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Nomination of Prof. Diwan S Rawat for the Sun Pharma Research Award-2023 (Pharma. Sciences)

It is my pleasure to nominate Professor Diwan S Rawat for the Sun Pharma Research Award-2023. Professor Rawat is an outstanding researcher and academician as evident by the contribution he has made in the area of drug discovery/medicinal chemistry and catalysis. His major area of work lies in the area of development of small organic molecules as anti-tubercular (**Med. Res. Rev. DOI: 10.1002/med.21779, 2021; Med. Res. Rev. 40, 263, 2020; *Eur. J. Med. Chem. 195,* 112276, 2020; Med. Res. Rev. 33, 693, 2013**), anti-malarial (**ACS Med. Chem. Lett. 10, 714, 2019; 3, 555, 2012**), anti-cancer (**US 9884825B2; PCT/US2013/053216, 2014)**) and anti-Parkinson agents **(US 11,026,943 B2/2021; US 2017/0209441 A1; EP. 13758678/2014; PCT/US2013/28329/2013; WO2013134047 A3, PCT/US2013/028329, 2013** and **Nature Communication 2023**). He has utilized the hybrid drug design concept and proved that molecular hybridization can led the molecules with better potency and efficacy. Some of the compounds based on 4- aminoquinoline-pyrimidine pharmacophore have shown low nano-molar antimalarial activity *in vitro and in vivo* without any toxicity (**Med. Res. Rev. *32,* 581-610, 2012; ACS Med. Chem. Lett. 3, 555, 2012; ACS Med. Chem. Lett. 10, 714, 2019; Eur J Med Chem 162, 277, 2019**).

A massive collaborative work resulted in the identification of many hybrids as Nurr1 activator and showed potent anti-Parkinson activity (**US 11,026,943 B2/2021; US 0023930 A1, 2017**). These compounds activate NURR1 receptor, which stops the death of dopamine neurons, and protects the neurons from inflammation in case of PD and other neurodegenerative diseases. Further, these molecules stop the aggregation of α-synuclein and induced autophagy and this work has been published in **Nature Communication 2023**. This work opened a new dimension in the area of drug development for the treatment of Parkinson disease. This molecule has been licensed to NurrON pharmaceuticals for development drug for the treatment of Parkinson disease and recently NurrOn entered into co-development agreement with HanAll Biopharma and Daewoong Pharmaceuticals to develop ATH-399A for Parkinson's disease. Phase I clinical trials of these molecules have been funded by MJ Fox Foundation (https://nurronpharma.com/media-relation).

Prof Rawat has extensively worked in the area of heterogenous materials as a recyclable catalyst for the synthesis of biologically active and industrially important molecules and API. He has published 166 research papers. He has eight patents, and a book and five book chapters to his credit. Prof Rawat is an Associate Editor of Scientific Reports, RSC Advances and Journal of Biochemical and Molecular Toxicology. He is an excellent teacher and he has developed YouTube lectures on Organic Spectroscopy, which has over 25000 viewers and about 4500 subscribers.

Based on his scientific contributions, I strongly recommend him for the Sun Pharma Research Awards-2023 in Pharmaceutical Sciences.

Sincerely,

Vinod Singh
Former Director, IISER Bhopal