

Name : Dr.K.Nirmala

Designation: Assistant Professor

Department: Mathematics

Date of Joining: 14.07.2021

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nirmalanikil@gmail.com



Educational Qualification:

Degree	Subject	College / University & Place	Year Completed
Ph. D (Part Time)	Mathematics (Specialization-Fluid dynamics)	Bharathiar University, Coimbatore.	2019
B.Ed.	Mathematics	Alagappa University, Karaikudi.	1998
M.Phil	Mathematics	Madurai Kamaraj University, Madurai.	1997
M.Sc.	Mathematics	S.F.R.College for Women, Sivakasi	1996
B.Sc.	Mathematics	S.F.R.College for Women, Sivakasi	1994

Specialization in Teaching: Differential Equations, Probability and Statistics, Operations Research, Discrete Mathematics & Numerical Methods.

Specialization in Research: Fluid Dynamics

Work Experience : 19 Years 11 Months

Designation	Institution / Company	From (month/year) To (month/year)
Assistant Professor	The American College, Madurai	14.07.2021 to till date
Assistant Professor III	Kalasalingam Academy of Research and Education, Deemed to be University, Srivilliputhur.	03.06.2019 to 19.05.2021
Senior Assistant Professor	Dhirajlal Gandhi College of Technology, Salem.	03.06.2013 to 20.01.2015 &

		07.12.2015 to 31.05.2018
Professor	Mahendra Engineering College For Women, Namakkal.	22.01.2015 to 05.12.2015.
Assistant Professor	Paavai College of Engineering, Namakkal.	13.03.2009 to 31.05.2013
Senior Lecturer	PGP Engineering College, Namakkal.	09.05.2008 to 10.12.2008.
Lecturer	Pandian Saraswathi Yadav Engineering College, Sivagangai Dt.	01.08.2003 to 15.04.2008.
Post Graduate Fellow	Central Electro Chemical Research Institute (B.Tech.Chemical&Electro Chemical Engineering), Karaikudi.	09.07.1998 to 30.06.1999
Total		19 years 11 Months

Administrative /Academic Positions (held/currently holding):

Positions held / currently holding	Year - From (month/year) To month/year)
Academic Advisor for II year B.Sc. Maths students	Academic year 2023-2024.
In charge of Freshmen Orientation Program in Registration for the PG students.	Academic year 2023-2024.
In charge of MATH RANGOLI for ANALGEOCA'23	Academic year 2022-2023.
In charge of Freshmen Orientation Program in Registration, Ayil, certificate collection & campus tour for the PG students.	Academic year 2022-2023.
In charge of Inauguration & Valedictory function for AXIOMETICA'22	Academic year 2021-2022.
Served as a member of Criteria V in NAAC & Academic and Administrative Audit in Student Support and Progression	29.09.2022 to Till date
In-charge of Minutes of the meeting	January 2022 to April 2023
Autonomy Co-ordinator for PG Mathematics	1 year-July 2022 to May 2023
Member of University Rank Approval Committee at KARE.	2 years / 2019-2020 & 2020-2021
Convener of Online Distance Learning material preparation at KARE.	1 Year / 2020-2021
Chairman of Department Research Committee at KARE.	2 years / 03.06.2019 to 19.05.2021
HOD at KARE.	2 years / 03.06.2019 to 19.05.2021

HOD at Dhirajlal Gandhi College of Technology, Salem.	3 years / 03.06.2013 to 20.01.2015 & 07.12.2015 to 30.06.2017
Co-Ordinator for the Anna University Sponsored Faculty Development Training Programme at DGCT, Salem.	5.12.2014 to 11.12.2014
Dean of Science and Humanities (I/C) at Dhirajlal Gandhi College of Technology, Salem.	1 year / May 2016 to June 2017
Chief Co-Ordinator for the 1 st Graduation Day at Dhirajlal Gandhi College of Technology, Salem.	20.03.2016.
HOD of Science and Humanities & HOD of Mathematics at Mahendra Engineering College Women, Namakkal.	10 Months /22.01.2015 to 05.12.2015.
HOD at Paavai College of Engineering, Namakkal.	4.2 years / 13.03.2009 to 31.05.2013
HOD at PGP Engineering College, Namakkal.	7 Months / 09.05.2008 to 10.12.2008.
HOD at Pandian Saraswathi Yadav Engineering College, Sivagangai Dt.	4.6 years / 01.08.2003 to 15.04.2008.

Membership in Professional Bodies:

Life Member in **INDIAN SOCIETY FOR TECHNICAL EDUCATION, NEW DELHI** from **2005** with number **LM 46528**.

Research Publications in International / National Journal/e-book:

1. R. Muthuraj, S.Srinivas and **K.Nirmala**, MHD flow of a couple-stress fluid and a Viscous fluid in a vertical wavy porous space with travelling thermal waves and temperature dependent heat source, **Heat Transfer – Asian Research (Wiley Publication-SCOPUS)**, **43(2), 2014, 134-147**.
2. **K. Nirmala**, R.Muthuraj and S.Srinivas and D.Lourdu Immaculate, Combined effects of Hall Current, Wall Slip, Viscous Dissipation and Soret Effect on MHD Jeffery Fluid Flow in a Vertical channel with Peristalsis, **JP journal of Heat and mass transfer (SCOPUS)**, **Volume 12, 2015, 131-165**.
3. R.Muthuraj, **K. Nirmala** and S.Srinivas, Influences of chemical reaction, wall properties on MHD Peristaltic transport of a Dusty Fluid with Heat and mass transfer, **Alexandria Engineering Journal – Elsevier (SCOPUS)**, **Volume 55, 2016, 597-611**.
4. **K.Nirmala**, B. Manimegalai and L. Rajendran, Steady-State Substrate and Product Concentrations for Non-Michaelis-Menten Kinetics in an Amperometric Biosensor

- Hyperbolic Function and Pade Approximants Method, **International Journal of Electrochemical Science (SCI)**, **15(2020) 5682-5697**.
5. K Prabhavathi , **K.Nirmala**, P.Balamurugan & R.Senthil Kumar, Approximate Solutions of Chemical Reaction-Diffusion Brusselator System Using New Iterative Method, **Solid State Technology (SCOPUS)**, **63 (2020), 2, 695-701**.
 6. **K. Nirmala**, M. Chitra Devi and L. Rajendran, “Analysis of Steady-State Behavior of EC’Catalytic Mechanism at Rotating Disk Electrode: Taylor Series Approach” **European Journal of Molecular & Clinical Medicine (SCOPUS)**, **7 (2020), 11, 440-447**.
 7. J. Visuvasam, A. Meena, **K. Nirmala** & L. Rajendran, “Approximate Solution of Non-linear Reaction-Diffusion in a thin membrane: Taylor Series Method” **Turkish Journal of Computer and Mathematics Education (SCOPUS)**, **12 (2021), 586-594**.
 8. **K.Nirmala** & D.Lourdu Immaculate, published a Chapter titled “Effects of Wall properties and Soret effect on MHD Peristaltic flow of Carreau Fluid in a Vertical Channel with Chemical Reaction” in e-book titled “**Engaging Development: Problems and Prospects in Science, Social Sciences and Humanities**” (2022), **163**.
 9. Accepted a paper entitled “**Mathematical Modelling of thin, adhesive, microbial biocatalytic coatings for high intensity oxidations in multi-phase microchannel bioreactors**” in the **AIP conference Proceedings** and it will be published in **March 2024**.

Paper Presentation in the Conference:

1. Presented a paper titled “**MHD convective flow Transport of a Carreau fluid in an inclined channel with peristalsis and chemical reaction**” in an **International Conference on “Mathematical Modeling and Computational Methods in Science and Engineering**” held from 20th to 22nd February, 2017 organized by **Ramanujan Centre for Higher Mathematics & Department of Mathematics, Alagappa University, Karaikudi**.
2. Presented a paper titled “**MHD peristaltic transport of a Carreau fluid in an inclined channel in the presence of inclined magnetic field with chemical reaction**” in the **National Conference on “ Bridging Innovative Trends in Pure and Applied**

- Mathematics”** held on 15th& 16th July 2016 organized by Department of Mathematics, **Bannari Amman Institute of Technology, Sathyamangalam, Erode.**
3. Presented a paper titled “Influences of chemical reaction, wall properties on MHD Peristaltic transport of a Dusty Fluid with Heat and mass transfer” in the **National Conference on “Mathematics and its applications”** held on 22nd & 23rd December, 2015 organized by Department of Mathematics, **Sri Venkateswara University, Tirupathi, Andhra Pradesh.**
 4. Presented a paper titled “Combined effects of Hall Current and Soret Effect on MHD Jeffery Fluid Flow in a Vertical channel with peristalsis” in the **National Conference on “ Modern aspects of Theoretical and Applied Mathematics”** held on 9th & 10th April 2015 organized by Department of Mathematics, **PSNA college of Engineering and Technology, Dindigul.**
 5. Presented a paper entitled “ **Mathematical Modelling of thin, adhesive, microbial biocatalytic coatings for high intensity oxidations in multi-phase microchannel bioreactors”** in the “ **International Conference on Fluid Flows and Energy Storage Materials (ICFESM-2023)”** organized by **School of Sciences, Malla Reddy University, Hyderabad, Telangana, India** during 17th & 18th March, 2023.

Participation in Conference/Seminar / Symposium / Workshop / Training:

1. Participated in the One day Seminar on “**Globalization and Employment Opportunities for Engineers”** Co-Sponsored by **Indian Society for Technical Education, New Delhi** held on November 8, 2005 at **Pandian Saraswathi Yadav Engineering College, Sivagangai.**
2. Participated in the Symposium on “**Recent Advances in Mathematical Modeling in Engineering”** Sponsored by **TNSCST, Chennai** held during September 14th and 15th, 2007 at Department of Mathematics, **Thiagarajar College of Engineering, Madurai.**
3. Participated in the Two day Faculty Orientation Programme conducted by **PGP Educational Institutions** held on 25th and 26th July, 2008.
4. Participated in the One day Seminar on “**Application of Mathematics in Engineerin Disciplines”** held at **Bannari Amman Institute of Technology, Sathyamangalam** on 21st October, 2010.
5. Participated in the One day Workshop on “ **Smart Ph.D planning”** Sponsored by

Computer Society of India and conducted by **Paavai Engineering College, Namakkal** held on 19th March, 2012.

6. Participated in the Pedagogical Training Programme on “**Effective Teaching Methodologies**” organized by **Dhirajlal Gandhi College of Technology, Salem** held on 6th November, 2014.
7. Participated in the **one week Faculty Development Programme** on “**Modern Trends in Pure and Applied Mathematics**” from 5th to 11th December, 2019 at **KARE**.
8. Participated in the Three Day **Kalasalingam Global Conference KGC – 2019** on “**Sustainable Development**” during **December 18-20, 2019** at **KARE**.
9. Participated in the One day **Webinar** on “**Distance Learning with Cloud-based Tools from Math Works**” on 3rd April, 2020 Organized by **IUCEE**.
10. Participated in the One day **Webinar** on “**Centrality Measure in Graph Theory**” on **May 23, 2020** at **KARE**.
11. Participated in the One day **Webinar** on “**Groups and Rings**” on **June 06, 2020** at **KARE**.
12. Participated in the One day **Webinar** on “**Fourier & Wavelet Transforms**” on 10th June, 2020 at **KARE**.
13. Participated in the Two Day **International Conference** on “**Materials and Mathematical Sciences**” (**ICMMS 2020**) on 19th & 20th June, 2020 at **KARE**.
14. Participated in the One day **Webinar** on "**IFEES GEDC IUCEE Webinar: Problem-Based Learning and Mathematics at University**" on 20th May, 2020 Organized by **IUCEE**.
15. Participated in the One day **Webinar** on "**IUCEE Virtual Academy: Effective Conduction of Online Lectures**" on 21st May, 2020 Organized by **IUCEE**.
16. Participated in the One day **Webinar** on "**IUCEE Virtual Academy: Effective Use of Online Tools**" on 22nd May, 2020 Organized by **IUCEE**.
17. Participated in the One day **Webinar** on "**IFEES GEDC IUCEE Webinar: Engineers Make a Difference**" on 01st July, 2020 Organized by **IUCEE**.
18. Participated in the One day **Webinar** on "**IFEES GEDC IUCEE Webinar: Industry Academy Collaboration – Huawei ICT Academy**" on 08th July, 2020 Organized by **IUCEE**.

19. Gave an **invited talk** in the **Young Student Scientist Programme (YSSP)** Catalyzed and supported by **Tamilnadu State Council for Science and Technology conducted** at **The American College, Madurai** during **May 20 to June 3, 2022**.
20. Participated in the **One day Webinar (Online)** on **"Data Science"** Organized by the **Department of Mathematics Thassim Beevi Abdul Kader College for Women, Kilalarai** held on **28th April, 2022**.
21. Participated in a **Five Days online Faculty Development Programme** on **"Mathematical Modeling in Real-life problems"** from **21st to 25th and 26th April, 2022** Organized by **Division of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai**.
22. Participated in the **One day workshop (Online)** on **"CorelDRAW-Graphic designer for Beginners"** on **17th Febraury, 2022** Organized by **V.V.V. College for Women, Virudhunagar**.
23. Participated in the **CPE funded Faculty Development Webinar (Online)** on **"Stressing over Stress"** Organized by the **Department of Mathematics, The S.F.R.College for Women, Sivakasi** on **10th February, 2022**.
24. Participated in the **CPE funded Faculty Development Webinar (Online)** on **"ICT initiatives of GOI with special reference to MOOCs and SWAYAM"** on **9th February, 2022** Organized by the **Department of Mathematics, The S.F.R.College for Women, Sivakasi**.
25. Participated in **One day Faculty Orientation Programme** conducted by **The American College, Madurai** held on **20th September, 2022**.
26. Attended the **Five Days National Level Virtual Faculty Development Programme** entitled **"Achieving Excellence in Higher Education & Research"** conducted by **A.C.T. Academy, Tamil Nadu & Academic and Research Conglomerate (AARC)** from **26 December 2022 to 30 December 2022**.
27. Attended the **seven days National Level Virtual Faculty Development Programme** entitled **"Policy Initiatives and Quality Enhancement in Higher Education"** conducted by **A.C.T. Academy, Tamil Nadu** in association with **Academic & Research Conglomerate (ARCON)** and **Academic and Research Activity Group (ARAG)** from **27.03.2023 to 02.04 .2023**.

28. Participated in the “ **International Conference on Fluid Flows and Energy Storage Materials (ICFESM-2023)**” organized by **School of Sciences, Malla Reddy University, Hyderabad, Telangana, India** during **17th & 18th March, 2023**.

29. Participated in **One Day National Level Workshop** (Virtual) on “ **Intellectual Property Rights and Innovations**” conducted by **FDP Divison, A.C.T.Academy, Tamilnadu** on **10.12.2023**.

Resource Person:

Acted as a **Mentor** in the **Young Student Scientist Programme (YSSP)** catalysed and supported by **Tamilnadu State Council for Science and Technology** and conducted at **The American College, Madurai** during **May 20 to June 3, 2022**.

Books Published:

1. **Engineering Mathematics, 2006** /Annual Pattern (Hana Publications).
2. **Mathematics-I**, Academic year **2013-2014** (Jaitech publications, Chennai), First Edition
3. **Mathematics-II**, Academic year **2013-2014** (Global publishers, Chennai), First Edition.
4. **Mathematics-I**, Academic year **2014-2015** (Global publishers, Chennai), Revised Edition.
5. **Graph Theory**, Academic year **2023-2024** (Prime International Publication), First Edition with **ISBN No.: 978-93-6010-807-6**.

NAAC Presentation:

Presented the activities about **Department of Science and Humanities** to the **NAAC PEER TEAM** members on **27th April, 2017** at **Dhirajlal Gandhi College of Technology, Salem**.

Chaired Technical Session:

Chaired the Session in Two Day International Conference on “**Materials and Mathematical Sciences**” (**ICMMS 2020**) on **19th & 20th June, 2020** at **KARE**.

Awards:

1. Received award for the **Best department** among Arts and Science departments in the year 2020 at Kalasalingam Academy of Research and Education, Deemed to be University, srivilliputhur.
2. Got **appreciation certificate with two gold coins** for efforts to produce good results in the Anna University Examinations held during the academic year 2008-2009, Semester-II in Engineering Mathematics-II subject at Paavai College of Engineering, Namakkal.
3. Received **cash award** for published **Engineering Mathematics** book in the year 2006 (Annual Pattern) at Pandian Saraswathi Yadav Engineering College, sivagangai Dt.

Anna University Responsibility:

1. Acted as a **Vice-Chairman** in the Anna University Central valuation.
2. Acted as an **Anna University Representative** in the Anna University Examinations.