BIO-SKETCH

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Prof. Suresh Bhalla is Professor (Higher Administrative Grade) at the Department of Civil Engineering, IIT Delhi and founding President, Indian Structural Health Monitoring Society (ISHMS). An elected Fellow of the Indian National Academy of Engineering (INAE), within the structural health monitoring (SHM) domain, Prof. Bhalla is well-known for his ground breaking research related to the electro-mechanical impedance (EMI) technique and the piezo-based experimental/ operational modal analysis (OMA) for civil-structures, especially catapulting transition from lab to field. Notably, he has extensively worked towards the adaptation of the piezo-based SHM for reinforced concrete structures, rebar corrosion monitoring, piezoelectric energy harvesting, bio-medical SHM and piezo-bond-structure modelling. He has developed and introduced SHM course at post graduate level and has been formally teaching the subject to successive batches since 2011. Besides the main research area of SHM, Prof. Bhalla also works in the filed of vibration control, conservation/ SHM of heritage structures, seismic retrofitting, passive energy dissipation devices and Indian Knowledge System (IKS) approach for carbon negative construction using engineered bamboo and engineered cow-dung. Prof. Bhalla is the Co-PI of the ambitious Virtual Labs project of the Ministry of Education (MoE), which aims to disseminate knowledge, arouse curiosity and promote learning about cutting edge technologies to budding engineers and scientists. Prof. Bhalla has also been the founder mentor of the “Smart Structures and Dynamics Lab” at IIT Delhi.

Prof. Bhalla has published 88 papers in international SCI indexed journals, and over 100 papers in international/ national refereed conferences/ workshops largely in the field of SHM. He has co-authored three books: (i) “Singly Curved Thin Piezo Transducers for Energy Harvesting and Structural Health Monitoring (BP International)”; (ii) “Piezoelectric Materials: Applications in SHM, Energy Harvesting and Bio-mechanics (Wiley-Athena)”; and (iii) “Smart Materials in Structural Health Monitoring, Control and Bio-mechanics (Springer)”. He has also contributed chapters for three other books. His pioneering publications on piezo-based SHM are highly cited by peers, with an average score of 45 citations per article and an **H-index of 34 in SCOPUS (32 in the Web of Science)**. It is no wonder that Prof. Bhalla is consistently

recognized among top 2% of world scientists since 2020 on the basis of standardized citation indications of SCOPUS Elsevier databases (https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/8). ScholarGPS, advanced scholarly cum academic analytics platform that tracks, ranks, and connects scholars worldwide based on their research productivity, impact, quality and collaborations across disciplines and institutions, has positioned Prof. Suresh Bhalla to top 0.11% (99.89 percentile) in the field of SHM across the globe, ranking him no. 17 among SHM researchers worldwide (https://scholargps.com/top-scholars?specialty=Structural+health+monitoring&ranking_duration=LIFETIME).

Prof. Bhalla's publications display outstanding metrics, as evident from the fact that his 16 journal publications have citation percentile more than 90%, 07 publications have citation percentile more than 95%, 02 publications have citation percentile more than 99% and 01 publication (the first one in the world extending the EMI technique to prototype RC structure) have a citation percentile 100% (meaning maximum citations in the field in that particular year in the world). A citation percentile measures the number of citations for an article against a benchmark set of similar papers in terms of field and publication year. An article with no citations has a percentile of 0, and the article with the most citations has a percentile score of 100.

Prof. Bhalla has completed several R&D projects sponsored by prestigious organization like Defence Research Development Organization (DRDO), Department of Science and Technology (DST/ SERB), Ministry of Education (MoE) and prestigious industrial corporations. He is consultant to several industry majors in the field of SHM, offering them very practical and cost-effective SHM solutions covering static as well as dynamic sensing.

Prof. Bhalla's over half a dozen product/ process inventions have resulted in the incubation of three deep technology startups at IIT Delhi related to SHM, seismic retrofitting and carbon negative construction. He chaired the International Conference on Futuristic Technologies (FT 21), held during 22-24 January 2021 and International Conference on Science and Technology in IKS held during 17-18 Dec 2022 . Prof. Bhalla is member of the BIS workgroup working towards a BIS standard on structural health monitoring (CED37/WG5). As President of ISHMS, Prof. Bhalla spearheaded the preparation of basic SHM guideline document as part of ISHMS which are now widely referred by SHM industry in India.

Apart from international recognition of being top 2% of world scientists (Stanford), ranking within top 20 SHM scholars (ScholarGPS) and high citation metrics, including 100% citation percentile (Web of Science), Prof. Bhalla's cutting edge research in engineered bamboo structures has recently been featured as linked to United Nations Sustainable Development Goals (SDG) 9, 12, 13 and 15. A finalist of the SCOPUS Young Scientist Award 2014, Prof. Bhalla has been the recipient of several other laurels, such as three best paper awards (2018, 2016, 2012), award for teaching excellence (2011), outstanding young faculty fellow (2008), NSTB gold medal for best Master's thesis (2001) and the Institute silver medal (1995) for topping the Civil Engineering class of 1995 at IIT Delhi.