



## MESSAGE FROM THE MANAGER



I have a great pleasure to know that the Department of Physics of our college is bringing out the third volume of their annual newsletter **PHYSIK** for the year 2018 - 2019.

I appreciate every teacher and student who shared the joy of participation in co-curricular and extracurricular activities along with their commitment to curriculum. That little extra we do, is the icing on the cake. 'Do more than belong-participate. Do more than care-help. Do more than believe-practice. Do more than be fair-be kind. Do more than forgive-forget. Do more than dream-work.'

'Ambition, Planning, Hard work and courage are the key for the success. "Let the mind be cheerful but calm. Never let it run into excess, because every excess will be followed by reaction". I wish every success to the department for the future ventures.

**Fr. Mathew Chooravady**

*Manager, St. Aloysius College, Edathua*

## MESSAGE FROM THE PRINCIPAL



It was quite inspiring to watch and witness the potential of our students unfolding at various stages and situations each day. Trying and testing times during the hectic semester system have elicited our students to put forth their best. The management and the staff have been supportive of the various activities that were undertaken by the students in view of helping them reach the pinnacle of perfection and professionalism in whatever task they took on, thus strengthening our journey of achieving excellence.

It is a matter of great pride and satisfaction for St. Aloysius College, Edathua to bring out the News Letter 'PHYSIK' by the Department of Physics. The department has made tremendous progress in all academic, non-academics, capacity building relevant to staff and students. A News Letter is like a mirror which reflects the clear picture of all sorts of activities undertaken by a department and develops writing skills among students in particular and teaching faculty in general.

I wholeheartedly congratulate all the teachers and students for their fruitful effort.

**Dr. Jochan Joseph**

*Principal, St. Aloysius College, Edathua*

## Department of Physics

Department of Physics is one of the pioneering departments of St. Aloysius College Edathua. From the very beginning of the department itself, it concentrate to provide quality education to students with a vision of developing internationally competent graduates to distinguished careers in science .

The Department of Physics was established in the year 1981with B.Sc Physics as its first graduate programme with mathematics and Chemistry are complementary subjects. The sanctioned strength of the programme is 32 students. In 1999 the Department is upgraded to Post Graduate department by starting M.Sc Physics. The specialization of this programme is in material science and the sanctioned strength of the programme is 10 students. B.Sc Electronic equipment and Maintenance (EEM)was established in 2001 under this department with a sanctioned strength of 30 student in self financing scheme.

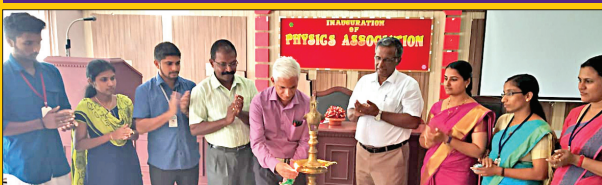
In 2016 the department is assisted with DST - FIST project. The department of Physics was recognized as a research centre by the Mahatma Gandhi University in June 2018. Dr. Jochan Joseph and Dr. Lakshmi Vijayan are research guides in this department now.

The department owe one general lab and one electronics lab for postgraduate students and one general lab for graduate students. The two computer labs are functioning for both M.Sc and B.Sc programmes. An established research lab is also the part of this department.

Numerous publications are initiated by the department like 'SAHAI - A guide to domestic electricity consumers'.The department library is equipped with a good collection of more than thousand international books.

The eight faculty members of the department are the pillars of all sorts of exceptional initiatives by the department. The department has continuing the tradition of excellence and remember all the predecessors of the department with gratitude.

## ASSOCIATION INAUGURATION



Association Inauguration of the Physics Department of St. Aloysius College, Edathua, was done at 10AM on 5th September 2018 at Fr.Punnapadam Hall. Prof. Babu. K. Thomas, Assistant Professor, Department of Physics, delivered the welcome speech. The Head of the Department, Dr. Jochan Joseph, presided over the meeting. Prof. K. E. Abraham, Associate Professor, St. Berchman's College, did the inauguration and delivered the key note address. Mr. Subin Jo Varghese, Secretary, Physics Association, also spoke on the occasion.

## HOD's MESSAGE



**Prof. Lizymol Xavier**  
HOD, Physics

St. Aloysius College, Edathua primarily intends to nurture the shelved potential in students providing an ideal platform for them to channelize their creative outbursts and lend expression to their thoughts and views on various aspects in serene manner.

Our Physics department believes that the purpose of education is to turn mirrors into windows, and as such, we are focused not only on pure studies but also on providing opportunity to each student to explore his or her own capabilities and their area of interest - curricular, co-curricular or extra-curricular. We aim to develop soft skills that will equip them to manage and lead the varied opportunities and challenges of the society with an added edge.

We believe that complete development of a student into a holistic person requires active participation of the parents too. Thus the institution is in constant touch with parents, informing them about the performance of their wards through correspondence and dialogues.

I am confident that this issue of Department News Letter will send a positive signal to the staff, students and the persons who are science aspirants.

I wish you the best in the process of seeking to become a part of this family.



**SINCEREST  
GRATITUDE TO THE  
FORMER PRINCIPAL  
Dr. SABAN K V  
(2015 - 2019)**

We acknowledge and appreciate the effort and time you put into your job during the past four years.

We could have noticed that, since the time you had joined as the Principal of this college, you displayed great enthusiasm to lead and grow professionally. As a visionary, you were working hard and overtime to ensure maximum benefits to the college. We, 'Team Physics' wish you all the best for your future endeavours.

## INAUGURATION OF THE RESEARCH CENTER



St. Aloysius College Edathua donned yet another golden feather in its cap by starting the research center, by getting sanction from M.G. University. The inaugural meeting of the research centre started at Fr. Punnapadam Hall by 10 AM on 6<sup>th</sup> February 2019. The former MLA of Kuttanad, Dr. K.C. Joseph inaugurated the center and Fr. Mathew Chooravadi presided over the meeting.

Prof. Dr. A.R Anantharaman of Cochin University of Science and Technology delivered the keynote address. The speakers during the event included Dr. Saban K.V (Principal); Prof. Jerome P.V (Vice Principal); former Heads of Department, Prof. George. C. Kattampally, Prof. James Sebastian and Prof. Varghese Mathew; Dr. Jubin Antony (IQAC Coordinator); Dr. Reju Sam John (Alumni Representative); Ms. Jasmine Mathew (Student Representative); and research guides, Dr. Jochan Joseph and Dr. Lakshmi Vijayan.

## TEACHERS DAY CELEBRATIONS



On 5<sup>th</sup> September, the birth anniversary of former President of India and renowned teacher, Dr. Sarvepalli Radhakrishnan, the Physics Department of our college celebrated Teachers' Day. The celebrations were organized by the second year B.Sc students at Fr. Punnapadam Hall by 2 PM in the afternoon.

Dr. Varghese Mathew inaugurated the event and delivered the key note address. Prof. Rosmin John gave the welcome address while Dr. Saban K.V presided over the function. The students felicitated all the teachers of the Department with lot of love and respect.

The students also felicitated all teachers of other departments, along with their teachers and wished them on teacher's day while giving them loving gifts on the occasion.

## WELCOME TO FRESHERS



The first year post graduate and the first year degree students of Physics Department, were given a warm welcome by the second year post graduate and third year degree students respectively. The new entrants were given simple and funny tasks as the talents and other attributes were thoroughly tested and celebrated by the seniors and teachers. The senior students pleasantly interacting with the freshers and introducing them to others. Then all the new students were officially become members of the Physics department of the college for ever.



## EUREKA 2K19

Eureka, the exhibition programme organized by our department for 10<sup>th</sup> standard students, was conducted in a grand manner this year too. Around 400 students from 5 schools participated in the mega event.

Sri. Sonal Norohna, a former student of the college and a researcher in Agricultural field, inaugurate the programme. Dr. Saban K.V (Principal), Dr. Jochan Josph (HOD) and Prof. Rani George addressed the audience during the function. Eureka 2K19 succeeded in providing a unique and knowledgeable experience for the young students. The energetic kids worked in tandem and co-operation across 6 stalls supervised by the teachers of the department.



## INAUGURATION OF CERTIFICATE COURSE



An innovative certificate course was conceptualized by the Physics Department for its students. The course was formally inaugurated at 2 PM on 15<sup>th</sup> January 2019 at the College Mini Hall. Dr. Isaac Paul, Associate Professor at the St. Berchman's College, Changanacherry was the Chief Guest for the function. Dr. Rosmin John delivered the welcome address and Dr. Saban K. V. presided over the meeting. Dr. Jochan Joseph, HOD - Physics Department, addressed the attendees.

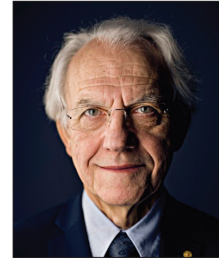
## Dr. VARGHESE MATHEW ENDOWMENT ELOCUTION COMPETITION

5<sup>th</sup> Dr. Varghese Mathew Endowment Elocution Competition was organized this year. The talented students of the Physics department participated in the elocution competition. The event was judged by Prof. Lekshmi P. Gopal and Prof. Swathi K. P. The first prize was won by Ms. Parvathi S. and the second and third prizes were awarded to Ms. Jasmine Mathew and Ms. Anupama Sanal respectively.

## NOBEL PRIZE IN PHYSICS 2018



Arthur Ashkin



Gérard Mourou



Donna Strickland

The Nobel Prize in Physics 2018 was awarded "for ground breaking inventions in the field of laser physics" with one half to Arthur Ashkin "for the optical tweezers and their application to biological systems", the other half jointly to Gérard Mourou and Donna Strickland "for their method of generating high-intensity, ultra-short optical pulses."

Arthur Ashkin is from Bell Laboratories, Holmdel, USA, Gérard Mourou is from École Polytechnique, Palaiseau, France and Donna Strickland is from University of Waterloo, Canada.

## NAVIC

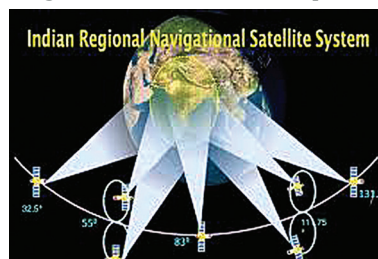
Indian Regional Navigation Satellite System (IRNSS) is India's home-grown positioning system developed by ISRO. With an operational name of Navigation with Indian Constellation (NavIC), the navigation system was developed to essentially replace the popular global position system (GPS). GPS is a US Air Force owned widely-used satellite-based radio navigation system.

The NavIC was developed under ISRO's IRNSS program. It involves the positioning and co-ordination of seven satellites which were launched in stages using the PSLV workhorse rocket. They make a combined network of geosynchronous and geostationary satellites. that can be used by civilians as well as the military for navigation purposes.

NavIC currently consists of 8 Satellites – IRNSS-1A, IRNSS-1B, IRNSS-1C, IRNSS-1D, IRNSS-1E, IRNSS-1F, IRNSS-1G, IRNSS-1I.

India's Navic mostly has Geostationary satellites and these satellites are situated in much higher orbit (signal is less prone to obstructions). NavIC satellites use dual frequency bands (L5-band and S-band), which is why the system is relatively more accurate than GPS (that uses a single band and makes compensation for error due to signal

deterioration by the atmosphere). In the future, ISRO will add more satellite to the system with home developed Atomic clocks to further improve NavIC





## SEMINAR



A seminar on 'Nuclear Energy: the need, the perception and reality', was conducted at 10 AM in the College Mini Hall on 10<sup>th</sup> January 2019. The Chief Guest of the event, Mr. A.V. Sathish (Scientific Officer, Koodankulam Nuclear Plant), inaugurated the event. Prof. Babu K. Thomas delivered the welcome address and Dr. Jochan Joseph, HOD, Physics Department, presided over the meeting. Mr. Aban, Student Representative, gave the vote of thanks.

Mr. A. V. Sathish spoke on the topic of the seminar 'Nuclear Energy, the need, the perception and reality'. He elaborated the need for nuclear power plants and the misconceptions surrounding the same.



The department of physics conducted another seminar on the topic : 'Nanotechnology -The technology for the future - The Role of Physics' on 6<sup>th</sup> February 2019. The technical session was handled by Dr. M. R Anantharaman, a renowned scientist and eminent professor of CUSAT Cochin. He has more than thirty years of experience in research and development in material science/solid state physics/polymer physics/ carbon black industry including doctoral research. His lecture was very helpful for the beginners as well as the researchers of this field.



As part of the lecture series of the Department of Physics, a seminar on the topic : 'Taste of Cosmology and Cosmological Simulations : The Universe in a box' was conducted on 6<sup>th</sup> February 2019. Dr. Reju sam John from IUCCA Pune was the resource person for the technical session. Dr. **Reju Sam John** is a leading member of the team from IUCAA, Pune that revealed the process of production of cosmic rays in galaxy clusters and solved the long-standing puzzle of non-detection of Gamma Rays from them. The session was very fruitful to the participants.



The department offers a certificate course in 'Solar energy converters and Wind energy converters. As part of the course, a seminar was conducted at 2.00 pm on 15<sup>th</sup> January 2019 in the Mini Auditorium of the college. Prof. Rosmin John delivered the welcome address and Dr. Jochan Joseph, HOD, Physics Department, presided over the meeting.

Dr. Issac Paul, Associate professor, Department of Physics, S.B College Changanacherry was the resource person. The seminar was on the topic: Renewable Energy Sources. He is the professor, has years of experience in theoretical and practical field studies of Renewable energy sources. The seminar gave an exceptional experience for the participants.



## ORIENTATION PROGRAMME

Every year, the department of physics has the practice of conducting orientation and motivational sessions to the students at the commencement of the programmes. This will help them to attain their goals effortlessly, improving their passion in the subject and develop a good teacher- student as well as colleague relationship. The programme aims to utilise and offer the knowledge and experience of former faculties of the department

This year our beloved former faculty Prof. Jacob Koshy lead the class for first and second year degree students. It was a good experience for the students.



## DIAMOND DUAL

Diamond Dual, organized by our department every year to refresh memories and strengthen friendships, happened in grand scale this year around too. Our former students arrived as usual at 2 pm on the second Saturday of February 2019.

## Prof. SABU JACOB MEMORIAL ALL KERALA INTER-COLLEGIATE QUIZ COMPETITION

The All Kerala Inter-Collegiate Quiz Competition originates yearly was hosted admirably this year too. The competition was held at 10 am on 31<sup>st</sup> January 2019 at Punnapadam Hall after a formal meeting. Prof. Benny Joseph, Assistant Professor, St. Berchman's College, donned the role of the Quiz Master. 21 teams participated from around 14 colleges.



## CHRISTMAS CELEBRATION

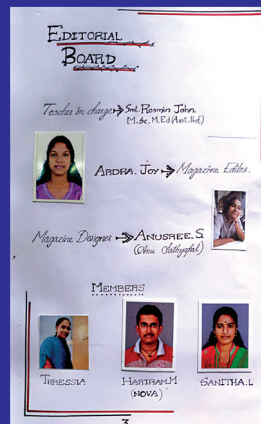
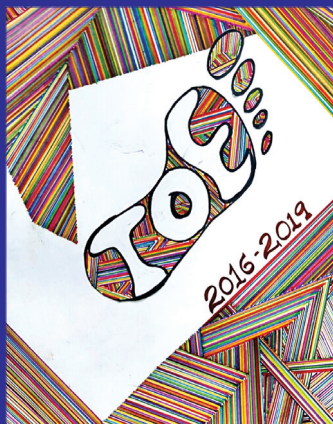
Christmas celebrations is a special occasion of the college and the programmes are arranged by CSM. Starmaking, Christmas card making, crib making, carol song and Christmas Pappa are the competitions conducted in Christmas celebrations. The students of the department are actively participating in all the competitions and the department team bagged first prize in crib making competition.



## MANUSCRIPT MAGAZINE

The students of the department created one Manuscript Magazine named TOE - 2K19 this year. The teacher in charge Prof. Rosmin John was the chief editor and Miss. Ardra Joy of III B.Sc Physics was the coordinator of the magazine. A PDF version of this magazine was also developed by the students.

The articles, drawings and the presentation in the magazine showed a professional approach and it reveals the endless talents of the students.



## ORGANIC FARMING

The enthusiastic students of the Physics Department, who excel in non-academic activities along with their studies, started Organic Vegetable Farming in the college campus under the leadership and guidance of Prof. Babu. K. Thomas. The HOD Dr. Jochan Joseph and all other teachers of the department provide strong support and directions to this need of present. The students were thoroughly studied different methods and challenges of Organic Farming through reading and in the field.

The vegetables cultivated following an organic method were successfully distributed to people in subsidized rates. The third year students also called for an active renouncing of vegetables poisoned by chemical pesticides and encouraged the habit of using organically grown vegetables.





## WOMENTS DAY



Kumari Chikku Sara Thomas and Kumari Jasmine Mathew became the first runner up in Miss Aloysious and Nasrani Manka competitions respectively, conducted in association with the Women's day celebrations of the college. Kumari Hamna N and Kumari Aiswarya G were participated in Monjathi and Malayali Manka competitions respectively.

## ARTS DAY



A good number of students of our department actively participated in various events of the Art's day celebrations. The programmes staged by the students of the department were appreciated a lot by the audience.

## ALOYSIAN EXEMPLAR



Aloysian Exemplar is the prestigious events for the outgoing students of the college. Eleven students of the department were selected to the preliminary round of the competition and Kumari Ardra Joy became one of the five Aloysian Exemplars.

## SPORTS & GAMES



Students of the department actively participated in Sports and Games events of the college. The men and women Cricket teams won First prize in the competition.

## STUDY TOUR



Armaadham 2k18, The study cum leisure trip of the third year B.Sc. students presented a lot of pleasant memories for their mind. The trip started at 5 PM on 12<sup>th</sup> December 2018, with the blessings of all the teachers. Prof. Rani George and Prof. Babu K. Thomas accompanied the students on this journey. The 3 day trip covered Coorg, Chikmagalur and Udupi.



The first and second year Postgraduate students arranged a two day study tour to Ooty. Dr. Jochan joseph and Prof. Rani George accompanied the students. They visited the botanical garden



## A+ HOLDERS IN B.Sc. PHYSICS EXAMINATION IN 2019



**Lesly Anna Abraham**



**Mili James**



**Hariram M.**



**Jeena Anna Varghese**



**Ardra Joy**

Aloysian Exemplar 2K19

## CURRICULAR ACHIEVEMENTS OF STUDENTS

Course	No. of students enrolled	Pass Percentage	Students with Grade					
			A <sup>+</sup>	A	B <sup>+</sup>	B	C	D
B.Sc. (2016-2019 Batch)	37	70.2%	4	10	0	9	1	2
M.Sc. (2017-2019 Batch)	12	83.33	0	0	4	6	0	0

## DEPARTMENT OF PHYSICS TEACHING STAFF



**Rev. Fr. Biju Kannadipara**  
College Bursar & Vicar  
of St. Joseph Church  
Koilmuck



**Dr. Jochan Joseph**  
(Asso. Professor)



**Mrs. Lizymol Xavier**  
(Asso. Professor)



**Mrs. Rosmin John**  
(Asst. Professor)



**Dr. Lakshmi Vijayan**  
(Guet Faculty)



**Dr. Vinu T Vadakel**  
(Asst. Professor)



**Rani George**  
(Asst. Professor)



**Babu K Thomas**  
(Asst. Professor)



**Revathy G. Nair**  
(Guet Faculty)

## NON TEACHING STAFF



**Sri. Johny Joseph**  
(Lab Assistant)



**Sri. Tinu Joseph**  
(Mechanic)



**Smt. Santhamma Shaji**  
(Management Staff)



**Subin Jo Varghese**



**Mili James**

## ASSOCIATION SECRETARIES





**Farwell to M.Sc. Batch**



**Farwell to B.Sc. Batch**



**M.Sc. Physics 2017-2019**



**B.Sc. Physics 2016-2019**



## From the Editor's Desk

**Babu K. Thomas**  
(Assistant Professor  
Department of Physics)

Being the Editor In charge of the Department of Physics' annual newsletter "PHYSIK", it gives me great pleasure to bring to you this issue. PHYSIK is designed to present to its readers the year's events that have gone by. With a sense of pride and satisfaction I would like to say that with the active support of the management, faculty and students, PHYSIK has come alive.

*"This world demands the qualities of youth: not a time of life but a state of mind, a temper of the will, a quality of imagination,*

*a predominance of courage over timidity, of the appetite for adventure over the life of ease." - Robert Kennedy*

The Department tradition happily brings together sound academic achievement with an extensive, vibrant co-curricular programme that includes sports, and leadership training programmes. Our mission is to inculcate the love of knowledge in our students and, for this; we aim to develop the skills and demeanour of lifelong 'learning', essential for making responsible global citizens. This will make them immensely capable of facing the future with resilience and optimism. On the deeper level, we try to instil the values of respect and trust in relationships that are the foundation of real success.

I would like to thank 'Team Physics' for helping me pull this through.

*With Best Wishes.*