



**MANNAR THIRUMALAI NAICKER COLLEGE
(Autonomous)**

Pasumalai, Madurai - 625004

PROFORMA FOR BIO-DATA



1. Name and full correspondence address : **Dr. P. Kavitha M.Sc., M.Phil., PGDCA, Ph.D.,
Associate Professor of Physics,
Mannar Thirumalai Naicker College,
Pasumalai, Madurai - 625004**
2. Email(s) and contact number(s): : **Email: kavithamtnc@gmail.com
Contact number: +91 9944567839**
3. Institution : **Mannar Thirumalai Naicker College (Autonomous),
Affiliated to Madurai Kamaraj University**
4. Date of Birth : **12.05.1968**
5. Gender (M/F/T) : **F**
6. Category Gen/SC/ST/OBC : **OBC (BC-Gavara)**
7. Residential Address : **2, Parasakthi Street, Sundarnagar, Thirunagar,
Madurai, Tamilnadu, India. 625006.**
8. Academic Qualification

S.No.	Degree	Year	Subject	University/Institution	% of marks
1.	B.Sc.	1988	Physics	V.V.Vanniaperumal College, Virudhunagar.	75%
2.	M.Sc.	1990	Applied Physics	Gandhigram Rural Institute, Gandhigram.	78%
3.	M.Phil.	1992	Physics	Alagappa University, Karaikudi.	83%
4.	P.G.D.C.A.	1998	Computer Application	Madurai Kamaraj University, Madurai.	59%
5.	Ph.D	2020	Physics	NMSSVellaichamy Nadar College, Madurai Kamaraj University, Madurai.	First Class

9. Ph.D thesis title, Guide's Name, Institute/Organization/University, Year of Award.
 Thesis title : **Growth, Characterization, Crystal Structure and DFT Studies on some novel Semiorganic Crystals for NLO Applications**
 Guide's Name : **Dr.S.Ramaswamy** M.Sc., M.Phil., Ph.D., PGDCA, B.Ed., M.Ed., CGT
 Institute : **PG & Research Department of Physics, NMSSVellaichamy Nadar College**
 University : **Madurai Kamaraj University, Madurai.**
 Year of Award : **2020**

10. Work experience (in chronological order):

S.No.	Positions held	Name of the Institute	From	To	Pay Scale
1.	Lecturer	Mannar Thirumalai Naicker College	27.12.1990	26.12.1997	8000-275-13500
2.	Lecturer Senior Scale	Mannar Thirumalai Naicker College	27.12.1997	26.12.2002	10000-325-15200
3.	Lecturer Selection Grade	Mannar Thirumalai Naicker College	27.12.2002	31.12.2005	12000-420-18300
4.	Associate Professor	Mannar Thirumalai Naicker College	01.01.2006	31.12.2015	37400+AGP9000 - 67000+AGP9000
5.	Associate Professor	Mannar Thirumalai Naicker College	01.01.2016	Till date	131400 - 217100

11. Professional Recognition/ Award/ Prize/ Certificate, Fellowship received by the applicant:

S.No	Name of Award	Awarding Agency	Year
1.	Outstanding Scientist/Educationist/Researcher	Tamil Nadu Science Forum, Madurai District	2018

12. Publications (List of papers published in Scopus, WOS, UGC CARE, etc., Journals):

S.No.	Author(s)	Title	Name of Journal	Volume	Page	DOI & Year
1	P. Kavitha, N. Venkatesh Bharathi, V. Nagarajan, S. Ramaswamy	Effect of ZnO and co-doped ZnO additive in the growth, structural, optical and mechanical properties of glycine single crystals	IJAERD	5	-	March, 2018
2	P. Kavitha, N. Venkatesh Bharathi, S. Ramaswamy	Effect of ZnO with alkali metals as an additive in the growth, structural, optical, electrical and mechanical properties of glycine single crystals	AIP	-	-	101063 / 1.5130256 December, 2019
3	P. Kavitha,	Two photon	Optical	134	113134	10.1016/j.o

	S. Christopher Jeyaseelan, T.C. Sabari Girisun	absorption induced optical limiting action of L-Aspartic acid monohydrate	Materials			<i>ptmat.2022.113134</i> October, 2022
4	P.Kavitha K. Sakthipandi	Growth, Structural, Vibrational, Optical, Electrical and Thermal Properties of Transition Metal and Zinc Oxide added Glycine Semi-organic Crystal	Indian Journal of Pure & Applied Physics	60	941-950	<i>10.56042/ijpap.v60i11.63670</i> November, 2022
5	N. Venkatesh Bharathi, P. Kavitha , S. Ramaswamy, S. S.Jayabalakrishnan K.Sakthipandi	Turning of luminescence properties of Ba ₂ V ₂ O ₇ phosphors by co-doping Eu ³⁺ /Dy ³⁺ ions	Bull. Mater. Sci.	45	172	<i>10.1007/s12034-022-02741-1</i> September, 2022
6	Muniraj Vignesh N S S Jayabalakrishnan S Selvasekarapandian S Aafrin Hazaana, P Kavitha M Vengadesh Krishna	Proton-conducting <i>Moringa oleifera</i> seed-based biomaterial electrolyte for electrochemical applications	Ionics	29(1)	331-344	<i>10.1007/s11581-022-04797-9</i> October, 2022
7	N. Venkatesh Bharathi, P. Kavitha , S. Ramaswamy, S. S.Jayabalakrishnan K.Sakthipandi	Synthesis and luminescence investigation of Ba ₂ V ₂ O ₇ -co-doped Dy ³⁺ /Eu ³⁺ phosphors for white light-emitting diode applications	Indian Journal of Physics			<i>10.1007/s12648-022-02503-z</i> January, 2023

13. Papers Presented in the Conferences:

S.No.	Title of the Paper	Name of the programme	Name of the Organization	Duration	Days	State/ National/ International	Online / face-to-face
1.	Effect of ZnO Additive in the Growth, Optical and Mechanical Properties of Glycine Single Crystals	International Conference on Materials and Technology Synthesis, Processing and Applications (ICMAT-SPA-2018)	Sri S.R.Naidu Memorial College, Sattur	20.02.218 to 21.02.2018	2	International	Offline
2.	Effect of ZnO and co-doped ZnO additive in the growth,	International Conference on Momentous Role of	Alagappa University, Karaikudi	01.03.2018 to 02.03.2018	2	International	Offline

	structural, optical and mechanical properties of glycine single crystals	Nanomaterials in Renewable Energy Devices (ICMNRE-2018)					
3.	Growth and characterization of ZnO doped and co-doped glycine single crystals	New Materials Research and Nanotechnology (NSNMRN-2018)	Sethupathy Government Arts College, Ramanathapuram	17.03.2018 to 18.03.2018	2	National	Offline
4.	Effect of ZnO with alkali metals as an additive in the growth, structural, optical, electrical and mechanical properties of glycine single crystals	International Conference on Advanced Materials (ICAM-2019)	Nirmalagiri College, Kannur, Kerala	12.06.2019 to 14.06.2019	3	International	Offline
5.	Biomaterial Lemon Peel Based Membranes as Electrolytes for Electrochemical Applications	7th International Conference on Functional Materials and Devices (ICFMD-2022)	Centre for Ionics, University of Malaya	23.08.2022 to 25.08.2022	3	International	Online
6.	Investigation on Plantain Stem as solid electrolyte membrane for Electrochemical device applications	17th Asian Conference on Solid State Ionics (ACSSI-2020)	Nagoya Institute of Technology, Japan	12.09.2022 to 15.09.2022	4	International	Online
7.	Synthesis, Structural, Vibrational and Optical Studied of Dye Incorporated Glycine and ZnO Semiorganic Crystals	66 th DAE Solid State Symposium	Bhabha Atomic Research Centre, Mumbai & Birla Institute of Technology, Mesra, Ranchi, Jharkhand, India	18.12.2022 to 22.12.2022	5	International	Offline

14. Detail of patents:

S.No	Patent Title	Name of Inventor(s)	Application No.	Award Date	Agency/Country	Status
1.	Moringa Oleifera seed as bio-material electrolyte membrane for batteries and fuel cell	N.Muniraj @ Vignesh Dr.S.S.Jayabalakrishnan Dr.S.Selvasekarapandian Dr.P.Kavitha	202241004347 A	-NA-	India	Published online on 05.08.2022 and under review for acceptance.

15. Department Project Details:

S. No	Year	Principal Investigator	Minor /Major, Project	Name of the Students	Duration, Month & Year of award	Title of the Research Project	Funding Agency	Fund Allotted (Rs)	Present Status
1.	2021-2022	Dr. P.Kavitha	Institution Sponsored Students Research Project	S.Balaji, R.Gokul, R.Ranjith kumar, P.Somasundaram	12 Months, June, 2021 to April, 2022	Biopolymer Membrane For Fuel Cell	Management, MTN College	10000	Completed

16. Faculty Development Programmes undergone:

S.No.	Title of the programme	Name of the Organization	Duration	No. of days	Online / face-to-face
1.	Online Workshop For Teachers	Universal Teachers Academy, Pondicherry	21.04.2020 to 30.04.2020	10	online
2.	The Use of Virtual Physics Labs: Creating Next Generation Teachers	Department of Freshman Engineering, Geethanjali College of Engineering and Technology and Indian Society For Technical Education (ISTE), Medchal, Telangana	20.05.2020 to 24.05.2020	5	online
3.	ICT Based Tools and its Applications in Teaching Learning Process”	BSVS Educational Learning Centre, Nagpur	27.05.2020 to 02.06.2020	7	online
4.	Online Lectures in Solid State Physics – Series 1 : Electrons in Solids	Department of Theoretical Physics, University of Madras	01.06.2020 to 04.06.2020	5	online
5.	E – Learning Tools for MOOC and Creation of own MOOC Courses	BSVS Educational Learning Centre, Nagpur	11.06.2020 to 16.06.2020	6	online

6.	Scilab	St. Peter's Engineering College, Hyderabad and IIT – Bombay	15.06.2020 to 19.06.2020	5	online
7.	Inclusive Procedures and Processes in Assessment and Accreditation By NAAC	St. Joseph's College, Tiruchirappalli	30.06.2020 to 04.07.2020	5	online
8.	Online Tools For Research & Analysis	Teaching Learning Centre, Ramanujan College, University of Delhi	08-06-2021 to 14-06-2021	7	Online
9.	Enhancing Quality by Unearthing Innovative Practices - EQUIP2022	Mannar Thirumalai Naicker College, Madurai, Tamilnadu	18.04.2022 to 24.04.2022.	7	online

17. Certificate Courses (Webinar, Seminar, Conference, One Day Workshop etc.,) undergone:

S.No.	Title of the programme	Name of the Organization	Duration	Days	State/ National/ International	Online / Offline
1.	Summit on Quality in Education	Confederation of Indian Industry (CII) Institute of Quality, Bangalore, India.	22.09.2015 to 23.09.2015	2	National	Offline
2.	Advanced Materials Engineering (PiE-IV)	Thiagarajar College of Engineering, Madurai, Tamil Nadu, India.	26.09.2016	1	International	Offline
3.	Optical Characterization of Materials (NWOCM-2016)	Gandhigram Rural Institute-Deemed University, Ghandhigram, Tamil Nadu, India.	24.10.2016	1	National	Offline
4.	Material Processing and Applications	VIT University, Vellore, Tamil Nadu, India.	14.12.2016 to 16.12.2016	3	International	Offline
5.	Recent Trends in Physics	N.M.S.S. Vellaichamy Nadar College, Madurai, Tamil Nadu, India.	27.03.2017	1	National	Offline
6.	India based Neutrino Observatory Project	INO Collaboration, TIFR, Mumbai, DAE at IICHEP Transit Campus, Madurai, India.	15.07.2018	1	National	Offline
7.	Trends in Theoretical Physics	S. Vellaichamy Nadar College, Madurai, Tamil Nadu, India.	22.02.2019	1	National	Offline
8.	Design and Applications of Emerging Materials-NCDAEM -2020	N.M.S.S. Vellaichamy Nadar College, Madurai, Tamil Nadu, India.	19.02.2020	1	National	Offline

9.	Micro and Nanotechnology and its Applications	Department of Physics, G.T.N. Arts College (Autonomous), Dindigul	14.05.2020	1	National	Online
10.	Challenges and Opportunities in Biological Research	School of Basic and Applied Sciences, Shri Guru Ram Rai University, Dehradun.	19.05.2020 to 22.05.2020	4	Webinar	Online
11.	Virtual Workshop on Advanced Materials Characterization Tools	SRM Institute of Science and Technology, Kattankulathur, Chennai.	20.05.2020 to 21.05.2020	2	National	Online
12.	Human Rights in the Era of COVID – 19 Pandemic	Shyama Prasad Mukherjee Government Post Graduate College	25.05.2020	1	National	Online
13.	Figment of Imagination in Physics Via Simulations	Department of Physics, Sri GVG Visalakshi College for Women, Udumalpet	29.05.2020 to 30.05.2020	2	National	Online
14.	Thin – Film Technologies in our Daily Life	PG and Research Department of Physics, NMSSVN College, Madurai	30.05.2020	1	International	Online
15.	ICT Based Teaching – learning tools	ODD-PARTIKLE and IH Inquire Hub	31.05.2020	1	National	Online
16.	Materials and Their Applications	Departments of Chemistry and Physics, SSM Institute of Engineering and Technology, Dindigul	18.06.2020 to 19.06.2020	2	International	Online
17.	ICT and LMS TOOLS	ODD-PARTIKLE and IH Inquire Hub	27.06.2020 to 28.06.2020	2	National	Online
18.	Stable Organic – Inorganic Hybrid Halide Perovskite Nanocrystals for LEDs	PG and Research Department of Physics, Thiyagarajar College, Madurai	03.07.2020	1	National	Online
19.	Quantum Materials and Nanoparticles for Advanced Applications	Department of Physics(SF), Kamaraj College, Thoothukudi	06.08.2020	1	International	Online
20.	Stabilization of enzymes in Polymers	Saveetha Dental College & Hospital, Chennai, India	08.06.2021	1	International webinar	Online
21.	One week NeW IPR-2021	Innovative Technology Enabling Centre (InTEC), CSIR-IMMT, Bhubaneswar	14.06.2021 to 19.06.2021	6	National workshop	Online
22.	Scanning Electron Microscopy: Technique and its Application	North East Centre for Biological Sciences and Healthcare Engineering (NECBH), Indian Institute of Technology Guwahati, Assam.	29.07.2021 to 30.07.2021	2	National workshop	Online

23.	IP MAXIMA	Innovative Technology Enabling Centre -InTEC, CSIR-Institute of Minerals and Materials Technology, Bhubaneswar	07.01.2022 to 08.01.2022	2	National workshop	Online
24.	2nd Indian Summer School on Crystal Growth	SSN Research Centre, Sri Sivasubramaniya Nadar College of Engineering, Chennai-603110, Tamil Nadu, India.	16.05.2022 to 21.05.2022	6	National seminar	Online
25.	To the Moon and Beyond - A Neil Armstrong Retrospective and Perspective	Kodaikanal Solar Observatory, Indian Institute of Astrophysics, India	20.07.2022	1	International webinar	Online
26.	Science Festival (Vigyan Utsav) "Intellectual Property Rights"	Government Of India Ministry of Science and Technology Department of Science and Technology (DST) & Tamil Nadu State Council for Science and Technology (TNSCST) Department of Higher Education, Government of Tamil Nadu	04.08.2022	1	National	Online
27.	Laser And Z-scan Experiments (LAZE 2022)	Nanophotonics Laboratory, Dept., of Physics, Bharathidasan University, Trichy	26.08.2022	1	RUSA 2.0 National	Online
28.	Indigenous Materials for Energy Storage	Bharat Institute of Engineering and Technology & CRESIHRD	03.09.2022	1	International webinar	Online
29.	Super Ionic Conductors and its Applications to Battery, Fuel Cell and Supercapacitor	Research Centre of Physics, atima College, Madurai	15.12.2022 to 16.12.2022	2	National workshop	Offline

Other Activities:

➤ Online Coaching

- Adopted by **11 schools** across the globe as a Physicist for guiding the school children from the year **2011 to 2015** through the programme "**Adopt-a-Physicist**" organized by the physics honor society Sigma Pi Sigma, ComPADRE and the American Association of Physics Teacher.

➤ Electrical Auditing

- Conducted the "**Electrical Auditing**" for the college and reported it on 26.8.2013. The electrical audit was done by III - year B.Sc. Physics students for the period of 15 days.

➤ **Programmes Aired**

- Directed 2 episodes among 26 episodes of in All INDIA RADIO Series "**Atom to Star**" with B.Sc. Physics students. The programme was aired from 06.12.2014 to 31.05.2015.
- Directed 1 episode among 15 episodes of in All INDIA RADIO Series "**Disaster Management**" with B.Sc. Physics students. The programme was aired from 06.12.2016 to 31.05.2016.
- Aired a talk "**Andrada Vazhvil Iyarbiyalin Pangu**" in All INDIA RADIO on 07.07.2015 at 07.00 am
- Aired a talk "**Arivial Surangam**" in All INDIA RADIO on 21.07.2015 at 07.00 am
- Aired a talk "**Nobel Prize for Physics 2016**" in All INDIA RADIO on 25.10.2016 at 07.00 am
- Aired a talk "**Physical aspects of Air**" in All INDIA RADIO on 21.02.2017 at 07.00 am
- Aired a talk "**Iyarpiyal Valayathukkul Neer**" in All INDIA RADIO on 19.12.2017 at 07.00 am

➤ **TNPSC Confidential Work**

- Appointed as an **Expert**, among the **panel of Examiners** for TNPSC Mains Exam on 03.07.2019
- Appointed as a **Evaluator** for the above exam on 3-4, October 2019
- Appointed as an **Evaluator** for **TNPSC Mains Exam** from 27.04.2022 to 30.04.2022

➤ **Activities with TNSF, Madurai Branch**

- Life member in TNSF, Madurai Branch
- Initiated & Founder **President, Mannar College Branch of TNSF** with B.Sc. Physics and Mathematics students as members on March 2015.
- Conducted **National Children Science Congress Competition** in Mannar College Campus for the years 2015 and 2016
- Organized 3 days **All India Children's Science Festival** from 28.12.2018 to 30.12.2018 in Mannar College Campus with the support from Vigyan Prasad, DST, New Delhi and TNSCST, Govt. of Tamilnadu, Chennai

➤ **Social Work**

- Distributed food and essential needs worth of Rs.2,50,000/- on behalf of Mannar Thirumalai Naicker College to the people of Cuddalore during the monsoon disaster NEM - 2015.

➤ **External examiner for Practical, Project and Viva-voce examinations**

Acted as External examiner for Practical, Project and Viva-voce examinations from

- 29.03.21 to 31.03.21 at Sourashtra College, Madurai
- 24.05.22 to 25.05.22 and 06.06.22 at Fatima College, Madurai
- 02.06.22 at Sourashtra College, Madurai

➤ **Resource person**

Acted as a **Resource person** in

- VVV College for women, Virudhunagar on 25.02.21 and delivered a talk on "**Crystal Growth Techniques**".
- Sri Meenakshi Government Arts College for women, Madurai on 4.4.22 and delivered a talk on "**Simple Crystal Growth Techniques At Home**".

➤ **Chief Guest and Judge**

Acted as Chief Guest and judged Science Expos organized by

- Indian 3C School, Vilachery and Devasahayam School, Pasumalai, Madurai
- Idhayam Rajendran School, Madurai on 23.3.22

➤ **Educational tour**

- Organized an Educational tour to **Kodaikanal Solar Observatory**, Kodaikanal on 07.05.2022 for III - Year B.Sc., Physics students.
- Organized an Educational tour to **Kudankulam Nuclear Power Project**, Kudankulam on 07.10.2022 for III & II - Year B.Sc., Physics students.

➤ **Memberships**

- Academic Council, Madurai Kamaraj University
- Life member in TNSF, Madurai Branch
- Life member in Break Through Science Society (BSS), Tamilnadu Chapter
- Member in VIDWAN
- Member in Publons