

## List of Publications

[Cumulative impact factor: 143.7, Citations: 1190, h-index: 15]

*As first / corresponding author*

- 1) Jebakumar M, Pachaiyappan M, Kamini NR, Radhakrishnan J\*, Ayyadurai N\*. Engineered Spider Silk in Core-Shell Multi-functional Fibrous Mat for Accelerated Chronic Diabetic Wound Healing via Macrophage Polarization. ACS Biomaterials Science and Engineering, 2025, [SCI: 5.5] DOI: 10.1021/acsbiomaterials.5c00737. \*Corresponding authors.
- 2) Pachaiyappan M, Jebakumar M, Radhakrishnan J\*, Ayyadurai N\*. Electrically Conductive Gellan Gum/Polyvinyl Alcohol Interpenetrating Network Hydrogel: A Dual Crosslinked 3D Printing Ink for Cardiac Tissue. Journal of Materials Chemistry B, 2025, [SCI, IF: 5.7] DOI: 10.1039/D5TB01462J. \*Corresponding authors.
- 3) Valappil S, Mohan I, Radhakrishnan J\*, Ayyadurai N\*. Building Biomaterials through Genetic Code Expansion. Trends in Biotechnology, 2023, 41: 165-1832022. [SCI, IF: 14.9] \*Corresponding authors.
- 4) Radhakrishnan J, Muthuraj M, Gandham GSPD, Sethuraman S, Subramanian A. Nanohydroxyapatite-Protein Interface in Composite Sintered Scaffold Influences Bone Regeneration in Rabbit Ulnar Segmental Defect. Journal of Materials Science: Materials in Medicine, 2022; 33: 36. [SCI, IF: 4.5]
- 5) Radhakrishnan J, Varadaraj S, Dash SK, Sharma A, Verma RS. Organotypic Cancer Tissue Models for Drug Screening: 3D Constructs, Bioprinting and Microfluidic Chips. Drug Discovery Today, 2020; 25: 879-890. [SCI, IF: 7.5]
- 6) Radhakrishnan J, Manigandan A, Chinnaswamy P, Subramanian A, Sethuraman S. Gradient nano-engineered in situ forming composite hydrogel for osteochondral regeneration. Biomaterials, 2018; 162: 82-98. [SCI, IF: 12.9]
- 7) Radhakrishnan J, Subramanian A, Sethuraman S. Injectable Glycosaminoglycan – Protein Nano-Complex in Semi-Interpenetrating Networks: A Biphasic Hydrogel for Hyaline Cartilage Regeneration. Carbohydrate Polymers, 2017, 175: 63-74. [SCI, IF: 12.5]
- 8) Radhakrishnan J, Subramanian A, Krishnan UM, Sethuraman S. Injectable and 3D Bioprinted Polysaccharide Hydrogels: From Cartilage to Osteochondral Tissue Engineering. Biomacromolecules, 2017, 18: 1-26. [SCI, IF: 5.4]
- 9) Radhakrishnan J, Kuppaswamy AA, Sethuraman S, Subramanian A. Topographic cue from electrospun scaffolds regulate myelin-related gene expressions in Schwann cells. Journal of biomedical nanotechnology, 2015, 11: 512-521.
- 10) Radhakrishnan J, Gandham GSPD, Sethuraman S, Subramanian A. Three-Dimensional Protein Releasing Phase Induced Porous Composite Microspheres Sintered Scaffold for Bone Tissue Engineering. RSC Advances, 2015, 5, 22005 – 22014. [SCI, IF: 4.6]
- 11) Radhakrishnan J, Krishnan UM, Sethuraman S. Hydrogel based injectable scaffolds for cardiac tissue regeneration. Biotechnology Advances, 2014, 32: 449-461. [SCI, IF: 12.5]

*As co-author*

- 12) Zorrón M, Cabrera AL, Sharma R, Radhakrishnan J, Abbaszadeh S, Shahbazi M, Tafreshi OA, Karamikamkar S, Maleki H. Emerging 2D Nanomaterials-Integrated Hydrogels: Advancements in

Designing Theragenerative Materials for Bone Regeneration and Disease Therapy. *Advanced Science*, 2024, 11: 2470185. [SCI, IF: 14.1]

- 13) Meganathan I, Pachaiyappan M, Aarthi M, Radhakrishnan J, Mukherjee S, Shanmugam G, You J, Ayyadurai N. Recombinants and Genetic Code Expanded Collagen like Protein as a Tailorable Biomaterial. *Materials Horizons*, 2022, 9: 2698-2721. [IF: 10.7]
- 14) Banerjee K, Radhakrishnan J, Ayyadurai N, Ganesan P, Kamini NR. Advances in Neoteric Modular Tissue Engineering Strategies for Regenerative Dentistry. *Journal of Science: Advanced Materials and Devices*, 2022, 100491. [IF: 6.8]
- 15) Varadaraj S, Kandhasamy S, Kandoi S, Radhakrishnan J, Subramaniam P, Verma RS. Multiple Cues In Acellular Amniotic Membrane Incorporated Embelin For Tissue Engineering. *Materials Today Communications*, 2022, 104203. [IF: 4.5]
- 16) Ramesh PA, Dhandapani R, Bagewadi S, Zennifer A, Radhakrishnan J, Sethuraman S, Subramanian A. Reverse engineering of an anatomically equivalent nerve conduit. *Journal of Tissue Engineering and Regenerative Medicine*, 2021. [SCI, IF: 2.6]
- 17) Sharma V, Dash SK, Manhas A, Radhakrishnan J, Jagavelu K, Verma RS. Injectable hydrogel for co-delivery of 5-azacytidine in zein protein nanoparticles with stem cells for cardiac function restoration. *International Journal of Pharmaceutics*, 2021, 603: 120673. [SCI, IF: 5.2]
- 18) Manigandan A, Handi V, Sundaramoorthy N, Dhandapani R, Radhakrishnan J, Sethuraman S, Subramanian A. Responsive Nanomicellar Theranostic Cages for Metastatic Breast Cancer. *Bioconjugate Chemistry*, 2018, 29: 275-286. [SCI, IF: 3.9]
- 19) Soundararajan A, Dhandapani R, Radhakrishnan J, Manigandan A, Kalyanasundaram A, Sethuraman S, Subramanian A. Surface topography of polylactic acid nanofibrous mats: influence on blood compatibility. *Journal of Materials Science: Materials in Medicine*, 2018, 29: 145. [SCI, IF: 4.5]
- 20) Tiwari AK, Reddy KS, Radhakrishnan J, Kumar DA, Zehra A, Agawane, SB, Madhusudana K. Influence of antioxidant rich fresh vegetable juices on starch induced postprandial hyperglycemia in rats. *Food and function*, 2011, 2: 521-8. [SCI-E, IF: 5.4]

### Book Chapter

- 1) Banerjee, K., Ayyadurai, N., Verma, R.S. and Radhakrishnan J\*. (2024). Versatile Biomaterials Platform: As Stem Cells Delivery System and Influence Cellular Micro Niche. In: Rama Shanker Verma (ed.) *Stem Cell Biology: A Regenerative Perspective*. World Scientific Publishing. ISBN: 978-981-12-9488-4. doi: 10.1142/13891. ISBN: 978-981-12-9488-4.
- 2) Sinduja ME, Mahendiran B, Radhakrishnan J, Arun C, Krishnakumar GS. (2023). Natural Polysaccharide-Based Materials for Scaffolds Biofabrication. In: Maia, F.R.A., Oliveira, J.M., Reis, R.L. (eds) *Handbook of the Extracellular Matrix*. Springer, Cham. [https://doi.org/10.1007/978-3-030-92090-6\\_29-1](https://doi.org/10.1007/978-3-030-92090-6_29-1). Print ISBN: 978-3-030-92090-6. Online ISBN: 978-3-030-92090-6.
- 3) Radhakrishnan J, Sethuraman S. (2016) Progress in Tissue Engineering Approaches towards Hepatic Diseases Therapeutics. In: Sethuraman S, Krishnan UM, Subramanian A. (eds) *Biomaterials and Nanotechnology for Tissue Engineering*. Taylor & Francis Group, CRC press, NY.

### Presentations in conferences (Selected)

- 1) Sakeena Banu and Radhakrishnan J\*. Photocrosslinkable Injectable / Printable Hydrogel for Cardiac Tissue Regeneration. **Bioprinting Ignited X India: Biofabrication Progress for the Future of Health, IISc Bengaluru, 2024.**

- 2) Jebakumar M, Pachaiyappan M, Kamini NR, Ayyadurai N\*, Radhakrishnan J\*. Engineered silk protein-based core-shell electrospun immunomodulatory fibrous scaffold for tissue regeneration with angiogenesis. **TERMIS-AP 2022, ICC Jeju, South Korea**. In *Tissue Engineering Part A* (Vol. 28, pp. 655-655). NY 10801 USA: Mary Ann Liebert, Inc.
- 3) Radhakrishnan J, Manigandan A, Subramanian A, Sethuraman S\*. Gradient Nano-Engineered In Situ Forming Hydrogel for Osteochondral Tissue Regeneration in Rabbit. **Society for Biomaterials Annual Meeting & Exposition 2017, Minnesota, Minneapolis, US. (Oral presentation)**
- 4) Manigandan A, Handi V, Sundaramoorthy NS, Radhakrishnan J, Dhandapani R, Sethuraman S, Subramanian A. Development of targeted micellar nanotheranostics for metastatic breast cancer. **Society for Biomaterials Annual Meeting & Exposition 2017, Minnesota, Minneapolis, US.**
- 5) Radhakrishnan J, Subramanian A, Krishnan UM, Sethuraman S\*. Nanohydroxyapatite reinforced injectable semi-interpenetrating network hydrogel for osteoblasts delivery in tissue engineering. **ICFNN, January 2016.**
- 6) Radhakrishnan J, Manjula M, Sethuraman S, Subramanian A\*. 3D composite porous microspheres sintered scaffold for regeneration of segmental defect in rabbit ulnar bone. **Nano India 2015.**
- 7) Radhakrishnan J, Subramanian A, Krishnan UM, Sethuraman S. *In Situ* Forming Glycosaminoglycan – Protein Nanoparticles Interspersed Semi-Interpenetrating Polymer Networks (SIPNs) for Cartilage Tissue Regeneration. **7<sup>th</sup> Bangalore India Nano 2014.**

#### Invited Talks and Lectures Delivered

	<i>Event</i>	<i>Organizers</i>
<i>Apr 2025</i>	Frontiers in Advanced Biofabrication and Translational Engineering (FABRICATE) 2025	Department of Applied Mechanics & Biomedical Engineering, IITM, Chennai
<i>Dec 2024</i>	Bioprocessing India 2024	Department of Biotechnology, <b>IITM and Bioprocessing Society India</b>
<i>Nov 2024</i>	National workshop on 3D Bioprinting	<b>Dayananda Sagar University, Bengaluru</b>
<i>July 2024</i>	Bioprinting Ignited X India Conference	<b>Indian Institute of Science (IISc), Bengaluru and Cellink</b>
<i>Sept 2023</i>	International conference and startup summit on functional biomaterials and synthetic biology (FBSB-2023)	PSG Institute of Advanced Studies, Coimbatore, on 31 <sup>st</sup> Aug & 1 <sup>st</sup> Sept 2023, sponsored by SERB & INSA ( <i>Keynote lecture</i> )
<i>Mar 2023</i>	National workshop on ‘3D Bioprinting for Tissue Engineering’	Stem cell facility, <b>AIIMS, New Delhi</b> in association with NBIL, Bengaluru
<i>Feb 2023</i>	Indo-German workshop on Biofabrication: Emerging Biomaterials, Machines & Digital Tools	SASTRA University, Thanjavur and Ruhr University, Bochum, supported by <b>Indo-German Science and Technology Centre (IGSTC)</b>
<i>Jan 2022</i>	AICTE - ISTE sponsored Induction / Refresher Programme on ‘Nanotechnology	PSG College of Technology, Coimbatore

	in Healthcare'	
<i>Dec 2021</i>	The Third Indian Materials Conclave and the 32nd Annual General Meeting (AGM)	<b>Materials Research Society India (MRSI)</b>
<i>Aug 2020</i>	AICTE approved QIP Workshop on 'Recent advances in Stem Cells and Tissue Engineering'	Department of Biotechnology, <b>IITM</b>
<i>Aug 2020</i>	Webinar series 'Cognizance – 2020'	PSG College of Technology, Coimbatore
<i>Jan 2019</i>	AICTE approved QIP Workshop on 'Recent advances in Biotechnology related to tissue engineering'	Department of Biotechnology, <b>IITM</b>