



GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)

KUMBAKONAM - 612 001

Affiliated to Bharathidasan University

DST - CURIE Sponsored Institution

IV Cycle of Accreditation

☎ 0435 - 2401391

✉ principal@gcwk.ac.in



CRITERION III - RESEARCH, INNOVATIONS AND EXTENSION

3.3 INNOVATION ECOSYSTEM

3.3.1. Initiatives for the Creation and Transfer of Knowledge/Technology

**INSTITUTION'S INNOVATION COUNCIL
(IIC)**



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INSTITUTION'S INNOVATION COUNCIL (IIC)



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INSTITUTION'S INNOVATION COUNCIL

IIC ID: IC202216538 | Government College for Women (Autonomous) (C-35795) | Star Ratings (AY 2021-22): ★★★★★

My Activity

S.No.	Activity	View Details	Report	Status	Comment	Review Request	Download Report	Action
1	Name:- Workshop on Entrepreneurship Skill, Attitude and Behaviour Development Quarter:- Quarter II Type:- IIC Calendar Activity		UPLOAD REPORT	Approved	NA	NA	N/A	
2	Name:- Organise an Expert talk on Process of Innovation Development, Technology Readiness Level (TRL); Commercialisation of Lab Technologies & Tech-Transfer		UPLOAD REPORT	Approved	NA	NA	N/A	

INSTITUTION'S INNOVATION COUNCIL

IIC ID: IC202216538 | Government College for Women (Autonomous) (C-35795) | Star Ratings (AY 2021-22): ★★★★★

⚠ The deadline for report submission has been extended until September 24, 2023.

My Activity

3	Name:- Organising Innovation & Entrepreneurship Outreach Program in Schools/Community Quarter:- Quarter II Type:- IIC Calendar Activity		UPLOAD REPORT	Approved	NA	NA	N/A	
4	Name:- Workshop on Design Thinking, Critical thinking and Innovation Design Quarter:- Quarter II Type:- IIC Calendar Activity		UPLOAD REPORT	Approved	NA	NA	N/A	



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<ul style="list-style-type: none"> About My Institute My Profile My Council I&E Courses I&E Collaboration Submit Expert Session Manage Pre-Incubation / Incubation Details Performance Card 		IC202216538	September 24, 2023.	Name:- Organise an Inter/Intra Institutional Start-up Competition and Reward Best Start-ups - Manage through YUKTI-NIR Quarter:- Quarter IV Type:- IIC Calendar Activity		<input type="button" value="UPLOAD REPORT"/>	<input type="button" value="Approved"/>	NA	NA	N/A
				Name:- Organising Innovation & Entrepreneurship Outreach Program in Schools/Community Quarter:- Quarter IV Type:- IIC Calendar Activity		<input type="button" value="UPLOAD REPORT"/>	<input type="button" value="Approved"/>	NA	NA	N/A

INSTITUTION'S INNOVATION COUNCIL		IIC ID	Government College for Women (Autonomous) (C-35795)		Star Ratings (AY 2021-22)						
<ul style="list-style-type: none"> About My Institute My Profile My Council I&E Courses I&E Collaboration Submit Expert Session Manage Pre-Incubation / Incubation Details Performance Card 		IC202216538	The deadline for report submission has been extended until September 24, 2023.		Name:- Organise Session on "Lean Start-up & Minimum Viable Product/Business"- Boot Camp (or) Mentoring Session Quarter:- Quarter IV Type:- IIC Calendar Activity		<input type="button" value="UPLOAD REPORT"/>	<input type="button" value="Approved"/>	NA	NA	N/A
				Name:- Session on Accelerators/Incubation - Opportunities for Students & Faculties - Early Stage Entrepreneurs Quarter:- Quarter IV Type:- IIC Calendar Activity		<input type="button" value="UPLOAD REPORT"/>	<input type="button" value="Approved"/>	NA	NA	N/A	



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INSTITUTION'S INNOVATION COUNCIL
Ministry of Education Initiative

IIC ID
IC202216538

Government College for Women (Autonomous) (C-35795)

Star Ratings (AY 2021-22)
★★★★★

All Quarter
All Activity
Search Title

My Activity

S.No.	Activity	View Details	Report	Status	Comment	Review Request	Download Report	Action
1	<p>Name:- Independence Day- Celebrating Aazadi Ka Amritkal</p> <p>Quarter:- Quarter IV</p> <p>Type:- Celebrations</p>		UPLOAD REPORT	Approved	NA	NA	N/A	

Items per page: 10 11 - 11 of 11 < > >>

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10/29/2023



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KUMBAKONAM,



IIC Calendar of Activities For Academic Year 2022-2023

S.No.	Name / Nature of the Activity	Title	Date	Role	Supporting Document
1.	Workshop	Corporate Connect through Python	10.01.2023	Transfer of Technology	View
2.	Seminar	Outreach Programme Career Opportunities in the Department of Atomic Energy	22.02. 2023	Transfer of Technology	View
3.	Outreach Programme	Science to Society	27.02.2023	Transfer of Knowledge	View
4.	Workshop	Entrepreneurship Skill in Aari Work	16.02.2023 to 16.03.2023	Transfer of Knowledge	View
5.	Workshop	Exploiting Social Media for Educational Purpose	11.07.2023	Transfer of Technology	View
6.	Workshop	Global Career Opportunities for Students of English	08.08. 2023	Transfer of Knowledge	View
7.	Aspire	A Counseling Session for 1 st Year Students	23.08.2023	Transfer of Knowledge	View
8.	Workshop	Entrepreneurship Skill in Aari work	28.08.2023	Transfer of Knowledge	View
9.	Self-Driven Activity	Chandrayaan 3 Day Celebration	24.08.2023	Transfer of Knowledge	View
10.	Self-Driven Activity	Hands on training on Sophisticated Equipment's	04.08.2023	Transfer of Technology	View
11.	Celebration Activity	Independence day celebration	15.08.2023	Transfer of Knowledge	View



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CRITERION III – RESEARCH, INNOVATIONS AND EXTENSION

3.3. INNOVATION ECOSYSTEM

3.3.1: Initiatives for the Creation and Transfer of Knowledge/Technology

INCUBATION CENTRE



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DST-CURIE INSTRUMENTATION FACILITY (D-CIF)

ABOUT D-CIF

DST-CURIE Instrumentation Facility (D-CIF) at Government College for Women (Autonomous), Kumbakonam was established in 2022 under the auspices of Department of Science and Technology (DST), Government of India. The focus of D-CIF is to facilitate students hailing from rural areas to get an access to sophisticated equipments with nominal charges in their pursuit of higher education. D-CIF which is equidistant from Annamalai University, Chidambaram and Bharathidasan University, Tiruchirappalli has become a boon to the students hailing from the neighbourhood of the college without having to travel around 100 kms from their residence. D-CIF promises to be an incubation centre sharing its knowledge and resources to the nearby higher educational institutions.

PRINCIPLE INVESTIGATOR

1. Dr.R.Radha Principal Investigator

E-mail : radha_ramaswamy@gcw.ac.in

CO- INVESTIGATOR

2. Dr.F.Kurus Malai Selvi, Co-Principal Investigator

E-mail : f.kurusmalaiselvi@gcw.ac.in

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UV VISIBLE SPECTROPHOTOMETER



DESCRIPTI

- ✓ 207-25700-58 New Shimadzu UV-VIS Spectrophotometer, UV-1900i
- ✓ 071-60845-01 CORD SET, 3VTJ1/3VTJA2.4M
- ✓ 226-89001-00 UV 10mm Cell GS Kit
- ✓ USB Cable

USES

- ✓ It is the best analytical tool for quantitative and qualitative analysis of samples for various research field. It is easy to use, reliable, robust and fast.

STATUS: ACTIVE

PHOTO LUMINESCENCE PL 100



DESCRIPTION

✓ **MARUTEK MODEL : PL 100-
Portable Photoluminescence
Spectrometer**

USES

- ✓ To determine Band Gap, impurity levels and defect detection, Recombination mechanisms material quality and molecular structure and crystallinity.
- ✓ Research and Development Laboratories
It is used to carry out a photochemical reaction, water splitting and photo chlorination reaction.

STATUS : ACTIVE



PHOTO CATALYTIC REACTOR (PCR)



DESCRIPTION

**CLASSIC MODEL UN VISIBLE
LAMP 450W
INBUILT UV/VISIBLE LAMP
POWER SUPPLY WATT - 450W
DIGITAL MAGNETIC STRRER
WITH TIMER
OUTER METAL SHELL (SAFETY
CABINET)**

USES

**It is a device that uses light (photons)
to perform a chemical reaction.**

STATUS : ACTIVE



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3.3.1: Initiatives for the creation and Transfer of Knowledge/Technology

RESEARCH CENTRE



CENTRE FOR NONLINEAR SCIENCE (CeNSc)

PRIMARY

Centre for Nonlinear Science (CeNSc) – Two Decades of Excellence in Research

Centre for Nonlinear Science (CeNSc) was established in the year 2005 under the auspices of the Department of Science and Technology with a seed grant of Rs.8 Lakhs. The focus of the CeNSc is to investigate the impact of nonlinearity in different branches of physics like hydrodynamics, optics, condensed matter physics etc. Situated in a semi urban area which stands isolated from hardcore research activities, CeNSc has grown into a full fledged premier research institute with special emphasis on “Theoretical Physics/ Nonlinear Dynamics” on the lines of Institute of Mathematical Sciences , (IMSc), Chennai in a span of two decades. CeNSc has so far completed ten major sponsored research projects funded by DST, UGC, DAE-NBHM and CSIR worth to the tune of around 2 crores and has entered into thriving collaboration with leading institutes in India and abroad.

**SPONSORED PROJECTS HISTORY**

S.No.	Funding Agencies	Title of the Project	Duration	Amount
1.	DST- CURIE	DST Consolidation of University Research for Innovation and Excellence in Women Universities (CURIE)	(2022- 2025). (Ongoing)	Rs. 40,95,360/-
2.	DAE-NBHM	Investigation of PT-Symmetric and non PT-Symmetric variable coefficient Nonlinear Schrodinger type equations	2021-2024 (Ongoing)	Rs. 15,87,400/-
3.	CSIR	Exploring the Ultracold Atom Dynamics Through PT Symmetry	2019-2022. (Completed)	Rs. 35,68,910/-
4.	DAE-NBHM	A New Algorithm to study the variable coefficient Gross-Pitaevskii (GP) Type equations	2015-2018 (Completed)	Rs. 13,72,000/-
5.	CSIR	“Ultra cold atoms dynamics through a versatile analytical and Numerical approach	2015-2018 (Completed)	Rs. 11,50,000/-
6.	DST	Dynamics of Bose Einstein condensates with both short range and Long range interactions	2013-2015 (Completed)	Rs.12,44,400/-
7.	UGC	Penetrating into the domain of the Bose Einstein Condensates	2011-2014 (Completed)	Rs. 9,36,800/-
8.	DAE – NBHM	Exploring the dynamics of Bose- Einstein Condensates through a new analytical approach	2011-2014 (Completed)	Rs. 11,68,180 /-
9.	DST	Identification of Localized Excitations in Bose-Einstein condensates and their Interaction	2008-2011 (Completed)	Rs. 10,16,148/-
10.	UGC	Minor Research Project	2008-2010 (Completed)	Rs. 80,000/-
11.	DST	Localized Coherent Excitations in (2+1) Dimensional Nonlinear Systems	2005-2008 (Completed)	Rs. 8,10,600/-

**IT INFRASTRUCTURE AT CeNSe**

S.No	Workstations with details	Configurations	NUMBER	Rate
1.	I9 Workstation	Intel Core i9 @9980x Processor, LGA 2066 X299 Series Motherboard, 64GB DDR 3000 RAM (4*16GB), 1 TB SSD Hard drive, 2 TB SATA Harddisk@7200RPM, Liquid Cooler(H100i), Nvidia Geforce GTX-1660 6G Graphics, Corsair 175R Cabinet, USB Keyboard & Optical Mouse, 27" 4k LED Monitor	1	3,05,500/-
2.	Z600 Workstation	Intel XEON E5607 2.26 SMB / 10664C CPU-1 Intel XEON E5607 2.26 SMB / 10664C CPU-2	1	1,97,000/-
3.	Z620 Workstation	HP Z640 Country Kit, HP Z 620 800W 90 Percent Efficient Chassis, HP Single Unit Packaging, 16GB DDR3 RAM, 1TB, 7200 RPM SATA HDD, HP USB Keyboard and Optical Mouse, Nvidia QUADRO 410 512MB Graphics Card, HP 20" LED Monitor	1	3,56,400/-
4.	Z640 Workstation	HP Z640 Country Kit, HP Z640 9254 90 Percent Efficient Chassis, HP Linux Installer Kit, HP Single Unit Packaging 2k intel Xeon E5-2620V96 Core Processor @ 2.4GHz 1TB 7200 RPM SATA 1 st HDD 32GB DDR-2139(2*16GB) 2CPU registered RAM Nvidia 1 GB Graphics Card HP USB Keyboard, HP USB 1000DPI Laser mouse 9.5 MMSLIM DVD-ROM 1 st ODD HP	1	3,49,000/-
5.	Book - Pro	Apple Mac	1	1,00,000/-
6.	Scanner	Cannon Scanner	1	3,900/-
7.	Laptop	HP Pavilion Laptop	1	53,499/-
8.	I Pad	Apple I pad	1	90,800/-
9.	Printers	<ul style="list-style-type: none"> ➤ CANON LBP3300 DUPLEX PRINTER ➤ EPSON L3150 All in one Ink Tank Printer ➤ CANON IMAGE CLASS MF 4890 dw 	3	11,000/- 13,800/- 42,000/-
10	Xerox Machine	SHARP AR 5516 Digital MFD	1	37,856/-
11	Fax Machine	BROTHER Fax Cum Telephone Sno C8K 446002	1	6,200/-
12	Air Conditioner	LG Air Condition (Model: LSB24K1RAB1)	1	35,500/-
13	UPS	Microtek on-line UPS Max + 3KVA/72VDC ISO TX (Serial Nos: 23B20C4B34D00711)	1	1,12,000/-



PUBLICATIONS

International		National		Others
Journals	Conferences	Journals	Conferences	Books / Chapters / Monographs / Manuals
77	5	1	2	-

LIST OF PUBLICATIONS

(a) Journals

- R. Radha** and M. Lakshmanan, "Multisoliton generation in inhomogeneous nonlinear Schrödinger and Heisenberg Spin Systems", *Chaos, Solitons and Fractals* **4**, 181 (1994).
- R. Radha** and M. Lakshmanan, "Singularity analysis and bilinear form of a (2+1) dimensional nonlinear Schrödinger (NLS) equation", *Inverse Prob.* **10**, L29 (1994).
- R. Radha** and M. Lakshmanan, Singularity analysis and localized coherent structures in (2+1) dimensional generalized Korteweg-de Vries equations, *J.Math.Phys.* **35**, 4746 (1994).
- R. Radha** and M. Lakshmanan, "Dromion like structures in the (2+1) dimensional breaking soliton equation", *Phys. Lett. A* **197**, 7 (1995).
- R. Radha** and M. Lakshmanan, "On the integrability and singularity structure aspects of deformed nonlinear evolution equations of AKNS type", *J.Phys. A* **28**, 6977 (1995).
- R. Radha** and M.Lakshmanan, "The (2+1) dimensional Sine-Gordon equation: integrability and localized solutions", *J. Phys. A* **29**, 151 (1996).
- R. Radha** and M. Lakshmanan, "Localized coherent structures and integrability in a generalized (2+1) dimensional nonlinear Schrodinger (NLS) equation", *Chaos, Solitons and Fractals* **8**, 17 (1997).
- R. Radha** and M. Lakshmanan, "Exotic coherent structures in the (2+1) dimensional long dispersive wave (2LDW) equation", *J.Math. Phys.* **38**, 292 (1997).
- R. Radha** and M. Lakshmanan, "A new class of induced localized coherent structures in the (2+1) dimensional nonlinear Schrödinger equation", *J. Phys. A* **30**, 3229 (1997).
- M. Lakshmanan and **R. Radha**, "Localized coherent structures of (2+1) dimensional generalization of soliton systems", *Pramana* **48**, 163 (1997).
- R. Radha** and M. Lakshmanan, "Generalized dromions in the (2+1) dimensional Long dispersive wave (2LDW) and scalar nonlinear Schrödinger (NLS) equations", *Chaos,Solitons and Fractals* **10**, 1821 (1999).
- R. Radha**, S. Vijayalakshmi and M. Lakshmanan, "Explode-Decay Dromions in the non- isospectral Davey-Stewartson I (DSI) Equation", *J. Nonlinear Mathematical Physics* **6**, 120 (1999).
- R. Radha**, C. Senthilkumar and M. Lakshmanan, "Exponentially Localized Solutions inthe Melnikov Equation", *Chaos, Solitons and Fractals* **22**, 705 (2004).
- R. Radha**, C. Senthilkumar, M. Lakshmanan, X.Y. Tang and S.Y. Lou, " Periodic and Localized solutiions of the Long Wave-Short Wave Resonance interaction equation", *J. Phys. A: Math. Gen.* **38**, 9649 (2005).
- R. Radha**, and S.Y. Lou, "Integrability and Novel Localized Solutions in the (2+1) dimensional generalized sasa-satsuma equation", *Physica Scripta* **72**, 432 (2005).
- R. Radha**, X.Y. Tang and S.Y. Lou, "Painleve Truncation Method - A unified approach to exact solutions and Dromion Interactions of (2+1) Dimensional Nonlinear Systems", *Z. Naturforsch* **62**, 107 (2007).
- R. Radha** and V. Ramesh Kumar, "Explode-Decay Solitons in the Generalized



- Inhomogeneous Higher order Nonlinear Schrodinger equations”, *Z. Naturforsch* **62**, 381 (2007).
18. **R. Radha** and V. Ramesh Kumar, “Bright Matter wave solitons and their collision in Bose-Einstein condensates”, *Phys. Lett. A* **370**, 46 (2007).
 19. **R. Radha** and V. Ramesh Kumar, “Gauge equivalence of Gross-Pitaevskii equation and the Equivalent Heisenberg Spin Chain”, *Physica Scripta* **76**, 431 (2007).
 20. **R. Radha**, “Induced explode –Decay Dromions in the nonisospectral (2+1) Nonlinear Schrodinger Equation”, *European Physical Journal D* **45**, 317 (2007).
 21. V. RameshKumar, **R. Radha** and Prasanta K. Panigrahi, “Dynamics of Bose-Einstein condensates in a time dependent trap”, *Phys. Rev. A* **77**, 023611 (2008).
 22. **R. Radha**, V. Ramesh Kumar and K. Porsezian, “Remote Controlling the dynamics of Bose Einstein condensates under time dependent trap”, *Journal of Physics A* **41**, 315209 (2008).
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 24. C. Senthilkumar, **R. Radha** and M. Lakshmanan, “Trilinearization and Localized solutions of (2+1) dimensional K-dV and NNV equations”, *Chaos, Solitons and Fractals* **39**, 942 (2009).
 25. **R. Radha**, C. Senthil Kumar, M. Lakshmanan and C. R. Gilson, “The Collision of multimode dromions and a firewall in the two component long wave short wave resonance interaction Equation”, *Fast Track Communications, J. Phys. A* **42**, 102002 (2009).
 26. V. Ramesh Kumar, **R. Radha** and Prasanta K. Panigrahi, “Matter wave interference pattern in the collision of bright solitons”, *Phys. Lett. A* **373**, 4381 (2009).
 27. **R. Radha** and V. Ramesh Kumar, “Interplay between Nonlinearity and Dispersion in the Femtosecond NLS equation”, *Z. Naturforsch A* **65a**, 1 (2010).
 28. **R. Radha**, V. Ramesh Kumar and Miki Wadati, “Line Soliton Dynamics and Stability Bose- Einstein Condensates in (2+1) GP equation”, *J. Math., Phys* **51** , 043507 (2010).
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 31. **R. Radha**, V.Ramesh Kumar ,Miki Wadati, “Collision of Bright Vector Solitons in Two component Bose Einstein Condensates”, *Phys. Lett. A* **374**, 3865 (2010).
 32. H. J. Shin, **R. Radha**, V. Ramesh Kumar, “Bose-Einstein Condensates with spatially inhomogeneous interaction and bright solitons”, *Phys. Lett. A* **375**, 2519 (2011).
 33. **R. Radha** , P.S.Vinayagam, “Stabilization of Matter wave solitons in weakly coupled atomic condensates”, *Phys. Lett. A* **376** , 944 (2012).
 34. J.B. Sudharsan, **R. Radha** and P.Muruganandam, “Collisionally inhomogeneous Bose Einstein Condensates with both binary and three body interactions in a bichromatic optical lattice” . *J. Phys. B:At. Mol. Opt. Phys.* **46**, 015302 (2013).
 35. **R. Radha**. P.S.Vinayagam and K.Porsezian, “Rotation the trajectories of the bright soliton and realignment of intensity distribution in the Coupled Nonlinear Schrodinger equation”, *Phy. Rev. E* **88**, 032903 (2013).
 36. J.B. Sudharsan, **R. Radha** and A.Nicolin, “Faraday waves in Cigar shaped BEC with radially inhomogeneous scattering lengths”, *Rom. Rep. Phys* **65**, 820 (2013).
 37. P. S.Vinayagam, **R. Radha** and K.Porsezian, “Taming of Rogue waves in Vector BECs”, *Phy. Rev. E* **88**, 042906 (2013).



38. A.I. Nicolin, A. Balaz, J.B. Sudharsan, **R. Radha**, “Ground State of BEC with Inhomogeneous Scattering length”, *Rom. J. Phys.* **59**, 204 (2014).
39. **R. Radha**, P.S. Vinayagam, H.J. Shin. and K. Porsezian, “Spatiotemporal Binary interaction and Designer quasi particle condensates”, *Chinese Physics B* **23(3)**, 034214 (2014).
40. **R. Radha**, P. S.Vinayagam and K. Porsezian, “Soliton Dynamics of Spatially coupled vector BECs”, *Rom. Rep. Phys.* **66**, 427 (2014).
41. A. Balaz, R. Paun, A.I. Nicolin, J. B. Sudharsan, R. Radha, “ Faraday waves in collisionally inhomogeneous Bose-Einstein condensates”, *Phys. Rev. A*, **89**, 023609 (2014).
42. V. Ramesh Kumar, Lin Wen, **R. Radha** and W. M. Liu, “Splitting and recombination of 2d matter-wave solitons in a transient trap”, *Rom. Rep. Phys.* **66**, 443 (2014).
43. **R. Radha**, P.S.Vinayagam, “An analytical window into the world of Ultracold atoms”, *Rom. Rep. Phys.* **67**, 89 (2015).
44. P. S. Vinayagam, **R. Radha**, Vivek M. Vyas and K.Porsezian, “Generalized gauge transformation approach to construct dark solitons of coupled Nonlinear Schrodinger type equations”, *Rom.Rep. Phys.* **67**, 3 (2015).
45. J. B. Sudharsan, **R. Radha**, H. Fabrelli, A. Gammal and B. A. Malomed, “Stable multiple vortices in collisionally inhomogeneous attractive Bose-Einstein condensates”, *Phys. Rev. A* **92**, 053601 (2015).
46. **R. Radha**, P.S.Vinayagam, J. B. Sudharsan and W. M. Liu, “Engineering bright solitons to enhance lifespan and stability of Vector BECs”, *Phys. Lett. A* **379**, 2977 (2015).
47. **R. Radha**, P.S.Vinayagam, J. B. Sudharsan and B.A. Malomed, “Persistent bright solitons of sign indefinite coupled nonlinear schrodinger equation with time dependent trap”, *Communications in Nonlinear Science and Simulations* **31**, 30 (2016).
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52. P. S. Vinayagam, **R. Radha**, A. K. Usama and L. Ling, “Collisional dynamics of solitons in the coupled PT symmetric nonlocal nonlinear Schrödinger equations”, *Communications in Nonlinear Science and Simulations* **52**, 1, (2017).
53. H. Frabrelli, J. B. Sudharsan, **R. Radha**, A. Gammal, and Boris A. Malomed, “Solitons under spatially localized cubic-quintic-septimal nonlinearities”, *J. Optics* **19**, 7, (2017).
54. P. Albares, P. G. Estevez, **R. Radha** and R. Saranya, “Lumps and Rogue waves of Generalized Nizhnik Novikov Veselov Equation”, *Nonlinear Dynamics* **90**, 2305, (2017).
55. P. S. Vinayagam, **R. Radha**, U. Al Khawaja, Liming Ling, “New classes of solutions in the Coupled PT Symmetric Nonlocal Nonlinear Schrodinger Equations with Four Wave Mixing”, *Communication in Nonlinear Science and Numerical Simulation* **59**,



- 387 (2018).
56. **R. Radha**, C. SenthilKumar, R. Saranya, “Inelastic Dromions, Rogue Waves and Lumps of (2+1) dimensional Long Dispersive Wave Equation”, *Wave Motion* **85**, 114 (2019).
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 66. Sabari Subramaniyan, Kishor Kumar Ramavarmaraja, **R. Radha**, and Boris A Malomed “Interplay between binary and three-body interactions and enhancement of stability in trapless dipolar Bose-Einstein condensates”, *Applied Sciences* **12**, 1135 (2022).
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 68. Tamil Arasan Bakthavatchalam, Selvakumar Murugan, Suriyadeepan Ramamoorthy,Malaikannan Sankarasubbu, **R. Radha**, Boris A. Malomed and Vijayalakshmi Sethuraman, “Primer on solving differential equations using Machine learning techniques”, *Romanian Report in Physics* **74**, 113 (2022).
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 71. P. Naveena, S. Bhuvanewari, R. Muthuganesan and **R. Radha**, “Quantum correlations in mixed spin-(1/2,1) Heisenberg dimer”, *Journal of Magnetism and Magnetic Materials* **563**,169863 (2022).
 72. **R. Radha**, Sudhir Singh, C. Senthil Kumar and Sen Yue Lou, “Elusive Exotic



- Structures and their Collisional Dynamics in (2+1)-Dimensional Boiti-Leon-Pempinelli Equation”, *Physica Scripta* **97**, 125211 (2022).
73. R. Muthuganesan, S. Bhuvaneshwari, and **R. Radha**, “Characterizing nonclassical correlations of tensorizing states in a bilocal scenario”, *Quantum Inf. Process* **22**, 44 (2023).
74. S. Bhuvaneshwari, R. Muthuganesan and **R. Radha**, “Thermal quantum correlations and Teleportation in a Graphene Sheet”, *Applied Physics B* **129**, 73 (2023).
75. B. Tamizharasan, S. Meiyazhagan, **R. Radha**, S. Vijayalakshmi and B. A. Malomed, “Data-driven Multi-valley Dark Solitons of Multi-component Manakov Model using Physics-Informed Neural Networks”, (*Chaos, Solitons and Fractals*, 172, 113509, 2023).
76. K. Rajaswathi, S. Bhuvaneshwari, **R. Radha** and P. Muruganandam, “Dispersion engineering in spin-orbit coupled spinor condensates driven by negative masses” (*Phys.Rev.A*.108,033317, 2023).

(b) Conference Proceedings:

- 1) **R. Radha** and B. Tamilarasan, Analytical signature of ultra cold atoms, at “Recent Trends in Material Sciences” Annamalai University, Chidambaram, on 30th Oct 2018.
- 2) V. Ramesh Kumar, **R. Radha** and Miki Wadati, Collision of solitons in the Electromagnetically Induced Transparency, International Conference on Cold Atoms (ICCA), pp. 21, Dec.12-16 (2008), Kolkatta, India.
- 3) **R. Radha**, V. Ramesh Kumar and K. Porzejian, Remote controlling the dynamics of Bose- Einstein condensates through time dependent atomic feeding and trap, International Conference on Cold Atoms (ICCA),pp.(38-39) Dec.12-16 (2008), Kolkatta, India.
- 4) V. Rameshkumar, **R. Radha** and Prasant K. Panigrahi, Dynamics of Bose-Einstein Condensates in a Time-dependent trap, *Nonlinear Dynamics: Concepts and Applications*, Ed.M. Daniel and S. Rajasekar, (pp.129-132), 2009.
- 5) C. Senthil Kumar, **R. Radha** and M. Lakshmanan, New Localized Coherent Structures and Periodic Solutions of the (2+1) -dimensional KdV equation, *Proceedings of the National Conference on Nonlinear System and Dynamics*, RIASM, University of Madras, Chennai, India (2006) pp 7-10.
- 6) C. Senthil Kumar, **R. Radha** and M. Lakshmanan, Singularity structure Analysis and Exponentially Localized Solutions of a (2 + 1) dimensional Non-linear Evolution equation, *Proceedings of the First National Conference on “Nonlinear Systems and Dynamics”*, Center for Theoretical Studies, Indian Institute of Technology, Kharagpur, India (2003) pp 29-32.
- 7) M. Lakshmanan and **R. Radha**, Solitons and Inverse Scattering in (2 + 1) dimensions, *Proceedings of the Symposium on plasma science and Technology*, K. P. Maheswari (Ed.) (Wiley - Eastern, New Delhi, 1992).



BOOK PUBLISHED:

- P. Muruganandam and **R. Radha**, “An Introduction to Ultracold Atoms with Analytical and Numerical Methods ” UK, 2023 (Under Preparation).

ACTIVITIES RELATING TO PROMOTION OF SCIENCE IN TAMIL NADU

Centre for Nonlinear Science (CeNSc), a premier research institute established by **Dr. R. Radha** came into being in 2005 under the patronage of Department of Science and Technology (DST). In a span of over a decade and a half, it has now grown into a full fledged, internationally reputed research institute with infrastructural facilities on a par with Institute of Mathematical Sciences (IMSc), Chennai. In a semi urban town like Kumbakonam which is far away from the core research activities, CeNSc is offering a huge platform for young motivated researchers to explore their potential in nonlinear science. CeNSc has so far completed eight major research projects sponsored by DST, DAE-NBHM, CSIR and UGC and there are two ongoing major research projects funded by CSIR and DAE-NBHM. **Dr. R. Radha** has so far mobilized resources to the tune of more than 1.5 crores through these projects for carrying out research in nonlinear science. CeNSc under the stewardship of **Dr. R. Radha** has entered into thriving collaborations with reputed research institutes in India and abroad (Japan, China, South Korea, New Zealand, UK, Israel, UAE, Romania, Spain, Serbia etc).

On the teaching front, **Dr. R. Radha** had recently organized a webinar on " Virtual Physics Laboratory" as a lockdown initiative and the virtual contents were uploaded in (<https://youtu.be/LYiVTFQb4Uc>) for the benefit of Physics teachers and Undergraduate/Postgraduate students.

This will certainly help Physics teachers across the country to take laboratory experiments to the doorstep of the students virtually.

**DETAILS OF BENEFICIARIES**

Name of the Student	Area of Research	Name of the University/ Institute	Present Status
V.RAMESH KUMAR	Scalar Bose - Einstein Condensates & their Dynamics	Bharathidasan University, Tiruchirappalli .	Asst.Professor, Velammal Engineering College, Chennai.
P.S.VINAYAGAM	Vector Bose -Einstein Condensates & their stability	Bharathidasan University Tiruchirappalli.	Asst.Professor, PSG College of Arts and Science, Coimbatore.
J.B.SUDHARSAN	Collisionally Inhomogenous Bose-Einstein Condensates	Bharathidasan University Tiruchirappalli.	Asst.Professor, Chennai Institute of Technology(CIT), Chennai.
Mr.V. RAJADURAI	Spinor Bose Einstein Condensates	Bharathidasan University Tiruchirappalli.	
Dr.R.TAMIL THIRUVALLUVAR	BECs in Discrete Media (Post Doctoral Fellowship)	Bharathidasan University Tiruchirappalli.	
Dr.S.BHUVANESWARI	Quantum Information Science	Bharathidasan University Tiruchirappalli.	
Dr.S. SABARI	Bose Einstein Condensates with Long range interactions (Post Doctoral Fellowship)	Bharathidasan University Tiruchirappalli.	Post Doctoral Fellow, University of Sao Paulo, Brazil.
Mr.B. TAMILARASAN	Machine Learning	Bharathidasan University Tiruchirappalli.	Software Engineer, SAAMA AI Lab, Chennai
Mr.K. SUBRAMANIAN	Truncated Painleve Approach	Bharathidasan University Tiruchirappalli.	Assistant Professor, S.R.M Institute, Chennai
MS.R. SARANYA	(2+1) Nonlinear pdes	Bharathidasan University Tiruchirappalli.	
MS.G. PONMALAR	BECs in Discrete Media	Bharathidasan University Tiruchirappalli.	
MR.C. SENTHIL KUMAR	(2+1) Dimensional Soliton	Bharathidasan University Tiruchirappalli.	Professor & Head Vinayaka Mission's Deemed University, Salem.



TIE - UPS AND COLLABORATIONS:

(a). International Collaboration

- 1) Shanghai Jiao Tong University Shanghai, China
- 2) University of Tokyo, Tokyo, Japan
- 3) University of Glasgow, UK
- 4) Univerdity of Kung Kee, Seoul, South Korea
- 5) Univerdity of Bucharest, Romania
- 6) University of Serbia, Serbia
- 7) University of Beijing, Chinese Academy of Sciences, Beijing, China
- 8) University of Sau Paulo, Brazil
- 9) University of Tel Aviv. Israel
- 10) University of Salamanca, Spain
- 11) University of AL Ain, UAE
- 12) Institute of Physics, Russian Academy of Science, Makhachkala 367 003, Russia
- 13) University of Cameroon, Cameroon, South Africa
- 14) University of Dunedin, New Zealand

(b). National Collaboration

- 1) IMSc, Chennai.
- 2) IISER, Kolkata.
- 3) Central University of Pondicherry, Pondicherry.
- 4) Bharathidasan University, Tiruchirappalli.
- 5) SASTRA, Thanjavur
- 6) Presidency College, Chennai
- 7) VMKVEC, Salem
- 8) SAMA Artificial intelligence Lab, Chennai
- 9) Velammal Engineering College, Chennai.



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(c). Distinguished Visitors

S.No	Name	Country
1	Dr.Alexandru I Nicolin	University of Buharest, Romania.
2	Dr. Mihelea Carina Raportaru	University of Buharest, Romania.
3.	Prof. Yvehe Kosman Swarchbach	Ecole polytechnique, Paris.
4	Prof. M Lakshamanan	Bhatnagar Laureate 1992, Bharathidasan University, India.
5	Prof. K Prochezhian	Pondicherry University, India.
6	Dr. P Muruganandam	Bharathidasan University, India.
7	Dr .M Senthilvelan	Bharathidasan University, India.
8.	Dr. S. Lakshmi Bala	IIT, Madras
9.	Dr. Prof. R.Sriram	University of Madras
10.	Prof. V.Balakrishnan	IIT, Chennai
11.	Prof.R.Simon	IMSc, Chennai (Bhatnagar Laureate 2001)
12.	Prof. K.P.N. Murthy	IGCAR, Kalpakkam
13.	Prof. Dr. N.Bhaskaran	NIT, Tiruchirappalli



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CRITERION III - RESEARCH, INNOVATIONS AND EXTENSION

3.3 INNOVATION ECOSYSTEM

3.3.1: Initiatives for the Creation and Transfer of Knowledge/Technology

RESEARCH CENTRE



CENTER FOR ANIMAL STUDIES

Department of Zoology

Research Lab

Established	:	2013-2014
Area	:	9.35 m x 6.50 m (60.775 Sq.ft)
Research Area	:	1. Fish Immunology 2. Aquaculture 3. Vector Control 4. Toxicology 5. Nanotechnology 6. Phytochemistry 7. Apiculture 8. Plankton Biology 9. Ecotoxicology

Facilities Available

- ✓ Phytochemical Extraction
- ✓ Phytochemical analysis
- ✓ Quantification of nucleic acid, protein and other biomolecules in biological samples
- ✓ Synthesis of nanoparticles
- ✓ Cytological studies
- ✓ Histochemical analysis
- ✓ Microbiological studies
- ✓ Immunological studies

Equipments Available

1. UV- vis spectrophotometer with PC
2. UV- vis spectrophotometer
3. Electronic balance- 4 (Infra Digi, Wesner, Braun, Shimadzu)
4. Trinocular microscope with UPS camera
5. Trinocular microscope without UPS camera
6. Autoclave
7. Deep freezer - 2
8. Magnetic Stirrer
9. pH meter
10. Burner
11. Microprocessor-based centrifuge
12. Cooling centrifuge



13. Microcentrifuge
14. Compound microscope
15. Muffle furnace
16. Refractometer digital
17. Shaking incubator
18. Bacteriological incubator
19. CO₂ incubator
20. Water analyzer
21. Lyophilizer
22. Soxhlet apparatus (Single heating mantle, four heating mantle)
23. Distillation unit

Completed Ph.D., Scholar details

S. No.	Name of the Student	Register No.	Regular/ Part time	Date
1	G. Priya	Ref. No. 32691/Ph.D.1/ Zoology/ Part Time/ Jan. 2010	Part time	07.01.2010
2	S.S. Padma Priya	Ref. No. 32690/Ph.D.1/ Zoology/ Part Time/ Jan. 2010	Part time	07.01.2010
3	G. Sattanathan	Ref. No.36001/Ph.D.k1/ Zoology/ Full Time / Jan. 2013.	Part time	26.12.2012
4	B. Durga	Ref.No.48085/ Ph.D.k7/ Zoology /Full Time/ April 2013	Part time	04.04.2013
5	S.M. Logambal	Ref. No. 7981/ Ph.D.k7/ Zoology/ Full Time/April 2013	Part time	04.04.2013
6	V. Praveena	Ref. No.7854/ Ph.D.k7/ Zoology/ Full Time/ April 2016	Part time	28.03.2016

Ongoing Ph.D., Scholar details

S. No.	Name of the Student	Register No.	Regular/ Part time	Date
1	P. Vasanthi	36002	Part time	Ref. No. 36002/Ph.D. 1/ Part Time / Zoology/Jan. 2013.
2	J. Ananthi	34797	Part time	Ref. No. 34797/Ph.D. k.7/ Zoology / Part time /October 2014.
3	R. Semmalar	9096	Part time	Ref. No. 9096/Ph.D. k7/ Zoology / Part time /April 2017.
4	R. Karpagam	08513	Part time	Ref. No. 08513/Ph.D. k7/ Zoology / Part time /October 2017.



List of Publications:

Title of paper	Name of the author/s	Name of journal	Year of publication
2022-23			
Acaricidal efficacy of silver nanoformulations of Commiphora molmol and Zingiber officinale against the camel Tick, Hyalomma dromedarii (Ixodida: Ixodidae)	Nabil, M., Khater, H.F., Selim, A., Baz, M.M., Govindarajan, M. , Taie, H.A.A. & Negm, S.	Inorganic Chemistry Communications	2023
Exopolysaccharides-Mediated ZnO Nanoparticles for the Treatment of Aquatic Diseases in Freshwater Fish Oreochromis mossambicus	Abinaya, M., Shanthi, S., Palmy, J., Al-Ghanim, K.A., Govindarajan, M. & Vaseeharan, B	Toxics	2023
Insecticidal Potential of Matricaria chamomilla's Essential Oil and Its Components (E)- β -Farnesene, Germacrene D, and α -Bisabolol Oxide A against Agricultural Pests, Malaria, and Zika Virus Vectors	Al-Ghanim, K.A., Krishnappa, K., Pandiyan, J., Nicoletti, M., Gurunathan, B. & Govindarajan, M	Agriculture (Switzerland)	2023
Process and techno-economic analysis of bioethanol production from residual biomass of marine macroalgae Ulva lactuca	Gengiah, K., Rajendran, N., Al-Ghanim, K.A., Govindarajan, M. & Gurunathan, B	Science of the Total Environment	2023
Fishing Cat Scats as a Biomonitoring Tool for Toxic Heavy Metal Contamination in Aquatic Ecosystems	Harika, T.L., Al-Ghanim, K.A., Riaz, M.N., Krishnappa, K., Pandiyan, J. & Govindarajan, M	Toxics	2023
Synthesis of zinc oxide nanoparticles using Vigna mungo seed husk extract: An enhanced antibacterial, anticancer activity and eco-friendly bio-toxicity assessment on algae and zooplankton	Ishwarya, R., Tamilmani, G., Jayakumar, R., Albeshr, M.F., Mahboob, S., Shahid, D., Riaz, M.N., Govindarajan, M. & Vaseeharan, B	Journal of Drug Delivery Science and Technology,	2023



Dual strategy for bioconversion of elephant grass biomass into fermentable sugars using <i>Trichoderma reesei</i> towards bioethanol production	Iyyappan, J., Pravin, R., Al-Ghanim, K.A., Govindarajan, M. , Nicoletti, M. & Baskar, G.	Bioresource technology	2023
Ingestion and impacts of water-borne polypropylene microplastics on <i>Daphnia similis</i>	Jeyavani, J., Sibiya, A., Gopi, N., Mahboob, S., Al-Ghanim, K.A., Al-Misned, F., Ahmed, Z., Riaz, M.N., Palaniappan, B., Govindarajan, M. & Vaseeharan, B	Environmental Science and Pollution Research	2023
Biochemical, Genotoxic and Histological Implications of Polypropylene Microplastics on Freshwater Fish <i>Oreochromis mossambicus</i> : An Aquatic Eco-Toxicological Assessment	Jeyavani, J., Sibiya, A., Stalin, T., Vigneshkumar, G., Al-Ghanim, K.A., Riaz, M.N., Govindarajan, M. & Vaseeharan, B	Toxics	2023
Rapid synthesis of copper nanoparticles using <i>Nepeta cataria</i> leaves: An eco-friendly management of disease-causing vectors and bacterial pathogens	Mani, M., Sundararaj, A.S., Al-Ghanim, K.A., John, S.P., Elumalai, K., Nicoletti, M. & Govindarajan, M	Green Processing and Synthesis	2023
Green Synthesis, Characterization and Bioactivity of <i>Mangifera indica</i> Seed-Wrapped Zinc Oxide Nanoparticles	Rajeshkumar, S., Parameswari, R.P., Sandhiya, D., Al-Ghanim, K.A., Nicoletti, M. & Govindarajan, M	Molecules	2023
Green Synthesis of Copper Oxide Nanoparticles Using <i>Sesbania grandiflora</i> Leaf Extract and Their Evaluation of Anti-Diabetic, Cytotoxic, Anti-Microbial, and Anti-Inflammatory Properties in an In-Vitro Approach	Ramasubbu, K., Padmanabhan, S., Al-Ghanim, K.A., Nicoletti, M., Govindarajan, M. , Sachivkina, N. & Rajeswari, V.D.	Fermentation	2023



Investigations on evaluation of marine macroalgae <i>Dictyota bartayresiana</i> oil for industrial scale production of biodiesel through technoeconomic analysis	Ravichandran, P., Rajendran, N., Al-Ghanim, K.A., Govindarajan, M. & Gurunathan, B.	Bioresource technology	2023
Probiotic-Bacteria (<i>Lactobacillus fermentum</i>)- Wrapped Zinc Oxide Nanoparticles: Biosynthesis, Characterization, and Antibacterial Activity	Shanmugam, R., Munusamy, T., Jayakodi, S., Al-Ghanim, K.A., Nicoletti, M., Sachivkina, N. & Govindarajan, M	Fermentation	2023
Response of hepatic biochemical parameters and neurotoxicity to carbamazepine and ibuprofen in <i>Oreochromis mossambicus</i>	Sibiya, A., Jeyavani, J., Saravanan, M., Albeshr, M.F., Nicoletti, M., Govindarajan, M. & Vaseeharan, B	Fish Physiology and Biochemistry	2023
Synthesis of Tungsten Oxide Nanoflakes and Their Antibacterial and Photocatalytic Properties	Thanakkasarane, S., Kasi, G., Kadiravan, S., Arumugam, A., Al-Ghanim, K.A., Riaz, M.N. & Govindarajan, M.	Fermentation	2023
<i>Terminalia chebula</i> -Assisted Silver Nanoparticles: Biological Potential, Synthesis, Characterization, and Ecotoxicity	Tharani, M., Rajeshkumar, S., Al-Ghanim, K.A., Nicoletti, M., Sachivkina, N. & Govindarajan, M.	Biomedicines	2023
Molecular interaction analysis of β -1, 3 glucan binding protein with <i>Bacillus licheniformis</i> and evaluation of its immunostimulant property in <i>Oreochromis mossambicus</i>	Anjugam, M., Iswarya, A., Sibiya, A., Selvaraj, C., Singh, S.K., Govindarajan, M. , Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Sivakamavalli, J. & Vaseeharan, B	Fish and Shellfish Immunology	2023
2021-22			
Characterization of secondary metabolites from <i>Lamiaceae</i> plant leaf essential oil: A novel perspective to combat medical and agricultural pests	Elumalai, K., Krishnappa, K., Pandiyan, J., Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Barnard, D.R., Vijayakumar, N. & Govindarajan, M.	Physiological and Molecular Plant Pathology	Jan. 2022



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<p>β-1,3-Glucan binding protein-based silver nanoparticles enhance the wound healing potential and disease resistance in <i>Oreochromis mossambicus</i> against <i>Aeromonas hydrophilla</i></p>	<p>Iswarya, A., Anjugam, M., Gopi, N., Shanthi, S., Govindarajan, M., Alharbi, N.S., Kadaikunnan, S., Alharbi, M.S., Sivakamavalli, J. & Vaseeharan, B</p>	<p>Microbial pathogenesis</p>	<p>Jan. 2022</p>
<p>The dietary supplementation of zinc oxide and selenium nanoparticles enhance the immune response in freshwater fish <i>Oreochromis mossambicus</i> against aquatic pathogen <i>Aeromonas hydrophila</i></p>	<p>Yazhiniprabha, M., Gopi, N., Mahboob, S., Al-Ghanim, K.A., Al-Misned, F., Ahmed, Z., Riaz, M.N., Sivakamavalli, J., Govindarajan, M. & Vaseeharan, B</p>	<p>Journal of Trace Elements in Medicine and Biology</p>	<p>Jan. 2022</p>
<p>Hematological studies of the freshwater Zooplankton <i>Macrocyclus edax</i></p>	<p>P.Pavithra , K.Subhashini , R.Semmalar, S.S.Padmapriya , and S.Venkatalakshmi</p>	<p>Journal of Emerging Technologies and Innovative Research</p>	<p>2022</p>
<p>Influence of leaf extract of <i>Carica papaya</i> leaf extract against mercuric chloride induced hepatic enzymological changes in <i>Labeo rohita</i></p>	<p>A.V.Kavitha</p>	<p>Journal of Emerging Technologies and Innovative Research</p>	<p>2022</p>
<p>Synthesis and characterization of Ce-doped TiO₂nanoparticles and their enhanced anticancer activity in Y79 retinoblastoma cancer cells</p>	<p>Kartha, B., Thanikachalam, K., Vijayakumar, N., Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Gopinath, K. & Govindarajan, M</p>	<p>Green Processing and Synthesis,</p>	<p>2022</p>
<p>DNA barcoding of waterbirds: A novel technique in environmental conservation biology</p>	<p>Pandiyan, J., Zachariah, A., Chandramohan, B., Mahboob, S., Al-Ghanim, K.A., Nicoletti, M., Zaib-Un-Nisa & Govindarajan, M</p>	<p>Journal of King Saud University - Science</p>	<p>2022</p>



Changes in the contour of karyology and histoarchitecture of the primary respiratory organ in the fish <i>Oreochromis mossambicus</i> (Peters, 1852) inhabiting the polluted estuarine ecosystem	Punitha, S., Krishnamurthy, R., Elumalai, K., Mahboob, S., Al-Ghanim, K.A., Ahmed, Z., Mustafa, A. & Govindarajan, M	Environmental Pollution	2022
Facile synthesis of silver nanoparticles using the <i>Simarouba glauca</i> leaf extract and their impact on biological outcomes: A novel perspective for nano-drug development	Duraisamy, S., Vijayakumar, N., Rajendran, J., Venkatesan, A., Kartha, B., Kandasamy, S.P., Nicoletti, M., Alharbi, N.S., Kadaikunnan, S., Khaled, J.M. & Govindarajan, M	Journal of Drug Delivery Science and Technology	2022
Green synthesis, characterization and biological activity of <i>Solanum trilobatum</i> -mediated silver nanoparticles	Manimegalai, S., Rajeswari, V.D., Parameswari, R., Nicoletti, M., Alarifi, S. & Govindarajan, M.	Saudi Journal of Biological Sciences	2022
Green synthesis of zinc oxide nanoparticles using <i>Anoectochilus elatus</i> , and their biomedical applications	Vijayakumar, N., Bhuvaneshwari, V.K., Ayyadurai, G.K., Jayaprakash, R., Gopinath, K., Nicoletti, M., Alarifi, S. & Govindarajan, M	Saudi Journal of Biological Sciences	2022
Synthesis of Cu-MOF/CeO ₂ nanocomposite and their evaluation of hydrogen production and cytotoxic activity	Kumaraguru, S., Nivetha, R., Gopinath, K., Sundaravadivel, E., Almutairi, B.O., Almutairi, M.H., Mahboob, S., Kavipriya, M.R., Nicoletti, M. & Govindarajan, M	Journal of Materials Research and Technology	2022
Toxicity evaluation of polypropylene microplastic on marine microcrustacean <i>Artemia salina</i> : An analysis of implications and vulnerability	Jeyavani, J., Sibiya, A., Bhavaniramy, S., Mahboob, S., Al-Ghanim, K.A., Nisa, Z.-., Riaz, M.N., Nicoletti, M., Govindarajan, M. & Vaseeharan, B	Chemosphere	2022



Synthesis and physicochemical characteristics of Ag-doped hydroxyapatite nanoparticles, and their potential biomedical applications	Sebastiammal, S., Lesly Fathima, A.S., Alarifi, S., Mahboob, S., Henry, J., Kavipriya, M.R., Govindarajan, M. , Nicoletti, M. & Vaseeharan, B.	Environmental research	2022
Biomimetically synthesized <i>Physalis minima</i> fruit extract-based zinc oxide nanoparticles as eco-friendly biomaterials for biological applications	Yazhiniprabha, M., Banu, S., Ishwarya, R., Vinotha, V., Govindarajan, M. , Wadaan, M.A., Mahboob, S., Nicoletti, M. & Vaseeharan, B.	Journal of Drug Delivery Science and Technology	2022
Swift synthesis of zinc oxide nanoparticles using unripe fruit extract of <i>Pergularia daemia</i> : An enhanced and eco-friendly control agent against Zika virus vector <i>Aedes aegypti</i>	Ishwarya, R., Jayakumar, R., Govindan, T., Govindarajan, M. , Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Nicoletti, M. & Vaseeharan, B	Acta Tropica	2022
Green synthesis of silver nanoparticles using <i>Atalantia monophylla</i> : A potential eco-friendly agent for controlling blood-sucking vectors	Elumalai, K., Kavipriya, M.R., Lakshmi Prabha, A., Krishnappa, K., Pandiyan, J., Nicoletti, M., Alharbi, N.S., Kadaikunnan, S., Khaled, J.M. & Govindarajan, M	Green Processing and Synthesis	2022
<i>Azadirachta indica</i> -wrapped copper oxide nanoparticles as a novel functional material in cardiomyocyte cells: An ecotoxicity assessment on the embryonic development of <i>Danio rerio</i>	Jayakodi, S., Shanmugam, R., Almutairi, B.O., Almutairi, M.H., Mahboob, S., Kavipriya, M.R., Gandusekar, R., Nicoletti, M. & Govindarajan, M	Environmental research	2022
Ingestion and impacts of water-borne polypropylene microplastics on <i>Daphnia similis</i>	Jeyavani, J., Sibiya, A., Gopi, N., Mahboob, S., Al-Ghanim, K.A., Al-Misned, F., Ahmed, Z., Riaz, M.N., Palaniappan, B., Govindarajan, M. & Vaseeharan, B	Environmental Science and Pollution Research	2022



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Comparative toxicity of silver nanoparticles and silver nitrate in freshwater fish <i>Oreochromis mossambicus</i> : A multi-biomarker approach	Sibiya, A., Gopi, N., Jeyavani, J., Mahboob, S., Al-Ghanim, K.A., Sultana, S., Mustafa, A., Govindarajan, M. & Vaseeharan, B.	Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology	2022
<i>Citrullus lanatus</i> -encased zinc oxide nanoparticles as potential anti-diabetic, anti-inflammatory and antibacterial agents: A new strategy towards biocompatible nano-drugs	Ishwarya, R., Jeyavani, J., Jayakumar, R., Alarifi, S., Govindarajan, M. , Nicoletti, M. & Vaseeharan, B	Journal of the Indian Chemical Society	2022
Synthesis and characterization of Vitis vinifera exocarp-mediated ZnO nanoparticles: An evaluation of biological potential and ecotoxicity	Nivetha, K., Vinotha, V., Albeshr, M.F., Mahboob, S., Manzoor, I., Govindarajan, M. & Vaseeharan, B	Journal of Drug Delivery Science and Technology	2022
Toxic effect of lambda cyhalothrin and pretilachlor on biomass and histology of testis of <i>Lampito mauritii</i> (Kinberg)	Indhumathi.G, Kavitha.V and Anandhan.R	Uttar Pradesh Journal of Zoology	2022
Acute Toxicity and Histopathological Effect of Lambda Cyhalothrin and Pretilachlor on Intestine of Indian Earthworm <i>Lampito mauritii</i> (Kinberg)	Indhumathi.G, Kavitha.V and Anandhan.R	Indian Journal of Natural Sciences	2022
Facile synthesis and characterization of ZnO nanoparticles using <i>Abutilon indicum</i> leaf extract: An eco-friendly nano-drug on human microbial pathogens	Umavathi, S., Subash, M., Gopinath, K., Alarifi, S., Nicoletti, M. & Govindarajan, M	Journal of Drug Delivery Science and Technology	Dec. 2021
Antibacterial greener silver nanoparticles synthesized using <i>Marsilea quadrifolia</i> extract and their eco-friendly evaluation against Zika virus vector, <i>Aedes aegypti</i>	Ishwarya, R., Saravanan, K., Selvaraj, D., Govindarajan, M. , Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Sivakamavalli, J., Selvakumar, T. & Vaseeharan, B	Green Processing and Synthesis	Nov. 2021



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Ulvan loaded graphene oxide nanoparticle fabricated with chitosan and D-mannose for targeted anticancer drug delivery	Kesavan, S., Meena, K.S., Sharmili, S.A., Govindarajan, M. , Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Alobaidi, A.S., Alanzi, K.F. & Vaseeharan, B.	Journal of Drug Delivery Science and Technology	Oct. 2021
Factors determine the population characteristics of migratory shorebirds and their prey species in the coastal salt pans	Pandiyan, J., Mahboob, S., Al-Ghanim, K.A., Al-Misned, F., Ahmed, Z., Karthikeyan, G., Gopinath, K. & Govindarajan, M	Estuarine, Coastal and Shelf Science	Oct. 2021
Synthesis of greener silver nanoparticle-based chitosan nanocomposites and their potential antimicrobial activity against oral pathogens	Rajeshkumar, S., Tharani, M., Rajeswari, V.D., Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Gopinath, K., Vijayakumar, N. & Govindarajan, M	Green Processing and Synthesis	Oct. 2021
Synthesis and Bio-physical Characterization of Crustin Capped Zinc Oxide Nanoparticles, and Their Photocatalytic, Antibacterial, Antifungal and Antibiofilm Activity	Rekha, R., Mahboob, S., Ramya, A.K., Kerthekeyan, S., Govindarajan, M. , Al-Ghanim, K.A., Al-Misned, F., Ahmed, Z. & Vaseeharan, B.	Journal of Cluster Science	Jul-21
Microbial degradation of plastics: Sustainable approach to tackling environmental threats facing big cities of the future	Venkatesh, S., Mahboob, S., Govindarajan, M. , Al-Ghanim, K.A., Ahmed, Z., Al-Mulhm, N., Gayathri, R. & Vijayalakshmi, S	Journal of King Saud University - Science	May-21
Molecular docking and network pharmacology-based approaches to explore the potential of terpenoids for Mycobacterium tuberculosis	Kalaivani. K., Thiyagarajan. G., Vijayakumar. S., Bhavani. K. , Karthikeyan. K, Maria Jancy Rani. J., Dass. J., Sureshkumar. J., Prabhu.	Pharmacologicql research	2021



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Anti - Viral effectuality of plant polyphenols against mutated dengue protein NS2B47 - NS3: A computational exploration	Maria Jancy Rani. J., Kalaimathi. K., Vijayakumar. S., Varatharaju. G., Karthikeyan. K., Thiyagarajan. G., Bhavani. K. , Manogar. P., Prabhu.	Gene Reports	2021
2020-21			
A review on biological carbon sequestration: A sustainable solution for a cleaner air environment, less pollution and lower health risks	Gayathri, R., Mahboob, S., Govindarajan, M. , Al-Ghanim, K.A., Ahmed, Z., Al-Mulhm, N., Vodovnik, M. & Vijayalakshmi, S	Journal of King Saud University - Science	Mar. 2021
Facile synthesis of gold and platinum doped titanium oxide nanoparticles for antibacterial and photocatalytic activity: A photodynamic approach	Mahboob, S., Nivetha, R., Gopinath, K., Balalakshmi, C., Al-Ghanim, K.A., Al-Misned, F., Ahmed, Z. & Govindarajan, M	Photodiagnosis and Photodynamic Therapy	Mar. 2021
A review on microbial degradation of drinks and infectious diseases: A perspective of human well-being and capabilities	Shankar, V., Mahboob, S., Al-Ghanim, K.A., Ahmed, Z., Al-Mulhm, N. & Govindarajan, M	Journal of King Saud University - Science	Mar. 2021
Green synthesis of ZnO nanoparticles for antimicrobial and vegetative growth applications: A novel approach for advancing efficient high quality health care to human wellbeing	Umavathi, S., Mahboob, S., Govindarajan, M. , Al-Ghanim, K.A., Ahmed, Z., Virik, P., Al-Mulhm, N., Subash, M., Gopinath, K. & Kavitha, C.	Saudi Journal of Biological Sciences	Mar. 2021
An assessment of level of heavy metals pollution in the water, sediment and aquatic organisms: A perspective of tackling environmental threats for food security	Pandiyan, J., Mahboob, S., Govindarajan, M. , Al-Ghanim, K.A., Ahmed, Z., Al-Mulhm, N., Jagadheesan, R. & Krishnappa, K	Saudi Journal of Biological Sciences	Feb. 2021



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Cellulase immobilized magnetic nanoparticles for green energy production from <i>Allamanda schottii</i> L: Sustainability research in waste recycling	Vijayalakshmi, S., Govindarajan, M. , Al-Mulahim, N., Ahmed, Z. & Mahboob, S	Saudi Journal of Biological Sciences	Jan. 2021
Determination of Heavy Metals in Water, Sediment and Fish Tissues from	Anandhan.R, Kavitha.V. Indhumathi.G and Jayasundar.D	Science, Technology and Development	2021
Phytochemical analysis and fabrication of silver nanoparticles using <i>Acacia catechu</i> : An efficacious and ecofriendly control tool against selected polyphagous insect pests	Baranitharan, M., Alarifi, S., Alkahtani, S., Ali, D., Elumalai, K., Pandiyan, J., Krishnappa, K., Rajeswary, M. & Govindarajan, M	Saudi Journal of Biological Sciences	2021
Optimization strategies for improved biogas production by recycling of waste through response surface methodology and artificial neural network: Sustainable energy perspective research	Gopal, L.C., Govindarajan, M. , Kavipriya, M.R., Mahboob, S., Al-Ghanim, K.A., Virik, P., Ahmed, Z., Al-Mulhm, N., Senthilkumaran, V. & Shankar, V.	Journal of King Saud University - Science	2021
Novel Biogenic Synthesis of Silver Nanoparticles Using <i>Alstonia venenata</i> Leaf Extract: An Enhanced Mosquito Larvicidal Agent with Negligible Impact on Important Eco-biological Fish and Insects	Esan, V., Mahboob, S., Al-Ghanim, K.A., Elanchezhiyan, C., Al-Misned, F., Ahmed, Z. & Govindarajan, M	Journal of Cluster Science	2021
The aromatic ginger <i>Kaempferia galanga</i> L. (Zingiberaceae) essential oil and its main compounds are effective larvicidal agents against <i>Aedes vittatus</i> and <i>Anopheles maculatus</i> without toxicity on the non-target aquatic fauna	AlSalhi, M.S., Elumalai, K., Devanesan, S., Govindarajan, M. , Krishnappa, K. & Maggi, F	Industrial Crops and Products	Dec. 2020



Development of chitosan/agar-silver nanoparticles-coated paper for antibacterial application	Balalakshmi, C., Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Alanzi, K.F., Gopinath, K., Arumugam, A. & Govindarajan, M.	Green Processing and Synthesis	Dec. 2020
Photocatalytic, antiproliferative and antimicrobial properties of copper nanoparticles synthesized using Manilkara zapota leaf extract: A photodynamic approach	Kiriyanthan, R.M., Sharmili, S.A., Balaji, R., Jayashree, S., Mahboob, S., Al-Ghanim, K.A., Al-Misned, F., Ahmed, Z., Govindarajan, M. & Vaseeharan, B	Photodiagnosis and Photodynamic Therapy	Dec. 2020
Down-regulation of hepatic G-6-Pase expression in hyperglycemic rats: Intervention with biogenic gold nanoconjugate	Manimegalai, S., Mahboob, S., Al-Ghanim, K.A., Al-Misned, F., Govindarajan, M. , Anbarasu, K. & Devi Rajeswari, V	Saudi Journal of Biological Sciences	Dec. 2020
Probing of heavy metals in the feathers of shorebirds of Central Asian Flyway wintering grounds	Pandiyan, J., Jagadheesan, R., Karthikeyan, G., Mahboob, S., Al-Ghanim, K.A., Al-Misned, F., Ahmed, Z., Krishnappa, K., Elumalai, K. & Govindarajan, M	Scientific Reports	Dec. 2020
Synthesis and characterization of ZnO and Ca-ZnO nanoparticles for potential antibacterial activity and plant micronutrients	Umavathi, S., AlSalhi, M.S., Devanesan, S., Kadhiravan, S., Gopinath, K. & Govindarajan, M.	Surfaces and Interfaces	Dec. 2020
Facile synthesis and biophysical characterization of egg albumen-wrapped zinc oxide nanoparticles: A potential drug delivery vehicles for anticancer therapy	Vijayakumar, T.S., Mahboob, S., Bupesh, G., Vasanth, S., Al-Ghanim, K.A., Al-Misned, F. & Govindarajan, M.	Journal of Drug Delivery Science and Technology	Dec. 2020



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Biogenic synthesis of aromatic cardamom-wrapped zinc oxide nanoparticles and their potential antibacterial and mosquito larvicidal activity: An effective eco-friendly approach	Vinotha, V., Yazhiniprabha, M., Raj, D.S., Mahboob, S., Al- Ghanim, K.A., Al- Misned, F., Govindarajan, M. & Vaseeharan, B.	Journal of Environmental Chemical Engineering	Dec. 2020
Effect of Green Algae Chaetomorpha antennina Extract on Growth, Modulate Immunity, and Defenses against Edwardsiella tarda Infection in Labeo rohita	Govindharajan Sattanathan, Vairakannu Tamizhazhagan, Swaminathan Padmapriya, Wen-Chao Liu, Balamuralikrishnan Balasubramanian,	<i>Animals</i>	04.11.2020
Chitosan overlaid Fe ₃ O ₄ /rGO nanocomposite for targeted drug delivery, imaging, and biomedical applications	Karthika, V., AlSalhi, M.S., Devanesan, S., Gopinath, K., Arumugam, A. & Govindarajan, M.	Scientific Reports	Nov. 2020
Entomofaunal survey and larvicidal activity of greener silver nanoparticles: A perspective for novel eco-friendly mosquito control	Elumalai, K., Mahboob, S., Al-Ghanim, K.A., Al- Misned, F., Pandiyan, J., Baabu, P.M.K., Krishnappa, K. & Govindarajan, M	Saudi Journal of Biological Sciences	Nov. 2020
Seed dispersal by ungulates in the point calimere wildlife sanctuary: A scientific and perspective analysis	Chandru, G., Pandiyan, J., Durga, V., Govindarajan, M., Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Panneerselvam, C. & Krishnappa, K.	Saudi Journal of Biological Sciences	Oct. 2020
A novel approach to assess the heavy metal content in the feathers of shorebirds: A perspective of environmental research	Pandiyan, J., Mahboob, S., Jagadheesan, R., Elumalai, K., Krishnappa, K., Al- Misned, F., Ali Kaimkhani, Z. & Govindarajan, M.	Journal of King Saud University - Science	Oct. 2020



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Identification of a novel antibacterial protein from hemolymph of freshwater zooplankton <i>Mesocyclops leuckarti</i>	Praveena, V., Venkatalakshmi, S., Alharbi, N.S., Kadaikunnan, S., Khaled, J.M. & Govindarajan, M.	Saudi Journal of Biological Sciences	Sep. 2020
Influences of dietary inclusion of algae <i>Chaetomorpha aerea</i> enhanced growth performance, immunity, haematological response and disease resistance of <i>Labeo rohita</i> challenged with <i>Aeromonas hydrophila</i>	Govindharajan Sattanathan, Thanapal Palanisamy, Swaminathan Padmapriya , Vijaya Anand Arumugam, Sungkwon Park, In Ho Kim, BalamuralikrishnanBalasubramanian	<i>Aquaculture Reports</i>	7/1/2020
Swift production of rhamnolipid biosurfactant, biopolymer and synthesis of biosurfactant-wrapped silver nanoparticles and its enhanced oil recovery	Elakkiya, V.T., SureshKumar, P., Alharbi, N.S., Kadaikunnan, S., Khaled, J.M. & Govindarajan, M	Saudi Journal of Biological Sciences	Jul-20
Curcumin-encased hydroxyapatite nanoparticles as novel biomaterials for antimicrobial, antioxidant and anticancer applications: A perspective of nano-based drug delivery	Sebastiammal, S., Lesly Fathima, A.S., Devanesan, S., AlSalhi, M.S., Henry, J., Govindarajan, M. & Vaseeharan, B	Journal of Drug Delivery Science and Technology	Jun-20
Identification of a novel antibacterial protein from hemolymph of freshwater zooplankton <i>Mesocyclops leuckarti</i>	Praveena V, Venkatalakshmi S , Naiyf S, Alharbib and Govindarajan M.	Saudi Journal of Biological Sciences.	2020
Efficacy of cow urine distillate to enhance the freshwater copepod population density	Praveena Varadhan, Subhhasri Varadharajan, Priya Muthukirushnan, Venkatalakshmi Sournamanikam	International journal of scientific & technology research	2020



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Impact of pesticide monocrotophos on microbial population and histology of intestine in the Indian earthworm <i>Lampito mauritii</i> (Kinberg)	Vaithyanathasamy Kavitha, Ramachandran Anandhan, Shine Kadaikunnand, Jamal M. Khaled, Taghreed N. Almanaad, Marimuthu Govindarajan	Microbial Pathogenesis	2020
2019-20			
Antibiofilm and anticancer potential of β -glucan-binding protein-encrusted zinc oxide nanoparticles	Divya, M., Govindarajan, M. , Karthikeyan, S., Preetham, E., Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Almana, T.N. & Vaseeharan, B.	Microbial pathogenesis	Apr. 2020
Isolation of β -glucan from <i>Eleusine coracana</i> and its antibiofilm, antidiabetic, antioxidant, and biocompatible activities	Divya, M., Karthikeyan, S., Ravi, C., Govindarajan, M. , Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Almana, T.N. & Vaseeharan, B.	Microbial pathogenesis	Mar. 2020
β -glucan extracted from eukaryotic single-celled microorganism <i>Saccharomyces cerevisiae</i> : Dietary supplementation and enhanced ammonia stress tolerance on <i>Oreochromis mossambicus</i>	Divya, M., Gopi, N., Iswarya, A., Govindarajan, M. , Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Almana, T.N. & Vaseeharan, B.	Microbial pathogenesis	Feb. 2020
Green fabrication, characterization and antibacterial potential of zinc oxide nanoparticles using <i>Aloe socotrina</i> leaf extract: A novel drug delivery approach	Fahimmunisha, B.A., Ishwarya, R., AlSalhi, M.S., Devanesan, S., Govindarajan, M. & Vaseeharan, B.	Journal of Drug Delivery Science and Technology	Feb. 2020
Impact of pesticide monocrotophos on microbial populations and histology of intestine in the Indian earthworm <i>Lampito mauritii</i> (Kinberg)	Kavitha, V., Anandhan, R., Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Almana, T.N. & Govindarajan, M	Microbial pathogenesis	Feb. 2020



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Anti-cancer, anti-biofilm, and anti-inflammatory properties of hen's albumen: A photodynamic approach	Sherly Carolyn, J., Selva Raj, D., Malaikozhundan, B., Govindarajan, M. , Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Al-Anbr, M.N., Alobaidi, A.S. & Vaseeharan, B.	Photodiagnosis and Photodynamic Therapy	Dec. 2019
Facile synthesis of haemocyanin-capped zinc oxide nanoparticles: Effect on growth performance, digestive-enzyme activity, and immune responses of <i>Penaeus semisulcatus</i>	Ishwarya, R., Jayakumar, R., Abinaya, M., Govindarajan, M. , Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Al-Anbr, M.N. & Vaseeharan, B.	International journal of biological macromolecules	Oct. 2019
Synthesis and characterization of crustin capped titanium dioxide nanoparticles: Photocatalytic, antibacterial, antifungal and insecticidal activities	Rekha, R., Divya, M., Govindarajan, M. , Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Al-Anbr, M.N., Pavela, R. & Vaseeharan, B.	Journal of Photochemistry and Photobiology B: Biology	Oct. 2019
Chronic exposure of <i>Oreochromis niloticus</i> to sub-lethal copper concentrations: Effects on growth, antioxidant, non-enzymatic antioxidant, oxidative stress and non-specific immune responses	Gopi, N., Vijayakumar, S., Thaya, R., Govindarajan, M. , Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Al-Anbr, M.N. & Vaseeharan, B.	Journal of Trace Elements in Medicine and Biology	Sep. 2019
New insecticides and antimicrobials derived from <i>Sargassum wightii</i> and <i>Halimeda gracillis</i> seaweeds: Toxicity against mosquito vectors and antibiofilm activity against microbial pathogens	Suganya, S., Ishwarya, R., Jayakumar, R., Govindarajan, M. , Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Al-anbr, M.N. & Vaseeharan, B.	South African Journal of Botany	Sep. 2019
Synthesis of ZnO nanoparticles using insulin-rich leaf extract: Anti-diabetic, antibiofilm and anti-oxidant properties	Vinotha, V., Iswarya, A., Thaya, R., Govindarajan, M. , Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Al-Anbr, M.N. & Vaseeharan, B.	Journal of Photochemistry and Photobiology B: Biology	Aug. 2019



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Enhanced antibacterial activity of hemocyanin purified from <i>Portunus pelagicus</i> hemolymph combined with silver nanoparticles – Intracellular uptake and mode of action	Ishwarya, R., Vaseeharan, B., Shanthini, S., Govindarajan, M. , Alharbi, N.S., Kadaikunnan, S., Khaled, J.M. & Al-anbr, M.N	Journal of Trace Elements in Medicine and Biology	Jul-19
Novel and Facile Synthesis of Sea Anemone Adhesive Protein-Coated ZnO Nanoparticles: Antioxidant, Antibiofilm, and Mosquito Larvicidal Activity Against <i>Aedes aegypti</i>	Abinaya, M., Rekha, R., Sivakumar, S., Govindarajan, M. , Alharbi, N.S., Kadaikunnan, S., Khaled, J.M., Alobaidi, A.S., Al- Anbr, M.N. & Vaseeharan, B	Journal of Cluster Science	May-19
Haematological variables of <i>Oreochromis mossambicus</i> against <i>Aeromonas hydrophila</i> infection by using dissimilar types of gaumutra distillate	Varadhan Praveena, Ravichandiran Vinitha, & Sournamanickam Venkatalakshmi	Indian Journal of Geo Marine Sciences	2019
Haematological status of common carp, <i>Cyprinus carpio</i> L. exposed to sublethal dose of organophosphorus pesticide, monocrotophos	Dr.A.V.Kavitha	The Pharma Innovation Journal	2019
Analysis of selected heavy metal contamination in the Mudikondan river Nannilam Thiruvarur District Tamil nadu India	Kavitha V. , Anandhan R., Sumathi R., Balasubramanian.R. and Baskarsanjeevi S.	World Journal of Pharmaceutical Research	2019
2018-19			
Facile and Cost-Effective Ag Nanoparticles Fabricated by <i>Lilium lancifolium</i> Leaf Extract: Antibacterial and Antibiofilm Potential	Al-Ansari, M., Alkubaisi, N., Gopinath, K., Karthika, V., Arumugam, A. & Govindarajan, M.	Journal of Cluster Science	Apr. 2019
Microbial exopolymer-capped selenium nanowires – Towards new antibacterial, antibiofilm and arbovirus vector larvicides?	Abinaya, M., Vaseeharan, B., Rekha, R., Shanthini, S., Govindarajan, M. , Alharbi, N.S., Kadaikunnan, S., Khaled, J.M. & Al-Anbr, M.N.	Journal of Photochemistry and Photobiology B: Biology,	Mar. 2019



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Nanosilver crystals capped with Bauhinia acuminata phytochemicals as new antimicrobials and mosquito larvicides	Alharbi, N.S., Govindarajan, M. , Kadaikunnan, S., Khaled, J.M., Almanaa, T.N., Alyahya, S.A., Al-anbr, M.N., Gopinath, K. & Sudha, A.	Journal of Trace Elements in Medicine and Biology	Dec. 2018
Structural characterization of Bacillus licheniformis Dabhl exopolysaccharide— antimicrobial potential and larvicidal activity on malaria and Zika virus mosquito vectors	Abinaya, M., Vaseeharan, B., Divya, M., Vijayakumar, S., Govindarajan, M. , Alharbi, N.S., Khaled, J.M., Al-anbr, M.N. & Benelli, G.	Environmental Science and Pollution Research	2018
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Identification, characterization and immune response of prophenoloxidase from the blue swimmer crab <i>Portunus pelagicus</i> and its antibiofilm activity	Jayanthi, S., Vaseeharan, B., Ishwarya, R., Karthikeyan, S., Govindarajan, M. , Alharbi, N.S., Kadaikunnan, S., Khaled, J.M. & Vágvölgyi, C.	International journal of biological macromolecules,	Jul-18
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