anjana Suresh	Geo-spatial Applications for Forest Ecosystem Analysis	IIRS-ISRO Distant learning center	7 hours and 30 minutes
14	Gopikrishna CH	Geo-spatial Applications for Forest Ecosystem Analysis	IIRS-ISRO Distant learning center	7 hours and 30 minutes

## *Association Day Programme*



## Department level Infrastructure

Computers & Peripherals		Wooden rack	:2
Laptops	: 3	Fan	:6
PCs	:12	Tube light	:14
Projectors	: 7	LED bulb	:3
Printers	: 2	Desk	:54
Smart Board	:1	Table	:13
Furniture & Fittings		Wooden chair	:4
Desk	49	Exhaust fan	:1
Bench	: 58	Plastic chair	:33
Tables	: 11	Inverter	:1
Chairs	: 9		
Almirah	: 8		
Shelf	: 4		
Podium -	:6		
Lab Equipments			
Lab Table	:22		
Stool	:53		
Non removable Almarh	:13		
Big table with storage	:1		
Teaching Table	:6		
Plastic chair	:42		
Bench	:6		
Generator	:1		
Small stool	:3		
Almarah	:3		



## Department Meetings

Conducting the departmental meetings on a regular monthly basis improves the productivity of the faculties because they foster an open environment for discussion which leads to well-informed faculties. These are good opportunities to strengthen the relationship among the faculties for more efficient collaborative teaching and research work to reinforce the mission, vision, and values of the institution. The HOD or HOD in charge will preside over the meeting. The Class in charge presents the report of each class to take necessary actions, and also maintains the minutes of the meeting held every month.

SI No.	Date and Time of Meeting	Major Agenda
1	17/06/2022, 3:30 pm	5th Sem starting, Methods to improve results, Maintenance of discipline register
2	12/09/2022, 1:30 pm	1st Sem UG and PG class starting, Entry level test and bridge course, Space week activities
3	11/10/2022, 1:10 pm	Purchase of equipment's
4	19/12/2022, 1:00 pm	Starting of 4th and 6th sems of UG class, Attendance details of 3rd and 5th Sem, internal exams, Course plan uploading
5	31/01/2023, 3:30 pm	India today data entry, Completion of courses, Briefing of HoD meeting
6	07/03/2023, 4:00 pm	Building plan, annual report, Alumni, Project fee

## Alumni Interaction

SI. No	Date and Time	Name of the Alumni	Topic of the session
1	26/01/2023, 10:00 AM	Department of Physics ALUMNI MEET	To reconnect with the Alumni and celebrate their success and various achievements

The Alumni of the Department of Physics, Bharata Mata College, Thrikkakara, with happy and pleasure rejoined in the “ALUMNI MEET” on 26 th January 2023 which helps to consolidate and coordinate Alumni Activities at Physics Department for the coming days. The alumni meet is to reconnect with the Alumni and celebrate their success and various achievements. The Alumni started arriving in college by 10.00 a.m. and the alumina’s filled their contact details in the department register. Department gatherings were done in the faculty room and the two practical labs of physics department. The Alumni Meet started with a welcome address by Dr. Anu Philip, HOD, Department of Physics and all the faculties were present in the occasion. This event helps all former students as well as teachers of the college to meet and exchange ideas and to renew and strengthen relations, share the experiences at Bharata Mata College and to experience the love and beauty of our college once again with their fruitful memories. The gathering was disbursed by 12.00 pm. College management organized various programs and arranged lunch to all the respected aluminizes gathered in the college.





## PTA

The Parent-Teacher Association (PTA) gathered each class separately. PTA provides parents and teachers with the opportunity to exchange views, work together with the development of students as well as college. General feedback from parents is sought and elections take place. The Head of the department and all subject teachers represent the college.

### Open House Meetings

Sl No	Class	Date and Time
1	III BSc Physics Model 1 and Model 2	04/11/2022, 10:00 am
2	I BSc Physics Model 1 and Model 2	17/01/2023, 10:00 am
3	II BSc Physics Model 1 and Model 2	27/01/2023, 10:00 am
4	II MSc Space Science	03/03/2023, 11:00 am

## Student achievements - co curricular / Sports activities

Sl No	Name of the Student	Class	Achievement
1	Aravind Krishna A	BSc Physics Model II - 2020-2023	NCC- EBSB National Camp
2.	Savad P M	BSc Physics Model II - 2022-2025	NCC- AP track -1-2023 at NCC Nagar Tirupathi
3.	Nitha hanan	BSc Physics Model II - 2020-2023	e - grants
4.	Nadeemsha kp	BSc Physics Model II - 2020-2023	e - grants, post metric
5.	Dilshana Sherin	BSc Physics Model II - 2020-2023	e - grants
6.	Jincy Justin	BSc Physics Model II - 2020-2023	NSP Scholarship
7.	Geethu .S	BSc Physics Model II - 2020-2023	e grants
8.	Nimitha K. M	BSc Physics Model II - 2020-2023	e grants
9.	Rahana Kunju-muhammed	BSc Physics Model II - 2020-2023	e grants
10.	Adithyan Kailas	BSc Physics Model II - 2020-2023	E Grants and Vijayabheri Scholarship
11.	Arjun Shaji	BSc Physics Model I - 2021-2024	MGU Interzone Chess championship Mens team – 2nd place
12	Christina Jacob	BSc Physics Model I - 2021-2024	Attended Army Attachment Training Camp With 23 Maratha Light Infantry. INFANTARY Best cadet competition conducted in army attachment training camp – 2nd position
13	Samson davis	BSc Physics Model I - 2021-2024	Central sector scholarship



14.	MAALAVIGA RAJESH	BSc Physics Model I - 2021-2024	Inter university chess championship women's team – 2nd place Inter university chess championship – indi- vidual- 5th place women district chess championship U – 17 state chess champion – 2nd place Sahodhaya chess champion 2013- 2020
15	Vishnu Vinod	BSc Physics Model II - 2021-24	Army attachment camp - Bangalore
16.	Salu appukuttan	BSc Physics Model II - 2021-24	E Grants
17.	Vishnu pv	BSc Physics Model II - 2021-24	E Grants
18	Akshitha ps	BSc Physics Model II - 2021-24	E Grants
19	Nadhiya p t	BSc Physics Model II - 2021-24	E Grants
20	Amala babu	BSc Physics Model II - 2021-24	E Grants
21	Meenakshi k r	BSc Physics Model II - 2021-24	E Grants
22	Amrutha T	BSc Physics Model II - 2021-24	Internship robotics
23	Vishnu vinod	BSc Physics Model II - 2021-24	Internship internet of things
24	Amrutha T	BSc Physics Model II - 2021-24	Internship internet of things
25	Meenakshi m	BSc Physics Model II - 2021-24	Internship internet of things
27	Parvathy Thank- achi P	MSc 2021	GATE
26.	Fathima saffrin c a	BSc Physics Model II - 2021-24	Internship internet of things
26.	Sreelakshmi Jithesh	BSc Physics Model II - 2021-24	Internship internet of things
27	Toni Jose	BSc Physics Model I - 2019-21	JAM
28	Augen Jose	BSc Physics Model I - 2020-22	Prajathantra National Youth Festival
29	Ayana Rajandran	BSc Physics Model I - 2022-25	Inspire Scholarship

30	Nandana Sasi	BSc Physics Model I - 2022-25	E grants
31	Sneha	BSc Physics Model I - 2022-25	E grants
32	Neha Joy	BSc Physics Model I - 2022-25	E grants
33	Sreendana	BSc Physics Model I - 2022-25	E grants
34	Krishnapriya	BSc Physics Model I - 2022-25	E grants
35	Bidhun	BSc Physics Model I - 2022-25	E grants
36	Neha M	BSc Physics Model I - 2022-25	Higher Education Scholarship



Congratulations to Augen Joe winning the third prize in the National Youth Conclave - Debate Competition held at Delhi 13-14 March 2023

## *Faculty Attended Programmes*

FDPs/ STTPs/Workshops/Seminars / Conference/ Webinar

Total Number of FDPs/ STTPs : 11

Total Number of Workshops : 7

Total Number of Seminars / Conference :14

Name of faculty	Name of Programme	Date/s	Conducting Agency	FDPs/ STTPs/ Workshops/ Seminars / Webinar
Dr. Anu Philip	Faculty training program -AGAM-22	2022 May,17,18,19	IQAC, Bharata Mata College	FDP
Dr. Anu Philip	One week on-line short term course-Towards a flourishing educator	Aug 23-29	The Cochin college	Short term course
Dr. Manesh Michael	Faculty training program -AGAM-22	2022 May,17,18,19	IQAC, Bharata Mata College	FDP
Dr. Rintu Varghese	Faculty training program -AGAM-22	2022 May,17,18,19	IQAC, Bharata Mata College	FDP
Dr. Shibi Thomas	Faculty training program -AGAM-22	2022 May,17,18,19	IQAC, Bharata Mata College	FDP
Dr. Lini Devassy	Faculty training program -AGAM-22	2022 May,17,18,19	IQAC, Bharata Mata College	FDP
Dr. Neson Varghese	Faculty training program -AGAM-22	2022 May,17,18,19	IQAC, Bharata Mata College	FDP
Dr. Lini Devassy	Faculty development program	Dec 12-17,2022	MG University, Kottayam	FDP
Dr. Riju K Thomas	Moodle based LMS and course design	2023 May 18-23	KSHEC, Thiruvananthapuram	FDP
Dr. Riju K Thomas	Refresher course in Physics	2022 28 July-11 August	Ramanujan college	Online Refresher course
Dr. Riju K Thomas	IEDC Summit 2023	2023 March 3	Rajagiri school of Engineering and Technology, Ernakulam	FDP

## Research Contributions

### Publications – Faculty

Dr. Shibi Thomas	Effects of metal nanoparticles on the performance of PDMS based triboelectric nanogenerators. Lazar K. Anlin, K.V. Vijoy, K. Pradeesh, Shibi Thomas, Honey John, K.J. Saji, Physica B: Physics of Condensed Matter 639, 2022.	Journal Article
Dr. Shibi Thomas	Nanomaterials for sensing and optoelectronic application	Edited Book, Elsevier
Dr. Shibi Thomas	Introduction to biosensors	Book chapter
Dr. Manesh Michael	Effect of dust size distribution on dust acoustic solitary waves in a six-component cometary plasma. S Shilpa, Manesh Michael, Chandu Venugopal. Journal of Astrophysics and Astronomy 43, 2 (2022)	Journal Article SCOPUS
Dr. Manesh Michael	Shocks and solitons in collisional dense laser produced plasmas. Shilpa, S., Divya D. Pai, Manesh Michael, Chandu Venugopal, and Pramod Gopinath. Physica Scripta 97 045601 (2022).	Journal Article SCOPUS
Dr. Sr. Rintu Varghese	Laser induced plant leaf extract mediated synthesis of CuO nanoparticles and its photocatalytic activity, Prabu HJ, Varghese R, Johnson I, Sundaram SJ, Raj AD, Rajagopal R, Kuppusamy P, Sathya R, Kaviyarasu K. Environmental Research, 212 (2022)	Journal Article SCOPUS
Dr. Riju K Thomas	Energy Applications of Metal and Metal Oxide Nanoparticles Abhijith Sharma, Divya Neravathu Gopi, Mohammed Saju M., and Riju K Thomas	Book Chapter Apple Academic Press
Dr. Riju K Thomas	Green Energy Applications of Graphene L. Vidya, Aparna Raj, S. Neelima, Riju K. Thomas, and C. Sudarsanakumar	Book Chapter Taylor and Francis
Dr. Riju K Thomas	Applications of Carbon Nanotubes in Pathogenic Microbe Detection Divya Neravathu Gopi, Mohammed Saju M., and Riju K. Thomas	Book Chapter Apple Academic Press
Dr. Riju K Thomas	Smart nanomaterials in energy Applications, Divya Neravathu Gopi, Mohammed Saju M., Ann roshan Riju K. Thomas	Book Chapter Apple Academic Press

Dr. Anu Philip	Comparative study of the optical and dielectric properties of PVA and silver-doped PVA, 1Sandhra Sebastian, 1Meera. S. Rajesh and 1*Anu Philip, proceedings of International Conference on Science and Technology of Advanced Materials (STAM 23)	ISBN 978-93-5811-190-3
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### Conference publication (2022-23)

Dr. Anu Philip	An investigation on the adulteration of Indian spices using Fourier Transform Infrared Spectroscopy	International conference on materials-Science, Bharata Mata College, Thrikkakara	January 10-11 th 2023
Dr. Manesh Michael	Effects Of Heavier Ions (O+ & O-) On The Characteristics Of Ion Acoustic Double Layers In A Six Component Cometary Plasma	37th National Symposium on Plasma Science & Technology (PLASMA 2022)	Dec 12-14, 2021 at IIT Jodhpur
Dr. Riju K Thomas	Application Of Phenolic Compound Functionalized Nanoparticles In The Field Of National Seminar in Functional materials, Al Ameen college	Biophysical Chemistry	20-21 July 2022
Dr. Riju K Thomas	Spectroscopic Studies To Monitor The Interaction Of Phenolic Compound National conference on emerging trends in Material Science	Functionalized Metal Nanoparticles With Dna	06-07 June 2022

## Physics - 2020-23 Batch Students



### Resource Person in Seminars

Name of the Faculty	Type of Publication (Contribution to Book, Research Publication, Conference Proceedings)	Listing of the publication (ISBN BOOK, UGC Care List1, Scopus, Web of Science)	Title of the Paper or Book Chapter	Journal Name or Publisher Name	ISSN or ISBN Number
Dr. Anu Philip	Conference Proceedings	ISBN	Comparative study of the optical and dielectric properties of PVA and silver-doped PVA, 1Sandhra Sebastian, 1Meera. S. Rajesh and 1*Anu Philip, proceedings of International Conference on Science and Technology of Advanced Materials (STAM 23)		ISBN 978-93-5811-190-3

## Physics Association Executives



### Conference/ Seminars/Workshop attended (2022-23)

Faculty	Name of Conference/seminar/workshop	Role	Date & Venue
Dr. Manesh Michael	37th National Symposium on Plasma Science & Technology (PLASMA 2022)	Oral Presentation	Dec 12-14, 2021 at IIT Jodhpur
Dr. Manesh Michael	DST SERB sponsored two day workshop on nonlinear time series analysis and its applications	Attended	Jan 20, 21 2023, Rajagiri Kochi
Dr. Manesh Michael	International conference on materials-Science	Attended	January 10-11 th 2023
Dr. Shibi Thomas	International conference on materials-properties and applications	Attended	May 9 -13 th
Dr. Shibi Thomas	International Conference on Materials Science	Attended	January 10-11 th 2023
Anu Philip	International conference on materials-Science	Attended	January 10-11 th 2023
Anu Philip	International Conference on Science and Technology of Advanced Materials (STAM 23) held at Mar Athanasius College (Autonomous), Kothamangalam	Attended	18-20 April, 2023
Lini Devassy	International conference on materials-Science	Attended	January 10-11 th 2023
Lini Devassy	Workshop on Astrophysics and Cosmology	Attended	August 30, 2022
Dr. Lini Devassy	IP awareness program	Training program	2022 Aug 11
Dr. Riju K Thomas	Research to Commercialization, BIIC MG University	Attended	24-26 November 2022
Dr. Riju K Thomas	National Seminar in Functional materials, Al Ameen college	Attended	20-21 July 2022
Dr. Riju K Thomas	National conference on emerging trends in Material Science	Attended	06-07 June 2022
Dr. Riju K Thomas	International conference on materials-Science, BMC	Attended	January 10-11 th 2023

Dr. Riju K Thomas	Emerging Trends in energy Applications, FISAT	Attended	28-29 April 2022
Dr. Riju K Thomas	Training On National Intellectual Property Awareness Mission	Attended	11, August, 2022
Dr. Riju K Thomas	Anti narcotic training Program, Govt. Kerala	Attended	26-27 September 2022
Dr. Riju K Thomas	Workshop on Lab to startups, BIIIC, MGU	Attended	16-20 May 2022
Dr. Riju K Thomas	Workshop on Computational biology and Bioinformatics, CUSAT	Attended	March 2022
Dr. Neson Varghese	International Conference on Materials Science, Bharata Mata College in association with MG University	Attended	2022 Jan 9 , 10
Dr. Rintu Varghese	IP awareness program	Training program	2022 Aug 11
Dr. Rintu Varghese	International Conference on Materials Science, Bharata Mata College in association with MG University	Bharata Mata College in association with MG University	2022 Jan 9 , 10
Ginu VG	International Conference on Materials Science, Bharata Mata College in association with MG University	Bharata Mata College in association with MG University	2022 Jan 9 , 10
Dr. Divya N. G	International Conference on Materials Science, Bharata Mata College in association with MG University	Bharata Mata College in association with MG University	2022 Jan 9 , 10



## *Christmas Celebration*



### Resource Person in Seminars

Dr. Manesh Michael	Seminar	August 12, 2022.	Resource Person of Astronomy Club Inauguration	Mar Thoma College, Tiruvalla
Dr. Manesh Michael	workshop	January 06, 2023	Sky watch program	Nirmala College, Muvattupuzha
Dr. Manesh Michael	Seminar	November 04, 2022	Physics Association Inauguration	St. Aloysius College, Edathua
Dr. Manesh Michael	Training	November 19, 2022	Resource Person of Gifted Children program, Government of Kerala	Thalayplaparambu G V H SS
Dr. Manesh Michael	Training	December 03, 2022	Resource Person of Gifted Children program, Government of Kerala	St. Mary's H SS Kanjirappally
Dr. Manesh Michael	Training	January 08, 2023	Resource Person of Gifted Children program, Government of Kerala	St. Mary H S Aluva
Dr. Manesh Michael	Training	December 03, 2022	Resource Person of Gifted Children program, Government of Kerala	G V H SS Etumanoor
Dr. Manesh Michael	Training	March 10, 2023	Quiz Master of Science Quiz Competition	St. Aloysius College, Edathua
Dr. Manesh Michael	Training	January 28, 2023	Resource Person of Gifted Children program, Government of Kerala	S N M G B H SS Cherthala



**Magazine Release 2022-2023**

## Student Projects

### B.Sc. Physics Model I & II -2020-2023 Batch

Sl No.	Reg. No.	Student Name	Project Title	Supervisors
1	200021036 513	AHANA G	Dr. Lini Devassy	A Review on Brain Imaging
2	200021036 514	AKHIL V	Dr. Neson Varghese	Determination of lattice parameters of mgb2 superconductor heat treated at different temperatures
3	200021036 515	ALTHAF T M	Dr. Manesh Michael	Dynamics of simple and double pendulum using python programming.
4	200021036 516	ANITHA VINCENT	Dr. Shibi Thomas	Synthesis of ZnO Thin Films and its Characteristic Studies
5	200021036 517	BALAKRISHNA M S	Dr. Lini Devassy	A Review on Brain Imaging
6	200021036 518	DIVYA MARY VARGHESE	Dr. Shibi Thomas	Synthesis of ZnO Thin Films and its Characteristic Studies
7	200021036 519	DIYA A M	Dr. Lini Devassy	A Treatise on Group Theoretic Structures
8	200021036 520	DIYA ANTONY	Ms. Meera K Jayan	Synthesis and XRD Analysis of Zinc Iron Oxide
9	200021036 521	FATHIMA NOORBEENA	Dr. Lini Devassy	A Treatise on Group Theoretic Structures
10	200021036 522	LIDHIYA BENNY	Dr. Divya N. G	Preparation and Structure Analysis of Zinc Iron Oxide
11	200021036 523	MOHAMMED ALI V A	Dr. Neson Varghese	Determination of lattice parameters of mgb2 superconductor heat treated at different temperatures.

12	200021036 524	MUHAMMED SABAH K B	Ginu V. G	Vanadium pentoxide as carrier selective layers
13	200021036 525	NIYALA BANU	Dr. Anu Philip	The role of Poly Ethylene Glycol in the formation of Silver Nanoparticles and the pH effect on the synthesis of different size Silver Nanoparticles.
14	200021036 526	RAPHEL JOEL K J	Ginu V.G	Vanadium pentoxide as carrier selective layers
15	200021036 527	RASEEKA THASNIM PV	Dr. Divya N. G	Hydrothermal Synthesis of zinc iron oxide
16	200021036 528	SAMRUDHA MATHEW	Dr. Lini Devassy	A Review on Brain Imaging
17	200021036 529	SANGEETHA T T	Dr. Rintu Varghese	A review on plant mediated synthesis of metallic synthesis of metallic nanoparticle- sand their anti-bacterial actions
18	200021036 530	SHALEM ROY	Dr. Lini Devassy	A Treatise on group theoretic structures.
19	200021036 531	SREELAKSHMI N S	Ginu V. G	Comparative study of heterojunction and homojunction solar cells.
20	200021036 532	SREERAG K S	Ginu V. G	Comparative study of heterojunction and homojunction solar cells.
21	200021036 533	ABHIRAMI K VARGHESE	Dr Riju K Thomas	Green Synthesis Of Silver Nanoparticles Using Tectona Grandis Extract
22	200021036 534	ANJANA SURESH	Dr Manesh Michael	Dynamics of simple and double pendulum using python programming
23	200021036 535	GOPIKRISHNA C H	Ms. Meera K Jayan	Synthesis and XRD Analysis of Zinc Iron
24	200021036 536	HARITHA HARI- DAS	Dr Divya N G	Preparation and structure analysis of zinc iron oxide

25	200021036 537	JOYAL GEORGE	Ginu V. G	Vandium pentoxide as a Carrier selective layer
26	200021036 538	KARTHIKA T S	Dr Neson Varghese	Analysis of X-ray diffraction pattern of nano carbon doped MgB <sub>2</sub> Superconductors
27	200021036 539	KEERTHANA BAIJU	Dr. Shibi Thomas	Alcohol Detection Using Arduino
28	200021036 540	MEERA S RAJESH	Dr. Anu Philip	Comparative Study on Optical and Dielectric Properties of PVA and Silver Doped PVA
29	200021036 541	NAJMA J	Dr Riju K Thomas	Green Synthesis Of Silver Nanoparticles USING TECTONA GRANDIS EXTRACT
30	200021036 542	NANDANA N KAMATH	Dr Manesh Michael	Dynamics of simple and double pendulum using python programming
31	200021036 543	REEMA MALI-AKAL	Dr. Anu Philip	The role of Poly Ethylene Glycol in the formation of Silver Nanoparticles and the pH effect on the synthesis of different size Silver Nanoparticles.
32	200021036 544	SANDHRA SEBASTIAN	Dr. Anu Philip	Comparative Study on Optical and Dielectric Properties of PVA and Silver Doped PVA
33	200021036 545	SANJAY JUSTIN	Dr. Divya N. G	Hydrothermal Synthesis of zinc iron oxide
34	200021036 546	SINZIYA S	Dr. Shibi Thomas	Synthesis of ZnO Thin Films and its Characteristic Studies
35	200021036 547	SIVASHAN-KARAN C S	Ginu V. G	Comparative study of heterojunction and homojunction solar cells.

36	200021036 548	SNEHA SHIBU	Dr Riju K Thomas	GREEN SYNTHESIS OF SILVER NANOPARTICLES USING TECTONA GRANDIS EXTRACT
37	200021036 549	VISHNU A M	Dr. Neson Varghese	Determination of lattice parameters of mgb <sub>2</sub> superconductor heat treated at different temperatures

Reg. No.	Student Name	PROJECT TITLE	Supervisors
1	200021039160	AKHIL SURESH	A review study on HR diagram and stellar evolution
2	200021039161	ANJALI BINU	Synthesis and optical characterisation of CuO nanoparticles
3	200021039162	ANNA THERESSA C	Determination of Crater depth of Moon using shadow length
4	200021039163	ARAVIND KRISHNA A	GLARE REDUCTION SYSTEM -SMART WINDSCREEN
5	200021039164	AUGEN JOE	GLARE REDUCTION SYSTEM -SMART WINDSCREEN
6	200021039165	CHRISTINA J THATTIL	Study of Molybdenum as selective contact layer in solar cell
7	200021039166	CLINS JOSHI	Synthesis and optical characterization of CuO nanoparticles
8	200021039167	DEVANG VIJAY	Synthesis And Structural Characterization of CuO NanoParticles
9	200021039168	DILSHANA SHERIN	Determination of Crater depth of Moon using shadow length
10	200021039169	FAIROOS KILAB	Study of Molybdenum as selective contact layer in solar cell

11	200021039170	GEETHUMOL S	LI-FI (Light Fidelity)	Dr. Sr. Rintu Vargese
12	200021039171	GIL JOHNSON	Synthesis And Structural Characterization of CuO NanoParticles	Dr. Anu Philip
13	200021039172	HAFISA THASNI K. S	Detection of exoplanet	Dr. Riju k Thomas
14	200021039173	HIDASH MAJEED	A review study on HR diagram and stellar evolution	Dr. Manesh Michael
15	200021039174	JINCY JUSTIN	Life on Mars	Dr. Lini Devassy
16	200021039175	JOHN PAUL	Analysis of xray diffraction pattern of nano Carbon doped MgB2 superconductor	Dr. Neson Varghese
17	200021039176	JOSEPH RAJU	Alchole detection using arduino	Dr. Shibi Thomas
18	200021039177	JOYAL ANTONY		Alchole detection using arduino
19	200021039178	LIVYA ALIS GLEN	Study of Molybdenum as selective contact layer in solar cell	Mrs. Ginu V. G.
20	200021039179	NABIL A NAVAB	Analysis of xray diffraction pattern of nano Carbon doped MgB2 superconductor	Dr. Neson Varghese
21	200021039180	NADEEMSHA K P	Light Fidelity	Dr. Sr. Rintu Vargese
22	200021039181	NELL MARIYAM FINNY	study of chaos in non-linear system and its illustrations by computer simulation	Dr. Lini Devassy
23	200021039182	NIMITHA K M	Detection of exoplanet	Dr. Riju k Thomas
24	200021039183	NITHA HANAN	study of chaos in non-linear system and its illustrations by computer simulation	Dr. Lini Devassy
25	200021039184	RAHANA KUNJU-MUHAMMED	Life on Mars	Dr. Lini Devassy

26	200021039185	RIYABAIJU	Detection of exoplanet	Dr. Riju k Thomas
27	200021039186	SALIMA.S	Life on Mars	Dr. Lini Devassy
28	200021039187	SANOOP S	Light Fidelity	Dr. Sr. Rintu Vargese
29	200021039188	SARAH S PANIKU-LANGARA	study of chaos in non-linear system and its illustrations by computer simulation	Dr. Lini Devassy

### ***Details of Msc Project of Msc Space Science 2020-22 Batch***

<b>Reg. No.</b>	<b>Name</b>	<b>Title of PG Project</b>	<b>Institute from which project done</b>	<b>Details of Guide</b>
200011024021	Akhila Chandran	U band Photometric study of north celestial pole field	Indian Institute of Astrophysics, Bangalore	Dr. Margarita Safonova Indian institute of astrophysics, Bangalore
200011024022	Anjali G	Photometric Identification of Standard Stars by HCT	Indian Institute of Astrophysics, Bangalore	Dr. Firoza Sutaria Associate Professor Indian Institute of Astrophysics Bangalore
200011024023	Aswathy Sasi	To find exoplanets by transit method and analyses their light curve.	Indian Institute of Astrophysics, Bangalore	Dr. Firoza sutaria Associate professor Indian Institute of Astrophysics Bangalore  Dr. Binukumar G Post doctoral research fellow Indian Institute of Astrophysics, Bangalore

200011024024	Indhuja S	Observation of spectroscopic standard stars with the Himalayan Chandra Telescope	Indian institute of Astrophysics, Bangalore	Dr. Firoza sutaria Associate professor Indian Institute of Astrophysics Bangalore  Dr. Binukumar G Post doctoral re- search fellow Indian Institute of Astrophysics, Ban- galore
200011024025	Jinu Jose	Determination of Particulate Matter using Near Space Balloon Payloads	Indian Institute of Astrophysics (IIA) Bangalore	Dr.Margarita safon- ova Indian institute of as- trophysics, Bangalore
200011024026	Jyothy K Prakash	Photometric study of north celestial pole field.	Indian Institute of Astrophysics, Bangalore	Dr.Margarita safon- ova Indian institute of as- trophysics, Bangalore
200011024027	Linta Premkumar	A study on Cygnus loop	Indian Institute of Astrophysics, Bangalore	Dr. Firoza sutaria Associate professo Indian Institute of Astrophysics Bangalore
200011024028	Mohamed Ameen	Determination of particulate matter using high altitude balloon payloads	Indian Institute of Astrophysics, Bangalore	Dr. Binukumar G. Post doctoral re- search fellow, Indian Institute of Astrophysics, Ban- galore
200011024029	Nithya V S	Life Independent of Light: A Survey in The Context of Astrobiology	Indian Institute of Space Science and Technology, Thiruvananthapuram	Dr. K. G. Sreeja- lekshmi, Associate Professor, Depart- ment of Chemistry, IIST Trivandrum



200011024030	Parvathy Thankachy P	Modelling of radial velocity signal from stars with exoplanets	Indian institute of space science and technology, Thiruvananthapuram	Dr. Anand Narayanan, Professor, Department of earth and space sciences, Indian institute of space science and technology, Thiruvananthapuram
200011024031	Sarath Krishnan G	Determination of Particulate Matter using Near Space Balloon Payloads	Indian Institute of Astrophysics, Bangalore	Dr. Binukumar G Post doctoral research fellow Indian Institute of Astrophysics, Bangalore
200011024032	Swathi Suresh	Spectral Fitting of a Changing-look Active Galactic Nucleus Mrk-1018	Indian Institute of Astrophysics, Bangalore	Dr. Santanu Mondal, Ramanujan Fellow, IIA, Bangalore

## *Student Progression*

SI No	Name of the Student	Institution Placed	CTC
1	Dinu Joseph	TTK Services Focus edumatics	
2	Aiswarya Srinivasan	INFOSYS	1,91,365
3	Fathima Nazrin VA	TCSL	1,90,926
4	Aiswarya S Kumar	Williams Lea India Pvt.Ltd	2,60,676
5	Karuppusamy	Taluk statistical office, Devikulam	

## PG Dissertation-Outside College

Sl. No.	Name & Affiliation of Student	Title of Project	Supervisor	Academic Year
1	Sen V George Indira Gandhi College of Arts and Science, Nellikuzhy	Korteweg-deVries – Burgers Equation in a Five component cometary plasma with kappa described electrons and ions	Dr. Manesh Michael	2021-22
2	Sreerag A Sir Syed College, Taliparampa, Kannur	A study of ion-acoustic shock waves in multi-ion cometary plasma	Dr. Manesh Michael	2021-22
3	Jishnu K K Sir Syed College, Taliparampa, Kannur	A study of ion-acoustic shock waves in multi-ion cometary plasma	Dr. Manesh Michael	2021-22
4	Akhila Murali, St. Xavier's College for Women, Aluva	Effect of drifting H <sub>3</sub> O <sup>+</sup> ions on ion acoustic shock waves in a cometary plasma	Dr. Manesh Michael	2022-23
5	Vrinda V Nair, Maharaja's College, Ernakulam	Effect of drifting Hydrogen ions on ion acoustic shock waves in a cometary plasma	Dr. Manesh Michael	2022-23
6	Aleena P, Maharaja's College, Ernakulam	Study of ion acoustic shock waves with drifting H <sub>3</sub> O <sup>+</sup> ions in a multi-ion cometary plasma	Dr. Manesh Michael	2022-23
7	Pranima K Maharaja's College, Ernakulam	Study of shock waves in the inner shock region of comet Halley	Dr. Manesh Michael	2022-23
8	Jeslin Sara Jose Morning Star Home Science College, Angamaly	Dust ion acoustic solitary waves in a relativistic electron-positron-ion plasma with kappa described electrons and positrons	Dr. Manesh Michael	2022-23

9	Anjumol Babu Morning Star Home Science College, Angamaly	Dust ion acoustic solitary waves in a relativistic electron-positron-ion plasma with kappa described electrons and positrons	Dr. Manesh Michael	2022-23
10	Karthika R S, All Saints' College, Trivandrum	Drifting of H <sub>3</sub> O <sup>+</sup> ions in a magnetised, multi-component plasma at the inner shock region of comet Halley	Dr. Manesh Michael	2022-23
11	Abhirami A S, All Saints' College, Trivandrum	Drifting of H <sup>+</sup> ions in a magnetised, multi-component plasma at the inner shock region of comet Halley	Dr. Manesh Michael	2022-23
12	Midhala M, Indhra Gandhi College of Arts and Science, Kothamangalam	Optimization of efficiency Si of solar cell	Dr. Shibi Thomas	2022-23
13	Arya Biju, Indhra Gandhi College of Arts and Science, Kothamangalam	Optimization of efficiency Si of solar cell	Dr. Shibi Thomas	2022-23
14	Nandana Shabu Morning Star Home Science College, Angamaly	Simulation and Design of CdTe Solar Cell using SCAPS	Dr. Shibi Thomas	2022-23
15	Meenu Abraham Morning Star Home Science College, Angamaly	Simulation and Design of CdTe Solar Cell using SCAPS	Dr. Shibi Thomas	2022-23



## Students Placed

Sl No	Name of the Student	Institution Placed
1	Alfiya K N	Southerland,Infosys,Focus edumatics
2	Ananthu Chandran	Focus edumatics
3	Saranya T S	Southerland,Focus edumatics
4	Basil Antony	Focus edumatics
5	Faseela M S	Focus edumatics
6	Vrinda V Nair	Wipro(WILP)

## Physics Model I 2020-23 Batch



## Students went for Higher Education

SI No	Roll No	Name of the Student	Institution opted for Higher Education	Course Name
1	190021039337	SNEHA PRAVEEN	Malabar Christian college, Kozhikode	MSc Physics,
2	190021039339	AJNA T R	St. Paul's College, Kalamassery	MSc Physics,
3	190021039340	ANNA RESHMA REVI	Sri Sathya Sai Arts and Science College. Trivandrum	MSc Physics,
4	190021039335	SHIFNA P S	Govt. Medical College, Ernakulam	Diploma in Dialysis,
5	190021039348	Pallavi Kumari	Bharata Mata College, Thrikkakara	M. Sc. Space Science,
6	19002103934	Arya M. K		Diploma in Computer Application
7	190021039341	Athul Vasu		Diploma in Computer Application
8	190021039346	Karthik Madhu		Diploma in Logistics
9	190021039324	Anoop P		Diploma in Warehousing
10	190021039324	Darsana Devaraj		Renewable Energy Engineering
11	190021039325	Aravindh S		ACCA (association of chartered certified accounting)
12	190021042093	Harikrishnan PS	St. Paul's College, Kalamassery	MSc Physics
13	190021042087	Achala Biju	St. Paul's College, Kalamassery	MSc Physics
14	190021042089	Akash Mohan	St. Paul's College, Kalamassery	MSc Physics
15	190021042096	Jithu PR	St. Paul's College, Kalamassery	MSc Physics
16	190021042095	Jisna Baby	Newman College, Thodupuzha	MSc Physics
17	190021042 107	Tony John	UC College, Aluva	MCA
18	190021042098	Kajol Khadeeja	Kerala university of Fisheries and Ocean studies, Kochi	MSc Physical Oceanography

19	190021042104	Rahul Raju	College of Engineering, Cherthala	
20	190021042086	Abhiram Sidharth	St. Peter's college, Kolenchery	MSc Computer science
21	190021042103	Navin Babu	St. Peter's college, Kolenchery	MSc Computer science
22	190021039351	Toni Jose	IIT Hyderabad	MSc Medical Physics

### *Teaching Learning Innovative practices in the department*

Teaching and learning innovative practices are introduced to raise the curiosity of a student. The following innovative practices are undertaken by the faculty members of Commerce department for improving teaching and learning experience

Innovative Practices	Outcome
Lecture method	Hands on experience, Peer-to-peer Learning Experiential learning, Collaborative Learning Audio-Visual presentations through LCD and Virtual classrooms
Interdisciplinary Lectures	Aware students with the latest relevant technologies in different computing fields.
Major/Mini Projects	Prepare students to develop live projects on their own.
Student Seminars	Motivating students for self-Study and Group Study.
Course Assignments	Encourage student collaboration through supplement learning
Communication Skills	Improve the presentation and speaking skills in group discussion as well as in interviews faced.
Seminars/ Webinars/ workshops	Engages students by using real-world challenges, problems, and scenarios to evoke critical thinking, problem-solving, collaboration, and self-management
Online Tutorial	Enhance the overall comprehension of students in a more dynamic way
Virtual Lab	Exposure of Programming & Lab practices

# RESEARCH POSTGRADUATE DEPARTMENT OF PHYSICS

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**B. Sc. Physics Model I**

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in Astronomy  
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like Infosys, Wipro WILP, TCS etc.

## JOB OPPORTUNITIES

Research Assistant  
Professor  
Astrophysicist  
Scientist/Scientific officer  
in ISRO/DRDO/BARC etc.  
Higher Secondary Teacher  
Nanotechnologist / Radiologist  
Nuclear/ Sound Engineer  
Forensic Scientists

MG University Rank Holders 2023



Christina J Thattil



Anna Theressa C



Augen Joe



Milan John  
IIT Dhanbad



Afra Navas  
IIT Mandi



Gobinda Chakraborty  
IIT Kharagpur



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