

**INSTITUTE OF CHEMICAL TECHNOLOGY****रसायन तंत्रज्ञान संस्था**

Deemed to be University under Section-3 of UGC Act 1956

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Nomination of Professor Diwan S Rawat for the Sun Pharma Research Awards-2021 (Pharmaceutical Sciences)

It is my pleasure to nominate Professor Diwan S. Rawat for the Sun Pharma Research Award- 2021 (Pharmaceutical Sciences). 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; Med. Res. Rev. 32, 581-610, 2012), anti-cancer (US 9884825B2; PCT/US2013/053216, 2014)) and anti-Parkinson agents (US 2017/0209441 A1; EP Application No. 13758678, filed 10/7/2014; PCT/US2013/28329, filed 2/28/2013; WO2013134047 A3, PCT/US2013/028329 (2013). He has utilised the hybrid drug design concept and proved that molecular hybridization can give 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 (ACS Med. Chem. Lett. 3, 555, 2012; ACS Med. Chem. Lett. 10, 714, 2019; Eur J Med Chem 162, 277, 2019). These compounds have also shown potent anti-Parkinson activity (US2015/0023930 A1, 2017). Based on these exciting results, MJ Fox foundation, US funded the project on anti-Parkinson activity of aminoquinoline-pyrimidine based hybrids. **A massive structure activity relationship study resulted many compounds with excellent in vivo potency without toxicity and good PK parameters. Very recently, this work was taken up by a Boston based pharmaceutical industry, NURRON, Pharma for development as a drug molecule for the treatment of Parkinson's disease and University of Delhi has signed a technology transfer agreement (Times of India, Feb 16th, 2020).**

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His work on curcumin derivatives led to the discovery of novel anticancer agents which is much better than doxorubicin and antibacterial agents (PCT/US2013/053216; US 9884825B2, 2018; Med. Chem. Commun. 5, 576, 2014, ACS Omega 4, 675, 2019).

He has developed novel heterogenous materials as a recyclable catalyst for the synthesis of biologically active and industrially important heterocycles (ACS Sustainable Chem. Eng.. 12, 3728, 2020; 8, 13701, 2020; 14, 5544, 2020; 7, 19235, 2019; 6, 10039, 2018; 5, 6466, 2017; 4, 3409, 2016, 3, 1536, 2015); Green Chem. 22, 3170, 2020; Adv. Synth. Catal. 355, 3170, 2013; Green Chem. 14, 3344, 2012, Eur. J. Org. Chem. 4101 2019; Chem-Asian J. 12, 785, 2017 and Asian J. Org. Chem. 12, 785, 2017).

Prof Rawat has over 5646 citations with h-index 44, nine patents, and a book and four book chapters to his credit. The book entitled "Bioactive marine natural products" was published by Springer and book was reviewed by Journal of American Society (J. Am. Chem. Soc. 128, 4494, 2006). His work has appeared on the cover page of ACS Sus. Chem. Eng., Tetrahedron Letters and six of his articles have been highlighted by Synfact. Prof Rawat is an Associate Editor of Scientific Reports and RSC Advances.

Based on his scientific contributions, I strongly recommend him for the Sun Pharma Research Awards-2021 (Pharmaceutical Sciences).

Regards,

M. Lakshmi Kantam

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