



Dr. ANJANEYULU UDDUTTULLA

Assistant Professor (Senior Grade-1)

Centre for Biomaterials, Cellular and Molecular Theranostics (CBCMT)

Vellore Institute of Technology (Deemed University), Vellore-632014

Dr. U. Anjaneyulu obtained his BSc in Chemistry from Osmania University in 2010 and received MSc degree in Chemistry from VIT University in 2012. In 2017, He received Ph.D. in Chemistry from VIT University, India. From 01/2018-10/2019, He worked as a postdoctoral fellow in the Center for Translational Medicine Research and Development at the Chinese Academy of Sciences (CAS). Later, from 11/2019–12/2020, he continued as an assistant professor at CAS. Then, from 07/2021 to 01/2023 he worked as a Research Associate in School of Engineering at Newcastle University, UK. His main research interests are "Multifunctional Advanced Smart Biomaterials for Bone Tissue Engineering and Regenerative Medicine." His future research goals are to work on "translational regenerative biomaterials for hard tissue regeneration applications." He has a vast research experience on bioinspired materials, orthopaedic implants, and surface functionalization for tissue engineering and regenerative medicine. Also, He is very good at working with people from different fields. He has worked with microbiologists, bioengineers, molecular biologists, immunologists, chemical and mechanical engineers, clinicians, and industries. Overall, He has published **29** research articles and a book chapter in reputed international journals (Composites Part B, Applied Surface Sciences, Journal of Orthopedic Translation, etc.). He has a total impact factor of more than **150 IF**, **650 citations**, and an h-index of **16**.

Major research lines are:

1. BioNano Materials to Mimic the Musculoskeletal Environment
2. Additive manufacturing developed Bioactive-Ceramics and Biofunctional-Composites Devices for bone repair and regeneration
3. Surface functionalization for tissue engineering and Regenerative Medicine
4. Bioprinting of Hydrogels onto Implants for Bioactive Interfaces
5. Development of innovative bioinks for bioprinting applications
6. Smart Injectable Biofunctional Hydrogels for osteoarthritis treatment
7. Bioactive glass hydrogels for caries prevention and enamel remineralization

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Professional links:

<https://scholar.google.com/citations?user=x-CHmioAAAAJ&hl=en>

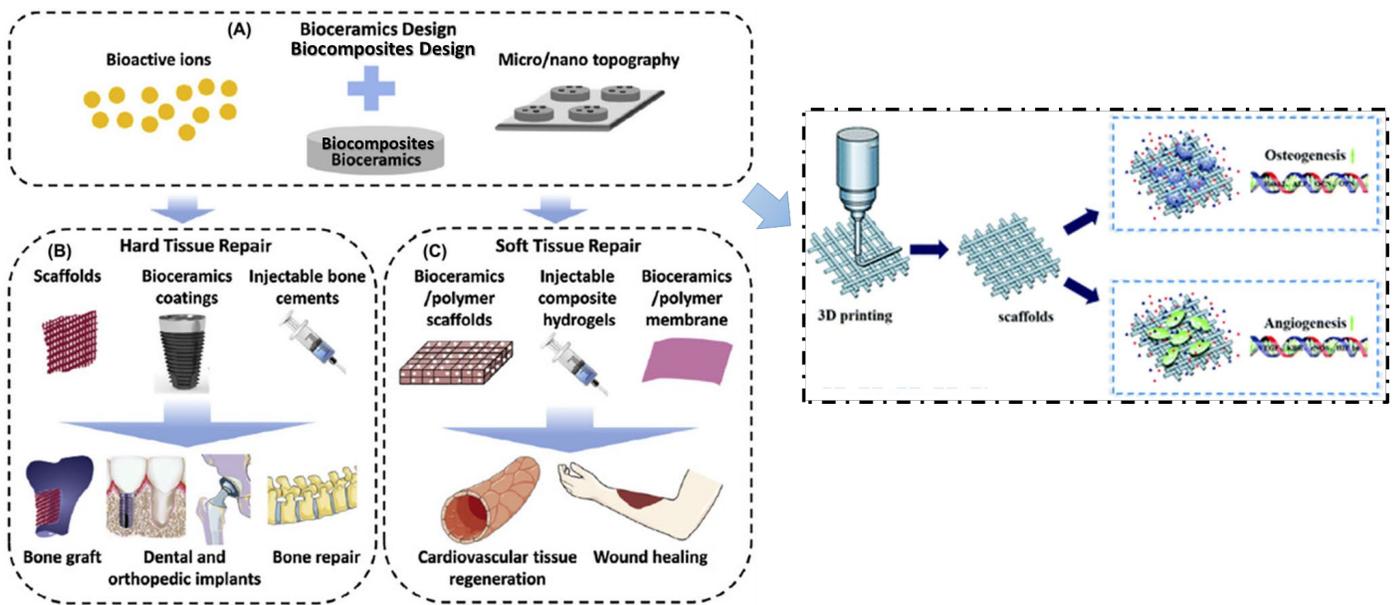
<https://www.researchgate.net/profile/U-Anjaneyulu-2>

<https://www.linkedin.com/notifications/?filter=all>

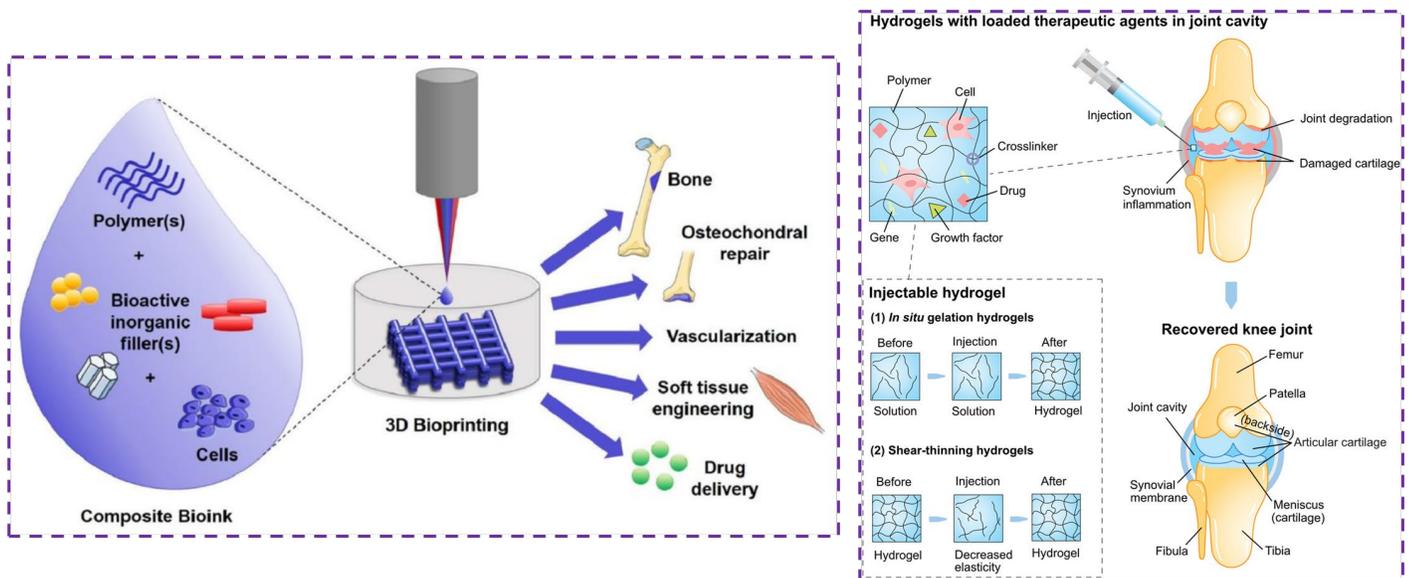
Fascinating Research Project Lines:

My scientific background is related to the design, processing, and characterization of biomedical materials aiming to nano- and micro- scale design and manufacturing of biomimetic and innovative medical devices for Tissue Engineering and Regenerative Medicine. My current research focuses on bio-fabrication and innovative manufacturing of medical devices, particularly tissue engineering scaffolds for application in regenerative medicine, and high throughput manufacture of micro-tissues for drug testing.

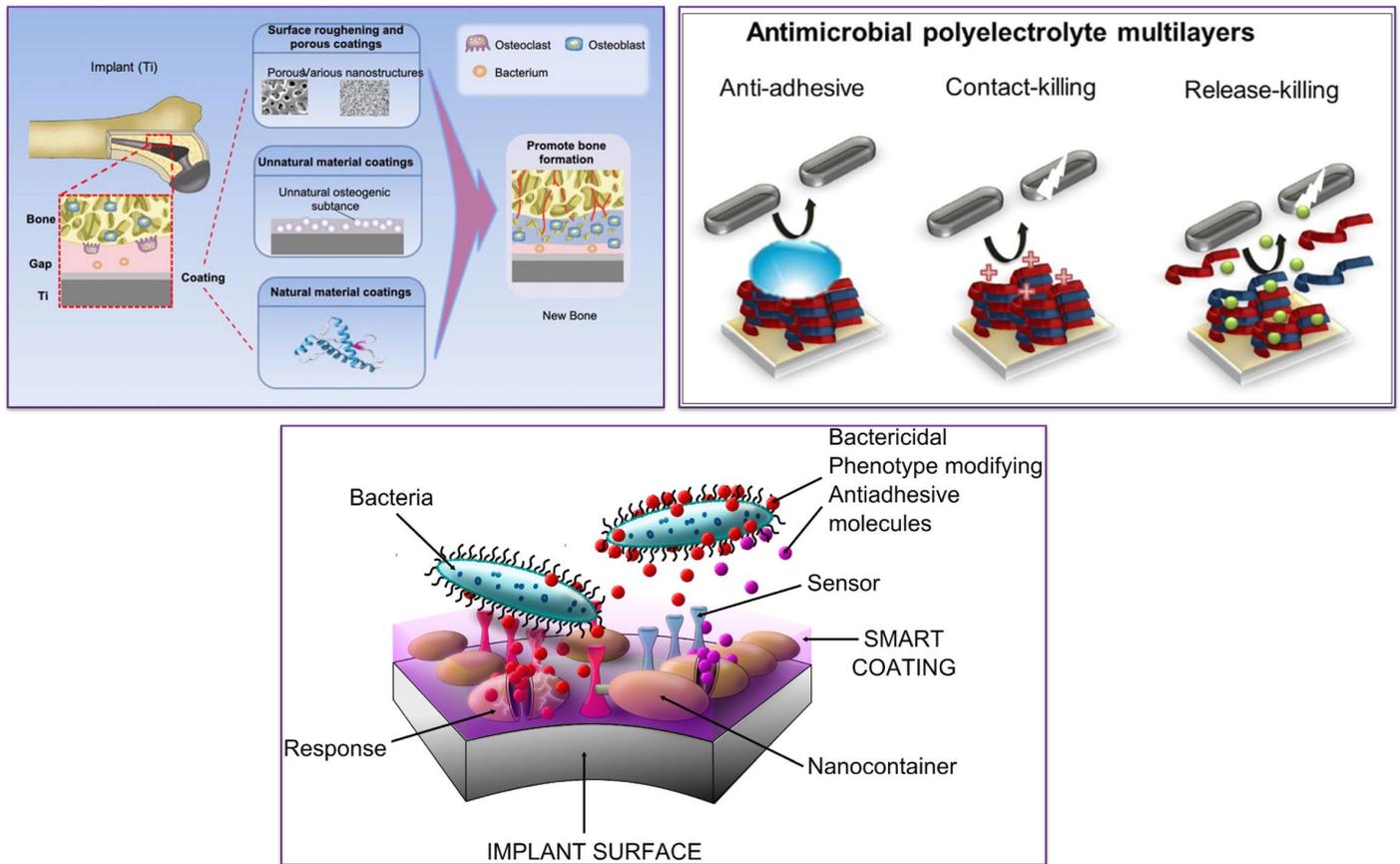
I. Bioactive-Ceramics and Biofunctional-Composites Devices for Hard/Soft Tissue Engineering



II. Development of innovative Bioinks for 3D-Bioprinting Technologies and Injectable Biofunctional Hydrogels osteoarthritis treatment



III. Innovative Surface functionalization of Implants for tissue engineering and Regenerative Medicine



Editorial Member:

1. Associate Editor for the “International Journal of Biotechnology and Clinical Medicine (IJBTCM)” <https://www.ijbtcm.com/about/editorial-team.php>
2. Guest Editor for “Frontiers in Bioengineering and Biotechnology” (IF: 6.0) Research topic entitle “Biofunctional Materials and Coatings for Orthopaedic and Dental Applications” <https://loop.frontiersin.org/people/1480807/editorial>

Honors & Awards:

- Honorary Research Associate at The University of Hong Kong from **2021.11 to Present**
- Visiting Scientist at Centre for Biomaterials, Cellular and Molecular Theranostics (CBCMT), VIT University, India from **2020.02 to 2020.03**
- Received Best Poster and Presentation Awards in International and National Conferences

Research Grants:

1. **U. Anjaneyulu (Investigator)**, CHEN Xi (Co-PI), Prof. CH CHU (Supervisor) “A novel bioactive glass hydrogel for caries prevention”, Health and Medical Research Fund, 1,057,920.00 HK\$ (**1 Crore INR**) (**Approved-2021**),
2. Pei-Gen Ren, **U. Anjaneyulu (Co-Investigator)**, the strategic pilot project of "Organ Reconstruction and Manufacturing" of the Chinese Academy of Sciences (Class A), Chinese Academy of Sciences. 3.299 million RMB (**3.3 Crore INR**). (**Approved-2019**)

List of Top Publications:

1. Guoqing L, Liu S, Chen Y, Zhao J, Xu H, Weng J, Yu F, Xiong A, **Anjaneyulu U**, Wang D, Liu P, Chen Y, Hui Z, “Point of care-based design and development of liposome-anchored Teriparatide incorporated gallic acid-grafted gelatin injectable hydrogel for osteoarthritis treatment” **Nature Communications**, 10.21203/rs.3.rs-1756195/v1. (**Minor Revision-I.F-17.69**)
2. **Anjaneyulu Udduttula**, Yingqi Chen, Xuelin Xie, Meng Zhou, Weibei Sheng, Fei Yu, Jian Weng, Deli Wang, Bin Teng, Geetha Manivasagam, Jian V. Zhang, Pei-Gen Ren, Bin Kang, Hui Zeng, “A novel photocrosslinked phosphate functionalized Chitosan-Sr₅(PO₄)₂SiO₄ composite hydrogels and in vitro biomineralization, osteogenesis, angiogenesis for bone regeneration application”, *Composites Part B: Engineering*, 222 (2021) 109057. (**I.F-11.32**)
3. **U. Anjaneyulu**, Bin Teng, Bananakere Nanjegowda Chandrashekar, Jian Li, Xiang-Fang Yu, Chang Liu, Run Shi, Chun Cheng, Jian V. Zhang and Pei-Gen Ren “Novel Sr₅(PO₄)₂SiO₄-Graphene Nanocomposites for Applications in Bone regeneration In Vitro” *Applied Surface Sciences*, 507 (2020) 145176 (**I.F-7.39**)
4. **U. Anjaneyulu**, Jian Li, Zhen Ma, Bin Teng, Jian V. Zhang, Ana M. Ferreira, Piergiorgio Gentile, Guocheng Wang, Xiaobing Zhao and Pei-Gen Ren, A Novel Apatite-inspired Sr₅(PO₄)₂SiO₄ Plasma-sprayed Coating on Ti alloy Promoting Biomineralization, Osteogenesis and Angiogenesis, *Ceramics International*. DOI: 10.1016/j.ceramint.2021.12.317 (**I.F. 5.5**)
5. **U. Anjaneyulu**, Jian Li, Pei-Yi Zhao, Guo-Cheng Wang, Jian V Zhang, Pei-Gen Ren* “Sol-Gel derived Nanosized Sr₅(PO₄)₂SiO₄ powder with Enhanced *In Vitro* Osteogenesis and Angiogenesis for Bone regeneration applications” *Ceramics International*, 45 (2019) 3148-3158 (**I.F-5.5**)

6. Bin Teng, Cheng Huang, Chuan-Li Cheng, **U. Anjaneyulu**, Jian Li, Xiang-Fang Yu, Chang Liu, Zhen-Yu Yao, Chao Zou, Jun Chu Jian V. Zhang, Pei-Gen Ren, “Newly identified peptide hormone inhibits intestinal fat absorption and improves NAFLD through its receptor GPRC6A” *Journal of Hepatology*, 73 (2020) 383-393 **(I.F-30.08)**
7. **U. Anjaneyulu***, Jian V Zhang, Pei-Gen Ren* “Bioinert Ceramics for Biomedical Applications” *Biomedical Sci and Tech Series*, Wiley/Scrivener **(Book Chapter-Accepted)**
8. Antonia RuJia Sun, **U. Anjaneyulu***, Pei-Gen Ren, Peng Zhang “Cartilage tissue engineering for obesity-induced osteoarthritis: physiology, challenges, and future prospects” *Journal of orthopedic translation*, DOI: 10.1016/j.jot.2020.07.004 **(I.F- 4.8)**
Co-first author
9. Jian Li, Xu Zhang, **U. Anjaneyulu***, Yuan-Yuan Wang, Antonia RuJia Sun, Peng Zhang, Guo-Qiang Chen “Microbial derived polyhydroxyalkanoates (PHAs) Based Scaffolds for Bone Tissue Engineering: State of the art and new perspectives” *Frontiers in Bioengineering and Biotechnology* **(I.F-6.06)** **Co-first author**
10. Limin Zhou, **U. Anjaneyulu**, Lin Li, Yuyu Liu, Yanzhi Liu, “Bone-targeting liposome encapsulated Salvianic acid A improves long bone healing of nonunion through regulating HDAC3-mediated endochondral ossification” *Drug Design, Development and Therapy*, 14 (2020) 3519-3533 **(I.F-4.31)**
11. Peng Xian, **U. Anjaneyulu**, Nan Huang, Guojiang Wan, “Polydopamine (PDA) mediated nanogranular-structured titanium dioxide (TiO₂) coating on polyetheretherketone (PEEK) for oral and maxillofacial implants application” *Surface Coatings and Technology*, 401 (2020) 126282 **(I.F-4.86)**
12. Jithin Vishnu, Geetha Manivasagam, Diego Mantovani, **Anjaneyulu Udduttula**, Melanie J. Coathup, Ketul C. Popat, Pei-Gen Ren & K. G. Prashanth “Balloon expandable coronary stent materials: a systematic review focused on clinical success” *In vitro models* (2022), DOI: <https://doi.org/10.1007/s44164-022-00009-w>