

Name of Faculty **Dr. Kiran Yellappa Vajanthri**

Designation Assistant Professor

Nature of Job/Appointment Regular

Date of Joining 08-10-2021



E-mail kiranyellappa_biotech@cbit.ac.in

Education Qualifications Name of the Degree Class

Ph. D Doctor of Philosophy (Biomedical Engineering) Awarded

PG M.Tech (Biotechnology & Medical Engineering) First Class

UG B. E. (Biotechnology) First Class

Work Experience

Teaching 06 years 2 months

Research 06 years

Industry --

Others --

Area of Specialization Biomaterials and Tissue Engineering

Professional Memberships Society for Tissue Engineering Regenerative Medicine India

Responsibilities held at Institution Level

1. Sudhee and Shruthi Reception committee faculty member 2021-23

2. Anti-Ragging Squad member from 08-10-2021 to till date
3. Disciplinary committee member from 08-10-2021 to till date
4. ACIC CBIT Biotechnology coordinator 2021-22

Responsibilities held at Department Level

1. Mentor for students
2. Results analysis coordinator
3. NIRF Coordinator dept level
4. Equivalent subject coordinator

5. Social activities/Village development dept coordinator
6. Honors degree & Equivalent subjects admitted batch coordinator
7. Faculty coordinator poster coordinator Neozion 2022 & Sudhee 2022
8. Poster presentation coordinator for Research Day 2022

Research Guidance Supervised Two B. Tech Final students for Final Year Project during AY 2021-22

- Awards Received
1. Secured best poster presentation award at the conference for the poster titled "PVA Bentonite composites for wound dressing," at Second International Conference on Medical Materials, Devices and Regenerative Medicine (MMDRM) 11-13 January 2014, Kathmandu Nepal.
 2. Was among the 10 selected candidates for attending the training program in generation and maintenance of Human iPS cells (ASHD–CiRA program) organized by Accelerating the application of Stem cell technology in Human Disease" (ASHD) program, India and The Centre for iPS Cell Research and Application (CiRA) at Kyoto University, Japan 29 November - 1 December 2017.
 3. Ministry of Human Resources and Development GATE fellowship for M. Tech from July 2012- July 2014.
 4. Institute Doctoral Fellowship, Indian Institute of Technology (BHU) Varanasi, India from July 2014 - July 2019.

- Courses Handled at Under Graduate / Post Graduate Level.
1. Tissue Engineering Lab
 2. Cell Mechanobiology Lab
 3. Tissue Engineering
 4. Developmental Biology
 5. Introduction to Anatomy and Physiology of Humans
 6. Animal Biotechnology
 7. Animal Biotechnology Lab
 8. Immunodiagnosics

No. of Papers Published

National Journals – 0	International Journals – 15
National Conference – 8	International Conference – 5

Projects Carried out

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Patents

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Technology Transfer

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Invited Speaker

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No. of Books/Chapter Published with details

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Details of Short-Term Training Programs/Faculty Development Programs/Seminars/Workshops . Other Trainings (**Attended and/or organized**).

1. AICTE recognized Short Term Course on 2D Nanomaterials: Potential & Applications through ICT conducted by Applied science department, NITTTR Chandigarh, 17-21 October 2022.
2. Online FDP on "Spectroscopic techniques and instrumentation" conducted by Applied science department, NITTTR Chandigarh, 23-27 May 2022.
3. Two-day workshop on "Nanoscale Characterization and Analysis" Organized by Department of applied science NITTTR Chandigarh, from 10-11 March 2022.
4. High-end workshop on "Next Generation Medical Devices: focusing on therapeutics and diagnostics - Series 1", held at the department of Biotechnology and Medical Engineering, National Institute of Technology, Rourkela from 7-11 February 2022 under accelerate Vigyan scheme, Sponsored by DST.
5. AICTE training and learning (ATAL) Academy online FDP on "Advanced Manufacturing of Biomedical devices for Precision Health Technologies-Part-II" organized by IIT Tirupati, 24-28 January 2022.
6. AICTE training and learning (ATAL) Academy online FDP on "Advanced Manufacturing of Biomedical devices for Precision Health Technologies-Part-I" organized by IIT Tirupati. 13-17 November 2021.
7. Bioprocessing Society-India mini symposium on "BIOMATERIALS AND TISSUE ENGINEERING" Organized by Department of Biotechnology, IIT Madras. 27th November 2021.
8. AICTE training and learning (ATAL) Academy online FDP on "3D

- printing and Design” organized by university college of engineering Osmania University. 25-29 October 2021.
9. Hands on Workshop on “Real Time PCR” conducted by Agilent Technologies and Molecular Biology unit, IMS Banaras Hindu University, Varanasi, 17-18 July 2018.
 10. Training program in generation and maintenance of Human iPS cells (ASHD – CiRA program) organized Accelerating the application of Stem cell technology in Human Disease.” (ASHD) program, India and The Centre for iPS Cell Research and Application (CiRA) at Kyoto University, Japan 29th November – 1st December 2017.
 11. Workshop on “Emerging Trends in Drug Designing & Molecular Modelling” IIT (BHU) Varanasi, 19-21 July 2017.
 12. Global initiative for academic networks (GIAN) course on “Mechanobiology”, IIT Ropar, from 24-28 May 2017.
 13. Indian Medical Device Expo Pune 2016, a joint initiative by IIT Bombay, COE Pune, and VNIT Nagpur, College of Engineering Pune, from 8-10 April 2016.
 14. Short Term Course on “Research Methods and Skills” at IIT (BHU), Varanasi (U.P.), India conducted from December 4-5, 2015.
 15. Two days course on “Advanced Microscopy and Imaging Techniques” jointly organized by DSS Imagetech Pvt. Ltd., Olympus Medical Systems India Pvt. Ltd. and Photometrics (USA) along with IIT, BHU from 7-8 August 2015.
 16. INUP Hands-on Training Workshop on “Nanofabrication Technologies”. Training on PDMS Microfluidics and Micro and Nano Characterization techniques conducted at the Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore, from 3-12 February 2015.
 17. INUP Familiarization Workshop on “Nanofabrication Technologies”, conducted at the Centre for Nano Science and Engineering, Indian Institute of Science, Bangalore, from 27-29 January 2015.

Details of Journal Publications/
Conferences (**National and International**) Details provided below

International Journal Articles

1. Poddar, S., Agarwal, P.S., Sahi, A.K., Varshney, N., **Vajanthri, K.Y.**, Mahto, S.K., (2021) Fabrication and characterization of electrospun psyllium husk-based nanofibers for tissue regeneration. *Journal of Applied Polymer Science*, 138 (24), 50569.
2. Agarwal, T., Fortunato, G.M., Hann S.Y., Ayan B., **Vajanthri, K.Y.**, Presutti, D., Cui, H., Chan, A.H.P., Costantini, M., Onesto, V., Di Natale C., Huang N.F., Makvandi, P., Shabani, M., Maiti, T.K., Zhang, L.G., and De Maria, C., (2021) Recent advances in bioprinting technologies for engineering cardiac tissues. *Material science & Engineering C*. 124 112057. <https://doi.org/10.1016/j.msec.2021.112057>.
3. Agarwal, T., Chiesa, I., Presutti, D., Irawan V., **Vajanthri, K.Y.**, Costantini, M., Nakagawa, Y., Tan, S., Makvandi, P., Zare E. N., Sharif. E., De Maria, C., Ikoma, T., and Maiti, T.K., (2021) Recent advances in bioprinting technologies for engineering different cartilage-based tissues. *Material science & Engineering C*. 123 112005. <https://doi.org/10.1016/j.msec.2021.112005>.
4. Agarwal, P.S., Poddar, S., Varshney, N., Sahi, A.K., **Vajanthri, K.Y.**, Yadav, K., Parmar, A.S. and Mahto, S.K., (2020). Printability assessment of psyllium husk (isabgol)/gelatin blends using rheological and mechanical properties. *Journal of Biomaterials Applications*, p.0885328220979473.
5. Pawde, M. D., Kasi Viswanadh, M., Mehata, A.K., Sonkar, R., Narendra, Poddar, S., Burande, A.S., Jha, A., **Vajanthri, K.Y.**, Mahto, S. K., Dustakeer, A.V.N., Madaswamy S. M., (2020) Mannose receptor targeted bioadhesive chitosan nanoparticles of clofazimine for effective therapy of tuberculosis, *Saudi Pharmaceutical Journal*. <https://doi.org/10.1016/j.jsps.2020.10.008>.
6. **Vajanthri, K. Y.**, Sidu, R. K., & Mahto, S. K. (2020). Micropatterning and alignment of skeletal muscle myoblasts using microflowed plasma process. *IRBM*, 41, 48-57. <https://doi.org/10.1016/j.irbm.2019.08.003>.
7. **Vajanthri, K. Y.**, Sidu, R. K., Poddar, S., Singh, A. K., & Mahto, S. K., (2019). Combined substrate micropatterning and FFT analysis reveals myotube size control and alignment by contact guidance.

Cytoskeleton, 76(3), 269-285. <https://doi.org/10.1002/cm.21527>.

8. Sahi, A. K., Anjali, Varshney, N., Poddar, S., **Vajanthri, K. Y.**, & Mahto, S. K. (2019). Optimizing a detection method for estimating polyunsaturated fatty acid in human milk based on colorimetric sensors. *Materials Science for Energy Technologies*, 2(3), 624–628. <https://doi.org/10.1016/j.mset.2019.07.001>
9. Poddar, S., Parasa, M. K., **Vajanthri, K. Y.**, Chaudhary, A., Pancholi, U. V., Sarkar, A., Singh, A. K., & Mahto, S. K. (2019). Low density culture of mammalian primary neurons in compartmentalized microfluidic devices. *Biomedical microdevices*, 21(3), 67.
10. Varshney, N., Sahi, A. K., **Vajanthri, K. Y.**, Poddar, S., Balavigneswaran, C. K., Prabhakar, A., Rao, V., & Mahto, S. K. (2019). Culturing melanocytes and fibroblasts within three-dimensional macroporous PDMS scaffolds: towards skin dressing material. *Cytotechnology*, 71(1), 287-303. <https://doi.org/10.1007/s10616-018-0285-6>.
11. Poddar, S., Agarwal, P. S., Sahi, A. K., **Vajanthri, K. Y.**, Singh, K. N., & Mahto, S. K. (2019). Fabrication and Cytocompatibility Evaluation of Psyllium Husk (Isabgol)/Gelatin Composite Scaffolds. *Applied biochemistry and biotechnology*, 1-19. <https://doi.org/10.1007/s12010-019-02958-7>.
12. **Vajanthri, K. Y.**, Yadav, P., Poddar, S., & Mahto, S. K. (2018). Development of optically sensitive liver cells. *Tissue and Cell*, 52, 129–134. <https://doi.org/10.1016/j.tice.2018.05.004>.
13. Bandyopadhyay, A., Dewangan, V. K., **Vajanthri, K. Y.**, Poddar, S., & Mahto, S. K. (2018). Easy and affordable method for rapid prototyping of tissue models in vitro using three-dimensional bioprinting. *Biocybernetics and Biomedical Engineering*, 38(1), 158–169. <https://doi.org/10.1016/j.bbe.2017.12.001>.
14. Vijayakumar, M.R., **Vajanthri, K.Y.**, Balavigneswaran, C.K., Mahto, S.K., Mishra, N., Muthu, M.S., & Singh, S. (2016). Pharmacokinetics, biodistribution, in vitro cytotoxicity and biocompatibility of Vitamin E TPGS coated trans resveratrol liposomes. *Colloids and Surfaces B: Biointerfaces*.145:479-91.
15. Vijayakumar, M.R., Kumari, L., Patel, K.K., Vuddanda, P.R., **Vajanthri, K.Y.**, Mahto, S.K., & Singh, S. (2016). Intravenous administration of trans-resveratrol-loaded TPGS-coated solid lipid nanoparticles for prolonged systemic circulation, passive brain targeting and improved in vitro cytotoxicity against C6 glioma cell lines. *RSC Advances*. 6 (55):50336-48.

International Conferences

1. Mahitha Pyla, Sanjana Kankipati, **Kiran Yellappa Vajanthri**, Rajasri Yadavalli and Koodalingam Dharmalingam. "Development and evaluation of stimuli-responsive hydrogel films containing carboxymethyl cellulose, soy protein isolate and grapefruit seed extract for potential application in treating atopic dermatitis" 4th International Conference on "Challenges in Chemical and Biochemical Engineering for Sustainable Development" organized by Department of Chemical Engineering, Annamalai University, Annamalai Nagar, Tamil Nadu. 23rd -24th March 2022.
2. Valluru Saileela Sirisha, **Kiran Yellappa Vajanthri**. "Biomaterial Applications of Poly Vinyl Alcohol". 4th International Conference on "Challenges in Chemical and Biochemical Engineering for Sustainable Development" organized by Department of Chemical Engineering, Annamalai University, Annamalai Nagar, Tamil Nadu. 23rd -24th March 2022
3. Rakesh Sidu, **Kiran Yellappa Vajanthri**, and Sanjeev Kumar Mahto. "Controlling Skeletal Muscle Cell Behaviour using Topologically Controlled Environment", International Symposium on Emerging Areas in Biosciences and Biomedical Technologies (eBBT-2018), 5-6 January 2018, Indian Institute of Technology, Indore, India.
4. **Kiran Yellappa Vajanthri**, Suruchi Poddar, Ajay Sahi and Sanjeev Kumar Mahto. "Understanding the dynamics of skeletal muscle differentiation and myotube-myotube interaction in vitro". Fifth international conference on Microfluidics and LAB-ON-CHIP, Mumbai, India 17-18 January 2018.
5. **Kiran Yellappa Vajanthri** and Thirugnanam Arunachalam. "PVA Bentonite composites for wound dressing," at Second International Conference on Medical Materials, Devices and Regenerative Medicine (MMDRM) 11-13 January 2014, Kathmandu Nepal.

National Conferences

1. Suruchi Poddar, **Kiran Yellappa Vajanthri**, and Sanjeev Kumar Mahto. Neuromuscular Synaptogenesis on a Microfluidic Chip. Institute Day, 24-26 February 2017, Indian Institute of Technology (Banaras Hindu University), Varanasi.
2. Sanjeev Kumar Mahto, Suruchi Poddar and **Kiran Yellappa Vajanthri**, Development of Microfluidic Tools for Neuromuscular Synaptogenesis and Nanotoxicological Studies. INSPIRE Faculty Monitoring-cum Interaction Meet, 3-4 February 2017, IISER Pune, Maharashtra, India.
3. Suruchi Poddar, **Kiran Yellappa Vajanthri**, and Sanjeev Kumar Mahto. Fabrication of Microfluidic Device for Neuromuscular Junction Modeling. National Conference on Biotechnology and Environment (NCOBE), 10-11 April 2017, Jamia Millia Islamia, New Delhi.
4. Suruchi Poddar, **Kiran Yellappa Vajanthri**, and Sanjeev Kumar Mahto. Development of a Microfluidic Model of Neuromuscular Junction for Clinical Diagnosis. SYSCON 2016-Recent advances in Biomedical Research, 26-27 May 2016, AIIMS, New Delhi.

5. **Kiran Yellappa Vajanthri**, Shivani Saxena, Suruchi Poddar, Anurag Periwal, Piyush Agarwal, Ajay Sahi, and Sanjeev Kumar Mahto. Fabricating functional Skeletal Muscle tissue constructs using decellularized matrices, Indian Medical Device Expo, a joint initiative by IIT Bombay, COE Pune and VNIT Nagpur, 8th-10th April 2016, College of Engineering, Pune.
6. **Kiran Yellappa Vajanthri**, Shivani Saxena, Suruchi Poddar, Anurag Periwal, Piyush Aggarwal and Sanjeev Kumar Mahto. "Fabricating functional skeletal muscle tissue constructs using decellularized matrices", Institute Day 2-3 April, 2016, Indian Institute of Technology (Banaras Hindu University), Varanasi.
7. **Kiran Yellappa Vajanthri**, Sanjeev Kumar Mahto. "Microfluidic Platforms for Skeletal Muscle Tissue Engineering" INUP Familiarization Workshop on Nanofabrication Technologies conducted at the Centre for Nano Science and Engineering, 27-29 January 2016, Indian Institute of Science, Bangalore, India.
8. **Kiran Yellappa Vajanthri**, Anurag Periwal, Piyush Sunil Agarwal, Suruchi Poddar and Sanjeev Kumar Mahto. "Fabricating functional skeletal muscle tissue using decellularized matrices". Institute day 2-3 April 2015, Indian Institute of Technology (Banaras Hindu University), Varanasi.

