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| 1. Name and                           | : Dr. Arjunan Karuppaiah.,   |
| 2. Academic qualification             | : M. Pharm., PhD.,   |
| 3. Designation                        | : Associate Professor  |
| 4. Date of joining                    | : 31.12.2021   |
| 5. Department                         | : Pharmaceutics  |
| 6. Area of Specialization (Key words) | : Nano drug delivery, Nano materials, Novel drug delivery  |
| 7. Membership in professional bodies  | : APTI (Association of Pharmaceutical Teachers of India), TNPC (Tamil Nadu Pharmacy Council), INSC (Institute of Scholars) |
| 8. E-mail                             | : <a href="mailto:Dr.aj.mpharm.phd@gmail.com">Dr.aj.mpharm.phd@gmail.com</a>   |
| 9. Contact                            | : +91-9751080880   |
| 10. Date of birth                     | : 28.05.1991   |

### Awards and Achievements

- **Best Oral Presentation Award** in 9th International Postgraduate Conference on Pharmaceutical Sciences (iPOPs-2022), International Medical University, Malaysia (First Prize, Cash RM-100).
- Awarded **Incredible Young Researcher of India Award** by Record Owner (2021).
- Awarded **Young Researcher Award** by Institute of Scholars (InSc) (2021).
- **Best Poster Award** in National conference “RADDSCR” (2018) at SB College of Pharmacy, Sivakasi, India (Secured First Prize, Cash Rs-1,500).
- **Best Poster Award** in National conference “CPNDDS” (2017) at PSG College of Pharmacy, Coimbatore, India (Secured First Prize).
- **Best Poster Award** in National conference “APNAM” (2017) at KM College of Pharmacy, Madurai, India (Secured First Prize).
- Recipient of the **PSG Sons & Charity Fellowship** for doctoral studies (2017-2020).
- Awarded **Junior Research Fellowship**, DST Nanomission, Government of India (2014-2017).
- College **1<sup>st</sup> Rank** in 4<sup>th</sup> year B. Pharm (2012).
- College **3<sup>rd</sup> Rank** holder consequently for three years (1<sup>st</sup> - 3<sup>rd</sup> year) of B. Pharm (2009-2011).

### Research Metrics (9.2.2023)

| Publications | Published | Total Citations | H-index | i10-index |
|--------------|-----------|-----------------|---------|-----------|
| Articles     | 24        | 153             | 7       | 4         |
| Book Chapter | 1         |                 |         |           |
| Patents      | -         |                 |         |           |

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Website: [shorturl.at/mCEY5](http://shorturl.at/mCEY5)

### Research Experiences

| Post                   | Durations | Funding                                  | Project  |
|------------------------|-----------|--|--|
| Junior Research Fellow | 2014-2015 | DST-Nanomission,<br>Government of India. | Biogenic synthesis of silver nanoconjugates with natural products. |
| Senior Research Fellow | 2015-2017 |  |  |
| Ph.D.                  |           | PSG Sons & Charity                       | Synthesis, characterization, and                                   |

### Teaching experiences (2 year 4 months)

| Post                | Duration                | University  | Institution                               |
|---------------------|-------------------------|---|---|
| Assistant Professor | 5.2.2020 to 30.12.2021  | The Tamil Nadu Dr. M. G. R. Medical University, Chennai, India. | PSG College of Pharmacy, Coimbatore.      |
| Associate Professor | 31.12.2021 To Till date | The Tamil Nadu Dr. M. G. R. Medical University, Chennai, India. | Karpagam College of Pharmacy, Coimbatore. |

### Project Guidance

- B. Pharm projects - 1
- M. Pharm projects - 3
- PhD projects – Nil

### Publications

#### First Author Publications (7)

**1. Karuppaiah A**, Divakar S, Mohan S, Arumugam N, Dinesh B, Habibur R, Thiagarajan M, Bharadhan B, Tamilselvan N. A Perspective on Therapeutic Applications and Strategies to Mitigate Toxicity of Metallic Nanoparticles. **Curr Pharm Des.** 2022. **IF:3.310**

2. **Karuppaiah A**, Veintramuthu S, Muthiah R. Nano phytomedicines as an emerging platform for drug delivery- Nano applications in drug and gene delivery, Taylor & Francis, **2022**. ISBN – 9781032137285, October 10, 2022, Forthcoming by CRC Press, 296 Pages. <https://www.routledge.com/Nanophytomedicine-An-Emerging-Platform-for-Drug-Delivery/Thangaraj-Junior-Ponpandian/p/book/9781032137285>
3. **Karuppaiah A**, Dinesh B, Divakar S, Tamilselvan N, Ravikumar R, Mrinmoy G, Hariprasad R, Karthik S, Veintramuthu S. Building and behavior of a pH-stimuli responsive chitosan nanoparticles loaded with folic acid conjugated gemcitabine silver colloids in MDA-MB-453 metastatic breast cancer cell line and pharmacokinetics in rats. **Eur J Pharm Sci.** **2021** Oct; 1:165. Available from: <https://doi.org/10.1016/j.ejps.2021.105938> **IF:5.112**
4. **Karuppaiah A**, Siram K, Selvaraj D, Ramasamy M, Babu D, Sankar V. Synergistic and enhanced anticancer effect of a facile surface modified non-cytotoxic silver nanoparticle conjugated with gemcitabine in metastatic breast cancer cells. **Mater Today Commun.** **2020** Jun; 23:100884. Available from: <https://doi.org/10.1016/j.mtcomm.2019.100884> **IF:3.662**
5. **Karuppaiah A**, Rajan R, Hariharan S, Kumar D, Gregory M, Sankar V. Synthesis and characterization of folic acid conjugated Gemcitabine tethered silver nanoparticles (FA-GEM-AgNPs) for targeted delivery. **Curr Pharm Des.** **2020** Mar; 16:26. Available from: <https://doi.org/10.2174/1381612826666200316143239> **IF:3.310**
6. **Karuppaiah A**, Rajan R, Ramanathan M, Nagarajan A. Cytotoxicity and synergistic effect of biogenically synthesized ternary therapeutic nano conjugates comprising plant active principle, silver and anticancer drug on MDA-MB-453 breast cancer cell Line. **Asian Pacific J Cancer Prev.** **2020** Jan; 21:195. Available from: <https://doi.org/10.31557/apjcp.2020.21.1.195> **IF:2.52**
7. **Karuppaiah A**, Bharadhan B. Formulation, Development and Characterization of Mucoadhesive Buccal Films of Diclofenac Sodium. **WJPPS**, **2015**, 4(12):569-575 **IF: N/A**

#### **Co-Author Publications (21)**

1. Khan, R.A.; Mohammed, H.; Sulaiman, G.M.; Subaiyel, A.A.; **Karuppaiah, A.**; Rahman, H.; Makhathini, S.; Ramburrun, P.; Choonara, Y. Molecule(s) of Interest: I. Ionic Liquids– Gateway to Newer Nanotechnology Applications: Advanced Nanobiotechnical Uses’, Current Status, Emerging Trends, Challenges, and Prospects. **Int. J. Mol. Sci.** **2022**, 23, x. **IF:6.086**
2. Chakkittukandiyil A, Sajini DV, **Karuppaiah A**, Selvaraj D. The principal molecular mechanisms behind the activation of Keap1/Nrf2/ARE pathway leading to neuroprotective action in Parkinson's disease. **Neurochemistry International.** **2022** Mar 9:105325. <https://doi.org/10.1016/j.neuint.2022.105325> **IF:4.297**
3. Saipriya G, **Karuppaiah A**, Syamala G, Venkatesh G, Siram K, Babu D, Sankar V. Self-nanoemulsifying drug delivery system of aqueous leaf extracts of *Justicia adhatoda* and

- Psidium guajava to enhance platelet count. 3 Biotech. 2022 Jun;12(6):1-9. <https://doi.org/10.1007/s13205-022-03164-9> IF:2.893
4. Siram, K., **Karuppaiah, A.**, Gautam, M. et al. Fabrication of Hyaluronic Acid Surface Modified Solid Lipid Nanoparticles Loaded with Imatinib Mesylate for Targeting Human Breast Cancer MCF-7 Cells. J Clust Sci, 2022. <https://doi.org/10.1007/s10876-022-02265-y> IF:3.447
  5. Sankar V, Baby Roselin R, **Karuppaiah, A.**, Thirupathy Kumaresan P, Abdul Khayum K. Neuropharmacological Activity of Dolichandrone Atrovirens (Roth) Leaf Extracts In Swiss Albino Mice. Indian Drugs. 59 (06) 2022 IF: N/A
  6. Selliamman Ravi Mahi Priya, Rajandurai Baby Roselin, **Arjunan Karuppaiah**, Veintramuthu Sankar Formulation of Mupirocin Adsorbed Silver Nanoparticle with Antibiofilm Agents for Enhancing Antibacterial Activity. Indian Journal of Pharmaceutical Education and Research, Vol 56,1, 2022 IF: N/A
  7. Mahalakshmi S, **Karuppaiah A**, Munusamy N, Baby Roselin R, Santhanam R, Natesan G, Sankar V. Formulation development of cream with mupirocin and essential oils for eradication of biofilm mediated antimicrobial resistance. Archives of Microbiology. 2021 Jan 18. PMID: 33459816; <https://doi.org/10.1007/s00203-020-02175-5> IF: 2.667
  8. Ilakkiya VA, Das SK, Roselin RB, **Karuppaiah A**, Venkatesh G, Sankar V. Assessment On Diabetic Wound Management Using Sil-Ver Nanoparticles. Pharma Times. 53(10):10 (2021). IF: N/A
  9. Tamilselvi, E., **Karuppaiah, A.**, Shyamala, G. et al. Exploring combined herbal extract-loaded phytoniosomes for antimalarial and antibacterial activity against methicillin-resistant Staphylococcus aureus. 3 Biotech 2021,11, 177. <https://doi.org/10.1007/s13205-021-02729-4> IF:2.893
  10. Selvaraj S, **Karuppaiah A**, Karthik S, Sankar V. Synthesis and toxicity assessment of copper-based nano composite cream: an approach to enhance the antibacterial effect of mafenide acetate. Inorg Nano-Metal Chem. 2020 Apr 16;1–11. Available from: <https://doi.org/10.1080/24701556.2020.1750428> IF:1.514
  11. Wilson DK, Shyamala G, Paulpandi M, Narayanasamy A, Siram K, **Karuppaiah A**, et al. Development and characterization of phytoniosomenano vesicle loaded with aqueous leaf extracts of Justiciaadhatoda and Psidiumguajoava against Dengue virus (DEN-2). J Clust Sci. 2020 Apr 2; Available from: <https://doi.org/10.1007/s10876-020-01788-6> IF:3.447
  12. Arjun S, Karthik S, **Karuppaiah A**, Hariharan S, Seenivasan P, Sankar V. Preparation and evaluation of Rosuvastatin calcium nanosuspension and solid dispersion tablets by wet granulation and direct compression techniques using tamarind gum as a binder. Indian J Pharm Sci. 2020;82(1). <https://doi.org/10.36468/pharmaceutical-sciences.620> IF:0.664
  13. Sasindran S, Easwaran M, Shyamala G, **Karuppaiah A**, Siram K, Veintramuthu S. Phytochemical screening and cytotoxicity evaluation of crude extracts: Toxicity comparison

of crude extracts and its ethosomal formulations. J CosmetDermatol. **2020** Jul 5;19(7):1794–803. Available from: <https://doi.org/10.1111/jocd.13234> **IF:2.189**

14. Bharath S, **Karuppaiah A**, Siram K, Hariharan S, Santhanam R, Veintramuthu S. Development and evaluation of a pH triggered in situ ocular gel of brimonidine tartrate. J Res Pharm. **2020**;24(3):416–24. Available from: <https://doi.org/10.35333/jrp.2020.164> **IF: N/A**
15. Eswaran M, Gunasekaran V, Govindarajan S, Venkatraman M, Santhanam R, **Karuppaiah A**, Veintramuthu S. Development of ethosome comprising combined herbal extracts and its effect on hair growth. Adv. Tradit. Med. **2020**, 1-11. Available from: <https://doi.org/10.1007/s13596-020-00457-3> **IF: N/A**
16. Mahipriya S, Baby Roselin R, **Karuppaiah A**, Nithyanth M, Sankar V. A Review On Natural Anti Biofilm Agents For Wound Biofilm. Indian Drugs. 58 (10) (**2020**) **IF: N/A**
17. Veintramuthu S, Vinny W, Karthik S, **Karuppaiah A**, Sivaram H, Antony J. Topical delivery of drugs using ethosomes: A review. Indian drugs **2019**, (56) 08; 7-20. **IF: N/A**
18. Yasam VR, Jakki SL, Senthil V, Eswaramoorthy M, Shanmuganathan S, **Karuppaiah A**, et al. A pharmacological overview of lamotrigine for the treatment of epilepsy. Expert Rev ClinPharmacol. **2016** Dec;9(12):1533–46. Available from: <https://doi.org/10.1080/17512433.2016.1254041> **IF:4.108**

#### **Financial supports Received**

| <b>Funder</b>  | <b>Support for</b>  | <b>Amount (Rs)</b> |
|--|---|--------------------|
| Karpagam college of pharmacy, Coimbatore, India                  | International conference oral presentation and workshop participation | 7,166              |
| Karpagam college of pharmacy, Coimbatore, India                  | Workshop participation on 3DBioPrinting                               | 1,500              |
| International Medical University, Malaysia                       | Best Oral presentation award  | 1,766              |
| Sankaralingam Bhuvaneshwari College of Pharmacy, Sivakasi, India | Best Poster presentation award  | 1,500              |

#### **Grants Received**

| <b>Funding agency</b>  | <b>Projects</b>  | <b>Investigator</b>   | <b>Amount (Rs)</b>            |
|--|--|---|-------------------------------|
| DST-Nanomission, Government of India (SR/NM/NS-1110/2013(G) dated 01.09.2014). | Biogenic synthesis of silver nanoconjugates with natural products.   | <b>PI:</b> Dr. A.Nagarajan., PhD.,<br><b>SRF:</b> Dr. Arjunan., M.Pharm., PhD., | 24 Lakhs                      |
| PSG Sons & Charity Fellowship for Doctoral Studies (Dated 02.09.2017)          | Synthesis, characterization, and preclinical evaluation of silver nanoparticle for the treatment of breast cancer. | <b>SRF:</b> Dr. Arjunan. K., M.Pharm., PhD.,                                    | 2.9 Lakhs (10, 000 Per month) |