

SRU Centre for Regenerative Medicine and Stem Cell Research



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The Center for Regenerative Medicine and Stem Cell Research (CRMSCR) was established in 2010 in the Central Research Facility of Sri Ramachandra University (SRU). The primary focus of the Center is a Multidisciplinary approach to Tissue Engineering (TE) – integrating Cell biology, Materials and Molecular mechanisms for translational research in Regenerative medicine. There are currently 4 funded ongoing projects with 5 full time research scholars from within and from collaborative departments of SRU. All the projects are collaborative in nature and funded by extramural grants from the Govt. of India and the industry.

The center focuses on the following key areas among many:

- Developing 3D scaffolds and bioreactors for cardiac and β cell TE.
- Differentiation of MSCs for cardiac, β cells, neuronal and wound healing applications.
- Electrospun scaffolds for Vascular TE.
- Proliferation strategies for primary Corneal Endothelial cells

Patents Filed:

640/CHE/2013- A method for preparing three dimensional collagen fibre mat using benign solvent and products thereof. A Elamparithi, A M Punnoose, S Kuruvilla.

Recent Publications.

1. Electrospun cellulose acetate phthalate nanofibrous scaffolds fabricated using novel solvent combinations biocompatible for primary chondrocytes and neurons. Shrestha R, Palat A, Punnoose AM, Joshi S, Ponraju D, Paul SF. Tissue Cell. **2016** Jul 29. pii: S0040-8166(15)30090-2. doi: 10.1016/j.tice.2016.07.007. PMID: 27546071. **Impact Factor: 1.258**
2. Gelatin Electrospun Nanofibrous Matrices for Cardiac Tissue Engineering Applications. A Elam, AM Punnoose, S Kuruvilla. International Journal of Polymeric Materials Vol 02, 09 May **2016**-<http://dx.doi.org/10.1080/00914037.2016.1180616>. **Impact Factor: 1.667**
3. Differentiation of human gingival mesenchymal stem cells into neuronal lineages in 3D bioconjugated injectable protein hydrogel construct for the management of neuronal disorder. Rao SR, Subbarayan R, Dinesh MG, Arumugam G, Raja ST. Exp Mol Med. **2016** Feb 12;48:e209. doi:10.1038/emm.2015.113. **Impact Factor 5.164**
4. Antifibrotic effect of Centella asiatica Linn and asiatic acid on arecoline-induced fibrosis in human buccal fibroblasts. Adtani PN, Narasimhan M, Punnoose AM, Kambalachenu HR. J Investig Clin Dent. **2016** Feb 3. doi: 10.1111/jicd.12208. PMID: 26840561

5. Electrospun type 1 collagen matrices preserving native ultrastructure using benign binary solvent for cardiac tissue engineering. Elamparithi A, Punnoose AM, Kuruvilla S. *Artif Cells Nanomed Biotechnol.* **2015** May 9:1-8. PMID: 25960178, DOI:10.3109/21691401.2015.1029629 **Impact Factor: 2.024**

6. Electrospun Polycaprolactone matrices with tensile properties suitable for soft tissue engineering. A Elamparithi; A M Punnoose; S Kuruvilla; M Ravi; Suresh R, Solomon FD Paul. *Artificial Cells, Nanomedicine and Biotechnology,* **2015** 1-7. PMID: 25619755, DOI:10.3109/21691401.2014.998825 **Impact Factor: 2.024**

