

Dr Ann Susa Thomas

Assistant Professor (Level 12)

Department of Mathematics

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Permanent Address

📍 Chackalamuriyil (H), M. North P.O., Puramattom, Tiruvalla, Pathanamthitta District, 689543

Education

20017 – 2024 📖 **PhD Mathematics**, Mahatma Gandhi University, Kottayam

2008 – 2009 📖 **MPhil Mathematics**, Madras Christian College, Chennai

2006 – 2008 📖 **MSc Mathematics**, Madras Christian College, Chennai

2003 – 2006 📖 **BSc Mathematics**, Assumption College, Changanacherry

Professional Position

10 January 2011 to present 📖 **Assistant Professor, Department of Mathematics, St Thomas College, Kozhencherry**

University's Examiner Code 📖 **ABEA**

Teaching Experience

2011 – 2023 📖 **Undergraduate Students**

2012 – 2023 📖 **Postgraduate Students**

Courses Taught

M.Sc 📖 **Basic Topology**

📖 **Advanced Topology**

📖 **Differential Geometry**

B.Sc 📖 **Partial Differentiation, Matrices, Trigonometry and Numerical Methods**

📖 **Calculus**

📖 **Vedic Mathematics**

📖 **Applicable Mathematics (Open Course)**

📖 **Graph Theory and Metric Spaces**

Professional Service Rendered

01 November 2024 till date 📖 **Director, Skill Development and Industrial Collaboration**

15 October 2020 to 14 October 2023 📖 **HoD in Charge, Department of Mathematics**

AY 2019-'20 to AY 2022-'23 📖 **Convenor, IQAC Criterion 1 - Curricular Aspects**

AY 2021-'22 to AY 2023-'24 📖 **Convenor, HR and Orientation Cell**

Professional Service Rendered (continued)

- AY 2018-'19 to AY 2020-'21 ■ Convenor, Club for Student Leadership
- AY 2016-'17 to AY 2019-'20 ■ Editorial Board Member, Reyono Journal of Interdisciplinary Studies
- 4 November 2020 ■ Convenor, FDP Webinar on Mapping of Outcomes: Programme Outcomes, Course Outcomes and Learning Outcomes, jointly organized by IQAC and KSHEC
- 31 January 2020 ■ Coordinator, National Seminar on Futuristic Approach to Climate Change, jointly organized by Reyono Journal and IQAC
- 7 March 2019 ■ Coconvenor, National Seminar on Natural Disasters in Kerala: Concerns and Challenges, organized by Reyono Journal
- AY 2017-'18 to AY 2019-'20 ■ Committee Member, Walk with the Scholar Programme
- AY 2017-'18 ■ Secretary, Women's Cell
- Chief Examiner, B.Sc. Degree Examinations held under Mahatma Gandhi University, Kottayam
- Additional Examiner, M.Sc and B.Sc. Degree Examinations held under Mahatma Gandhi University, Kottayam
- Staff Selection Committee Member for the selection of Guest Lecturer
- External Examiner for Semester Six BSc Mathematics Project Evaluation and Viva

Research Publications

- **Distance Spectrum of Two Families of Graphs.**
Ann Susa Thomas, Sunny Joseph Kalayathankal, Joseph Varghese Kureethara. Proceedings of the Jangjeon Mathematical Society, 27 (3) 849-857, 2024.
- **Spectrum of Corona Products Based on Splitting Graphs.**
Ann Susa Thomas, Sunny Joseph Kalayathankal, Joseph Varghese Kureethara. Discrete Mathematics, Algorithms and Applications, Vol. 15, No. 3, 2250087, 2023.
- **The Vertex Distance Complement Spectrum of Subdivision Vertex Join and Subdivision Edge Join of two Regular Graphs.**
Ann Susa Thomas, Sunny Joseph Kalayathankal, Joseph Varghese Kureethara. Ural Mathematical Journal, Vol. 7, No. 1, 102-108, 2021. ISSN 2414-3952
- **Visualisation of Collage Grammar to Cell Works – ETOL Mode and Part Sensitive Mode.**
Ann Susa Thomas. Mapana Journal of Sciences, 42, 16 (3), 47-56, 2017. Christ University. ISSN 0975-3303
- **An Introductory Note on the Spectrum and Energy of Molecular Graphs.**
Ann Susa Thomas, Sunny Joseph Kalayathankal, Joseph Varghese Kureethara. Mapana Journal of Sciences, 41, 16 (2), 17-27, 2017. Christ University. ISSN 0975-3303.
- **Extension of Collage Grammar to Cell Works: Context Free Mode.** Ann Susa Thomas. Reyono Journal of Interdisciplinary Studies. Volume 5, Issue 2, July 2016. ISSN 2277-7652

Areas of Specialization and Interest

- Graph Theory
- Point Set Topology
- Abstract Algebra
- Discrete Mathematics

Paper Presentations

- **Distance Spectrum of Two Families of Graphs.** International Conference on Number Theory and Graph Theory (ICNG-2023), Manipal Institute of Technology, Manipal Academy of Higher Education, 18-20 January 2023.
- **Laplacian Spectrum of Corona Product of Graphs and its Applications.** IIIrd International Conference on Science, Engineering, Technology & Social Sciences (ICSETS – 2019). Department of Mathematics, Kuriakose Elias College, Mannanam. 11-12 March 2019.
- **Computation of Graph Spectrum.** International Conference on Emerging Trends in Graph Theory (ICETGT - 2019). Department of Mathematics, Christ (Deemed to be University), Bangalore. 27-28 February 2019.
- **A Note on the Concept of Energies of Graphs.** IInd International Conference on Science, Engineering, Technology & Social Sciences (ICSETS – 2018). Department of Mathematics, Kuriakose Elias College, Mannanam. 18-19 January 2018.
- **Visualisation of Collage Grammar to Cell Works – ETOL Mode and Part Sensitive Mode.** International Conference on Science, Engineering, Technology & Management (ICSETM – 2017). Department of Mathematics, Kuriakose Elias College, Mannanam. 8-9 March 2017.

Awards and Achievements

- June 2010 ▪ Twelveth Rank, CSIR-UGC NET
- December 2008 ▪ Qualified State Eligibility Test for Lectureship, Tamil Nadu
- April 2006 ▪ Second Rank, B.Sc. Mathematics under Mahatma Gandhi University, Kottayam

Research Experience

- **Area of Research :** Spectral Graph Theory
PhD Thesis Title : Study on Spectral Properties and Topological Indices of Graphs
Research Centre : Postgraduate and Research Department of Mathematics, Catholicate College, Pathanamthitta , affiliated to Mahatma Gandhi University Kottayam.
Research Guide : Dr Sunny Joseph Kalayathankal, Former Head & Associate Professor (Retired), Kuriakose Elias College, Mannanam, Kottayam







Minor Research Project

- Completed Minor Research Project titled **Extension of Collage Grammar to Cell Works**, UGC letter No. F. 1899- MRP/ I4-I5/ KLMGo22/ UGC-SWRO dated 04-Feb-15, Project Period 2015-17.

Faculty Development Programmes Attended

- 17 - 28 January 2025 ▪ NEP 2020 Orientation & Sensitization Programme, Malaviya Mission Teacher Training Programme (MM-TTP) of University Grants Commission (UGC) organized by UGC-MMTTC, University of Kerala, Kariavattom, Thiruvananthapuram.
- 07 - 13 December 2023 ▪ Online One-Week Faculty Development Programme on Research Writing & Mathematical Typesetting with \LaTeX , Ramanujan College, University of Delhi and MHRD.


Faculty Development Programmes Attended (continued)

- 01 December 2023  Orientation Programme for Implementation of Four-Year Undergraduate Programme (FYUGP), organized by St Thomas College, Kozhencherry in connection with the implementation of FYUGP of the Kerala Higher Education Curriculum Framework.
- 05 - 19 August 2023  Online Inter-Disciplinary Two-Week Refresher Course in Managing Online Classes & Co-creating MOOCS, Ramanujan College, University of Delhi and MHRD.
- 01 - 15 October 2020  Faculty Development Programme on Research Methodology, Ramanujan College, University of Delhi and MHRD.
- 17 - 30 September 2019  Refresher Course in Mathematics, UGC HRDC, University of Kerala.
- 04 - 24 August 2015  Refresher Course in Mathematics, UGC HRDC, University of Kerala.
- 06 June - 3 July 2013  Orientation Course, UGC ASC, University of Kerala.





Seminars/ Conferences/ Workshops Attended

- 27 - 31 May 2024  Five-day National Online Workshop on Empowering Academic Excellence: AI Tools for Research and Publication, organized by Sree Sankara College, Kalady and Lore & Ed Associates, Kottayam
- 16 February 2023  One-day National Seminar on Research Trends in Functional Analysis, organized by Post Graduate Department of Mathematics, St Thomas College, Kozhencherry
- 18 December 2021  One-day National Seminar on Differential Equations: Analysis and Applications, organized by Post Graduate Department of Mathematics, St Thomas College, Kozhencherry and sponsored by the Kerala State Higher Education Council and Mahatma Gandhi University, Kottayam
- 6 - 8 August 2020  International Conference on Graph Connections (ICGC 2020), organized by BCM College, Kottayam
- 31 January 2020  National Seminar on Futuristic Approach on Climate Change, organized by REYONO journal of interdisciplinary studies and IQAC, St Thomas College, Kozhencherry.
- 10 January 2020  National Seminar on Discrete Mathematics and its Application, organized by Assumption College, Changanacherry.
- 3 January 2020  One day workshop on Numerical Analysis with Python, organized by the Postgraduate Department of Mathematics, St Thomas College, Kozhencherry
- 11 April 2018  Seminar on Research Methodology, organized by Catholocate College, Pathanamthitta.
- 16 November 2018  Cluster Workshop for internal mentors of WALK WITH A SCHOLAR Programme, Government Arts and Science College, Elanthoor.
- 3 - 4 August 2018  Two-Day Workshop on Typesetting in LaTeX, organized by Department of Mathematics, St Thomas College, Kozhencherry.
- 30 October- 1 November 2017  Three-Day International Conference on Recent Trends in Graphs and Networks, St Xavier's College for Women, Aluva.
- 25-27 October 2017  Three-Day International Seminar on Catalyzing Women Empowerment for an Egalitarian Society, Titus II College, Tiruvalla.



Seminars/ Conferences/ Workshops Attended (continued)

15-17 December 2016  Three-Day International Workshop on Coding Theory and Fractals with Applications to Computer Science and Engineering, MACFAST, Tiruvalla.

Social Responsibilities Held

-  Micro Observer, Lok Sabha Election, April 2024
-  Kerala University Question Paper Setting
-  Presiding Officer, Lok Sabha Election, May 2016
-  Presiding Officer, Panchayath Election, November 2015

Skills

Languages known  English, Malayalam, Tamil, Hindi.
Coding  Python, C, \LaTeX