



Dr. Dillip Kumar Bishi

Designation: Assistant Professor

Qualification: M.Sc, M. Tech, PhD (IIT Madras)

Date of Birth: 27.11.1981

Date of Joining: 01.06.2018

Tel: 07318315481; **Email:** dillipkumarbishi@rdwu.ac.in

ORCID: <https://orcid.org/0000-0003-0505-2881>

VIDWAN: <https://vidwan.inflibnet.ac.in/profile/152629/MTUyNjl5>

WOS: [http://www.webofscience.com/wos/author/record/\[N-9758-2014\]](http://www.webofscience.com/wos/author/record/[N-9758-2014])

Area of Interest

Tissue Engineering and Nanomedicine, Phyto-nanotechnological interventions in Cancer Therapeutics, *In vitro* disease modelling, AI and ML in Cancer Theragnostic

Courses taught

Cell Biology, Animal Biotechnology, Animal Physiology and Developmental Biology, Research Methodology and Scientific Communication Skills

Career

Assistant Professor (2018-present): Rama Devi Women's University, Bhubaneswar

Teaching Experience

5 years

Research Experience

18 years

Administrative/Executive Experience

Deputy Registrar (Establishment), Rama Devi Women's University (August 2020- Till Date)

Nodal Officer, Office of International Affairs, Rama Devi Women's University (July 2021-Till Date)

Awards & Honors (including travel support award)

- University 1st Rank holder in Bachelor of Science, Zoology (Hons.) from Sambalpur University, Orissa (2001)
- Best Poster Award at 77th Annual Meeting, Society of Biological Chemists, India (2008)
- International Travel support for oral presentation at 6th annual congress of German Society for Stem cells Research, Dusseldorf, Germany by International Centre for Cardiothoracic and Vascular Disease, Frontier Life Line Hospital, Chennai (2011)
- International Travel support for three months internship at Nanoscience and Nanotechnology Initiatives, National University of Singapore, Singapore by International Centre for Cardiothoracic and Vascular Disease, Frontier Life Line Hospital, Chennai (2011)
- Travel support for ICTS short program on “Mechanical manipulations and responses at the scale of the cell and beyond” held at National Centre for Biological Sciences, TIFR, Bangalore by International Centre for Cardiothoracic and Vascular Disease, Frontier Life Line Hospital, Chennai (2013)
- Travel support for 3rd Course on “High Content Screening and Image Analysis for Biosciences” held at i3S-Instituto de Investigacao e innovacao em saude, University of Porto, Portugal by European Research Council-Advanced Research Grant

Research Guidance

- ✓ PhD thesis supervised : Nil
- ✓ M Tech/M.Phil thesis supervised : 02 (TWO)
- ✓ M.Sc thesis supervised : 20 (TWENTY)

Research Grants (All research grants including seed funds)

S. No	Title of the project	Funding Agency	Amount	Sanction year & duration
1	siRNA induced Cancer Stem cell targeted therapy for Pancreatic cancer	Pilot Project Grant for Young Investigators in Cancer Biology, DBT, Govt. of India	₹ 25 Lakhs INR	July 2015 (Three Years)
2	A novel bi-compartmentalized hydrogel microcapsule as 3D co-culture system for liver tissue microengineering and drug-induced hepatotoxicity screening	FCT R& D Project Grant, Foundation of Science and Technology, Ministry of Education and Science, Portugal	€1.96 Lakhs	May 2016 (Three Years)
3	Gedunin-ZnO nanoparticle-incorporated Poly-L-Lactic acid electrospun nanofibrous scaffold for controlled drug delivery using a three-dimensional hepatosphere model	SERB Start-up Research Grant (SRG), SERB, Govt. of India	₹ 30.46 Lakhs	November, 2019 (Two years)

4	Phyto-nanotechnological Interventions for Hepatocellular Carcinoma Treatment- an <i>in vitro</i> and <i>in silico</i> approach	Science and Technology Department, Govt. of Odisha	₹ 9.99 Lakhs	2023 (Three Years)
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Publications

Patents (Entire list of patents/copyrights etc.)

Patent no.	Patent type	Patent title	Year of filing	Name of Inventor(s)	Status
IN200802642-14	Indian patent	Multiplex PCR technique for detecting human mesenchymal stem cells	2014	BISHI D K, CHERIAN K M, GUHATHAKURTA S, RALLAPALLI S	Published

Journal publications (Give the entire list of publication in Scopus/SCI-WoS/UGC care only)

- Gupta, S., Sharma, A., Paneerselvan, S., Kandoi, S., Patra, B., **Bishi, D. K.**, & Verma, R. S. (2022). Generation and transplantation of hepatocytes-like cells using human origin hepatogenic serum for acute liver injury treatment. **Xenotransplantation**, 29(2), e12730 <https://doi.org/https://doi.org/10.1111/xen.12730> (2021 Impact Factor 3.788)
- Chabattula, S. C., Gupta, P. K., Tripathi, S. K., Gahtori, R., Padhi, P., Mahapatra, S., Biswal, B. K., Singh, S. K., Dua, K., Ruokolainen, J., Mishra, Y. K., Jha, N. K., **Bishi, D. K.**, & Kesari, K. K. (2021). Anticancer therapeutic efficacy of biogenic Am-ZnO nanoparticles on 2D and 3D tumor models. **Materials Today Chemistry**, 22, 100618. <https://doi.org/https://doi.org/10.1016/j.mtchem.2021.100618> (2021 Impact Factor: 7.613) (*Corresponding Author)
- Sharma, V., Dash, S. K., Govarthan, K., Gahtori, R., Negi, N., Barani, M., Tomar, R., Chakraborty, S., Mathapati, S., **Bishi, D. K.**, Negi, P., Dua, K., Singh, S. K., Gundamaraju, R., Dey, A., Ruokolainen, J., Thakur, V. K., Kesari, K. K., Jha, N. K., ... Ojha, S. (2021). Recent Advances in Cardiac Tissue Engineering for the Management of Myocardium Infarction. **Cells**, 10(10):2538. <https://doi.org/10.3390/cells10102538> (2021 Impact Factor: 7.666)
- Gupta, P. K., Gahtori, R., Govarthan, K., Sharma, V., Pappuru, S., Pandit, S., Mathuriya, A. S., Dholpuria, S., & **Bishi, D. K.** (2021). Recent trends in biodegradable polyester nanomaterials for cancer therapy. **Materials Science and Engineering: C**, 127

112198.https://doi.org/https://doi.org/10.1016/j.msec.2021.112198 (2020 Impact Factor: 7.328) (*Corresponding Author)

5. Rallapalli, S., Guhathakurta, S., **Bishi, D. K.**, Subbarayan, R., Mathapati, S., & Korrapati, P. S. (2021). A critical appraisal of humanized alternatives to fetal bovine serum for clinical applications of umbilical cord derived mesenchymal stromal cells. **Biotechnology Letters**, 43(10), 2067–2083. <https://doi.org/10.1007/s10529-021-03180-4>. (2021 Impact Factor: 2.716)
6. Gahtori, R., Abomughaid, M. M., Negi, N., Krishnan, S., Dhanasekaran, S., Pandit, S., Priya, K., **Bishi, D. K.**, Prasad, R. A. M., & Gupta, P. K. (2021). Delineating the role of phytochemicals against anti-bacterial drug resistance—An update. **Biocell**, 45(6), 1465-1477. <https://doi.org/10.32604/biocell.2021.016484>. (2021 Impact Factor: 1.254) (*Corresponding Author)
7. Rallapalli, S., Guhathakurta, S., Narayan, S., Bishi, D. K., Balasubramanian, V., & Korrapati, P. S. (2019). Generation of clinical-grade red blood cells from human umbilical cord blood mononuclear cells. **Cell and Tissue Research**, 375(2) 437–449. <https://doi.org/10.1007/s00441-018-2919-6>. (2021 Impact Factor: 4.061)
8. Srisuk, P., **Bishi, D. K.**, Berti, F. V, Silva, C. J. R., Kwon, I. K., Correlo, V. M., & Reis, R. L. (2018). Eumelanin Nanoparticle-Incorporated Polyvinyl Alcohol Nanofibrous Composite as an Electroconductive Scaffold for Skeletal Muscle Tissue Engineering. **ACS Applied Bio Materials**, 1(6), 1893–1905. <https://doi.org/10.1021/acsbm.8b00465>
9. **Bishi, D. K.**, Mathapati, S., Venugopal, J. R., Guhathakurta, S., Cherian, K. M., Verma, R. S., & Ramakrishna, S. (2016). A Patient-Inspired Ex Vivo Liver Tissue Engineering Approach with Autologous Mesenchymal Stem Cells and Hepatogenic Serum. **Advanced Healthcare Materials**, 5(9):1058-70. <https://doi.org/10.1002/adhm.20150089>. (2021 Impact Factor: 11.092)
10. **Bishi, D.K.**, Guhathakurta, S., Venugopal, J.R., Cherian, K.M., Ramakrishna, S., Guhathakurta S. (2014). Low frequency magnetic force augments hepatic differentiation of mesenchymal stem cells on a biomagnetic nanofibrous scaffold. **J Mater Sci: Mater Med**, 25(25), 2579–2589. <https://doi.org/10.1007/s10856-014-5267-4> (2021 Impact Factor: 4.727)
11. Mathapati, S., **Bishi, D. K.**, Venugopal, J. R., Cherian, K. M., Guhathakurta, S., Ramakrishna, S., & Verma, R. S. (2014). Nanofibers coated on acellular tissue-engineered bovine pericardium supports differentiation of mesenchymal stem cells into endothelial cells for tissue engineering. **Nanomedicine**, 9(5):623-34. <https://doi.org/10.2217/nnm.13.76>. (2021 Impact Factor: 6.096)
12. **Bishi, D. K.**, Mathapati, S., Cherian, K. M., Guhathakurta, S., & Verma, R. S. (2014). In vitro hepatic trans-differentiation of human mesenchymal stem cells using sera from congestive/ischemic liver during cardiac failure. **PLoS ONE**, 9(3): e92397 (2021 Impact Factor: 3.752)

13. Guhathakurta, S., Mathapati, S., **Bishi, D.K.**, Rallapalli, S., Cherian, K.M. (2014). Nanofiber-reinforced myocardial tissue-construct as ventricular assist device. **Asian Cardiovascular and Thoracic Annals**, 22(8):935-943. doi:10.1177/0218492314523627
14. **Bishi, D. K.**, Mathapati, S., Venugopal, J. R., Guhathakurta, S., Cherian, K. M., Ramakrishna, S., & Verma, R. S. (2013). Trans-differentiation of human mesenchymal stem cells generates functional hepatospheres on poly(L-lactic acid)-co-poly(ϵ -caprolactone)/collagen nanofibrous scaffolds. *Journal of Materials Chemistry B*, 1(32), 3972. <https://doi.org/10.1039/c3tb20241k>. (2021 Impact Factor: 7.571)
15. Mathapati, S., **Bishi, D. K.**, Guhathakurta, S., Cherian, K. M., Venugopal, J. R., Ramakrishna, S., & Verma, R. S. (2013). Biomimetic acellular detoxified glutaraldehyde cross-linked bovine pericardium for tissue engineering. **Materials Science and Engineering C**, 33(3):1561-72. <https://doi.org/10.1016/j.msec.2012.12.062>. (2020 Impact Factor: 7.328)
16. Balasundari, R., **Bishi, D. K.**, Mathapati, S., Naser, S. B., Cherian, K. M., & Guhathakurta, S. (2012). Nanocoated Botanical Scaffold in Salvage for Human Tissue Regeneration. **Journal of Biomaterials and Tissue Engineering**, 2(4) 330–335. <https://doi.org/10.1166/jbt.2012.1058>. (2021 Impact Factor: 0.824)
17. Ramesh, B., **Bishi, D. K.**, Rallapalli, S., Arumugam, S., Cherian, K. M., & Guhathakurta, S. (2012). Ischemic cardiac tissue conditioned media induced differentiation of human mesenchymal stem cells into early-stage cardiomyocytes. **Cytotechnology**, 64(5):563-75. <https://doi.org/10.1007/s10616-012-9440-7>. (2021 Impact Factor: 2.040)
18. Sreejit, P., **Dilip, K. B.**, & Verma, R. S. (2012). Generation of mesenchymal stem cell lines from murine bone marrow. **Cell and Tissue Research**, 350(1), 55–68. <https://doi.org/10.1007/s00441-012-1458-9>. (2021 Impact Factor: 4.061)
19. Rallapalli, S.¹, **Bishi, D. K.**¹, Verma, R. S., Cherian, K. M., & Guhathakurta, S. (2009). A multiplex PCR technique to characterize human bone marrow derived mesenchymal stem cells. **Biotechnology Letters**, 31:1843–1850. <https://doi.org/10.1007/s10529-009-0106-2>. (¹ Equal first author) (2021 Impact Factor: 2.716)
20. Himabindu, M., Muthamilselvan, D. S., **Bishi, D. K.**, & Verma, R. S. (2009). Molecular analysis of coagulase gene polymorphism in clinical isolates of methicillin resistant *Staphylococcus aureus* by restriction fragment length polymorphism-based genotyping. **American Journal of Infectious Diseases**, 5 (2): 170-176. <https://doi.org/10.3844/ajidsp.2009.170.176>.
21. **Bishi, D. K.**, Verghese, S., & Verma, R. S. (2008). Molecular typing of colonizing *Streptococcus agalactiae* strains by enterobacterial repetitive intergenic consensus

PCR (ERIC-PCR) in a Chennai based hospital. **Indian Journal of Microbiology**, 48; 291-296. <https://doi.org/10.1007/s12088-008-0017-2>.(2020 Impact Factor: 2.461)

Book/book chapter Publications (entire list of books/book chapters)

1. **Bishi D.K.**, Padhi P., Panigrahi C.R., Pati B., Rath C.C. (2023) 15 - Deep learning techniques for hepatocellular carcinoma diagnosis. In, Nayak J., Pelusi D., Naik B., Mishra M., Muhammad M., Al-Dabass D (eds) Computational Intelligence in Cancer Diagnosis, Academic Press, 2023, ISBN-9780323852401, p317-336. <https://doi.org/10.1016/B978-0-323-85240-1.00013-4>.
2. **Bishi D.K.**, Mathapati S.S., Padhi P., Venkataprasanna K.S., Ezhilarasu H., Ramalingam R., Rahim M.H., Venugopal J.R (2022) 13 - Advances and applications of biofiber polymer composites in regenerative medicine. In, Rangappa S.M., Puttegowda M., Parameswaranpillai J., Siengchin S., Gorbatyuk S. (eds) The Textile Institute Book Series, Advances in Bio-Based Fiber, Woodhead Publishing, 2022, p275-314, ISBN-9780128245439, <https://doi.org/10.1016/B978-0-12-824543-9.00012-8>.

Participation in Conferences & Seminars (as invited/plenary/chair)

1. **D. K. Bishi** (2023) Invited talk as resource person on “Confocal Microscopy in Life Science Research” at National workshop on “Role of Life Sciences in Environmental Sustainability” March 18-19th, 2023, School of Life Sciences, Sambalpur University, Bhubaneswar.
2. **D. K. Bishi** (2022) Invited Keynote speaker on “Tissue Engineering and nanobiotechnological approaches for Cancer Therapy” at FDP on “Emerging Trends in Life Sciences and Nanomedicine”, June 14th-27th, 2022 Kalinga University, Raipur, Chhattisgarh
3. **D. K. Bishi** (2022) Invited speaker on “Developing Research mindset as a Biology Student” 31st May, 2022, Department of Botany, Ravenshaw University, Cuttack, Odisha
4. **D. K. Bishi** (2022), Invited Jury member to evaluate the projects in the form of models developed by school children for the "CSIR-IMMT JIGYASA Science and Technology based Model Competition" on May 11th, 2022 (National Technology Day), aCSIR-IMMT Bhubaneswar, Odisha
5. **D. K. Bishi** (2021) Invited speaker on “Telomere Disease Biology” December 11th, 2021, organized by Sri Sathya Sai Sanjeevani Research Foundation, Gurugram
6. **D. K. Bishi** (2021) Invited speaker on “Bioartificial Organs for Toxicity Testing and Disease Modelling” October 31st, 2021, Science Popularization Program of Centre for Cosmology and Science Popularization (CCSP), SGT University, Gurugram, Haryana, India
7. **D. K. Bishi** (2021) Invited speaker at FDP on “Good Laboratory Practice”, February 8th-12th 2021, School of Basic Sciences and Research, Sharda University, Noida
8. **D. K. Bishi** (2021) Invited speaker at the National Webinar on “Igniting Research Mindset in Undergraduate Biologists”, January 16th 2021, IQAC, Jawaharlal College, Patnagarh, Odisha

9. **D. K. Bishi** (2020) Invited speaker at the Recent Advances in Biological Research"- RABR-2020, August 8th -10th, 2020, Heredity Life Sciences, KiiT TBI, Bhubaneswar, Odisha.
10. **D. K. Bishi** (2019) Invited speaker at the National Conference on "Biodiversity, Biotechnology and Bioinformatics: Innovative and Emerging Trends (NCBBBIET-2019), February 22nd - 23rd 2019, Department of Botany, Berhampur University (BU), Berhampur, Odisha.

Other information(s)