

Sri Sai Ram Engineering College

Department of Electrical and Electronics Engineering

1.NAME:DR.L.KURINJIMALAR	
2.DESIGNATION	Associate Professor
3.QUALIFICATION	M.E ,Ph.D.
4.AREA OF SPECIALIZATION	Power Electronics and Drives
5.EXPERIENCE:	Teaching: 16 years
6.NO.OF WORKSHOP / SDP / FDP attended:	No. of workshops attended : 12 No. of FDP attended : 20
7.PUBLICATIONS :	Journals:4 International Conferences : 16
8. RESEARCH GUIDANCE:	Nil
9. GENERAL	Publication Cell – SCOPE Member, M.E Coordinator, IEEE Solid State Circuits Society –SEC Advisor. Automobile Club Executor Class Coordinator, Industrial Visit coordinator, M.E Lab incharge Innovathon 3.0-Captain
10. STAFF ACHIEVEMENTS:	Achieved 100% result from 2011-2018.

	<p>Convenor for Symposium 22.</p> <p>Delivered Hands-on training for students in PCB design, Motor Design Software.</p> <p>Organizing chair for IEEE technically co-sponsored “ International Conference on Power Energy Control Transmission and Systems” in 2024.</p> <p>Donations Chair IEEE SSCS Arduino Contest 2025</p>
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EXPERIENCE:

Name of the Employer	Position Held	Period	
		From	To
Sri Sairam Engineering College	Associate Professor	2010	Till date
Thirumalai College of Engineering	Lecturer	2006	2007

AREAS OF INTEREST

- Power Electronics and Drives
- Electrical Machine Design
- Renewable Energy Systems
- Electric Vehicle

SOFTWARE SKILLS

- MATLAB simulation software

Motor Design Software Tools

- MAGNET
- MOTORSOLVE
- MOTORCAD
- ANSYS.

Journal Publications

1	Kurinjimalar, L. , Balaji, M., Prabhu, S., Umadevi, R.,(2021)Analysis of Electromagnetic and Vibration Characteristics of a Spoke Type PMBLDC Motor, <i>Journal of Electrical Engineering and Technology</i> ,, 2021, 16(5), pp. 2647–2660.
2	Kurinjimalar, L. , Isolated Bidirectional Half Bridge Dc-Dc Converter With A Flyback Snubber And Two Passive Capacitor-Diode Snubber, <i>International Journal For Trends In Engineering & Technology</i> Volume 6 Issue 1 – Issn: 2349 – 9303, Sri Sairam Engineering College, June 2015.
3	Kurinjimalar, L. , Design Analysis of Spoke Type BLDC Motor for Spinning Mill Application, <i>International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)</i> Vol 4, Issue 3, ISSN (Online) 2394-2320, March 2017
4	Kurinjimalar, L. , Internet of things on 230kv/400 Kv switchyard operation by SCADA method <i>International Journal of Engineering and Advanced Technology</i> ISSN : 2249 – 8958 Volume-8, Issue-6. DOI:10.35940/ijeat.F9350.088619,August 2019.
5	Kurinjimalar, L. ,Power quality research on three-phase Pfc rectifier (Minnesota rectifier) <i>International Journal of Engineering and Advanced Technology</i> ISSN : 2249 – 8958 Volume-8, Issue-6. DOI:10.35940/ijeat.F9350.088619 ,August 2019.

Scopus Conference Publications

1.	Kurinjimalar L ; Porselvi T; P. Gayathri; V. Malini; M. Hemalatha; Manoj Kumar C, "Cascaded Neural Network Controller Development for Electric Vehicle Energy Management," <i>2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS)</i> , Chennai, India, 2024, pp. 1-7, doi: 10.1109/ICPECTS62210.2024.10780029.
2.	L. Kurinjimalar , Manoj Kumar C, Dhanush. R and Kumar Sai. P, "Wireless Servosystem For AC and Dc Machines," <i>2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS)</i> , Chennai, India, 2024, pp. 1-6, doi: 10.1109/ICPECTS62210.2024.10780176.

3.	S. Rudhra, S. Vinod, P. Arthi and L. Kurinjimalar , "Density Based Traffic Signal System," <i>2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS)</i> , Chennai, India, 2024, pp. 1-3, doi: 10.1109/ICPECTS62210.2024.10780421.
4.	S. Vinod, S. Rudhra, M. Balaji and L. Kurinjimalar , "Investigation of Space Vector Controlled Multi-Level Induction Motor Drive for Electric Vehicle Application," <i>2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS)</i> , Chennai, India, 2024, pp. 1-4, doi: 10.1109/ICPECTS62210.2024.10780279.
5.	Kurinjimalar L ; Bharath S; Mohamed Faheem M A; Ugendhra Raja V,"Autonomous Solid Waste Collector," <i>2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS)</i> , Chennai, India, 2024, pp. 1-5, doi: 10.1109/ICPECTS62210.2024.10780291.
6.	Kurinjimalar L , Porselvi T, P. Gayathri, V. Malini, M. Hemalatha and M. K. C, "Cascaded Neural Network Controller Development for Electric Vehicle Energy Management," <i>2024 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS)</i> , Chennai, India, 2024, pp. 1-7, doi: 10.1109/ICPECTS62210.2024.10780029.
7.	Porselvi T; Archana R; Janani S; Nishanthini R; Roshini S; Kurinjimalar L ,"Comparison of P&O and Incremental conductance for MPPT algorithm in bifacial solar PV system," <i>2023 Intelligent Computing and Control for Engineering and Business Systems (ICCEBS)</i> , Chennai, India, 2023, pp. 1-5, doi: 10.1109/ICCEBS58601.2023.10449300.
8.	M. Hemalatha, D. S, T. Porselvi, R. G, L. Kurinjimalar and R. K, "IoT Based Ignition System By Insertion And Verification of Driving License," <i>2023 Intelligent Computing and Control for Engineering and Business Systems (ICCEBS)</i> , Chennai, India, 2023, pp. 1-5, doi: 10.1109/ICCEBS58601.2023.10448943.
9.	T. Porselvi, J. S. Priya, L. Kurinjimalar , M. Hemalatha, K. P. Nandhi and M. Barath Kumar, "Convolutional Neural Network for Battery System Monitoring and SOC Estimation for EV Applications," <i>2023 IEEE 20th India Council International Conference (INDICON)</i> , Hyderabad, India, 2023, pp. 561-566, doi: 10.1109/INDICON59947.2023.10440869.
10.	R. Sivaprasad, T. Mahalakshmi, B. Meenakshi, T. Porselvi, L. Kurinjimalar and J. RManasa, "Modified Bridgeless Landsman Converter Fed EV Battery Charger Power Factor Improvement," <i>2022 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS)</i> , Chennai, India, 2022, pp. 1-6, doi: 10.1109/ICPECTS56089.2022.10046874.
11.	M. Hemalatha, T. Porselvi, R. Deepashri, R. Jeyashri, L. Kurinjimalar and J. ShaliniPriya, "An Intelligent Reading Aid for Stone blind Individuals," <i>2022 International Conference on Power, Energy, Control and Transmission Systems</i>

	(ICPECTS), Chennai, India, 2022, pp. 1-4, doi: 10.1109/ICPECTS56089.2022.10047744.
12.	Malini V, Jeevanandham S, Gokul P, Prathibanandhi K, Kurinjimalar L , "Blink To Speak an assistive device for Paralyzed people," 2022 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS), Chennai, India, 2022, pp. 1-3, doi: 10.1109/ICPECTS56089.2022.10047199.
13.	V. Malini, R. K. Kumaresh, L. Kurinjimalar , K. Prathibanandhi, A. Venkateshwaran and S. J. K. Harish, "Smart Energy Meter With Cloud Connectivity," 2022 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS), Chennai, India, 2022, pp. 1-4, doi: 10.1109/ICPECTS56089.2022.10046989.
14.	Kurinjimalar L , Chandhrasekaran G, Jeevanandham S, Prathish Kumar U, Hemalatha M, Ranjith M, "Analysis of Vehicle to Grid (V2G) Integration in Renewable based Micro grid," 2022 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS), Chennai, India, 2022, pp. 1-4, doi: 10.1109/ICPECTS56089.2022.10047328.
15.	J. S. Priya, K. B. S. Kumar, T. Porselvi, S. Thennarasu, M. Hemalatha and L. Kurinjimalar , "Smart Wearable for Pulmonary Fibrosis Patient Monitoring with Oxygen Saturation Prediction," 2022 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS), Chennai, India, 2022, pp. 1-6, doi: 10.1109/ICPECTS56089.2022.10047080.
16.	L. Kurinjimalar , S. Pooja, R. Sivaprasad, B. Meenakshi, J. S. Priya and T. Porselvi, "Design and Analysis of Fifteen Level Inverter for Renewable Applications," 2022 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS), Chennai, India, 2022, pp. 1-4, doi: 10.1109/ICPECTS56089.2022.10047591
17.	B. Meenakshi, T. Porselvi, M. Deepa, R. SivaPrasad, L. Kurinjimalar and V. Selvapriya, "Grid connected single-stage multiport inverter with two independent source," 2022 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS), Chennai, India, 2022, pp. 1-4, doi: 10.1109/ICPECTS56089.2022.10047299.
18.	Porselvi T; Srividhya S; Kurinjimalar L ; Meenakshi B; Sivaprasad R; Sai Ganesh CS, "Intelligent Wireless Charging Station for EVs with Integrated PV Power Grid System," 2022 International Conference on Power, Energy, Control and Transmission Systems (ICPECTS), Chennai, India, 2022, pp. 1-3, doi: 10.1109/ICPECTS56089.2022.10047577.

19.	L. Kurinjimalar , N. Anitha, V. Malini, T. N. Hariprasad and S. K. Sundaram, "Screw Propelled Autonomous Amphibian Waste Collector," 2021 4th International Conference on Computing and Communications Technologies (ICCCT), 2021, pp. 391-395, doi: 10.1109/ICCCT53315.2021.9711886.
20.	L. Kurinjimalar , "A Solar PV Water Pumping System using a ZETA Converter and Buck-Boost Converter in BLDC Motor," in Proc. of International Conference on Science and Innovative Engineering, April 2017, ISBN: 978-81-904760-9-6.
21.	L. Kurinjimalar , "Performance Analysis of Spoke-Type BLDC Motor Considering Rotor Geometric Modifications," in Proc. of International Conference on Computation of Power, Energy, Information and Communication, Adhiparasakthi Engineering College, April 2016.
22.	L. Kurinjimalar , "Indirect Vector Control of Induction Motor using Fuzzy Logic Controller," in Proc. of National Conference on Technological Advancements in Power Systems and Power Electronics Engineering (TAPSPEE-2012), Easwari Engineering College, April 2012.
23.	L. Kurinjimalar , "Design of Fuzzy-Based PI Control for Speed Control of Brushless DC Motor," in Proc. of National Conference on Emerging Technologies in Energy Systems and Control – 2010, Federal Institute of Science and Technology.
24.	L. Kurinjimalar , "Speed Control of Permanent Magnet Brushless DC Motor using Digital Signal Processor," in Proc. of National Conference on Emerging Technologies in Electrical Engineering (NCEEE-10), Valliammai Engineering College, 2010.

Industry Internship

- Industry Internship on "**Design and Development of Dual Regulated Smart DC Power Supply**" from 25.01.2021 to 6.02.2021 conducted by Anand Techno creations.
- **Undergone Faculty Industrial training at IPL products PVT Ltd, SIDCO Industrial Estate, from 21.02.2022 to 26.02.2022.**

Entrepreneur Development program

- Attended, **4 Weeks Women Entrepreneurship Development Program (WEDP)** sponsored by Department of Science and Technology (DST) conducted by **IITM HTIC MedTech Incubator** virtually from 01-03-2021 to 27-03-2021.

IIT Certificate Program

- Completed 8 month course on “ Advanced Certificate Program in Electric Vehicle Design ” by iHUB,IIT Roorkee in Association with DST

Massive Open Online Courses

1. Completed online Course “Overview of Geographical Information System” conducted by Indian Institute of Remote Sensing (IIRS), ISRO, Dehradun during 03-10-2022 to 27-10-2022.
2. Attended the Virtual Industry visit organized by PALS M/s SIEMENS GAMESA conducted on 15th December 2021.
3. Completed NPTEL three credit course “**Accreditation For Undergraduate Engineering Programmes**”, January to March 2021.
4. Completed online Course “**Structuring Your article Correctly**” on 0.103.2021 conducted by Elsevier Researcher Academy.
5. Participated in online course on “**Understanding of Coastal ocean processes using Remote Sensing and Numerical Modelling**” conducted by Indian Institute of Remote Sensing (IIRS), ISRO, Dehradun during **21-09-2020 to 25-09-2020**.
6. **Completed online course on “Physics of Renewable Energy Systems”** conducted by IIT Karaghpur during Jul-Oct 2023.

Chapter Contribution

1. “**Importance of Face Mask and its role in the Covid-19 Pandemic**”Chapter has been published in book entitled New Approaches in Commerce,Economics,Engineering,Humanities,Arts,Social Science and Management:Challenges Opportunities , by Global Multidisciplinary Research and Academic Foundation” E-ISBN:978-93- 87865- 44-0.

Magazine

1. L. Kurinjimalar, ““Synergy Unveiled”: Rendering the path to innovation: Sri Sai Ram Engineering College, SSCS Student Branch [Chapters],” in *IEEE Solid-State Circuits Magazine*, vol. 16, no. 3, pp. 90-91, Summer 2024, doi: 10.1109/MSSC.2024.3417788.
2. L. Kurinjimalar, "Pulse of Innovation: Engineering Tomorrow’s Innovators Today—IEEE SSCS Sri Sai Ram Engineering College Student Branch Chapter [Chapters],” in *IEEE Solid-State Circuits Magazine*, vol. 16, no. 2, pp. 116-117, Spring 2024, doi: 10.1109/MSSC.2024.3391414.
3. L. Kurinjimalar, ““Beyond the Circuit”: Inspiring Innovation and Awareness with the Sri Sai Ram Engineering College SSCS Student Branch [Chapters],” in *IEEE Solid-State Circuits Magazine*, vol. 15, no. 4, pp. 74-75, Fall 2023, doi: 10.1109/MSSC.2023.3314036.

Patent

1. Published a patent based “Screw propelled autonomous amphibian waste collector”,Application No.202241074784 A (Date of filing of Application :23/12/2022). Publication Date : 30/12/2022
2. Published a patent based on "An automatic wet grinding apparatus", Appln no. 202241075488, dated: 26/12/2022.
3. “High Secured Remote Patient Monitoring System Using IoT ,Cloud Computing and AI”, published in the Official Journal of the Patent Office No.202141044795 on 15/10/2021.
4. “A Smart Bill Generator In A Digitalized SuperMarket ”, published in the Official Journal of the Patent Office No.202041045439 on 30/10/2020.

Professional Bodies

- IEEE Member since 2021
- ISTE member since 2020
- Faculty Advisor for IEEE-Solid State Circuits Society Student Branch Chapter.

Reviewer

ISA Transactions

Circuit World

ICHIET - 2022

ICPECTS

Awards and Certificates

- Project entitled as "Screw propelled autonomous amphibian waste collector " has been selected for INSC award under Student Project Program 2021.
- Appreciated as mentor for NPTEL online certification course on "Physics for Renewable Energy Systems" from July to December 2022.
- Appreciated as mentor for NPTEL online certification course on " Introduction to Internet of Things" from July to December 2024.

Funds received

- Received 400USD as **Donations Chair** of IEEE SSCS Arduino Contest 2025.
- The SEC IEEE SSCS Student Branch Chapter was awarded the **Best Student Branch Chapter Award**, along with a **\$1000** prize.
- Received fund of **\$2000** for conducting activities at SEC IEEE Solid State Circuits Society Student Branch Chapter from IEEE SSCS in September 2024.

- Received a fund of **\$2000** from the IEEE Solid State Circuits Society (SSCS) in September 2023 to support activities conducted at the SEC IEEE SSCS Student Branch Chapter.

Resource person

- Delivered Hands-on training – “Design of BLDC motor for Electric Vehicle” on October 22nd 2024 in Jerusalem Engineering College, Chennai.
- Delivered a session in Hands on Training on Matlab from 27.08.2024 to 28.08.2024 for Mechanical and Automation Engineering students at Sri Sairam Engineering college.
- Delivered a session for value-added training program on "Design and simulation softwares" from 28.09.2020 to 30.9.2020 for students at Sri Sairam Engineering college.
- Acted as a session chair in 3rd IEEE International conference (ICPECTS 2022) at Sri Sai Ram Engineering College

Events Organised

- Organized IEEE technically co-sponsored “ International Conference on Power Energy Control Transmission and Systems” in 2024 as **a conference organizing chair**.
- Organized National level symposium “SaiMagnicon-TESWATT 2022” as a convenor.
- Co-ordinated the Hands on Training on " AutoCAD software for Engineering Applications" on 26.03.2021 for the students of Automobile Club at Sri Sairam Engineering college.
- Conducted a webinar on "Coding training in C programming" from 04.02.2021 to 06.02.2021 for students at Sri Sairam Engineering college.
- Conducted a value-added training program on "TANNER T-SPICE Simulation for PCB Design", from 24-02-2020 to 26-02-2020 for students at Sri Sairam Engineering college.

Events - IEEE Solid State circuit society

- Organized “The Innovation and Entrepreneurship Outreach Program” on 14.02.2025.
- Hosted “The Gamechangers Spotlight Awards” on 11.04.2025.
- Conducted a “Bootcamp on Machine Learning” on 11.04.2025 and 12.04.2025.
- Organized “MICROMASTERS Arduino Series” 1.0 on 06.05.2025.
- Organized a Workshop on “Design and Solder: Mastermind Power Supply Circuits” on 31.07.2024.

- Arranged an Industrial Visit to North Chennai Thermal Power Station on 07.08.2024.
- Conducted the “Starstruck Quiz Challenge” on 06.05.2024.
- Hosted the “Game Changer – Spotlight Awards” on 25.04.2024.
- Conducted an Expert Talk on “Modelling and Control of DC-DC Converter using Machine Learning” on 17.04.2024.
- Organized the “IEEE VLSI System Conclave” on 05.03.2024 and 06.03.2024.
- Held a Bootcamp on “Energy Engineering” on 04.03.2024 and 05.03.2024.
- Conducted an Expert Talk on “Facilities Maintenance, Electrical Testing and Commissioning” on 22.01.2024.
- Arranged a Two-Day Industrial Visit to North Chennai Power Station on 19.12.2023 and 20.12.2023.
- Organized a School Outreach Program titled “Plug into Safety: Unveiling the Best Practices in Electrical Awareness” on 01.12.2023.
- Conducted the National Level Techfest “ELECTRAX-2K22” on 09.11.2023.
- Conducted a Debate Competition on “E-Gadgets Showdown: A Battle of Ideas” on 03.10.2023.
- Organized a Technical Demo on “Introduction to VLSI: RTL to GDSII using OpenROAD Flow” on 11.10.2023.
- Conducted a Workshop on “Simulate and Innovate: KEIL and PROTEUS Embedded Tools” on 12.09.2023.
- Organized a Membership Drive Program on 08.07.2023.
- Conducted an Awareness Program on “Consume & Conserve Energy” for school students at Government Model Higher Secondary School, Somangalam, Kanchipuram District on 12.07.2023.
- Arranged an Industrial Visit to “IPL Products” on 16.06.2023.
- Conducted a Poster Presentation Competition on 05.06.2023 in observance of Environment Day.
- Held a Workshop on “An Overview of Electric Vehicles with Simulation” on 03.04.2023.

- Conducted a Webinar on “An Introduction to Integrated Circuits: A Gateway to Embedded Systems” on 11.03.2023.
- Organized a Quiz on Solid State Circuits for UG students on 22.12.2022.
- Inaugurated the Solid-State Circuits Society Student Branch Chapter on 21.12.2022.

WORKSHOP/FDP/STTP

1. Attended one day workshop on “Power Electronics And Drives” conducted by VI Microsystems.
2. Attended pre-conference tutorial on “Power Systems , Power Electronics And Drives” at S.S.N College Of Engineering.
3. Attended DRDO Sponsored “National Workshop On Advances In Design And Control Of Performance Enhancement In Permanent Magnet Motor” at Pondicherry Engineering College.
4. Attended “National Workshop On Modeling And Control Of Wind Energy Conversion Systems” at RMK Engineering College.
5. Attended “National Seminar On Exploring Research Areas In Harnessing Wind Energy” at Vellore Institute Of Technology.
6. Attended One Day National Level Faculty Development Programme On "Applications Of Facts In Power Electronics & Power System" at Sri Sairam Engineering College.
7. Attended One Day Faculty Development Programme On “Power Flow Solutions And Demo On Cyme Power Engineering Software“ at Sri Sairam Engineering College.
8. Attended “Workshop On Control Of Power Converters With Fpga Using Matlab Xilinx
9. Interface” at S.S.N College Of Engineering.
10. Attended “National Workshop on Electrtomagnetic Design And Analysis Of Electrical Machines” at S.S.N College Of Engineering.
11. Attended Faculty Development program on “MATLAB Applications In Electrical Engineering” at Sri Sai Ram Engineering College, Chennai.
12. Attended Short-Term Training Program on “MATLAB Simulation Of Power Electronic Circuits” at Sri Sai Ram Engineering College, Chennai.
13. Attended Faculty Development program on “Digital Simulation Of Power Electronic Circuits Through P-SPICE Software” at Sri Sai Ram Engineering College, Chennai.
14. Attended Faculty Development program on”Program On Electrical Simulation Software” at Sri Sai Ram Engineering College, Chennai.
15. Attended Faculty Development Training Program on “Power System Transients” at Loyola-ICAM college of Engineering and Technology,from 16.11.2018 to 29.11.2018.
16. Attended ISTE Sponsored Five Days FDP In Association With Skillkora Labs On “Artificial Intelligence” From 5th Dec To 11th Dec 2019 held at Sri Sairam Engineering College , Chennai.
17. Attended the ISTE Sponsored Faculty Development programme on “Renewable Energy Systems” held from 22nd to 26th July 2019 at Sri Sairam Engineering College , Chennai.

18. Attended Faculty Development Training Program on “Modeling Simulation Control and applications of Power Electronic Converters” Conducted by QISCET on 25.11.2019-29.11.2019.
19. Attended AICTE Sponsored Two week’s Faculty Development programme on “Advanced Power Electronic Applications On Power Systems” held from 19th to 31st October 2020 at Sasi Institute of Technology and Engineering , Tadepalligudem
20. Attended and Completed AICTE Sponsored ATAL Faculty Development programme on “Energy Engineering” held from 17th to 21st October 2020 at Velammal Engineering College
21. Attended Online Workshop on Electromagnetic and Thermal Simulation of PMSM (IPM) Motor in May, 2020 by Altair(ANZ ASEAN India).
22. Completed AICTE sponsored six days online short term Training Program (STTP-Phase -3) on “Research confront and document typesetting using LATEX :202X”,organized by department of Electronics and Communication Engineering, ABES Institute of Technology, Ghaziabad from 22-02-2021 to 27-02-2021.
23. Attended 2 weeks AICTE sponsored ATAL FDP on Digital Twin in Electric vehicles at AVIT in from 12-09-2022 to 23-09-2022.
24. Attended the Faculty Development Programme (FDP) on ‘Renewable Energy Systems Laboratory’ organized by the Department of Electrical and Electronics Engineering, SSN College of Engineering, during 26th – 29th September, 2022.
25. Attended 12weeks online Faculty Development Programme (FDP) on “Physics of Renewable Energy Systems” conducted by IIT Karaghpur during Jul-Oct 2023.
26. Participated & Completed AICTE Training And Learning (ATAL) Academy Faculty Development Program on Electric Vehicles: Technological Innovations and Market Trends at SAVEETHA ENGINEERING COLLEGE from 02/12/2024 to 07/12/2024
27. Attended two days workshop on design thinking 22.06.2025 and 23.06.2025 at Fintech Design center,School of Design thinking.