Dr. PALLAVI PUSHP
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OBJECTIVE:

I am seeking a challenging position with an organization that offers good advancement potential, where I can contribute my skills for its success and synchronize with new technology, professional growth while being resourceful, innovative and flexible.

EXPERIENCE

Worked as Assistant Professor in Department of Biotechnology, Institute of Engineering and Technology, Bundelkhand University, Jhansi, U.P. (January 2018-September 2021).

COURSES TAUGHT

Biochemistry, Protein and Enzyme Engineering, Genetics and Molecular Biology, Biochemistry Lab, Molecular Biology Lab, Genetic Engineering Lab, Industrial Training and Seminar In charge.

ACADEMIC QUALIFICATIONS

Examination	Name of institute	Board/university	Year of passing	Percentage
Ph.D.	National Institute of Technology (NIT), Rourkela	Deemed University	2020	86.60
M. Tech Biotechnology	Birla Institute of Technology, Ranchi, Jharkhand	Deemed University	2012	90.70
B.E Biotechnology	Sobhasaria Engg. College	University of Rajasthan	2009	83.25
12^{th}	Birla Balika Vidyapeeth, BITS Pilani	CBSE	2005	78.00
10^{th}	Birla Balika Vidyapeeth, BITS Pilani	CBSE	2003	80.00

TRAINING/PROJECTS

Projects	Industry / Institutes	Duration	Year	Project Topic
Ph.D.	NIT, Rourkela	5 Yrs	2012-17	Biomaterial, Tissue Engineering
M. Tech project	BIT, MESRA	12 months	2011-12	Process Improvement of Lovastatin by Media Formulation and Process Optimization
Major Project	Indian Farmers and Fertilizers Co-Operation Ltd(IFFCO), Gujarat	4 months	2009	Micro-propagation of Bamboo
Minor Project	Indian Institute of Integrative Medicine (IIIM), Jammu	45 days	2008	Optimization of Medium for *Rhizobium* and *Azotobacter*
Minor Project	Alkem Laboratories Ltd, Mumbai	30 days	2007	Production of Citric Acid by Fermentation Technology

SPONSORED RESEARCH PROJECT

Development of Advanced Scaffolds for Cell Therapies: Application in the field of Tissue Engineering. Funded by the World Bank through National Project Implementation Unit (NPIU) of the Ministry of Human Resource Development (MHRD), Government of India. Grant Amount: Rs. 1,507,000/- (Principle Investigator: Dr. Pallavi Pushp).

PUBLICATIONS

Patent

- Pushp P, Kelkar S, Gupta MK. 2017. Ready-to-use PVA-PVP based patch for wound dressing and tissue engineering applications, Patent No. 345685; Granted on 31 August 2020.

Journals

- **Pallavi Pushp**, Rakesh Bhaskar, Samruddhi Kelkar, Neelesh Sharma, Devendra Pathak, Mukesh Kumar Gupta. 2021. Plasticized poly(vinylalcohol) and poly(vinylpyrrolidone) based patches with tunable mechanical properties for cardiac tissue engineering applications. *Biotechnology and Bioengineering*. **118(6)**: 2312-2325. doi: 10.1002/bit.27743.
- **Pushp P**, Nogueira DES, Rodrigues CAV, Ferreira F, Cabral JMS, Gupta MK. 2020. A Concise Review on Induced Pluripotent Stem Cell-derived Cardiomyocytes and its Application in the Field of Regenerative Medicine. *Stem Cell Reviews and Reports*. **35(8)**: 1881-1897. doi: 10.1002/stem.2649.
- **Pallavi Pushp**, Bijayalaxmi Sahoo, Frederico C. Ferreira, Joaquim M. S. Cabral, Mukesh K. Gupta. 2019. Functional comparison of beating cardiomyocytes differentiated from umbilical cord derived mesenchymal stem cells and human foreskin derived induced pluripotent stem cells. *Journal of Biomedical Materials Research Part A*. **108(3):** 496-514.
- **Pushp P**, Gupta MK. 2017. Synthesis and characterization of films based on cross linked blends of Poly (vinylalcohol) and Poly (vinylpyrrolidone) with glutaraldehyde for tissue engineering application. *Materials Science and Engineering Technology*. **48**: 611-622.
- **Pushp P**, Ferreira F, Cabral JMS, Gupta MK. 2017. Improved survival of cardiac cells on surface modified electrospun nanofibers. *Polymer Science series.* **59**: 515-523.
- ***Pushp P,*** Lee HT, Gupta MK. 2014. Genomic imprinting in male germ-line stem cells. *ISSRF Newsletter*. **15**: 31-33.
- **Pushp P**, Patnaik L, Sharma N, Lee HT, Gupta MK. 2013. Emerging role of statins in tissue engineering and therapeutics- A Review. *Journal of Animal Research*. **3**: 1-15.

Book Chapter

- **Pushp P**, Kaur R, Lee HT, Gupta MK. 2012. Nanoparticles for gene delivery into stem cells and embryos. In Dutta PK and Dutta J (Eds.). *Advances in Polymer Science*: Multifaced development and applications in biopolymers towards biology, biomedical and nanotechnology. Springer, USA. 51-85.
- **Pushp P**, Gupta MK. 2020. Cardiac Tissue Engineering: A Role for Natural Biomaterials. In: Pal DK, Nayak AK (Eds.). *Advanced Structured Materials*: Bioactive Natural Products for Pharmaceutical Applications. Springer Nature, Switzerland. 617-641.
- **Pushp P**, Gupta MK. 2020. Cardiac Tissue Engineering: Stem Cell Sources, Synthetic Biomaterials, and Scaffold Fabrication Methods. In: Faheem A. Sheikh (Eds): Engineering Materials for Stem Cell Regeneration. Springer Nature, Switzerland (In Press).

Conferences/Workshops

- **Pushp P**, Gupta MK. 2020. "Proliferation and Differentiation of Stem Cells for Cardiac Tissue Engineering Applications", *5th Annual Symposium on Cell and Gene Therapy, Centre for Stem Cell Research (a unit of inStem)*, September 3-4, 2020, Vellore, Tamil Nadu, India.
- Attended various webinars in year 2020.
- **Pushp P**, Gupta MK, "Stem Cells Culture on Biopolymer Based Matrix for Tissue Engineering Applications", *International Conference On Medical, Biological And Pharmaceutical Sciences (ICMBPS-20)*, February 23rd, 2020, Visakhapatnam, AP, India. Pg: 50.
- Attended One Day Orientation Workshop for "Comprehensive Research Scheme", 16 July 2019, AICTE Auditorium, New Delhi.
- Attended One Day Workshop on "Comprehensive Research Scheme", 13 May 2019, Hotel Revanta, Sitapur Road, Lucknow, U.P. organized by SPIU-UP/TEQIP III (MHRD).
- **Pushp P**, "Induced Pluripotent Stem Cell Derived Cardiomyocytes- A Platform for Cardiac Tissue Engineering", *International Conference on Advances in Material Science & Applied Biology (AMSAB-2019)*, January 8-10, 2019, Sunandan Divatia School of Science, NMIMS, Mumbai. India. Pg: 120 (BTE01).
- Attended Two Days Workshop on Introduction and Application of Virtual Instrumentation, 11-12 October 2018, Department of Electronics and Instrumentation Engineering, *Institute of Engineering and Technology (IET), Bundelkhand University* (BU), Jhansi, U.P.
- Attended National Symposium on Food and Nutrition Security on 6 October 2018, *Department of Food Technology, IET, BU*, Jhansi, U.P.
- **Pushp P**, Simões IN, Ferreira F, Cabral JMS, Pramanik K, Gupta MK, "Isolation and proliferation of mesenchymal stem cells by explant and enzymatic method for cardiac tissue engineering application", *Research Scholar Week (RSW-2017)*, February-2017, National Institute of Technology (NIT) Rourkela, Odisha, India. Pg: 88.
- **Pushp P**, Simões IN, Ferreira F, Cabral JMS, Gupta MK, "Isolation and proliferation of umbilical cord derived mesenchymal stem cells for tissue engineering application"**,** *9th World Congress on Preventive and Regenerative Medicine conference*, November 13-15, 2016. School of Biotechnology, KIIT University Bhubaneswar, Bhubaneswar, Odisha, India. Pg: P1.
- **Pushp P**, Dias T, Ferreira F, Cabral JMS, Gupta MK, "Differentiation of Induced Pluripotent Stem Cells into Cardiomyocytes on Aligned Poly-caprolactone Electrospun Nanofiber", *International Conference on Biomaterials, Biodiagnostics, Tissue Engineering, Drug Delivery and Regenerative Medicine (BiTERM-2016)*, April 15-17, 2016. Indian Institute of Technology (IIT), Delhi. India. Pg: PB81.
- **Pushp P**, Pramanik K, Gupta MK, "*In vitro* differentiation of stem cells into cardiac myocytes on nanofiber meshes", *Research Scholar Week (RSW-2016)*, February-2016, National Institute of Technology (NIT) Rourkela, Odisha. India. Pg: 79.
- Attended Workshop on Intellectual Property Rights and Innovation Management in Knowledge Era, National Institute of Technology (NIT) Rourkela, Odisha, 2015.
- Attended 2nd International Conference on Tissue Engineering & Regenerative Medicine (ICTERM-2013), National Institute of Technology (NIT) Rourkela, Rourkela, Odisha, 2013.
- Attended International Symposium in Plant Biotechnology, Birla Institute of Technology (BIT) MESRA, Ranchi, Jharkhand, 2011.
- Poddar R, Ranjan P, Parija D, **Pushp P**, Shalini S, "In silico structural modification of Tipranavir drug: An implication on HIV-1 protease", *Association of Microbiologists in India*, December 14-17, 2010. Birla Institute of Technology, MESRA, Ranchi, Jharkhand.

- Attended workshop on Statistics in Clinical Trials organized by National Institute of Pharmaceutical Education and Research (NIPER), Mohali in Nov 2009.

FACULTY DEVELOPMENT PROGRAMMES

- Summer Training Program on Advanced Pedagogy and Digital tools from 10-14 June, 2019 at IIT Kanpur.
- Faculty Training Programme on Advance Scientific Research Equipments from 3-6 October 2018, organized by Innovation Center, IET, BU, Jhansi, U.P.
- Attended Practical English: Learning and Teaching Program from 01- 30 June, 2018 at IIT Kanpur.
- Attended Faculty development Programme at IIT Kanpur from 20-24 January 2018.

ACHIEVEMENTS / OTHER ACTIVITIES

- Co-Organizing Secretary of Faculty Development Program on "Research Methodologies" from 19-23 August 2019 held in Department of Biotechnology, IET, BU, Jhansi, U.P.
- Joint Organizing Secretary of One Day Seminar Series on "Environmental and Waste Management" 16th March 2019 held in Department of Biotechnology, IET, BU, Jhansi, U.P.
- Joint Organizing Secretary and Member of Peer Review committee of Biofuturity-2018, A National Conference on "Current Scenario and Future Trends in Biotechnology" from 27-28 March 2018 held in Department of Biotechnology, IET, BU, Jhansi, U.P.
- Received **Erasmus Mundus Scholarship for 10 months**, attended Institute Superio Technico (IST), Lisboa, Portugal and summary of work done at IST are mentioned below:

  Culture and maintenance of mesenchymal and induced pluripotent stem cells -Mesenchymal stem cells (MSCs) was isolated from umbilical cord matrix and umbilical cord blood as well as induced pluripotent stem cells (iPSCs) were cultured and maintained on feeder free culture.

  Cardiac differentiation of stem cells into cardiomyocytes - iPSCs were induced for cardiac differentiation by a singular modulation of Wnt signalling and were analyzed for generation of beating CMs by optical microscopy and expression of cardiac-specific marker proteins by immunocytochemistry and flow cytometry. Effect of Matrigel^{TM} - coating and synthetic Synthemax^{TM} - coating for differentiation of iPSCs in a xenofree condition was analyzed. On the other hand, iPSCs were seeded on aligned PCL nanofiber and differentiated into beating cardiomyocytes. The differentiated beating cells were characterized by optical microscopy, expression of cardiac-specific marker proteins by immunocytochemistry and flow cytometry. Effect of PCL fiber alignment on subsequent cardiac differentiation of iPSCs and anisotropic nature of differentiated CMs were also analyzed.
- Membership of International Association of Advanced Materials.
- Life Membership of Society for Tissue Engineering and Regenerative Medicine (India).
- Active participation in the organizing committee of "2nd International Conference on Tissue Engineering & Regenerative Medicine (ICTERM-2013)", NIT Rourkela, Rourkela, November 15-17, 2013, International Symposium in Plant Biotechnology in BIT MESRA in 2011, Association of Microbiologists in India (AMI) Conference held in BIT, MESRA, Ranchi.
- Qualified GATE 2011.
- Runner up in Badminton competition held in Sobhasaria Engg. College.
- Passes the 45th Annual All – India UN Information Test with 88 percent marks in 2002.
- NCC cadet with Certificate “A” in school from 2001 – 2002.
- Attended the National Integration Camp held at Chittorgarh from 2nd Nov to 11th Nov 2001.

- Yellow Belt Rank in Goju Martial Arts Academy.
- Attended General Knowledge Test- 2001 organized by Indian Public Schools Conference in 2001.

SKILLS/STRENGHTS

Positive Attitude, Work effectively in a team, Good analytical power, Excellent verbal and written communication skills, Good grasping and analytical power, Composed and cool approach even under pressure, Good team spirit, Punctual.

COMPUTER PROFICIENCY

Expert in MS Office (MS Word, MS Excel, MS Power Point etc). Basics of hardware and Internet applications and Operating Systems: Windows 98/2000/XP/Vista/7/10, Ubuntu.

PERSONAL DETAILS

Nationality	:	Indian
Contact No.	:	+91 9439789320, +91 7978240174
Email id	:	pushppallavi88@gmail.com
Marital Status	:	Married
Languages known	:	Hindi & English
Interests and Activities	:	Playing badminton and volley ball, Reading science articles, Internet surfing, Making new Friends, Music.

I declare that the information and facts furnished above are true and correct to best of my knowledge and beliefs.

Place: Bengaluru
Date: 01/03/2022 Dr. Pallavi Pushp

Names and addresses of three References

Name	**Prof. Mukesh K Gupta**	**Prof. Joaquim M S Cabral**	**Prof. Frederico Ferreira**
Occupation or Position	Professor	Professor	Assistant Professor
Address	Department of Biotechnology and Medical Engineering, National Institute of Technology (NIT), Rourkela, Odisha 769 008, India.	Institute for Bioengineering and Biosciences, Department of Bioengineering, Institute of Superior Técnico, Universidade de Lisboa, Lisboa 1049-001, Portugal	Institute for Bioengineering and Biosciences, Department of Bioengineering, Institute of Superior Técnico, Universidade de Lisboa, Lisboa 1049-001, Portugal
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