Research

Panimalar is embarked with the vision of being a social partner for the development of our country through its involvement from fundamental research to the state-of-the-art-applications. The R & D team of Panimalar Engineering College is committed to excellence in the research. The centre's portfolio to adds its strength and spreads its roots over enabling technologies like Data Analytics, Machine Learning, Intelligence Systems, Cloud Computing, CAD/CAM, Information Technology, Knowledge Management, Electronics and Communication. Having realized a dire scope and demand of research in the emerging fields, these key ultra-tech disciplines are focused to bring out the desired results for the betterment of the society.

Research Policy

Panimalar Engineering College (PEC) offers Doctor of Philosophy (Ph.D.) and Master of Science (M.S.) by research under the following recognized research centers of Anna University(AU):

1. **Computer Science and Engineering - Research Centre Code 4496606**
2. **Electronics and Communication Engineering - Research Centre Code 4121007**
3. **Artificial Intelligence and Data Science - Research Centre Code 4121030**
4. **Mechanical Engineering - Research Centre Code 4121017**

1. Research Scholars

1.1 Full time Ph.D./M. S (by research)

1.1.1 Candidates under full time category shall carry his/her research work in the college and should be available on all working days.

1.1.2 Full time candidates should sign in the attendance registered maintained and it has to be monitored by the supervisor and the respective Head of the Department.

1.1.3 Full time scholars can apply for leave with the prior approval of Supervisor and Head of the Department.

1.1.4. On duty is provided for the full time scholars to attend the National/International Conference, Seminars, and Workshops with the recommendations of the supervisor and the Head of the Department.

1.1.5. The research scholars should forward all the letters that have to be communicated in connection with his/her research work such as minutes of meetings, request for supervisor change, mode of category change (Part time to Full time and Full time to Part time), synopsis, thesis submission, and break of study, etc., to the University through proper channel and submit the Hard copies to Research Coordinator of PEC.

1.2. Part Time Ph.D. / M.S. (by research) – Internal/External candidates

1.2.1 The scholars should meet the supervisor regularly during the course of his/her research in the college.

1.2.2 The research scholars should forward all the letters that have to be communicated in connection with his/her research work such as minutes of meetings, request for supervisor change, mode of category change (Part time to Full time and Full time to Part time), synopsis, thesis submission, and break of study, etc., to the University through proper channel and submit the Hard copies to Research Coordinator.

2. Course Work

2.1. Full time research scholars can register up to **maximum of 4 courses** in a semester (ODD/EVEN) in the CoE office of Panimalar Engineering College.

2.2. Part time research scholars (**Internal**) can register up to **maximum of two courses** in a semester (ODD/EVEN) in the CoE office of Panimalar Engineering College.

2.3. Part time research scholars (**External**) can register up to **maximum of two courses** in a semester (ODD/EVEN) in the CoE office of Panimalar Engineering College.

2.4. The attendance requirement and the award of grade shall be according to Regulation of M.E/MBA.

2.5. Faculty handling the course should maintain the attendance register for all candidates.

3. Research Supervisors

3.1 The supervisors should supervise their candidate research work regularly.

3.2 The supervisors should submit the research scholar's publications, awards, etc., to the Research Coordinator regularly.

3.3 Supervisor should maintain the documents such as minutes of meetings, request for supervisor change, mode of category change (Part time to Full time and Full time to Part time), synopsis, thesis submission, and break of study, etc.,

4. Research Review Meeting

4.1 Research Review Meeting for the research scholars are conducted regularly in the month of May & November to monitor the progress of the scholars and the schedule of the research Review Meeting will be displayed in the R&D Notice Board.

4.2. The Candidates should give presentation of their research work progress and submit the hard copy of the documents duly signed by the supervisor and the Head of the Department to the research committee review members.

Research Team

RESEARCH INCHARGE

Prof. Dr. S.MALATHI

RESEARCH BOARD MEMBERS

Prof. Dr. K.MANI- Principal

Prof. Dr. L.JABA SHEELA – HOD/CSE

Prof. Dr. M.HELDA MERCY – HOD/IT

Prof. Dr. S.RAJAKUMAR – HOD/ECE

Prof. Dr. S.SELVI – HOD/EEE

Prof. Dr. L.KARTHIKEYAN – HOD/MECH

Prof. Dr. M.MAGESWARI – HOD/CIVIL

Prof. Dr. D.ANURADHA – HOD/CSBS

Prof. Dr. B.ANNI PRINCY – HOD/AI&ML

Prof. Dr. N.VENKATESWARAN – DEAN/MBA

Prof. Dr. R.MANMOHAN – DEAN/H

ETHICAL COMMITTEE MEMBERS

Prof. Dr. C.ESAKKIAPPAN – HOD/EIE

Prof. Dr. M.P.CHITRA – Professor/ECE

Prof. Dr. V.SUBEDHA – Professor/CSE

Prof. Dr. V.JOSHI – Professor/AI&DS

Prof. Dr. M.SUMITHRA – Professor/IT

ADVISORY BOARD MEMBERS

Prof. Dr. M.RAMAKRISHNAN

Syndicate Member, Head/IT, Madurai Kamaraj University

Prof. Dr. B.ANNAPPA

Department of CSE, National Institute of Technology Karnataka

Prof. Dr. VRIJENDRA SINGH

Head/IT, Indian Institute of Information Technology, Allahabad

Prof. Dr. S.PALANIVEL

Department of CSE, Annamalai University

Prof. Dr. V.D. AMBETH KUMAR

Head/Department of Computer Engineering, University of Mizoram

RESEARCH SUPERVISORS

RECOGNIZED RESEARCH SUPERVISORS

S. NO	SUPERVISOR NAME	SUPERVISOR REFERENCE NUMBER	DEPARTMENT NAME	UNIVERSITY
1	Dr. S.Malathi	4240027	Artificial Intelligence and Data Science	Anna University
2	Dr. K.Jayashree	2540064	Artificial Intelligence and Data Science	Anna University
3	Dr M Anbarasan	3540028	Artificial Intelligence and Data Science	Anna University
4	Dr. K.Valarmathi	2940106	Computer Science and Engineering	Anna University
5	Dr. G.Uma Rani Srikanth	2940059	Computer Science and Engineering	Anna University
6	Dr. T.Tamilvizhi	4140200	Computer Science and Engineering	Anna University
7	Dr. A.Kathirvel	2440144	Computer Science and Engineering	Anna University
8	Dr. B.Bhuvaneswari	2340045	Electronics and Communication Engineering	Anna University
9	Dr. A.Ameelia Roseline	2340007	Electronics and Communication Engineering	Anna University
10	Dr. S.Maheswari	2940064	Electronics and Communication Engineering	Anna University
11	Dr. A.Dhanalakshmi	4140127	Electronics and Communication Engineering	Anna University
12	Dr. V.Aruna	4190074	Electronics and Communication Engineering	Anna University

13	Dr. M.P.Chitra	4190010	Electronics and Communication Engineering	Anna University
14	Dr. Hariprasath Manoharan	4190013	Electronics and Communication Engineering	Anna University
15	Dr. M.Priyadharshni	4190055	Electronics and Communication Engineering	Anna University
16	Dr. M.Premkumar	2940078	Electronics and Communication Engineering	Anna University
17	Dr. D.Silas Stephen	2330222	Electrical and Electronics Engineering	Anna University
18	Dr. B. Karthikeyan	4340001	Information Technology	Anna University
19	Dr. K. Mani	2220215	Mechanical Engineering	Anna University
20	Dr. L.Karthikeyan	2120163	Mechanical Engineering	Anna University
21	Dr. I. Paul Theophilus Rajakumar	2520092	Mechanical Engineering	Anna University
22	Dr. M. Puviyarasan	3120011	Mechanical Engineering	Anna University
23	Dr. K.Thiruselvam	4220086	Mechanical Engineering	Anna University
24	Dr.S.Sakthivel	3370048	Physics	Anna University
25	Dr. A. Venkatesan	3370027	Physics	Anna University

RESEARCH SCHOLARS

ARTIFCIAL INTELLIGENCE AND DATA SCIENCE

S.NO	SUPERVISOR NAME	NAME OF THE SCHOLAR	MODE OF STUDY	MONTH & YEAR OF REGISTRATION	SCHOLAR REGISTER NUMBER
1		Karpagam T	Part Time	Jan 2016	1623499467
2		Narayana K.E	Part Time	July 2017	17144997597
3		Vijay K	Part Time	Jan 2021	21144991568
4		Rekha C	Part Time	July2021	21244997249
5		Deepa B	Part Time	July 2021	21244997714
6	Dr. K.JAYASHREE	Sterlin Rani D	Part Time	Jan 2022	22244991260
7		Manikandan J	Part Time	July 2022	22194997216
8		Reeta R	Full Time	Jan 2023	23244991137
9		Rekha V	Part Time	July2023	23234997284
10		Anusherly S	Part Time	July2023	23244997307
11		Joncy J	Part Time	July2023	23244997378
12		Sudheer Reddy Bandi	Full Time	July 2016	16154997141
13		Ramesh K	Part Time	Jan-2022	22134691170
14		Meenakshi D	Part Time	Jul-2022	22234997185
15		BharvathaVarthini S	Full Time	Jul-2022	22244997182
16		Tamilarasan T	Part Time	Jan-2023	23124991115
17	Dr. M.ANBARASAN	Shankar S	Full Time	Jul-2023	23144997162
18		Veerandra Kumar R	Full Time	Jul-2023	23144997428
19		Subashini K	Part Time	Jan-2023	23234991322
20		Sindhu M	Part Time	Jan-2023	23244991124
21		DayalinLeena G	Part Time	Jan-2023	23244991258
22		Kokilavani K	Full Time	Jul-2023	23244997259
23		Prema P	Part Time	Jul-2023	23244997436
24		Logapriya A	Part Time	Jan 2024	24224991481
25	Dr. S.MALATH	Anitha J	Part Time	Jan 2024	24234991444
26		Saranya G	Part Time	Jan 2024	24244991584

RESEARCH SCHOLARS COMPLETED

Sl. No	Provisional Registration Number	Name of the Scholar	Status	Mode of study	Supervisor Name	Research Coordinator
1	1623499130	Mrs. Rajeswari P	Viva completed on 20.02.2023	Part time	Dr. K.Jayashree / Professor AI&DS	-

2	20244991188	Mrs. Sathya Preiya V	Viva completed on 04.01.2024	Part time	Dr. V.D. Ambeth Kumar / Professor CSE	Dr. K.Jayashree / Professor AI&DS

COMPUTER SCIENCE AND ENGINEERING

S.NO	SUPERVISOR NAME	NAME OF THE SCHOLAR	MODE OF STUDY	MONTH & YEAR OF REGISTRATION	SCHOLAR REGISTER NUMBER
1	Dr.K.VALARMATHI	Kevin Arthur J	Full Time	Jan 2018	18147991176
2		Muthulakshmi K	Part Time	July 2019	19244997268
3		Sathish N	Part Time	Jan 2020	20144991186
4		Jackulin C	Part Time	Jan 2020	20234991119
5		Vimala S	Part Time	Jan 2020	20244991187
6		Hemapriya K	Part Time	Jan 2020	20244991201
7		Meera S	Part Time	Jan 2021	21244991179
8		Deepika R	Full Time	July 2021	21224997638
9		K.Sangeetha	Part Time	Jan 2022	22244991256
10		D.Jennifer	Part Time	July 2022	22244997322
11		M. Anitha	Part Time	July 2022	22224997157
12	Dr. G.UMARANI SRIKANTH	B.Bala Abirami	Part Time	Jan 2023	23244991136
13		R.Rajeshwari	Part Time	July 2023	23244997366
14		William Andrews J	Part Time	Jan 2024	24154991263
15		Anadhi R	Part Time	Jan 2024	24224991329
16		Babisha A	Part Time	Jan 2024	24244991245
17		Sivakamy N	Part Time	Jan 2024	24244991309
18	Dr. T.TAMILVIZHI	Neelagandhi V	Part Time	Jan 2024	24244991138
19		Jayalakshmi R	Part Time	Jan 2024	24244991177
20		Lincy Jemina S	Part Time	Jan 2024	24244991250
21		Sherine W B	Part Time	Jan 2024	24244991559
22	Dr. A. KATHIRVEL	Rahini Sudha S	Part Time	Jan 2024	24224991334
23		Rajeswari V	Part Time	Jan 2024	24234991106
24		Rekha R	Part Time	Jan 2024	24254991365

ELECRTRONICS AND COMMUNICATION ENGINEERING

S.NO	SUPERVISOR NAME	NAME OF THE SCHOLAR	MODE OF STUDY	MONTH & YEAR OF REGISTRATION	SCHOLAR REGISTER NUMBER
1		Padmapriya D	Part Time	July 2022	22244997201
2		Meha Soman S	Part Time	July 2022	22294997203
3		Anne Jenefer F	Part Time	July 2022	22244997194
4	Dr. A.AMEELIA ROSELINE	Kandasamy V	Part Time	Jan 2023	23134991176
5		Benitha Christinal J	Part Time	Jan 2023	23244991186
6		Subashree V	Part Time	Jan 2023	23254991106
7		Lakshmi B	Part Time	Jan 2024	24234991169
8		Monisha R	Part Time	July2022	22244997199
9		Ganesamoorthy R	Part Time	Jan 2023	23144991368
10		Ashok R	Part Time	Jan 2023	23144991367
11	Dr. B.BHUVANESWARI	Badri Narayanan D	Part Time	July 2023	23149997209
12		Seeba Sri R	Part Time	July 2023	23229997503
13		Blessy Sharon Gem J	Full Time	Jan 2024	24249991104
14		Srividhya G	Part Time	July 2022	22254997209
15		Pritha N	Part Time	July 2022	22234997196
16	Dr. S.MAHESWARI	Messiah Josphine M	Part Time	July 2023	23249997194
17		Sandhiya M	Part Time	July 2023	23239997508
18		Nalini M	Part Time	July 2023	23259997504
19	Dr. A.DHANALAKSHMI	Priyadarsini V	Part Time	July 2023	23244997477
20		Hemavathy J	Part Time	July 2023	23344997308
21		Venkatesh G	Part Time	Jan 2024	24149991202
22	Dr. HARIPRASATH MANOHARAN	Anitha G	Part Time	Jan 2021	21253591103
23		Gayathri Devi P	Part Time	Jan 2024	24249991229
24		Sasi Kumar K	Part Time	Jan 2024	24143991120
25	Dr. M. PREMKUMAR	Gurupandi D	Part Time	Jan 2024	24149991151
26		Indira R	Part Time	Jan 2024	24229991257
27	Dr. V.ARUNA	Priya B	Full Time	Jan 2024	24249991180
28		Princy Priyadharshini D	Full Time	Jan 2024	24249991177
29	DR. M. PRIYADHARSHINI	Ranjana R	Part Time	Jan 2024	24249991194

MECHANICAL ENGINEERING

S.NO	SUPERVISOR NAME	NAME OF THE SCHOLAR	MODE OF STUDY	MONTH & YEAR OF REGISTRATION	SCHOLAR REGISTER NUMBER
1	Dr. K.MANI	Krishnan S	Part Time	July 2023	23132997142
2	Dr. L.KARTHIKEYAN	Padmapriya J	Part Time	July 2023	23224997357
3	Dr. M.PUVIYARASAN	Ashok Kumar K	Part Time	July 2023	23142997275

The R&D team of Panimalar Engineering College strives forward for the affiliation with Centre of Excellence in Anna University Research centre to create relationship with the outside world and promote research in upcoming technologies to satisfy up-to-date potential needs.

The following department have been approved and recognized as Research Centres of Anna University.

- **Computer Science and Engineering**
- **Electronics and Communication Engineering**
- **Artificial Intelligence and Data Science**
- **Mechanical Engineering**

ECE Research Centre

Centre for Research on Reconfigurable Wireless Technologies

ECE Department has been established to render services to meet the growing global challenges of Electronics and Communication Engineering industries by educating the students to become socially

responsible professionals. Initially the students' intake was 60 in the year 2000 and was increased to 90 in the year 2001. In the year 2002 the intake was again increased from 90 to 120 seats and from 120 to 180 seats during 2011. Again in the year 2012 the intake was increased from 180 to 240 and it was extended to 300 in the year 2014. M.E. Communication Systems was started in the year 2016 with intake of 30. ECE department is accredited by NBA in the year 2006 till date.
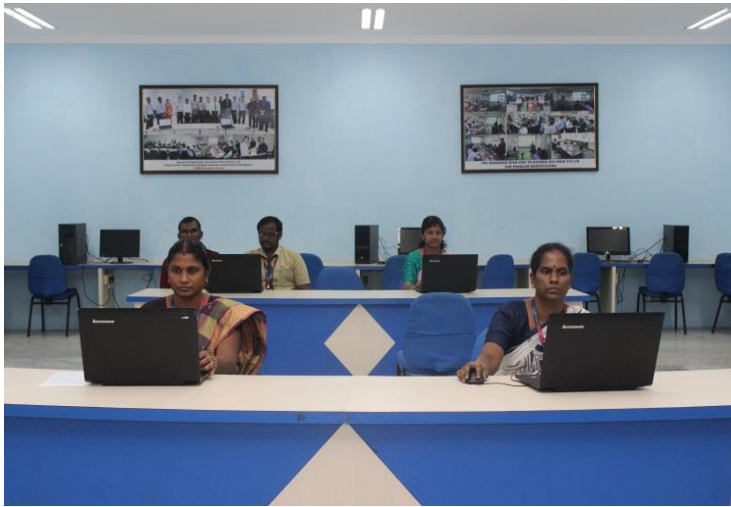
The department of ECE is recognized as a research centre by Anna University in the month of Jan 2022. In this research centre currently there are 18 Research scholars are pursuing their Ph.D. The various technical domains focussed by the faculty members for research work are

1. Wireless Communication and Networking,
2. RF and Microwave devices,
3. Image Processing,
4. Embedded System and Signal Processing.
5. VLSI

AI&DS Research Centre

COMET – Centre for Computational Intelligence and Expert Technology

AI&DS research laboratory, with the state of the art technology, creates an ambient and exciting environment for innovative and proactive research. Research is being carried out by individual research groups and interdisciplinary project teams and capable of managing large scale assignments. The conglomerate of high level researchers creates a great opportunity for need based collaboration. The vibrant research environment, aided by dynamic research administration, gives thrust for creative ideas and prepares the young researchers to delve into their areas of interest

COMET promotes new

innovation/technollogy/knowledge to Society and Industry

Faculty & Research

The teaching faculty is given absolute freedom to involve in newer and result oriented research and disseminate their knowledge to aspiring researchers. The faculty is encouraged to publish their findings and articles in peer reviewed research journals.

The fruitful discussion and meaningful interaction with the young research group benefit the faculty to enhance their knowledge and their capability to carry out challenging research. The dedicated faculty and researchers forms the fulcrum of successful research at PEC.

Students & Research

PEC inculcates knowledge based learning to the students to hone their thinking abilities and skill sets and prepare them for higher research. PEC provides excellent infrastructure facilities and world class education which enables the students to participate in quality research and make them adapt to emerging opportunities for new technologies.

Major Research Area

Internet of Things

The Internet of Things(IoT) represents a vision in which the Internet extends into a real world embracing everyday objects. The Physical items are no longer disconnected from the virtual world, but they can be controlled remotely and also serve as physic al access points to Internet services.

Image Processing and Pattern Recognition through Computer Vision

The advancements in digital technologies in Computer Vision had led to the abundance of Image datasets, various Image processing techniques to understand and deal with complex problems and challenges in adverse conditions in the image acquisition process, occlusion, objects with complicate shapes, with topological variations or undergoing complex motions.

Machine Learning

With the emergence of new computing technologies, machine learning today is not like machine learning of the past. It was born from pattern recognition and the theory that computers can learn without being programmed to perform specific tasks; researchers interested in artificial intelligence wanted to see if computers could learn from data.

Network Security

With the as worldwide systems extend the interconnection of universal information network, the smooth activity of communication and computing arrangements becomes vital. However, repeating attacks as virus and worm assaults and the achievement of criminal assailants delineate the shortcoming in current data advances and the need to give increased security in the network.

Big Data

Big Data refers to all the data that is being generated across the globe at an unprecedented rate. This data could be either structured or unstructured. The tools used to store and analyze Big Data are Hadoop, Hive, HBase, Sqoop, Pig etc.

Cloud Computing

Cloud Computing has provided Big Data with a way to store and retrieve massive amount of information. It has evolved from personal cloud storage to entire organizations moving all of their data to the cloud. In the research market, cloud simulators…

Robotics

Robots are becoming an important fixture in our day-to-day life and also becoming a revolutionary based on innovative technologies. It is a platform in which the students are engaged in ground-breaking work in mechanism design, sensors, computer vision...

Deep learning

Deep learning is a kind of machine learning that uses artificial neural networks to solve complex problems. The term "deep" in deep learning refers to the use of numerous layers in neural networks, which allows models to gain hierarchical data representations and effectively capture complex patterns and features from large datasets.

Data Science

Data science is an interdisciplinary profession that draws on expertise from a wide range of disciplines, including statistics, mathematics, computer science, and subject-specific knowledge. It analyses organized and unstructured data using scientific methodologies, algorithms, and procedures to get valuable insights and knowledge.

AR/VR

AR is a technology that combines digital content with the physical environment to improve the user's perception and experience. It superimposes computer-generated images, videos, or information on top of the user's vision of reality.

Virtual reality (VR) is a computer-generated, immersive simulation that recreates an artificial environment. Users can interact and interact with this virtual world as if they were physically there in it. VR is typically accomplished with the use of specialized headgear that display a 3D virtual environment and may include hand controllers for interaction.