



GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS)

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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



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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 Physalis minima 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



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



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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
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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



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



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
Biocompatible properties of nano-drug carriers using TiO ₂ -Au embedded on multiwall carbon nanotubes for targeted drug delivery	Karthika, V., Kaleeswaran, P., Gopinath, K., Arumugam, A., Govindarajan, M. , Alharbi, N.S., Khaled, J.M., Al-anbr, M.N. & Benelli, G.	Materials Science and Engineering C	Sep. 2018
Searching for crab-borne antimicrobial peptides: Crustin from Portunus pelagicus triggers biofilm inhibition and immune responses of Artemia salina against GFP tagged Vibrio parahaemolyticus Dahv	Rekha, R., Vaseeharan, B., Ishwarya, R., Anjugam, M., S. Alharbi, N., Kadaikunnan, S., Khaled, J.M., Al-anbr, M.N. & Govindarajan, M.	Molecular immunology	Sep. 2018
Behavioural anomalies in <i>Cyprinus carpio</i> . L. Induced by monocrotophos intoxication in sublethal doses.	Dr.A.V.Kavitha	Trends in fisheries research	2018
Phenoloxidase activation, antimicrobial, and antibiofilm properties of β -glucan binding protein from Scylla serrata crab hemolymph	Divya, M., Vaseeharan, B., Anjugam, M., Iswarya, A., Karthikeyan, S., Velusamy, P., Govindarajan, M. , Alharbi, N.S., Kadaikunnan, S., Khaled, J.M. & Vágvölgyi, C.	International journal of biological macromolecules	Jul-18



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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
Sublethal effect of atrazine on the intestine of an Indian earthworm <i>Lampito mauritii</i> (Kinberg) (Annelida; Oligochaeta)	Kavitha, V. and Anandhan, R.	International Journal of Zoology and Applied Biosciences	2018



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