

Dr. Jaison Jeevanandam – Curriculum vitae

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Research experience (10+ years):

2020-present: Senior researcher, Centro de Química da Madeira, Universidade da Madeira, Portugal.

2018-2020: Research consultant (remote), MKD labs, USA.

Project: *In silico* methods for the evaluation of nanomedicines

2014-2018: Doctoral scholar, Department of Chemical Engineering, Curtin University.

Project: Enhanced synthesis and delivery of MgO nanoparticles for reverse insulin resistance in Type 2 Diabetes Mellitus

2014: National Centre for Nanoscience and Nanotechnology (NCNSNT) department, University of Madras

Project: Morphology dependent anti – cancer activity of MgO Nanoparticles

2013: National Center for Nanoscience & Nanotechnology, University of Madras

Project: Synthesis and characterization of MgO nano particles through sol – gel method.

2013: Central Leather Research Institute (CLRI), Microbiology department

Project: Synthesis and characterization of gold nanoparticles using fungi *Aspergillus* sps.

Research Interest:

- Synthesis and characterization of metal oxides
- Novel nano-therapeutics
- Nano-formulation of drugs
- Cytotoxicity of nanoparticles

Academic Qualifications:

2014-2018: Doctor of Philosophy (PhD), Curtin University, Malaysia.

2012-2014: Master of Science (M. Sc), Nanoscience and Nanotechnology, National Center for Nanoscience & Nanotechnology, University of Madras, India. Grade – 8/10.

2012-2014: Master of Business Administration (MBA) specialized in Human Resource Management (Distance education), Pondicherry University-Loyola College Twinning Program. Grade – 7/10

MBA Project: Organizational psychology as an HR practice and its impact on employees Performance. (A study undertaken at RBS-The Royal Bank of Scotland- Chennai)

2009-2012: Bachelor of Science (B. Sc) in Advanced Zoology & Biotechnology, Loyola College, Chennai, India. Grade – 7.4/10

Scientific skills:

- Experience in sample analysis and interpret data from SEM, FESEM, HRTEM, FTIR, XRD, TGA, Zeta potential, DSC and UV-Visible spectrophotometer.
- Trained in microbial culture techniques (fungi, bacteria), green house management for plant growth analysis, chemical synthesis (gold, silver), poly-ol synthesis, sol-gel synthesis, sonication synthesis, green synthesis using natural sources (plants and agro-waste), microwave and ultrasound synthesis techniques of nanoparticles (MgO), wet chemical, precipitation synthesis of TiO₂ nanoparticles, nanocellulose, gelatin hydrogel preparation and electrospinning of nanofibers.

Research publications:

A. Books

1. Jeevanandam, J., Sundaramurthy, A., Tupas, G. D., Tan, K. X., and Danquah, M. K. (Authors), Emerging phytosynthesized nanomaterials for biomedical applications, Elsevier (2023). ISBN - 9780128243732
2. Egbuna, C., Gaman, M-A., and **Jeevanandam, J.** (Editors), Applications of nanotechnology in drug discovery and delivery (drug discovery update), Elsevier (2022). ISBN – 9780128244081.
3. Adetunji, C. O., Hefft, D. I., **Jeevanandam, J.**, and Danquah, M. K. (Editors), Next generation nanochitosan: applications in animal husbandry, aquaculture and food conservation, Elsevier (2022). ISBN – 9780323855938.
4. **Jeevanandam, J.** and Danquah, M. K. (Authors), Emerging Nanomedicines for Diabetes Theranostics, Elsevier (2022). ISBN - 9780323853965
5. Egbuna, C., **Jeevanandam, J.**, Patrick-Iwuanyanwu, K. C. and Onyeike, E. N. (Editors), Application of Nanotechnology in Food Science, Processing and Packaging, Springer (2022). ISBN – 9783030988197
6. Barhoum, A., **Jeevanandam, J.** and Danquah, M. K. (Editors), Bionanotechnology: Emerging Applications of BioNanomaterials, Elsevier (2022). ISBN - 9780128242209
7. Barhoum, A., **Jeevanandam, J.** and Danquah, M. K. (Editors), Fundamentals of BioNanomaterials, Elsevier (2022). ISBN - 9780128241479
8. **Jeevanandam, J.** and Danquah, M. K. (Editors), Research Advances in Dynamic Light Scattering, Nova Science Publication, New York, United States (2020). ISBN – 978-1-53617-260-7.

B. Book chapters

1. Ault, Z., Yang, S., **Jeevanandam, J.**, Danquah, M. K. Bio-inspired carbon nanostructures: Advances and challenges, Carbon nanostructures in biomedical applications, Springer International (2023), 285-296.
2. Korsah, M. A., Bulawa, A., **Jeevanandam, J.**, Danquah, M. K. Utilization of nanochitosan for enzyme immobilization-based food packages, Next generation nanochitosan, Elsevier (2023), 509-528.

3. Adetunji, C. O., Hefft, D. I., **Jeevanandam, J.**, Danquah, M. K. Structural and biochemical properties of conventional chitosan and nanochitosan, Next generation nanochitosan, Elsevier (2023), 3-14.
4. Kishore, C., Ji, V., Krishnan, S., **Jeevanandam, J.**, Acquah, C., Danquah, M. K. Plant polysaccharides for cancer theranostics, Plant polysaccharides as pharmaceutical excipients, Elsevier (2023), 453-468.
5. **Jeevanandam, J.**, Pan, S., Danquah, M. K. Polymer nanogenerators for biomedical applications, Nanogenerators, Taylor & Francis Group (2023), 397-410.
6. Tareq, S., **Jeevanandam, J.**, Acquah, C., Danquah, M. K. Biomedical applications of bioplastics, Handbook of bioplastics and biocomposites engineering applications, John Wiley & Sons, Inc. (2023), 175-197.
7. Manchala, S., **Jeevanandam, J.** Carbon-based photocatalytic nanomaterials for clean fuel production, Novel applications of carbon-based nano-materials, CRC Press (2022), 80-105.
8. **Jeevanandam, J.**, Pan, S., Danquah, M. K. Chapter 5 – Enzyme immobilized nanoparticles towards biosensor fabrication, Nanomaterial-supported enzymes. Materials research forum LLC (2022), 126, 142-161.
9. Patel, P., **Jeevanandam, J.**, Ponnuchamy, K., Manchala, S., Danquah, M. K. Chapter 15 – Nanomaterials for the rapid diagnosis of SARS-CoV-2 and other viral infections, Coronavirus drug discovery, Volume 2: Antiviral agents from natural products and nanotechnological applications, drug discovery update. Elsevier (2022), 273-292.
10. Kulabhusan, P. K., **Jeevanandam, J.**, Acquah, C., Danquah, M. K. Chapter 6 – Aptamer-mediated drug delivery system for cardiovascular diseases, Combination drug delivery approach as an effective therapy for various diseases, Academic Press (2022), 107-127.
11. **Jeevanandam, J.**, Ling, J. K. U., Tiong, M., Barhoum, A., Chan, Y. S., Acquah, C., Danquah, M. K. Chapter 1 – Nanocelluloses: Sources, types, unique properties, market, and regulations, Handbook of nanocelluloses: Classification, properties, fabrication, and emerging applications, Springer (2022), 3-34.
12. **Jeevanandam, J.**, Pan, S., Danquah, M. K. Chapter 5 – Enzyme-immobilized nanoparticles towards biosensor fabrication, Nanomaterial-supported enzymes, Materials Research Forum LLC (2022), 126, 142-161.
13. **Jeevanandam, J.**, Pan, S., Danquah, M. K., Rodrigues, J. Chapter 19 – Dendrimers and dendrimersomes as a novel tool for effective drug delivery applications, Systems of nanovesicular drug delivery, Academic Press (2022), 311-322.
14. **Jeevanandam, J.**, Adetunji, C. O., Inobeme, A., et al. Chapter 7 – Cultivation of biosurfactants on cheap energy sources using agricultural wastes, Applications of biosurfactant in Agriculture, Academic Press (2022), 109-126.
15. Adetunji, C. O., **Jeevanandam, J.**, Selvam, J. D., et al. Chapter 6 – Significance of advanced methodologies for effective production of biosurfactants from diverse microbial populations most especially from uncultivated agricultural soil, Applications of biosurfactant in Agriculture, Academic Press (2022), 93-108.
16. Adetunji, C. O., **Jeevanandam, J.**, Selvam, J. D., et al. Chapter 5 – Production and commercialization of biosurfactants for plant pest management, Applications of biosurfactant in Agriculture, Academic Press (2022), 69-92.

17. **Jeevanandam, J.**, Acquah, C., Danquah, M. K. Chapter 17 – Nanotechnology approaches to enhance the development of biofuels from microalgae, 3rd generation biofuels, Woodhead publishing (2022), 367-384.
18. **Jeevanandam, J.**, Vadasundari, V., Pan, S., Barhoum, A., Danquah, M. K. Chapter 1 – Bionanotechnology and bionanomaterials: Emerging applications, market, and commercialization, Bionanotechnology: Emerging applications of bionanomaterials, Elsevier (2022), 3-44.
19. Kulabhusan, P. K., **Jeevanandam, J.**, Acquah, C., Danquah, M. K. Chapter 6 – Aptamer mediated drug delivery system for cardiovascular diseases, Combination drug delivery approach as an effective therapy for various diseases, Academic Press (2022), 107-127.
20. Suresh, M., Balu, S., Jose, S. C., **Jeevanandam, J.** Chapter 12 – Phytosynthesized metal nanomaterials as an effective mosquitocidal agent, Emerging nanomaterials for advanced technologies, Springer (2022), 369–396.
21. **Jeevanandam, J.**, Pan, S., Danquah, M. K. Chapter 20 – New strategies in microbial screening for novel chemotherapeutics, Bioprospecting of microbial diversity, Elsevier (2022), 441-453.
22. **Jeevanandam, J.**, Ling, J. K. U., Barhoum, A., Chan, Y. S., Danquah, M. K. Chapter 1 - Bionanomaterials: definitions, sources, types, properties, toxicity and regulations, Fundamentals of Bionanomaterials, Elsevier (2022), 1-29.
23. **Jeevanandam, J.**, Koritala, B. S. C., Suresh, M., Boakye-Ansah, S., Danquah, M. K. Chapter 7 - Antimicrobial applications of green synthesized nanoparticles and nanocomposites of silver, Green nanomaterials: sustainable technologies and applications, CRC press (2022), 147-188.
24. **Jeevanandam, J.**, Patel, P., Ponnuchamy, K., Manchala, S., Acquah, C., Danquah, M. K. Chapter 17 – Biocatalytic nanomaterials as an alternative to peroxidase enzymes, Nanomaterials for biocatalysis, Elsevier (2022), 513-542.
25. **Jeevanandam, J.**, Agyei, D., Danquah, M. K., Udenigwe, C. Chapter 41 – Food quality monitoring through bioinformatics and big data, Future food: global trends, opportunities and sustainability challenges, Elsevier (2022), 733-744.
26. **Jeevanandam, J.**, Acquah, C., Danquah, M. K., Chapter 10 - Biological macromolecules as antidiabetic agents, Biological macromolecules: bioactivity and biomedical applications, Elsevier (2022), 229-241.
27. **Jeevanandam, J.**, Pan, S., Harini, A., Danquah, M. K. Chapter 4 – Challenges in the risk assessment of nanomaterial toxicity towards microbes. Interfaces between nanomaterials and microbes, CRC Press (2021).
28. **Jeevanandam, J.**, Acquah, C., Danquah, M. K., Chapter 9 – Therapeutic protein production from genetically modified food. Food proteins and peptides: emerging biofunctions, food and biomaterial applications, Royal Society of Chemistry (RSC), London (2021).
29. Krishnan, S., **Jeevanandam, J.**, Acquah, C., Danquah, M. K., Chapter 38 - Extraction of algal neutral lipids for biofuel production, Biodiesel fuel-based on edible and nonedible feedstocks, wastes and algae: Science, Technology, health and environment, CRC Press (2021).
30. Adentunji, C. O., Inobeme, A., Anani, O. A., **Jeevanandam, J.**, Yerima, M. B., Thangadurai, D., Islam, S., Oyawoye, O. M., Oloke, J. K., Olaniyan, O. T. Chapter 4 – Isolation, screening and characterization of biosurfactant-producing microorganism than

can biodegrade heavily polluted soil using molecular techniques. Green sustainable process for chemical and environmental engineering and science. Elsevier, B.V (2021).

31. Anani, O. A., **Jeevanandam, J.**, Adetunji, C. O., Inobeme, A., Oloke, J. K., Yerima, M. B., Thangadurai, D., Islam, S., Oyawoye, O. M., Olaniyam, O. Chapter 5 – Application of biosurfactant as a noninvasive stimulant to enhance the degradation activities of indigenous hydrocarbon degraders in the soil. Green sustainable process for chemical and environmental engineering and science. Elsevier, B.V (2021).
32. Inobeme, A., **Jeevanandam, J.**, Adetunji, C. O., Anani, O. A., Thangadurai, D., Islam, S., Oyawoye, O. M., Oloke, J. K., Yerima, M. B., and Olaniyan, O. T. Chapter 6 - Ecorestoration of soil treated with biosurfactant during greenhouse and field trial. Green sustainable process for chemical and environmental engineering and science. Elsevier, B.V (2021).
33. **Jeevanandam, J.**, Balu, S. K., Andra, S., Danquah, M. K., Vidyavathi, M., and Muthalagu, M. Chapter 9 - Quantum dots synthesis and application. Contemporary nanomaterials in material engineering. Springer, Cham (2021)
34. **Jeevanandam, J.**, Hii, Y. S. and Chan, Y. S. Chapter 7 - Biosynthesized metal nanoparticles in bioremediation. Rhizomicrobiome dynamics in bioremediation. CRC Press (2021).
35. Pan, S., **Jeevanandam, J.**, Acquah, C., Tan, K. X., Udenigwe, C. C. and Danquah, M. K. Chapter 25 - Drug delivery systems for cardiovascular ailments. Drug delivery devices and therapeutic systems. Elsevier B. V. (2021).
36. **Jeevanandam, J.**, Koritala, B. S. C., Suresh, M., Boakye-Ansah, S., Danquah, M. K. Chapter 7 - Antimicrobial applications of green synthesized nanoparticles and nanocomposites of silver. Green nanomaterials: Sustainable technologies and applications. Apple Academic Press (2021).
37. Agyei, D., Danquah, M.K., Pan, S., Kwarteng, J.O., **Jeevanandam, J.**, Chapter 6 - Novel ingredients from cereals. Innovative processing technologies for Cereal and pseudo-cereal grains (1st Edition). John Wiley & Sons Limited, U.K. (2021).
38. Adetunji, C. O., Akram, M., Mtewa, A. G., **Jeevanandam, J.**, Egbuna, C., et al. Chapter 18 - Biochemical and pharmacotherapeutic potentials of lycopene in drug discovery. Preparation of phytopharmaceuticals for the management of disorders. Elsevier B. V. (2021)
39. Manchala, S., **Jeevanandam, J.**, and Danquah, M. K. Chapter 2 - Spectroscopic and microscopic response of graphene/CNTs based nanomaterials. Nanomaterials for spectroscopic applications. CRC Press (2021).
40. Kulabhusan, P. K., Agrawal, S., **Jeevanandam, J.** and Danquah, M. K. Chapter 13 - Nanoformulated herbal drug delivery as efficient antidotes against systemic poisons. Poisonous plants and phytochemicals in drug discovery. John Wiley & Sons Limited, U.K. (2020)
41. **Jeevanandam, J.**, Manchala, S. and Danquah, M. K. Wastewater treatment by photocatalytic biosynthesized nanoparticles. Handbook of nanomaterials and nanocomposites for energy and environmental applications. Springer, Cham. (2020)
42. **Jeevanandam, J.**, Danquah, M. K. Chapter 9 - Dewatering and drying of algal cultures. Handbook of microalgae-based processes and products. Elsevier B. V. (2020).

43. **Jeevanandam, J.**, Choudhary, V., Selvam, J. D., Danquah, M. K. Chapter 14 - The bioeconomy of production of microalgal pigments. *Pigments from microalgae handbook*. Springer, Cham (2020).
44. **Jeevanandam, J.**, Danquah, M. K. Chapter 8 - Nanosensors for better diagnosis of health. *Nanofabrication for smart nanosensor applications*. Elsevier B. V. (2020).
45. Egbuna, C., Gupta, E., Ezzat, S. M., **Jeevanandam, J.**, Mishra, N., Akram, M., Sudharani, N., Adetunji, C. O., Singh, P., Ifemeje, J. C., Deepak, M., Bhavana, A., Walag, A. M. P., Ansari, R., Adetunji, J. B., Laila, U., Olisah, M. C., and Feena, O. P. Chapter 18 - Aloe species as valuable sources of functional bioactive. *Functional foods and Nutraceuticals*. Springer Nature Switzerland AG, 2020.
46. Walag, A. M. P., Ahmed, O., **Jeevanandam, J.**, Akram, M., Ephraim-Emmanuel, B. C., Egbuna, C., Semwal, P., Iqbal, M., Hassan, S., and Uba, J. O. Health benefits of organosulfur compounds. Chapter 21: Aloe species as valuable sources of functional bioactive. *Functional foods and Nutraceuticals*. Springer Nature Switzerland AG, 2020.
47. Das, S., Sharangi, A. B., Egbuna, C., **Jeevanandam, J.**, Ezzat, S. M., Adetunji, C. O., Tijjani, H., Olisah, M. C., Patrick-Iwanyanwu, K. C., Adetunji, J. B., Ifemeje, J. C., Akram, M., Moboladji, B. M., and Onyelke, P. C. Chapter 22 - Health benefits of isoflavones found exclusively in plants of the Fabaceae family. *Functional foods and Nutraceuticals*. Springer Nature Switzerland AG, 2020.
48. **Jeevanandam, J.**, Kaliyaperumal, A., Sundararam, M., and Danquah, M.K. Chapter 13 - Nanomaterials as toxic gas sensors and biosensors. *Nanosensor technologies for environmental monitoring*. Nanotechnology in the life sciences series. Springer Nature Switzerland (2020).
49. **Jeevanandam, J.**, Adetunji, C.O., Tan, M., Nawaz, A. M., and Danquah, M.K. Chapter 1 - Dynamic light scattering studies: recent trends in characterization. *Research advances in dynamic light scattering*. Nova Science Publishers (2020).
50. Pan, S., Adetunji, C.O., Akram, M., and **Jeevanandam, J.** Chapter 9 - Applications of dynamic light scattering studies in microbial surface charge analysis. *Research advances in dynamic light scattering*. Nova Science Publishers (2020).
51. **Jeevanandam, J.**, Tan, M., and Danquah, M.K. Chapter 10 - Overview and future perspective of dynamic light scattering studies. *Research advances in dynamic light scattering*. Nova Science Publishers (2020).
52. Ezzat, S.M., **Jeevanandam, J.**, Egbuna, C., Merghany, R.M., Akram, M., Daniyal, M., Nisar, J., Sharif, A. Chapter 7 - Semiochemicals: A green approach to pest and disease control. *Natural remedies for pest, disease and weed control*. Elsevier (2020)
53. **Jeevanandam, J.**, Kulabhusan, P.K., Danquah, M.K. Chapter 7: Biofunctional nanoparticles for protein separation, purification and detection. *Horizons in bioprocess engineering*. Springer (2020).
54. Pan, S., **Jeevanandam, J.**, Danquah, M. Chapter 14 - Benefits of algal extracts in sustainable agriculture. Part IV - Grand challenges in algae biotechnology. *Framework and progress of practical applications*. Springer, Cham. (2019).
55. Premanand, A., Benedic Ancy, V., **Jeevanandam, J.**, Reena Rajkumari, B., Danquah, M.K. Chapter 14 - Phytochemicals as emerging therapeutic agents for alopecia treatment. *Phytochemicals as leading compounds for new drug discovery: Recent advances*. Elsevier (2019).

56. **Jeevanandam, J.**, Solanki, A.K., Sharma, S., Kulabhusan, P.K., Pahil, S., Danquah, M.K. Chapter 6 - Synthesis of bioactive peptides for pharmaceutical applications. Series on biocatalysis: Fundamentals, Enzyme Inhibitors, and Enzymes in Health and Diseases. Taylor and Francis Group (2019).
57. **Jeevanandam, J.**, Sundaramurthy, A., Sharma, V., Murugan, C., Pal, K., Abd Elkodous, M., Danquah, M.K. Chapter 4 - Sustainability of one-dimensional nanostructures: fabrication and industrial applications. Sustainable nanoscale engineering: from materials design to chemical processing. Elsevier (2019).
58. Pan, S., Agyei, D., **Jeevanandam, J.**, Danquah, M.K., Chapter 1 - Bioactive peptides: Role in plant growth and defense. Natural bioactive compounds: biotechnology, bioengineering and molecular approaches (Volume 3). Springer Nature, Singapore Pte Ltd. (2019).
59. Ezzat, S.M., **Jeevanandam, J.**, Egbuna, C., Kumar, S., Ifemeje, J.C. Chapter 1 - Phytochemicals as sources of drugs. Phytochemistry: An *in silico* and *in vitro* updates. Springer Nature (2019).
60. Ling, J., Siang, H.Y., **Jeevanandam, J.**, Chan, Y.S., Danquah, M.K. Chapter 23 - Nanoencapsulation of phytochemicals and *in vitro* applications. Phytochemistry: An *in silico* and *in vitro* updates. Springer Nature (2019).
61. Siang, H.Y., **Jeevanandam, J.**, Chan, Y.S., Danquah, M.K. Part III: Nanoparticle biosynthesis and its biomedical applications. Chapter 21 - Cytotoxicity and biomedical applications of metal oxide nanoparticles synthesized from plants. Phytochemistry: Fundamentals, methods and applications (Volume 2). Apple Academic Press (2019).
62. Shaista, J.N., Jagapriya, L., Senthilkumar, B., Devi, K., **Jeevanandam, J.** Part IV: Phytochemical research. Chapter 24 - Phytochemical analysis of *Nigella sativa* L. Seeds aqueous extract by GC-MS and FTIR. Phytochemistry: Fundamentals, methods and applications (Volume 1). Apple Academic Press (2019).
63. **Jeevanandam, J.**, Chan, Y.S., Pan, S., Danquah, M.K. Chapter 3 - Metal oxide nanocomposites: cytotoxicity and targeted drug delivery applications. Hybrid nanocomposites: Fundamental, synthesis and applications (1st Edition). Pan Stanford Publication (2019).
64. Nnaji, O.C., **Jeevanandam, J.**, Chan, Y.S., Danquah, M.K., Pan, S., Barhoum, A. Chapter 13 - Engineered nanomaterials for wastewater treatment – Current and future trends. Fundamentals of nanoparticles (1st Edition). Elsevier (2018).
65. **Jeevanandam, J.**, Aing, Y.S., Chan, Y.S., Pan, S., Danquah, M.K. Chapter 3 - Nano-formulation and application of phytochemicals as antimicrobial agents. Antimicrobial nanoarchitectonics (1st Edition): From synthesis to application. Elsevier (2017).
66. **Jeevanandam, J.**, Chan, Y.S. and Mat Don, M. Chapter 8 - Application of NanoBioMaterials. Volume VI: NanoBioMaterials in Antimicrobial Therapy. William Andrew Applied Science Publishers, Elsevier (2016).

C. Journal Publications

1. Jeevanandam, J., Goncalves, M., Castro, R., Gallo, J., Banobre-Lopez, M., Rodrigues, J. (2023) Enhanced alpha-amylase inhibition activity of amine-terminated PAMAM dendrimer stabilized pure copper-doped magnesium oxide nanoparticles, *Biomaterials Advances*, 153, 213535. **IF – 8.4**

2. Obayomi, K. S., Lau, S. Y., Danquah, M. K., Zhang, J., Chiong, T., Takeo, M., **Jeevanandam, J.** (2023) Novel concepts for graphene-based nanomaterials synthesis for phenol removal from Palm Oil Mill Effluent (POME), *Materials*, 16 (12), 4379. **IF – 3.7**
3. **Jeevanandam, J.**, Tan, K. X., Rodrigues, J., Danquah, M. K. (2023) Target-specific delivery and bioavailability of pharmaceuticals via Janus and dendrimer particles, *Pharmaceutics*, 15 (6), 1614. **IF – 6.3**
4. Tan, K. X., Danquah, M. K., **Jeevanandam, J.**, Barhoum, A. (2023) Development of Janus particles as potential drug delivery systems for diabetes treatment and antimicrobial applications, *Pharmaceutics*, 15 (2), 423. **IF – 6.3**
5. Egbuna, C., Patrick-Iwuanyanwu, K. C., Jeevanandam, J. et al. (2023) Phytochemicals and bioactive compounds effective against acute myeloid leukemia: A systematic review, *Food Science & Nutrition*, <https://doi.org/10.1002/fsn3.3420>. **IF – 4.3**
6. Thimmiah, B. R., Chien, B. T. C., Fui, K. S., Yon, L. S., Nallathambi, G., **Jeevanandam, J.**, Danquah, M. K. (2022) Nanoformulation of peptides for pharmaceutical applications: in vitro and in vivo perspectives, *Applied sciences*, 12 (24), 12777. **IF – 2.8**
7. Tan, K. X., **Jeevanandam, J.**, Rodrigues, J., Danquah, M. K. (2022) Aptamer-mediated antiviral approaches for SARS-CoV-2, *Frontiers in Bioscience-Landmark*, 27 (11), 306. **IF – 2.7**
8. Liu, T., Aniagor, C. O., Ejimofor, M. I., Menkiti, M. C., Wakama, Y. M., Li, J., Akbour, R. A., Yap, P-S., Lau, S. Y., **Jeevanandam, J.** (2022) Recent developments in the utilization of modified graphene oxide to adsorb dyes from water: A review, *Journal of industrial and engineering chemistry*, 117, 21-37. **IF – 5.2**
9. **Jeevanandam, J.**, Pan, S., Rodrigues, J., Elkodous, M. A., Danquah, M. K. (2022) Medical applications of biopolymer nanofibers, *Biomaterials Science*, 10, 4107. **IF – 6.8**
10. Ling, J. K. U., Sam, J. H., **Jeevanandam, J.**, Chan, Y. S., Nandong, J. (2022) Thermal degradation of antioxidant compounds: effects of parameters, thermal degradation kinetics, and formulation strategies, *Food and bioprocess technology*, 15, 1919-1935. **IF – 4.5**
11. Anboo, S., Lau, S. Y., Kansedo, J., Yap, P. S., Hadibarata, T., **Jeevanandam, J.**, Kamaruddin, A. H. (2022) Recent advancements in enzyme-incorporated nanomaterials: synthesis, mechanistic formation and applications, *Biotechnology and Bioengineering*, 119 (10), 2609-2638. **IF – 4.5**
12. **Jeevanandam, J.**, Krishnan, S., Hii, Y. S., Pan, S., Chan, Y. S., Acquah, C., Danquah, M. K., and Rodrigues, J. (2022) Synthesis approach-dependent antiviral properties of silver nanoparticles and nanocomposites. *Journal of Nanostructure in Chemistry*, 12, 809-831. **IF – 8**
13. Srivastava, N., Sarethy, I. P., **Jeevanandam, J.**, Danquah, M. K. (2022) Emerging strategies for microbial screening of novel chemotherapeutics, *Journal of Molecular Structure*, 1255, 132419. **IF – 3.8**

14. **Jeevanandam, J.**, Kiew, S. F., Ansah, S. B., Lau, S. Y., Barhoum, A., Danquah, M. K., and Rodrigues, J. (2022) Green approaches for the synthesis of metal and metal oxide nanoparticles using microbial and plant extracts, *Nanoscale*, 14, 2534-2571. **IF – 8.3**
15. Barhoum, A., García-Betancourt, M. L., **Jeevanandam, J.**, Hussien, E. A., Mekkawy, S. A., Mostafa, M., Omran, M. M., Abdalla, M., and Bechelany, M. (2022) Review on natural, incidental, bioinspired, and engineered nanomaterials: history, definitions, classifications, synthesis, properties, market, toxicities, risks and regulations, *Nanomaterials*, 12 (2), 177. **IF – 4.9**
16. Salama, A., Abouzeid, R., Leong, W. S., **Jeevanandam, J.**, Samyn, P., Dufresne, A., Bechelany, M., Barhoum, A. (2021) Nanocellulose-based materials for water treatment: Adsorption, photocatalytic degradation, disinfection, antifouling and nanofiltration, *Nanomaterials*, 11 (11), 3008. **IF – 4.9**
17. Pan, S., Goudoulas, T. B., **Jeevanandam, J.**, Tan, K. X., Chowdhury, S., Danquah, M. K. (2021) Therapeutic applications of metal and metal oxide nanoparticles: dermato-cosmetic perspective, *Frontiers in Bioengineering and Biotechnology*, 9, 724499. <https://doi.org/10.3389/fbioe.2021.724499>. **IF – 5.9**
18. Egbuna, C., Parmar, V. K., **Jeevanandam, J.**, et al. (2021) Toxicity of nanoparticles in biomedical application: Nanotoxicology. *Journal of toxicology*, article no – 9954443. **IF – 1.2**
19. Egbuna, C., Awuchi, C. G., **Jeevanandam, J.**, et al. (2021) Bioactive compounds effective against type 2 diabetes mellitus: a systematic review, *Current topics in Chemistry*, 21 (12), 1067-1095. **IF – 4.3**
20. Balu, S. K., Andra, S., **Jeevanandam, J.**, Vidyavathy, S. M., Sampath, V. (2021) Emerging marine derived nanohydroxycomposite and their composites for implant and biomedical applications, *Journal of the mechanical behavior of biomedical materials*, 119, 104523. **IF – 3.9**
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22. **Jeevanandam, J.**, Danquah, M. K., Pan, S. (2021) Plant-derived nanomaterials as a potential next generation dental implant surface modifier, *Frontiers in Materials*, 8, 130. **IF – 3.5**
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27. **Jeevanandam, J.**, Harun, M. R., Lau, S. Y. Sewu, D. D. and Danquah, M. K. (2020) Microalgal biomass generation via electroflotation: A cost-effective dewatering technology, *Applied Sciences*, 10 (24), 9053. **IF – 2.7**
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32. **Jeevanandam, J.**, Chan, Y.S., Danquah, M.K. (2020) Cytotoxicity and insulin resistance reversal ability of biofunctional phytosynthesized MgO nanoparticles. *3 Biotech*, 10, 489. **IF – 2.9**
33. **Jeevanandam, J.**, Banerjee, S. and Paul, R. (2020) Challenges and opportunities to develop diagnostics and therapeutic interventions for severe acute respiratory syndrome-coronavirus 2 (SARS-CoV-2). *Journal of Biomedical Research & Environmental Sciences*, 6 (10), 219-232. **IIIF – 3.9**
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36. Tamilvanan, D., **Jeevanandam, J.**, Hii, Y. S. and Chan, Y. S. (2020) Sol-gel coupled ultrasound synthesis of photo-activated magnesium oxide nanoparticles: optimization and antibacterial studies. *Canadian Journal of Chemical Engineering*, 99, 502-518. **IF – 2.6**
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insulin resistance reversal drug candidate in Type 2 diabetes, Journal of drug delivery science and technology, 57, 101764. **IF – 3.9**

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47. **Jeevanandam, J.**, Chan, Y.S., Danquah, M.K. (2019). Evaluating the Antibacterial Activity of MgO Nanoparticles Synthesized from Aqueous Leaf Extract. Med One, 4: e190011.
48. **Jeevanandam, J.**, Chan, Y.S., Danquah, M.K. (2019). Zebrafish as a model organism to study nanomaterial toxicity. Emerging science journal, 3 (3): 195-208. **IF – 5.1**
49. **Jeevanandam, J.**, Chan, Y.S., Danquah, M.K. (2019). Effect of gelling agent and calcination temperature in sol-gel synthesized MgO nanoparticles. Protection of metals and physical chemistry of surfaces, 55 (2): 288-301. **IF – 1.2**

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51. Siang, H.Y., **Jeevanandam, J.**, Chan, Y.S. (2019). Plant mediated green synthesis and nanoencapsulation of MgO nanoparticle from *Calotropis gigantea*: Characterization and kinetic release studies. *Inorganic and nano-metal chemistry*, 48 (12): 620-631. **IF – 1.7**
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57. Thirugnanasambandan, T., Pal, K., A, Sidhu., Abd Elkodous, M., Prasath, H., Kulasekarapandian, K., Ayeshamariam, A., **Jeevanandam, J.** (2018). Aggrandize efficiency of ultra-thin silicon solar cell via topical clustering of silver nanoparticles. *Nano-Structures & Nano-Objects*, 16: 224-233. **IF – 5.5**
58. **Jeevanandam, J.**, Barhoum, A., Chan, Y.S., Dufresne, A., Danquah, M.K. (2018). Review on nanoparticles and nanostructured materials: History, sources, toxicity and regulations. *Beilstein Journal of Nanotechnology*, 9: 1050 - 1074. **IF – 3.7**
59. **Jeevanandam, J.**, Chan, Y.S., Ku, Y.H. (2018). Aqueous Eucalyptus globulus leaf extract mediated biosynthesis of MgO nanorods. *Applied biological chemistry*, 61 (2): 197 - 208. **IF – 3.2**
60. **Jeevanandam, J.**, Chan, Y.S., Danquah, M.K. (2017). Calcination-dependent morphology transformation of sol-gel synthesized MgO nanoparticles. *Chemistry select*, 2 (32): 10393 – 10404. **IF – 2.3**
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63. Kumar, A. A., **Jeevanandam, J.**, Prabakaran, K., Nagarajan, R., Chan, Y.S. (2016). Water quality monitoring: A comparative case study of municipal and Curtin Sarawak's lake samples. *IOP Conference Series: Materials Science and Engineering*, 121(1): 012019. **IF – 0.5**
64. **Jeevanandam, J.**, Chan, Y.S., Danquah, M.K. (2016). Biosynthesis of metal and metal oxide nanoparticles. *ChemBioEng Reviews*, 3(2): 55-67. **IF – 6.2**

65. **Jeevanandam, J.**, Danquah, M. K., Debnath, S., Meka, V.S., Chan, Y. S. (2015). Opportunity for nano-formulations in type 2 diabetes mellitus treatments. *Current Pharmaceutical Biotechnology*, 16 (10): 853-870. **IF – 2.6**
66. **Jeevanandam, J.**, Ashok Raja, C., Balakumar, S., Chan, Y.S. (2015). Sol-gel synthesis and characterization of magnesium peroxide nanoparticles. *IOP Conference Series: Materials Science and Engineering*, 78:12005. 1-8. **IF – 0.5**

D. Conference Proceedings

1. **Jeevanandam, J.**, Rodrigues, J. (2023). Thermogravimetry analysis of free and gelatin hydrogel formulated nanocellulose extracted from non-native *Arundo donax* plant, In Proceeding: 3rd Journal of Thermal Analysis and Calorimetry Conference and 9th V4 (Joint Czech-Hungarian-Polish-Slovakian) Thermo-analytical Conference, Balatonfured, Hungary, 20-23rd June 2023.
2. **Jeevanandam, J.**, Castro, R., Rodrigues, J. (2023). Non-native plant-extracted fibrous nanocellulose with enhanced alpha-amylase enzyme inhibition activity, In Proceeding: 6th International conference on natural fibers, Funchal, Portugal, 19 – 21st June 2023.
3. **Jeevanandam, J.**, Castro, R., Rodrigues, J. (2023). The impact of *Arundo donax* leaf-derived nanocellulose formulation on the mustard plant growth, In Proceeding: 10th CQM – Centro de Quimica da Madeira Annual Meeting, University of Madeira, Portugal, 1 – 2nd June 2023.
4. **Jeevanandam, J.**, Rodrigues, J. (2023). Antidiabetic activity of recycled sodium polyacrylate formulated nanocellulose extracted from invasive plant, In Proceeding: Advanced Technologies and Treatments for Diabetes, Berlin, Germany. 22 – 25th February, 2023.
5. **Jeevanandam, J.**, Rodrigues, J. (2022). Cellulose extraction and nanocellulose preparation from invasive *Arundo donax* L. plant leaves, In Proceeding: 9th CQM – Centro de Quimica da Madeira Annual Meeting, Colegio Dos Jesuitas, Portugal, 28 – 30th September 2022.
6. **Jeevanandam, J.**, Rodrigues, J. (2021). The effect of copper doping on the morphology of magnesium oxide nanoparticles prepared via calcination facilitated sol-gel approach. In Proceeding: 8th CQM – Centro de Quimica da Madeira Annual Meeting, Colegio Dos Jesuitas, Portugal, 7 – 8th Oct 2021.
7. **Jeevanandam, J.**, Chan, Y. S., Wong, Y. J. (2019). Biogenic synthesis of magnesium oxide nanoparticles using *Aloe barbadensis* leaf latex extract. In Proceeding: 2nd International Conference on Materials Technology and Energy, Curtin University, Malaysia, 6 – 8th Nov 2019.
8. Hii, Y. S., Siaw, Y. Y. M., **Jeevanandam, J.**, Chan, Y. S. (2018). Photo-irradiation coupled biosynthesis of magnesium oxide nanoparticles for antibacterial application. In Proceeding: One Curtin International Postgraduate Conference (OCPC) – Innovation in Science, Engineering and Technologies, Curtin University, Malaysia, 26-28th Nov 2018.
9. Kumar, A. A., **Jeevanandam, J.**, Prabakaran, K., Nagarajan, R., Chan, Y.S. (2016). Water quality monitoring: A comparative case study of municipal and curtin sarawak's lake samples. In Proceeding: The 10th CUTSE International Conference, Curtin University, Malaysia, 6-7th Nov 2015.

10. **Jeevanandam, J.**, Chan, Y.S., Muthiah, S. (2015). Biosynthesis of gold nanoparticles by *Aspergillus tamarii*. In Proceeding: The 3rd Faculty of Engineering Postgraduate Research Colloquium 2015, UNIMAS, Sarawak, 14 April, 2015.
11. **Jeevanandam, J.**, Ashok Raja, C., Balakumar, S., Chan, Y.S. (2014). Sol-gel synthesis and characterization of magnesium peroxide nanoparticles. In Proceeding: The 9th CUTSE International Conference, Curtin University, Malaysia, 3-5th Dec 2014.

E. Invited talks

1. Title: Metal oxide nanomedicines for diabetes treatment, In International hybrid conference on Nanostructured materials and polymers (ICNP 2023), Location: Mahatma Gandhi University, India (online) on 12-14th May, 2023. (**Invited talk and session chair**).
2. Title: **Importance of scientific journal publication in STEM**, Participants: Biotechnology Master's students, Location: Vellore Institution of Technology (VIT - online) on 29th March, 2023.
3. Title: **Nanomedicines as a next generation therapeutic agent for diabetes treatment**, In Curtin Global Campus HDR colloquium 2022, Participants: Higher degree by Research students, Location: Curtin University Malaysia (online) on December, 2022. (**Keynote speech**)
4. Title: **Intellectual property rights in academia**, Participants: Masters students, Location: Kavery arts and science college, India (online) on August, 2022.
5. Title: **Dental applications of Bio-nanomaterials**, Participants: Masters and doctoral students, Location: Saveetha Dental College, India (online) on December, 2021.
6. Title: **Small is wonderful – an introduction to nanomedicine**, Participants: B. Pharm and M. Pharm students, Location: SVKM's Dr. Bhanuben Nanavati College of Pharmacy, Mumbai, India (online) on January, 2021.
7. Title: **Nanomaterials for rapid detection of SARS-CoV-2**, Participants: B. Sc. and M. Sc. students, Location: M. A. M. College of engineering and technology, Tamil Nadu, India (online) on June, 2020.
8. Title: **How to write a research article**, Participants: B. Sc. and M. Sc. students, Location: Nandha college of arts and science, Tamil Nadu, India (online) on May, 2020.
9. Title: **Nanomedicine and its applications**, Participants: Bachelors and masters students, Location: K. S. R. College of technology, Tamil Nadu, India (online) on May, 2020.

Journal editor:

1. Bio-integration (China)
2. International Archives of Biomedical and Engineering Sciences (India)

Invited editor (special edition)

1. [Frontiers in Nanotechnology](#)
1. [Pharmaceutics](#) (MDPI)
2. [International Journal of Molecular Sciences](#) (MDPI)
3. [Frontiers in bioscience-landmark](#) (IMR Press)
4. Applied sciences ([Edition 1](#) and [edition 2](#)) [MDPI]
5. [Frontiers in molecular biosciences](#)
6. [Frontiers in Nanotechnology](#)
7. [Frontiers in Bioengineering and Biotechnology](#) (Research topic coordinator)

Journal reviewer

1. Acta Biomaterialia (Elsevier)
2. International Journal of Biological Macromolecules (Elsevier)
3. Naunyn-Schmiedeberg's Archives of Pharmacology (Springer)
4. Journal of Phytopathology (Wiley)
5. Beilstein Journal of Nanotechnology (Beilstein Institute, Germany)
6. Journal of Cluster Science (Springer)
7. Journal of applied microbiology (Wiley)
8. Artificial cells, nanomedicine and biotechnology (Taylor & Francis)
9. International Journal of Nanomedicine (Dove press)

Other project supervisions:

Undergraduate final year projects – 13
Master's thesis – 1, Early project (Master PIC) - 2
Research internships - 6

Citation Index

Total citations – 4597
H-index – 25; i10 index – 47

Awards and memberships:

- Received **Travel grant award** to attend 3rd Journal of Thermal Analysis and Calorimetry Conference and 9th V4 (Joint Czech-Hungarian-Polish-Slovakian) Thermo-analytical Conference, Hungary (2023) and present the results of research.
- Included in the list of **top 2% scientist in the world** with more citations in the year 2020 and 2021 by Stanford University, USA.
- **Postdoctoral fellowship** from Transnational cooperation programme Madeira-Azores-Canarias (MAC 2014-2020) towards Regional developmental fund (ERDF), Portugal (2021-2022) to carryout research in Madeira Chemistry Center (CQM), University of Madeira, **Portugal**.
- **Literati highly commended research paper award** from **Emerald publication** for the article 'Evaluation and development of antibacterial fabrics using Pongamia pinnata extracts' for the year 2020.
- **Postdoctoral fellowship** from ARDITI – Agencia Regional para o Desenvolvimento da Investigacao, Tecnologia e Inovacao (Regional Agency for the Development of Research, Technology and Innovation), Portugal (2020-2021) to carryout research in University of Madeira, **Portugal**.
- Recipient of '**Best Teacher award-2019**' in **Academy of competitive exam and research training (ACERT, Chennai)** for the academic year 2018-2019, for the extraordinary service as a guest faculty.
- Recipient of **Gold medal in 3rd World Invention Innovation Contest (WiC) 2017** organized by **Korea Invention News (KINEWS)** for the project proposal entitled '**Multi-compartment antimicrobial nanoformulation for food packaging**'.
- Recipient of **Special Honour of Invention award in 3rd World Invention Innovation Contest (WiC) 2017** from Toronto International Society of Innovation & Advanced skills (TISIAS) and International Invention and Innovation Competition in Canada (iCAN-Toronto) for the project proposal entitled '**Multi-compartment antimicrobial nanoformulation for food packaging**'.

- Recipient of ‘**People’s choice award**’ in 3-minutes thesis competition conducted by Curtin University, Malaysia, 2015.
- Recipient of ‘**Curtin Sarawak Postgraduate Research Scholarship**’, Curtin University, 2014-2017.
- “**Loyola Young Environmentalist award**” by **School of Entomology & Centre for Natural Resources Management**, Loyola College, Chennai, in the year 2011 for being the founder, President of a student NGO – SOW, which aims in creating awareness about global warming.
- “**Rev. Fr. A.J. THAMBURAJ S.J Award**” for popularizing environment protection and awareness by **LOYOLA COLLEGE** for the academic year 2011-2012.

Teaching interest

Interested to teach subjects related to biotechnology, nano-chemistry, nano-electronics, nanomedicine, biochemistry, chemical reaction engineering, green chemical engineering, material science, organic chemistry and analytical chemistry.

Teaching experience (5+ years):

Role	Subject	Department	University	Period
Lab instructor	Engineering materials	First year engineering	Curtin University, Malaysia	July 2016 – March 2017
Lab instructor	Reactions and Functions in Chemistry	Chemical Engineering	Curtin University, Malaysia	November 2015 – June 2016
Lab instructor	Principles and Processes in Chemistry	Chemical Engineering	Curtin University, Malaysia	March 2015 – November 2015
Tutor (Guest lecturer)	Biotechnology theory	Biotechnology	Loyola college, India	June 2014 – September 2014
Lecturer	Plant biotechnology, Applied techniques in biotechnology, Environmental chemistry, Bioprocess Engineering, Bioinformatics	Graduate Aptitude Test in Engineering (GATE) aspirants	Academy of competitive exam and research training (ACERT) – Chennai, India.	May 2018-Feb 2020
Lecturer (online)	Plant biotechnology, Applied techniques in biotechnology, Environmental chemistry	GATE and National Eligibility Test (India) aspirants	Academy of competitive exam and research training (ACERT) – Chennai, India.	Feb 2020-Aug 2020

Personal profile:

- **Nationality** : Indian
- **Gender** : Male

- **Date of birth** : 26-05-1992
- **Age** : 31
- **Marital status:** Single

Declaration:

I, hereby, declare that all the statements made above are true to my knowledge and I bear the responsibility for the correctness of the above-mentioned statements.



Dr. Jaison Jeevanandam