

## **Mar Ephraem College of Engineering and Technology**

### **ANNUAL REPORT 2022**

Honorable Chairman of our college and the Bishop of Marthandam Diocese Your Grace **Most Rev. Dr Vincent Mar Paulos**, Honorable Chief guest of today's function **Shri. C Jebasighamony**, Scientist-H, Deputy Director, ISRO Propulsion complex. Honorable Guest of honour **Er. N Pradeep Chandru**, CEO, Mafiree, Respected Vicar General of Marthandam Diocese, **Rt. Rev. Monsignor S. Varghese**, Respected Correspondent and Secretary of our college **Very Rev. Fr. Josephin Raj**, Respected Mother Provincial **Rev. Mother Anila Christy**, Respected Bursar of our college **Rev. Fr. Alex Kumar**, Respected Chancellor of the Diocese **Very Rev. Fr. Jose Bright**, Respected Procurator of the Diocese **Very Rev. Fr. Sathesh Kumar**, Respected College Board Members, Respected Academic **Director Prof. Dr N. Austin**, Respected Hostel Director **Rev. Fr. Jose Benet**, Respected college day coordinator **Prof. S. Arun**, Student coordinators **Mr Tibin Joseph Shibu**, of final year CSE and **Ms Megna Renji** of final year Civil Engineering, Respected Heads of various departments, Rev. Fathers, Rev. Sisters, the Press, Staff, Parents and my dear students, a warm good morning to all.

### **ABOUT MAR EPHRAEM**

MAR EPHRAEM COLLEGE OF ENGINEERING AND TECHNOLOGY at Malankara Hills, Elavuvilai, Marthandam was blessed and inaugurated by **His Beatitude Moran Mor Baselios Cardinal Cleemis Catholicos**, The Major Archbishop of Malankara Catholic Church, on September 14, 2009. Mar Ephraem has grown well beyond an ever-continuing explorative experience, in quality education, with five U.G Programs, three P.G Programs and one doctoral program. Moreover, we are looking forward to the NBA peer team visit and a couple of new programmes [B.E Artificial Intelligence (AI) and Master of Business Administration (MBA)] will be introduced in the upcoming academic year.

### **ACCOLADES**

- Mar Ephraem College of Engineering and Technology is a NAAC Accredited institution with various other tributes.
- The National Science & Technology Entrepreneurship Development Board (NSTEDB), Government of India, has sanctioned New Gen IEDC with the grant of 2.87 crores for encouraging the budding entrepreneurs.

- Our institution is ranked in the ‘Most Promising Institution’ band by MHRD, Government of India, in ARIIA 21 Ranking.
- NITI Aayog, Government of India has sanctioned Atal Community Innovation Center(ACIC)with the grant of 2.5 crores to support the grass root innovators.
- Our college has been approved by MSME, Government of India, as a host institute named Mar Ephraem MSME Incubation Centre on 16<sup>th</sup> March 2022.

## INFRASTRUCTURE ADDED

- Our 7012 Sq.ft. NewGen IEDC block was inaugurated by **Prof. Dr M. K. Surappa**, Former Vice-Chancellor, Anna University Chennai on 22<sup>nd</sup> February 2020.
- The Testing and Fabrication Laboratory is augmented with new facilities such as the Pin on Disc Tribometer, Micro hardness testing machine, Macro hardness testing machine, Simultaneous Thermal Analyser, Surface Roughness Testing Machine, Video Measuring Machine, 3 D Printer, Computerised Digital UTM, Stir Casting Machine, Electronic Test Bench, CNC Scrubbing Machine, PCB Component Assembling Machine, Automatic Soldering Machine, Mixed Storage Oscilloscope, Automatic winding machine, Power Quality Analyser, and Automatic Calibration meter worth 1.63 crores.

## ACADEMICS

### University Exams

- This academic year we secured 97.8 per cent results in the Anna University examinations
- 290 graduates and 28 postgraduates have completed their degrees and received their degree certificates from **Prof. Dr M K. Surappa**, the Former Vice-chancellor of Anna University who was the chief guest on our seventh graduation day on 22 February 2020.
- **Ashmi Devi D.A.** added another feather to our cap by securing the University’s Second Rank in M.E. Applied Electronics in Anna University Examinations 2021.

### Staff Achievements

- **Prof. Dr A. Lenin Fred** was honoured with the Best Achiever Award by the IET KKLN network.
- **Prof. Dr A. Lenin Fred** was appointed as the National Jury by Government of India, for India-International Science Festival, Goa.
- **Prof. Dr A. Lenin Fred** is the Vice President of Indian Society of Systems for Science & Engineering (ISSE) Kanyakumari Chapter.
- **Prof. Dr A. Lenin Fred** served as the Resource Person for the webinar on Advances in Systems Engineering Approach organized by ISSE Kanyakumari Chapter in association with ISRO Propulsion Complex, Mahendragiri on 26/03/2022
- **Prof. Dr N. Austin**, Academic Director is acting as the working president of Kumari Maha Sabha.
- **Dr M. John Iruthaya Raj** was elected as the Managing Committee Member of SAE India, Southern Region.
- **Prof. C. Gigin Durai**, was elected as the Chairman of IET KKLN YP, Network and member of Young Professional Council, South Asia. Also, he serves as the Co-organiser for TEDx Kanyakumari and Startup weekend Kanyakumari
- **Dr D. Dhanya** acted as the Resource Person for the National level Online FDP on “Role of Industry 4.0 in Research and Higher Education” organized by Vels Institute of Science, Technology and Advanced Studies, Chennai.
- **Mrs Ashy V. Daniel** acted as the resource person for the Webinar on “Introduction to Big Data Analytic Tools” organized by Annai Velankanni College
- **Prof. Anish John Paul, Prof. Leo Bright Singh, Dr. Lalin L Laudis and Prof. C. Gigin Durai** have served as resource persons for the workshops on Entrepreneurship and IPR.

The following faculty members have been awarded the doctoral degree this academic Year in their thrust areas.

- **Dr. A Seema (Chemistry)**
- **Dr.M John Iruthaya Raj(Mechanical)**
- **Dr. S.Vijaya Kumar (Mechanical)**

- **Dr.Reeba Rex (ECE)**
- **Dr.N E Godwin Pithalis(Mechanical)**
- **Dr.M.Jebapriya(Chemistry)**
- **Dr.Lalin L Laudis (ECE)**
- **Dr.R.Roselin Suhi(Mathematics)**
- Eight Research scholars have completed their doctoral degrees under the supervision of **Prof. Dr A. Lenin Fred** and One Research Scholar has completed her doctoral degree under the supervision of **Dr Jerusalin Carol**

**Academic Editor/Reviewer Status:**

- **Prof. Dr A. Lenin Fred** is the Academic Editor of PLoS ONE. Besides, he is the reviewer of numerous Journals including Taylor and KSII Transactions on Internet and Information Systems, The Computer Journal, Computational Intelligence and Neuroscience, Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualisation, Imaging Science journal, International Journal of Information Technology & Decision Making, IETE Technical Review, Journal of Supercomputing, Journal of Intelligent Systems, IETE Journal of Research, IEEE Internet of Things Magazine, Advances in Fuzzy Systems, IEEE Access, Journal of Intelligent Systems, Health and Technology, KSII Transactions on Internet and Information Systems, Journal of Computational Design and Engineering, Journal of Advances in Medicine and Medical Research, Asian Research Journal of Mathematics, Current Journal of Applied Science and Technology, and Informatics in Medicine Unlocked.
- **Dr Jerusalin Carol** is the Reviewer of PLoS ONE, Taylor and KSII Transactions on Internet and Information Systems.
- **Dr Dhanya D.** is the Reviewer of the American Journal of Engineering and Technology Management, WSEAS Transactions on Communications, Advances in Science, and Technology and Engineering Systems
- **Dr Rajeev D.** is the reviewer for the Journal of Applied Research and Technology, Elsevier
- **Dr Lalin L Laudis** is the reviewer of the ETRI Journal.

### **Student Achievements**

- Our students Ms. Godlin Steffy and Mr. Velbin Jijo of final year EEE and Mr. Samson Joy of final year Civil Engineering have accomplished admirably at various national level symposiums, and bagged prizes for paper presentation and CAD modelling.
- Mr. J. Jerish and Mr. R.C. Libin of I-CSE won prizes in the events conducted by Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram in connection with the National Science Day.
- Mr. Jijin Raj S, Mr. Sheldon M, Mr. Rejin S, and Mr. Abidan J Lal of final year Mechanical Engineering have won the third price in the international project expo organized by Kumari Mangrove Foundation.

### **Events organized**

- National level technical symposiums were organized by the Departments of Mechanical Engineering, Computer Science and Engineering and Electronics and Communication Engineering respectively.
- SCIFA 2020 was organized by the Department of science and humanities.
- A ten-day value-added course on Revit Architecture was conducted for the third-year students belonging to the Department of Civil Engineering.
- A ten-day value-added course on Solid works for the second-year students, and a five-day value-added course on Simulation using ANSYS software for the Final year students were conducted by the Department of Mechanical Engineering.
- A ten days Value added course on Industrial Automation was conducted for the Final year students of the Department of Electrical and Electronics Engineering.
- Several workshops were conducted on Arduino processor, Image processing using python, MatLab, Computational Fluid Dynamics, Automobile dismantling and Assembling, PCB fabrication, Trouble Shooting and rewinding of Electrical Machines and Product Development

### **Industrial Visits/Internships**

- All the Departments have organized industrial visits for their students, to gain industrial experience and practical training.
- Third-year and Final year students belonging to the Department of Civil Engineering were taken for a 10-day Survey Camp to Courtallam by a team of eminent faculty.

- Our students were sent for internships in more than 50 reputed industries to improve their employability skills.

#### **Events attended**

- Our faculty attended 37 Faculty Development Programmes (FDP), 23 Workshops, 34 Conferences, 23 Seminars and 45 Webinars this academic year

#### **Professional Bodies**

- The professional bodies in Mar Ephraem specifically IET, IEEE, SAE,ISTE, and ISSE were active and have conducted various activities on the campus.
- American Society for Civil Engineers was started during this academic year

#### **Courses completed**

15 faculty members from various departments have completed NPTEL/SWAYAM online certification course and 15 faculty members have completed the AICTE Certificate Course during this academic year.

#### **PUBLICATIONS/ BOOK CHAPTERS**

1. Prof. Dr A. Lenin Fred has published 18 Book chapters in the leading Publishers including Wiley Online Library, Academic Press, Springer, CRC Press, and De Gruyter.
2. A total of 42 publications were published in peer-reviewed journals by the faculty of various departments.

#### **TEXT BOOKS PUBLISHED**

- **Prof. Dr N. Austin, Dr N E Godwin Pithalis and Mr Manu Chandran** are the authors of the books “Unconventional machining processes”, and “Testing of materials”, published by Charulatha Publication.
- **Dr V.S. Suresh and Jeba P.S** has published a book titled “Digital Communication” with Sri Krishna Hitech publishing company.
- **Dr D Dhanya** is the author of the books “Secure IoT – SioT” and “IDS in MANET” published by Pandit publications.

## **FUNDED RESEARCH**

Mar Ephraem College of Engineering and technology received Rs.11,09,77,992 /- for Research and Development from the Ministry of Science and Technology; Government of India, NITI Aayog, Government of India, Defence Research and Development Organisation (DRDO), Government of India during this academic year.

### **Research and Development (R&D):**

Our Mar Ephraem received Rs.4,94,16,103/- for the project entitled “Technological Intervention for the Preservation of Tribal Food Processing Technologies and Heritage”, from the Ministry of Science and Technology; Government of India, in which Prof. Dr A. Lenin Fred is the Principal Investigator, Dr Lalin L Laudis, Prof. R. Leo Bright Singh, Prof. Gigin Durai, and Prof. Anish John Paul are the Co-Principal Investigators.

Mar Ephraem received Rs. 28,12,572/- for the project entitled “Automatic Handy and Portable Nutmeg Harvesting Machine”, from the Ministry of Science and Technology; Government of India. Prof. Dr. J Jerusalin Carol is the Principal Investigator, Prof. Dr A. Lenin Fred and Prof. Dani are the Co-Principal Investigators for the aforesaid project.

Mar Ephraem received Rs.72,33,668/- for the project entitled “IOT based smart cattle farm with hydroponic feeder system”, from the Ministry of Science and Technology, Government of India. Prof. Dr A. Lenin Fred is the Principal Investigator, Prof. John Thangam, and Prof. Dr Anand Regilin are the Co-Principal Investigators of the project.

Mar Ephraem received Rs.15,15,649/- for the project entitled “A Proof of Concept: Design of master controller for assisting the fire rescue team with optimal path guidance in human detection”, from the Defence Research and Development Organisation (DRDO); Government of India. For this project, Prof. Dr A. Lenin Fred is the Principal Investigator, Prof. John Pradeep and Prof. Dr Anish John Paul are the Co-Principal Investigators.

## **ENTREPRENEURSHIP**

### **ACIC Mar Ephraem Incubation Forum**

- Mar Ephraem received Rs.5,00,00,000/- for the “Establishment of Atal Community Innovation Centre (ACIC)” in our campus, from the NITI Aayog; Government of India named “ACIC Mar Ephraem Incubation Forum” on 7<sup>th</sup> October 2021 with the objective of converting grass-root innovators to entrepreneurs. The directors of the SPV are Rev.Fr. Josephin Raj, Prof. Dr A. Lenin Fred, and Rev. Fr. Satheesh Kumar. The CEO of the SPV is Prof. Anish John Paul, the Incubation Manager is Prof. Gigin Durai, the Project Coordinator is Prof. Dr Melba Kani, and the Project Finance Coordinator is Mrs. Anne GS Sheaba.

### **New Gen IEDC**

- In order to turn the innovative ideas of students into Business start-ups, The National Science & Technology Entrepreneurship Development Board (NSTEDB) /Department of Science and Technology (DST); the Government of India granted 2.87 crores for setting up NewGen IEDC in Mar Ephraem Campus. A total of 65 innovative projects were selected for the grant up to Rs. 2.5 lakhs per project.

### **Entrepreneurship Awareness Camp**

- Three Entrepreneurship Awareness Camps were conducted to promote entrepreneurial activities on the campus. The camps were sponsored by the Government of India.

### **Campus Company:**

- Our college has a campus company named “Mar Ephraem Digital Solution” to develop and implement software for Nithi limited and hospitals.
- Our campus company has successfully implemented software for 6 branches of Marthandam People Development Nithi Ltd. under the Diocese of Marthandam, and 1 branch of Thuckalay Nithi ltd under the Diocese of Thuckalay.
- Our campus company is implementing software for 10 branches of Xavier Nithi ltd under the Kottar diocese and for Robin hospital Cholachel.
- For the above campus company, **Mr. Kesava Prasad** is the Senior software developer, **Er. Jino Singh and Er. Sherin Paul** are the junior software developers

### **CONSULTANCY:**



- Department of Civil Engineering has carried out Research consultancy for Southern railway, Ideal construction and PWD, Government of Tamil Nadu.
- Department of Mechanical Engineering has carried out Research consultancy for various organisations.

### **COLLABORATION/MOU**

- This academic year we have signed MoUs with **Malankara Catholic College**, Mariagiri, **Annai Vellankanni College (AVC)**, Tholayavattam, **Association for Women's Education and Development (AWED)**, **Marthandam Integrated Development Society (MIDS)**, **Hallow Green Energy Solutions**, **JTR Fibres**, and **Vintech Systems** for Promotion and Nurturing Start-Ups, Community Innovation training, Incubation and related Services.

### **CELLS AND CLUBS**

- NCC, NSS, Fine Arts Club, Red Ribbon Club, Eco Club, Sports Club, Placement and Training Cell, Career Guidance Cell, Alumni Association, Counselling Cell, Green Energy Cell, Grievance Redressal Cell, Youth Red Cross and Jesus Youth are estimably active in the campus aiming at the all-round development of each student.

### **TRAINING AND PLACEMENT CELL**

- The Training and Placement cell has organized various training programs to the students for enhancing their potentials and make them employable.
- A Soft Skill Training Programme is conducted by P.S Training Academy, Chennai in the month of October 2021 for the final year CSE, ECE and EEE students to shed away the interview anxiety and to build as effective communicators.
- An Aptitude Training Programme is conducted in association with Pearl Forum during November 2021 for the final year students of all departments to strengthen the aptitude skills of the students.
- A Company Specific Training Programme is conducted in association with Moorthy's Training Academy during August 2021 for the final year students of all departments to prepare them for TCSNQT which resulted in the placement of seven students in TCS with the pay package of 3.4 LPA.

- A Placement assured Diploma course in Safety Engineering is conducted in association with TUV Rheinland for Civil and Mechanical Engineering students during April 2022 to provide job opportunities in the field of safety engineering.
- As a harvest of the training programs conducted in our college, from 2020-21 to 2021-22, we have placed a total of 124 students so far in various reputed companies and international organizations such as Environ Constructions Singapore, Essel Propack Poland, Arabian Gulf Electro Mechanical WLL Bahrain, TCS, Capegemini, Infaworks and Srinsoft with a maximum salary package of 14.5 LPA.

## NCC

NCC is functioning effectively in our campus under 11<sup>th</sup> Tamil Nadu Battalion NCC Nagercoil (11 TN BN NCC Nagercoil), since 25/11/2021, with a total intake of 80 cadets with the motto of Unity and Discipline. **Prof. M. Manoj** is the care taker of the Mar Ephraem NCC. Cadet **Sujin.S** had attended a firing camp at Scott Christian College, Nagercoil on 06/04/2022. An awareness program and rally were conducted on 28/04/2022.

## NSS

National Service Scheme is active in Mar Ephraem campus and implemented frequent activities during this academic year such as the Distribution of Nilavembu kudineer to students and faculty, Voters ID registration for eligible students, Celebration of social justice day, Vaccination camp for all the students, faculty and local community, and Drug awareness program for NSS volunteers.

## ALUMNI ASSOCIATION

Mar Ephraem Alumni Association is coordinated by Prof. **G.L. Abishek** and the office bearers are **Mr. Antony Kurien**, **Mrs. Sindhuja**, and **Mr.V. Bravin Ebanesh**. The Executive committee meets once in every six months and General body meets once in every year. A virtual Alumni meet was conducted on 30/10/2021 and a total of 143 alumni were participated.

## SPORTS

- Mar Ephraem won the first prize in Basketball& Kho-Kho, second prize in hockey, and third prize in ball badminton in the Zonal Level sports meet conducted by Anna University, Chennai.
- Mar Ephraem won the first prize in Kho-Kho in the district championship match organized by Kanyakumari district amateur Kho-Kho association.
- Mar Ephraem organized an Under -19 school level Kho-Kho competition
- Mr. Sam J. Palson was appointed as the District and Zonal Referee for Kabaddi, Kho-Kho and volley-ball.

## **JESUS YOUTH**

Jesus youth is active in the campus which upholds the spiritual development of our students. The Jesus youth extends the spiritual activities such as regular prayer, fasting, adoration and helping the needy.

## **FINE ARTS CLUB**

- This academic year, S.Seleena, and D.Lafeni, of first year EEE won the second prize in Collage work, J.D Beutlin, and S. Abina of first year ECE won first prize in Art from waste, and R.K.Vijisha won the First prize in Drawing at various district level competitions.
- Bibis Jino K.S of first year Civil Engineering won the first prize in the Elocution competition conducted by Rajiv Gandhi Centre for Biotechnology, Thiruvananthapuram in connection with the National science day.

## **CELEBRATIONS**

The Fine Arts Club has coordinated Christmas Day and Kumari Day on 22/12/2021 and 01/11/2021 respectively. Honourable IT Minister Mr. Mano Thankaraj, Mr. Vijay Vasanth, the honourable MP of Kanyakumari Constituency and MLA's visited and graced the functions.

## **MAR EPHRAEM INSTITUTIONAL SOCIAL RESPONSIBILITY**

- Mar Ephraem through its Research and Entrepreneurial programs caters to the challenges faced by the local community. We have developed the products like Virgin Oil extraction Machine and automatic de-husking machine for Coconut farming community and Areca leaf plate craft machine for the empowerment of local community
- Mar Ephraem has given technology Support to pottery making, and digital documentation of traditional cultural practices.
- In addition, we have presented around 33 career guidance programs by Public Relation Department of our college, headed by Prof. Leo Bright Singh, in the nearby schools and have also hosted training programs for the school teachers of Kuzhithurai and Thiruvattar Educational Districts

From the inception of the Institution, Mar Ephraem College of Engineering and Technology has taken a lot of initiatives to uphold its goals for providing value-based education, general, specific and soft skills, initiating research activities, participating in community activities, establishing linkages and MoUs.

Successful and fruitful completion of each academic year is the result of the dedicated work of everyone on the campus. The management, teaching & non-teaching staff and the students have contributed their might unfailingly. All these have been made possible by the grace of the Almighty God who always leads our way Towards Light (ERGA LUMEN)

Let me conclude my report by thanking one and all for your co-operation and efforts.

**Thank You**