Environmental Health Research at BLDE (Deemed to be University)

(NAAC: 2016-2020)

Abstract:

Environmental health is one of the most important areas of research for which BLDE (DU) is recognized not only in India but also around the world. Laboratory of Vascular Physiology and Medicine of Department of Physiology has taken several projects on this issue. Two of the Projects received grants from Government funding bodies:

Title	Funding Agency	Amount	Duration
Effect of L-ascorbic acid and calcium channel blocker on hypoxia exposed possible alteration of cell signalling pathways in respiratory system of male rats with or without heavy metal lead exposure	VGST,DST, **Government of Karnataka** (VGST/213/23 DT.16.6.2016)	INR.40,00,000.00	2016-2021
Influence of antioxidant vitamin (L-ascorbic acid) on hypoxia-induced alteration of VEGF gene expression in male diabetic rats with or without exposure to heavy metal nickel	LSRB-DRDO, Ministry of Defence, **Government of India**. (No O/o CCR&D (TM)/81/ 48222/LSRB-XXIX-Meeting/2014 06th August 2014)	INR.17,50,000.00	2014-2018

The environmental health research on low oxygen microenvironment especially in chronic sustained and intermittent hypoxia in experimental models with heavy metals (Nickel and Lead) not only showed outcome as publications but also PhD awardees. These work outcomes showed cell signal transduction in hypoxia exposed animals in system biology though hypoxia sensitive genes like hypoxia-inducible factor-1α (HIF-1α), erythropoietin (Epo) and vascular endothelial growth factor (VEGF) expressions in presence of divalent cation (Das et al 2018; Das et al 2020, Reddy et al 2020; Bagali and Das, 2021). The research not only restricted in the laboratory but also towards the issue like ground water fluoride contamination in Vijayapur districts (Ugran et al 2016). University collaborative research on COVID-19 and high altitude environment is well documented in the scientific world (Zubieta-Calleja et al 2020). One of Professors of Department of Physiology is appointed as Adviser, Coordinator & Dean, Department of Environmental Health under UNESCO/UNITWIN Network of UNESCO Chair-Life Sciences (Biophysics, Biotechnology & Environmental Health) since August 2020 (http://www.biophys.am/pages/index/Environmental-Health/).

BLDE (Deemed to be University), Vijayapur,I ndia and UNESCO Chair holder, Life Sciences (Biophysics, Biotechnology & Environmental Health), LSIPEC, Yerevan, Republic of Armenia jointly conducted two days web seminar on **August 6 & 7, 2020** with a theme entitled "*Current concepts of environmental pollution by electromagnetic field and Corona virus"* (http://www.biophys.am/pages/view/183). 18 countries and more than 300 researchers participated in this web seminar on environmental health. The entire program is published as proceedings (http://www.biophys.am/webroot/myfiles/files/BLDEUnivJHealthSci_2020_5_3.pdf).

References:

1. Das KK, Reddy RC, Bagoji IB, Das S, Bagali S, Mullur L, Khodnapur J, Biradar MS. Primary concepts of nickel toxicity; An overview. J Basic Clin Physiol Pharmacol **2018** , 30(2):141
2. Das S, Reddy RC, Chadchan KS, Patil AJ, Biradar MS, Das KK. Nickel and Oxidative Stress: Cell Signaling Mechanisms and Protective Role of Vitamin C. Endocr Metab Immune Disord Drug Targets. **2020**;20(7):1024-1031.
3. Reddy RC, Devaranavadagi B, Yendigeri SM, Bagali S, Kulkarni RV, Das KK. Effect of L-Ascorbic Acid on Nickel-Induced Alteration of Cardiovascular Pathophysiology in Wistar Rats. Biol Trace Elem Res.**2020** ; 195(1):178-186.
4. Bagali S, Das KK. Hypoxia and its preconditioning on cardiac and vascular remodelling in experimental animals.. **2021**;285:103588. doi: 10.1016/j.resp.2020.103588
5. Zubieta-Calleja, G.R.; Zubieta-DeUrioste, N.; Venkatesh, T.; Das KK.; Soliz, J. COVID-19: Multiple Diseases Simulating Extreme High-Altitude Exposure? Oxygen Transport Physiology and Scarce Need of Ventilators; Andean Condor & rsquo;s-Eye-View. Reviews on Recent Clinical Trials **2020,** 15(4). 112-116

……