

NIRMALA COLLEGE FOR WOMEN (AUTONOMOUS)

COIMBATORE

STAFF PROFILE



NAME : Dr R JOICE NIRMALA
DESIGNATION : ASSISTANT PROFESSOR
DEPARTMENT : MATHEMATICS SF
QUALIFICATION : M. Sc., M. Phil, Ph.D
EXPERIENCE : 6 YEARS
AREAS OF SPECIALIZATION : DIFFERENTIAL EQUATION & CONTROL THEORY
E-MAIL : joys.maths.bu@gmail.com,
joicenirmala@nirmalacollegeonline.ac.in

ACADEMIC QUALIFICATIONS :

DEGREE	YEAR OF COMPLETION	NAME OF THE INSTITUTION	CLASS
BACHELOR'S DEGREE (S) B.SC.	2010	BHARATHIAR UNIVERSITY	I CLASS WITH DISTINCTION-COLLEGE TOPPER UNIVERSITY RANK HOLDER
MASTER'S DEGREE M.SC.,	2012	BHARATHIAR UNIVERSITY	I CLASS WITH DISTINCTION- COLLEGE TOPPER
RESEARCH DEGREE M.PHIL.	2013	BHARATHIAR UNIVERSITY	HIGHLY COMMANDED
RESEARCH DEGREE PH.D	2016	BHARATHIAR UNIVERSITY	HIGHLY COMMANDED

RESEARCH GUIDANCE:

PROGRAMME	NO. OF SCHOLARS	
	COMPLETED	PURSUING
Ph.D	Nil	3
M.Phil	Nil	Nil

RESEARCH PUBLICATIONS:

INTERNATIONAL:

- [1]. R. JOICE NIRMALA AND K. BALACHANDRAN, ANALYSIS OF SOLUTIONS OF TIME FRACTIONAL TELEGRAPH EQUATION, JOURNAL OF KOREAN SOCIETY FOR INDUSTRIAL AND APPLIED MATHEMATICS, 18(2014), 209-224.
- [2]. R. JOICE NIRMALA, K. BALACHANDRAN AND J.J. TRUJILLO, CONTROLLABILITY OF NONLINEAR FRACTIONAL DELAY DYNAMICAL SYSTEMS, REPORTS ON MATHEMATICAL PHYSICS, 77(2016), 87- 104.
- [3]. R. JOICE NIRMALA AND K. BALACHANDRAN, CONTROLLABILITY OF NONLINEAR FRACTIONAL DELAY INTEGRODIFFERENTIAL SYSTEMS, DISCONTINUITY, NONLINEARITY, AND COMPLEXITY, 5(2016), 59-73.
- [4]. R. JOICE NIRMALA AND K. BALACHANDRAN, CONTROLLABILITY OF FRACTIONAL NONLINEAR SYSTEMS IN BANACH SPACES, JOURNAL OF APPLIED NONLINEAR DYNAMICS, 5(2016), 487-496.
- [5]. R. JOICE NIRMALA, RELATIVE CONTROLLABILITY OF NONLINEAR FRACTIONAL DELAY DYNAMICAL SYSTEMS WITH TIME VARYING DELAYS IN CONTROL, LECTURE NOTES IN ELECTRICAL ENGINEERING, 369-380, 2016.
- [6]. R. JOICE NIRMALA AND K. BALACHANDRAN, CONTROLLABILITY OF NONLINEAR FRACTIONAL DELAY DYNAMICAL SYSTEMS WITH MULTIPLE DELAY IN CONTROL, KYBERNETIKA, 53(2017), 161-178.
- [7]. R. JOICE NIRMALA AND K. BALACHANDRAN, CONTROLLABILITY OF NONLINEAR IMPLICIT FRACTIONAL DELAY DYNAMICAL SYSTEMS, INTERNATIONAL JOURNAL OF APPLIED MATHEMATICS AND COMPUTER SCIENCE, 27(2017), 501-513.
- [8]. R. JOICE NIRMALA, K. BALACHANDRAN AND J.J. TRUJILLO, NULL CONTROLLABILITY OF FRACTIONAL DYNAMICAL SYSTEMS WITH CONSTRAINED CONTROL, FRACTIONAL CALCULUS AND APPLIED ANALYSIS, 20(2017), 553-565.
- [9]. INFANTA NANCY AND R. JOICE NIRMALA, COMPARATIVE ANALYSIS OF CLASSICAL AND FRACTIONAL ORDER HODGKIN-HUXLEY MODELS USING THE FRACTIONAL DIFFERENTIAL TRANSFORM METHOD, AIP CONFERENCE PROCEEDINGS (ACCEPTED).
- [10]. A. MATHAN KUMAR AND R. JOICE NIRMALA, A NOVEL ANALYTICAL SOLUTION OF FRACTIONAL BURGER EQUATION USING MELLIN TRANSFORM METHOD, AIP CONFERENCE PROCEEDINGS (ACCEPTED).
- [11]. R. JOICE NIRMALA AND A. MATHAN KUMAR, REVOLUTIONIZING CONTROL IN FRACTIONAL DELAY SYSTEMS WITH MINIMUM ENERGY DISCONTINUITY, NONLINEARITY, AND COMPLEXITY, DISCONTINUITY, NONLINEARITY, AND COMPLEXITY, (ACCEPTED).

PRESENTATIONS IN CONFERENCE:

INTERNATIONAL:

- [1]. PRESENTED PAPER ENTITLED, "REVOLUTIONIZING CONTROL IN FRACTIONAL DELAY SYSTEMS WITH MINIMUM ENERGY" IN THE INTERNATIONAL CONFERENCE ON NONLINEAR DYNAMICS: MODELLING

AND COMPUTATION, DEPARTMENT OF MATHEMATICS, BHARATHIAR UNIVERSITY, DURING FEBRUARY 17-19, 2025.

- [2]. PRESENTED PAPER ENTITLED, "SOME OBSERVATION ON THE SOLUTION REPRESENTATION OF FRACTIONAL DIFFERENTIAL EQUATION IN BANACH SPACE" IN THE INTERNATIONAL CONFERENCE ON CONTEMPORARY APPROACHES IN SCIENCE AND HUMANITIES: FUTURE PROSPECTS, NIRMALA COLLEGE FOR WOMEN, COIMBATORE, ORGANIZED DEPARTMENT OF MATHEMATICS, CHEMISTRY, BOTANY, ZOOLOGY, GEOGRAPHY & LIBRARY AND INFORMATION SCIENCE, DURING 2-3 FEBRUARY 2023.
- [3]. PRESENTED PAPER ENTITLED, "SOLUTION OF TIME FRACTIONAL TELEGRAPH EQUATION USING SEPARATION OF VARIABLES" IN THE INTERNATIONAL CONFERENCE ON APPLIED MATHEMATICAL MODELS, ORGANIZED BY DEPARTMENT OF MATHEMATICS, PSG COLLEGE OF TECHNOLOGY, DURING JANUARY 4-6, 2023.
- [4]. PRESENTED A POSTER ENTITLED „CONTROLLABILITY OF NONLINEAR FRACTIONAL DELAY INTEGRODIFFERENTIAL SYSTEMS“ IN THE 8TH INTERNATIONAL CONGRESS ON INDUSTRIAL AND APPLIED MATHEMATICS (ICIAM 2015), CHINA NATIONAL CONVENTION CENTER, CHINA, AUGUST 10-14, 2015.
- [5]. PRESENTED A PAPER ENTITLED „ON THE CONTROLLABILITY OF NONLINEAR FRACTIONAL DELAY INTEGRODIFFERENTIAL SYSTEM USING LAPLACE TRANSFORM“ IN THE 81ST ANNUAL CONFERENCE OF THE INDIAN MATHEMATICAL SOCIETY, ORGANIZED BY DEPARTMENT OF MATHEMATICS AND DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING, VNIT, NAGPUR, DECEMBER 27-30, 2015.

NATIONAL:

- [1]. PRESENTED A PAPER ENTITLED "CONTROLLABILITY OF FRACTIONAL DELAY INTEGRODIFFERENTIAL SYSTEM" IN THE NATIONAL CONFERENCE ON MATHEMATICS AND ITS APPLICATIONS HELD AT DEPARTMENT OF STUDIES IN MATHEMATICS, MANASAGANGOTRI, UNIVERSITY OF MYSORE, MYSURU ON 21ST FEBRUARY, 2015.
- [2]. PRESENTED A PAPER ENTITLED "REMARKS ON THE SOLUTION REPRESENTATION OF FRACTIONAL DIFFERENTIAL EQUATIONS IN BANACH SPACES" IN THE 3RD NATIONAL CONFERENCE ON ADVANCES IN DIFFERENTIAL EQUATIONS AND APPLICATIONS HELD AT DEPARTMENT OF MATHEMATICS, PERIYAR UNIVERSITY, SALEM, DECEMBER 4-5, 2014
- [3]. PRESENTED A PAPER ENTITLED "ANALYSIS OF FRACTIONAL PARTIAL DIFFERENTIAL EQUATION" IN THE NATIONAL CONFERENCE ON PARTIAL DIFFERENTIAL EQUATIONS AND APPLICATIONS HELD AT DEPARTMENT OF MATHEMATICS, BHARATHIAR UNIVERSITY, COIMBATORE, JANUARY 30 - 31, 2014.
- [4]. PRESENTED A PAPER ENTITLED "ANALYSIS OF SOLUTIONS OF TIME FRACTIONAL TELEGRAPH EQUATION" IN THE NATIONAL CONFERENCE ON ADVANCES IN PARTIAL DIFFERENTIAL EQUATIONS, HELD AT SRINIVASARAMANUJAN CENTER, SASTRA UNIVERSITY, KUMBAKONAM. DECEMBER. 13-14, 2013.

PARTICIPATION IN CONFERENCES:

- [1] SECOND NATIONAL CONFERENCE ON COMPUTATIONAL BIOLOGY (NCCB-2014) DURING MARCH 27–28, 2014 AT DRDO-BU-CLS, BHARATHIAR UNIVERSITY CAMPUS, COIMBATORE, INDIA.
- [2] NATIONAL CONFERENCE ON ADVANCES IN PARTIAL DIFFERENTIAL EQUATIONS, HELD AT SRINIVASA RAMANUJAN CENTER, SASTRA UNIVERSITY, KUMBAKONAM. DEC. 13-14, 2013.
- [3] NATIONAL CONFERENCE ON COMPUTATIONAL BIOLOGY (NCCB- 2013) DURING FEBRUARY 15–16, 2013 AT DRDO-BU-CLS, BHARATHIAR UNIVERSITY CAMPUS, COIMBATORE, INDIA.
- [4] LECTURE SERIES ON “LARGE DEVIATION THEORY” BY PROF. DR SIVAGURU S. SRITHARAN, NPS, MONTEREY, USA FROM FEBRUARY 16–22, 2012 AT BHARATHIAR UNIVERSITY, COIMBATORE, INDIA.
- [5] SPECIAL LECTURES ON “NAVIER-STOKES EQUATIONS: SOLVABILITY, CONTROL AND STOCHASTIC ANALYSIS” BY PROF. DR SIVAGURU S. SRITHARAN, NPS, MONTEREY, USA FROM FEBRUARY 14 -18, 2011 AT BHARATHIAR UNIVERSITY, COIMBATORE, INDIA.

PARTICIPATION IN SEMINARS:

- [1] SPECIAL LECTURE SERIES ON “QUASI-LINEAR PARTIAL DIFFERENTIAL EQUATIONS OF FLUID DYNAMICS AND PHYSICS” BY PROF. DR SIVAGURU S. SRITHARAN, NPS, MONTEREY, USA FROM JUNE 30- JULY 11, 2014 AT BHARATHIAR UNIVERSITY, COIMBATORE, INDIA
- [2] SPECIAL LECTURE SERIES ON “MATHEMATICS OF TURBULENCE, RANDOM WAVES AND QUANTUM FIELD” BY PROF. DR SIVAGURUS. SRITHARAN, NPS, MONTEREY, USA FROM JULY 16 –27, 2012 AT BHARATHIAR UNIVERSITY, COIMBATORE, INDIA.
- [3] SEMINAR ON “PARTIAL DIFFERENTIAL EQUATIONS” FROM FEBRUARY 28–29, 2012 AT BHARATHIAR UNIVERSITY, COIMBATORE, INDIA.

PARTICIPATION IN WORKSHOPS:

- [1] ADVANCED LEVEL WORKSHOP ON “COMPUTATIONAL METHODS FOR CONTROL PROBLEMS (CMCP)” FROM MARCH 16 – 21, 2015 AT MAR IVANIOS COLLEGE, TRIVANDRUM, INDIA.
- [2] SERB SCHOOL ON MATRIX METHODS AND FRACTIONAL CALCULUS, SPONSORED BY THE DEPARTMENT OF SCIENCE AND TECHNOLOGY, GOVERNMENT OF INDIA, NEW DELHI, HELD AT CENTER OF MATHEMATICAL AND STATISTICAL SCIENCES PEECHI CAMPUS, KFRI, THRISSUR, KERALA, APRIL 28 -MAY 23, 2014.

PARTICIPATION IN ORIENTATION PROGRAMME/ INDUCTION PROGRAMME/ SHORT TERM COURSES:

- [1] COMPLETED A COURSE ON AN INTRODUCTION TO DIGITAL ETHICS ORGANISED BY CENTRE FOR HOLISTIC TEACHING AND LEARNING, CHRISTIAN HIGHER EDUCATION IN ASIA, JAPAN FROM 10TH OCTOBER TO 19TH DECEMBER, 2025.

PARTICIPATION IN FACULTY DEVELOPMENT PROGRAMMES:

- [1]. ONLINE NEP 2020 ORIENTATION & SENSITIZATION PROGRAMME, MMTTC, MAHATMA GANDHI ANTARRASHTRIYA HINDI VISHWAVIDYALAYA, WARDHA, MAHARASHTRA FROM 02.09.2025 TO 10.09.2025
- [2]. ARTIFICIAL INTELLIGENCE: GLOBAL TRENDS, TECHNOLOGIES & ETHICAL TRANSFORMATION, RAJAPALAYAM RAJUS' COLLEGE, RAJAPALAYAM. 15.09.2025 TO 19.09.2025
- [3]. TEACHING METHODOLOGIES, IQAC OF STELLA MATUTINA COLLEGE OF EDUCATION, CHENNAI, FROM 22.10.2025 TO 29.10.2025
- [4]. BLOCK CHAIN AND DIGITAL TRANSFORMATION, DIGITAL SOUTH, FROM 14.11.2025 TO 20.11.2025
- [5]. INTERNATIONAL LEVEL VIRTUAL FACULTY DEVELOPMENT PROGRAM ON THE TOPIC, "EXPLORING NEW FRONTIERS IN PURE AND APPLIED MATHEMATICS: UNRAVELLING COMPLEXITY, CONSORTIUM OF HIGHER EDUCATIONAL INSTITUTIONS FOR RESEARCH AND DEVELOPMENT, PSGR KRISHNAMMAL COLLEGE FOR WOMEN, COIMBATORE, FROM 24.2.2025 TO 3.2.2025
- [6]. PYTHON PROGRAMMING FOR DATA ANALYSIS, CDAC HYDERABAD, ON 20.11.2024 TO 24.11.2024.
- [7]. ADAPTING TO AI DRIVEN INDUSTRY, RAJAPALAYAM RAJU'S COLLEGE, RAJAPALAYAM FROM 9.9.2024 TO 13.9.2024
- [8]. LATEST TRENDS ON COMPUTATIONAL MATHEMATICS- THEORY, METHOD AND APPLICATIONS, JIS UNIVERSITY, INDIA FROM 26.2. 2024 TO 1.3.2024.
- [9] ENHANCING TEACHING AND LEARNING COMPETENCIES OF HEI TEACHERS, ST ANN'S DEGREE COLLEGE FOR WOMEN AND ST ANN'S PG COLLEGE FOR WOMEN, MALLAPUR, HYDERABAD FROM 3.5.2024 TO 9.5.2024.
- [10]. IMPLEMENTATION OF AUGMENTED REALITY IN DIGITAL LEARNING, PG AND RESEARCH DEPARTMENT OF MATHEMATICS, NIRMALA COLLEGE FOR WOMEN, COIMBATORE, ON 16.08. 2023.

BOOK PUBLICATIONS:

- [1] MCQ'S ON NET/SET MATHEMATICS WITH SOLUTION, NIRMALA COLLEGE FOR WOMEN, INDIA, 2024. ISBN: 9788198321978.
- [2] BASICS OF PROGRAMMING AND COMPUTATION IN SCILAB, SELF-PUBLISHING, COIMBATORE INDIA, 2025. ISBN: 9789334220476
- [3] TOPICS ON FRACTIONAL CALCULUS, SELF-PUBLISHING, 2025. ISBN: 9789334451351

MEMBERSHIP IN PROFESSIONAL BODIES:

- [1] SOCIETY FOR INDUSTRIAL AND APPLIED MATHEMATICS (SIAM).
- [2] INDIAN MATHEMATICAL SOCIETY (IMS)
- [3] INDIAN SOCIETY OF INDUSTRIAL AND APPLIED MATHEMATICS (ISIAM)

NIRMALA COLLEGE FOR WOMEN