

Dr S S Verma

The Padma Awards in three categories- Padma Vibhushan, Padma Bhushan and Padma Shri are among the highest civilian awards of India and are announced every year on the occasion of India's Republic Day to the people who have made exceptional and distinguished contributions in their respective fields and are conferred every year by the President of India at ceremonial functions held at Rashtrapati Bhawan between March and April. The awards are conferred in various fields such as art, social work, public affairs, science and engineering, trade and industry, medicine, literature and education, sports, civil service, etc. For the year 2023, the President has approved conferment of 106 Padma Awards including 3 duo cases (in a duo case, the Award is counted as one) and the list comprises 6 Padma Vibhushan, 9 Padma Bhushan and 91 Padma Shri Awards. Nineteen of the awardees are women and the list also includes 2 persons from the category of Foreigners/NRI/PIO/OCI and 7 Posthumous awardees. Though, recognition in every field is equally important but in the times of "Make in India" progressing towards self-reliant India, recognition in the field of science and engineering becomes more important from the scientific and engineering community point of view. Therefore, this article brings out the facts about those personalities who have been recognized by the government to be awarded Padma Awards-2023 (Padma Vibhushan-1, Padma Bhushan-1 and Padma Shri-8) from India & abroad in the field of science & engineering with an aim to motivate the readers to think and move forward in their career with an aim to emulate these personalities.

PADMA VIBHUSHAN AWARDEE

Srinivas Varadhan (USA):

Sathamangalam Ranga Iyengar Srinivasa Varadhan FRS (born 2 January 1940) is an Indian American mathematician, widely recognized as one of the most influential mathematicians of the 20th century. He is known for his fundamental contributions to probability theory and in particular for creating a unified theory of large deviations. He is regarded and revered as one of the fundamental contributors to the theory of diffusion processes with an orientation towards the refinement and further development of Itô's stochastic calculus. In the year 2007, he became the first Asian to win the Abel Prize. Srinivasa was born into a Hindu Tamil Brahmin Iyengar family in Chennai (then Madras). Varadhan received his undergraduate degree in 1959 from Presidency College, and Indian Statistical Institute in Kolkata, Bengal. In 1953, his family migrated to Kolkata. He then went back to Chennai for college in 1958. In 1960, he went to Kolkata for college. He grew up in Chennai and Kolkata. After college, he went back to Chennai. He was one of the "famous four" (the others being R Ranga Rao, K R Parthasarathy, and Veeravalli S Varadarajan) in ISI during 1956-1963. He received his doctorate from ISI in 1963 under C R Rao, who arranged for Andrey Kolmogorov to be present at Varadhan's thesis defence. Since 1963, he has worked at the Courant Institute of Mathematical Sciences at New York University, where he was at first a post-doctoral fellow (1963-66), strongly recommended by Monroe D Donsker.

Varadhan's awards and honours include the National Medal of Science (2010) from President Barack Obama, "the highest honour bestowed by the United States government on scientists, engineers and inventors". He also received the Birkhoff Prize (1994), the Margaret and Herman Sokol Award of the Faculty of Arts and Sciences, New York University (1995), and the Leroy P Steele Prize for Seminal Contribution to Research (1996) from the American Mathematical Society, awarded for his work with Daniel W Stroock on diffusion processes. He was awarded the Abel Prize in 2007 for his work on large deviations with Monroe D Donsker. In 2008, the Government of India awarded him the Padma Bhushan. He also has two honorary degrees from Université Pierre et Marie Curie in Paris (2003) and from Indian Statistical Institute in Kolkata, India (2004). Varadhan is a member of the US National Academy of Sciences (1995), and the Norwegian Academy of Science and Letters (2009). There are many more achievements to his credit.

Padma Awardees in Science & Engineering

2023



Padma Vibhushan

Padma Bhushan

Padma Shri

PADMA BHUSHAN AWARDEE

Deepak Dhar (Maharashtra):

Deepak was born on 30 October 1951 at Pratapgarh, in the north Indian state of Uttar Pradesh and graduated in science from the University of Allahabad in 1970 before earning a master's degree in physics from the Indian Institute of Technology, Kanpur in 1972. Moving to the US, he enrolled for his doctoral studies under the guidance of Jon Mathews at California Institute of Technology. During his doctoral days at Caltech, Dhar held two institutional fellowships: E. P. Anthony fellowship (1972-73) and R. P. Feynman fellowship (1974-76). After securing a PhD in 1978, returned to India to start his career as a research fellow at Tata Institute of Fundamental Research (TIFR) the same year. He received the Young Scientist Medal of the Indian National Science Academy in 1983. International Centre for Theoretical Physics selected him for the 1993 J. Robert Schrieffer Prize. INSA honored Dhar again in 2001 with the Satyendranath Bose Medal and he received the TWAS Prize of The World Academy of Sciences in 2002. After two years of research, Dhar became a full-time fellow in 1980 and served in that position until 1986 when he was promoted as a reader. Before his superannuation from regular service, Dhar held various positions at TIFR such as that of an associate professor (1991) and professor grades from G to J (1995-2008). In between, he had a one-year sabbatical at the University of Paris as a visiting scientist during 1984-85) and a month-long stint at Isaac Newton Institute in May 2006 as a Rothschild Professor. His list of achievements is also long to be narrated here.



'Millett Man' Dr Khadar Valli Dudekula was recognised by the government of India with the civilian honour Padma Shri.

Modadugu Vijay Gupta (Telangana)

Dr. Modadugu Vijay Gupta is an Indian biologist and fisheries scientist. Born on 17 August 1939, Modadugu hails from Bapatla in the State of Andhra Pradesh, India. Till his recent retirement, Dr. Modadugu served as the Assistant Director General at WorldFish, an international fisheries research institute under the Consultative Group on International Agricultural Research (CGIAR) based at Penang in Malaysia. He was awarded the World Food Prize in 2005, for development and dissemination of low-cost techniques for freshwater fish farming (using tilapia species) by the rural poor. He is considered a pioneer in the blue revolution of Southeast Asia. In 2015, was selected for the first Sunhak Peace Prize, in recognition of his creating an aquaculture system for the poor, rural populations in Asia, Africa and the Pacific.

Ganesh Nagappa Krishnarajanagara (Andhra Pradesh)

He is the Director of The Indian Institute of Science Education and Research (IISER) campus in Tirupati. The coveted award comes to Prof. K.N. Ganesh in recognition of his rich contribution to the field of science education, research and institution building, as the founding Director of IISER Pune as well as IISER Tirupati. A fellow of all three science academies of India and also a fellow of The World Academy of Sciences, he has more than 170 publications in international journals and two patents to his credit. He has guided 45 PhD students. Given his experience in mentoring and shaping up IISER Pune, Prof. Ganesh was chosen to lead IISER Tirupati as its founder Director, where he assumed office on 1 November 2017.

Arvind Kumar (Uttar Pradesh)

Shri Arvind Kumar is the Director General of Software Technology Parks of India (STPI). Before joining STPI, he was working in Telecom Regulatory Authority of India (TRAI) since 2004. As advisor in TRAI, he was responsible for formulating policies on broadband, data security & privacy issues, manufacturing, DTH, IPTV, TV broadcasting and OTT, after having worked since 1997 in the Indian Government run premier technology centre, C-DoT, in various capacities. He also has worked with International Telecommunication Union (ITU) as Rapporteur on the issues related to Migration to Next Generation Network (NGN) including OTT, cloud computing, security and privacy related issues. Shri Kumar holds an M.Tech degree from the prestigious Indian Institute of Technology (IIT, BHU), Varanasi.



Prof. (Dr.) Mahendra Pal (Gujarat)



Born on 10th April, 1946 is an internationally renowned scientist and a well known distinguished academician, has 530 publications and 8 books. Prof. Pal guided over 67 students at DVM, MVSc, MSc and Ph.D. level in India and Ethiopia. He is credited to develop Sunflower seed agar (Pal's medium) medium, APRM medium, PHOL stain and Narayan stain for the study of fungi.

Prof. Pal elucidated for the first time the role of Cryptococcus neoformans in the mastitis of goat and buffalo, Fusarium solani in corneal ulcer of buffalo, Aspergillus fumigatus in rhinitis of camel and mule, Trichophyton verrucosum in dermatitis of deer, Candida tropicalis in human lung empyema, and Nocardia asteroides in keratitis of cattle. He has established for the first time the prevalence of Cryptococcus neoformans in the environment of New Zealand, Nepal, and Djibouti. He has reported the first isolation of Candida albicans from mastitic milk, and Trichophyton verrucosum in dermatitis of camel in Ethiopia. Prof. Pal has launched the Ph.D. programme for the first time in Veterinary Public Health at Addis Ababa University, Ethiopia and also at College of Veterinary Science, Anand, Gujarat, India. His biography is published in World's Who and Who. Prof. Pal is the recipient of "Distinguished Teacher Award", "Jawaharlal Nehru Award", and "Life Time Achievement Award". Prof. Pal is the First Indian Veterinarian who worked as "JSPS Visiting Scientist" at University of Tokyo, Japan. Many more achievements are also to his credit.

Bakshi Ram (Haryana)

Gurugram-based agro scientist Dr Bakshi is best known for developing sugarcane variety CO-0238, which occupies over 70 per cent of the sugarcane area in Northern India. Retired as Coimbatore ICAR Sugarcane Breeding Institute Director, Dr Bakshi currently works as a consultant in various sugar mills and also works for cane farmers' welfare.



Ms. Sujatha Ramdorai (Canada)

Born in 1962 is an algebraic number theorist known for her work on Iwasawa theory. She is a professor of mathematics and Canada Research Chair at University of British Columbia, Canada. She was previously a professor at Tata Institute of Fundamental Research. She completed her B.Sc. in 1982 at St. Joseph's college, Bangalore and then got her M.Sc. through correspondence from Annamalai University in 1985. After that she went for PhD at Tata Institute of Fundamental Research and was awarded her PhD under supervision of Raman Parimala in 1992. Ramdorai became the first Indian to win the prestigious ICTP Ramanujan Prize in 2006. She was also awarded the Shanti Swarup Bhatnagar Award, the highest honour in scientific fields by the Indian Government in 2004. She is also the recipient of the 2020 Krieger-Nelson Prize for her exceptional contributions to mathematics research.



Abbareddy Nageswara Rao (Andhra Pradesh)

Born 1954 is an Indian botanist and at was the Director, Centre for Orchid Gene Conservation of Eastern Himalayan Region, Hengbung, Manipur, India. Has done the groundbreaking work on orchids and discovered 33 new orchid species - the highest by any scientist in independent India. Of these new species, 28 were found from Arunachal, two from Meghalaya, two from Manipur and one from Uttarakhand. Two orchid species have been named after him - Dendrobium nageswarayanum, which was discovered by Krishna Chowlu from Arunachal Pradesh and Tropidia hegderaoii by Sarat Misra from Tamil Nadu. He is also part of the team that developed five new orchid hybrids from Arunachal Pradesh.

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Meet Padma Shri Mohan Singh

Mohan Singh is not only a writer but an activist also who has been working hard for promotion of mother tongue Dogri and cultural traditions of this region called Duggar Pradesh for the last so many years now. He was born on 8th February 1955 in the family of Thakur Sakerter Singh Slathia and Shiv Devi at Mandi Udh Dargali, Gurah Slathia District Samba. He has more than 39 books to his credit that include 32 original works and rest of 7 are translations and edited/complied ones. He is an eminent actor and director also having proved his worth in numerous theatre productions, Aakashwani plays and television serials for different channels. He was awarded Sahitya Akademi's prestigious award in 1991 for his widely acclaimed Dogri play 'APNI DAFLI APNA RAAG'. He has also been awarded translation award in 2001, State Akademi award in 1984 and several others. This year he has been conferred upon Padma Shri, fourth highest civilian award of Republic of India. RAJESHWAR SINGH 'RAJU' had a candid talk with him on various issues related to mother tongue Dogri and cultural heritage.

Here are some excerpts of the same:

RAJESHWAR: Congratulations! It's a moment of pride for all of us, the inhabitants of this pious land Duggar Pradesh that a cultural crusader like you has been honoured with Padma Shri this year.

MOHAN SINGH: Thanks a lot from core of my heart for your well wishes. I take this opportunity to thank Daily Excelsior also for promoting Dogri language and cultural traditions not only through Sunday Magazine especially but through their portal also.

RAJESHWAR: When we cast a look at past, it is said that mother tongue Dogri was discarded even by Dogras. When others of your age group were writing in other languages like Urdu and Hindi, you started penning down your creative writing in your mother tongue Dogri, who inspired you for the same? I am asking you this question because every litterateur aspires to get his works to have wider access, but it was not there at all.

MOHAN SINGH: I fail to understand why it is said quite often that Dogri was not given due regards in the past. There is confusion that should be eradicated from the forced memories of present generation. I may say with authority that all inhabitants of this region had great love for their language and everyone used to speak in Dogri unlike at present time, when the young generation is reluctant to interact in their mother tongue and we have to inspire Dogras to interact at least with fellow Dogras in Dogri. Yes, I admit that as far as literature is concerned, there was wider scope for other languages like Urdu and Hindi and local writers preferred to have wider access for their creative pursuits. But when the stalwarts



like Kehri Singh Madhukar and Ved Pal Deep, who had already established in Hindi started writing in Dogri, it inspired others also to express their feelings in their own language. I was also one of their followers. After having written quite a few in other languages, I realized that I was much comfortable to express my inner most in my own language. It started, is still going on and wish that it will go on till my last breathe.

RAJESHWAR: You received prestigious Sahitya Akademi Award for your widely acclaimed Dogri play 'APNI DAFLI APNA RAAG' which is regarded as a milestone in Dogri theatre plays and has been performed not only as proscenium production but as street theatre also. The credit for introduction of street theatre in 1986

in Jammu region also goes to you, who took theatre to remotest areas of Duggar Pradesh under the banner of Duggar Manch. How do you access that effort in promoting language and cultural traditions?

MOHAN SINGH: The theatre activists like Uttpal Dutt from Bengal and Amol Palekar in Maharashtra, who used to earn money by performing in movies for the sake of investing same money in their theatre activities had inspired me a lot to contribute in theatre. We started performing street plays not only in the city but took it to remotest of areas. The focal point of such plays that became immensely popular and are still talked about, was to connect with masses. We made it a point that our Dogri plays should revolve around our own cultural traditions and folk should be an integral part of our productions. Perhaps it was the basic reason that still those productions are in everlasting memories of those who witnessed them. Of course, theatre promotes language and culture but only if honest efforts are made with creative inputs and without commercial angle.

RAJESHWAR: Inclusion of Dogri in 8th Schedule of Indian Constitution was a proud moment for all. During that movement everyone irrespective of to what organization one belonged had joined under one banner for a noble cause and it yielded the result also. Is there no cause now? Have we achieved all our goals? If not, then why the cultural organizations of region alienate from each other now on certain common issues and indulge in as per your own play 'Apni Dafl Apna Raag'. Shouldn't we come out of the self-made shell and be united when the cause is same?

MOHAN SINGH: It can't be said that we have achieved all and it's all over now. It can't be at all. How may we even imagine it? There is so much to be accom-

plished and we need to raise the voice for our common causes jointly. But there may be self-concerns, what else may I speculate. When such situations arise that we have to come forward as a single voice, to get a noble cause stabled. We have to realize that we may run organizations as independent entities but for a common cause we have to shun away personal grievances against each other. Personal conflicts, if any, should be sidelined for a noble cause and positivity should prevail.

RAJESHWAR: Inclusion in 8th Schedule and then Dogri being included in one of the five official languages by Jammu & Kashmir Government may be regarded as an achievement. Is it merely on papers or you think that we have been benefited also?

MOHAN SINGH: We had a long struggle to get our mother tongue included in 8th schedule of Indian constitution. After long 12 years we achieved what we had stood together under one banner 'Dogri Sangarsh Morcha' of which I was the convener. It was not a struggle for monetary benefits or personal gains, but was a struggle for self-pride of Dogras. I may exclaim with ecstasy now that I am a proud Dogra whose mother tongue is recognized by constitution of India. Some struggles are for inner satisfaction also, we have to realize it. However, it is also a fact the new vistas also open when you are recognized. The inclusion of Dogri in five official languages by Union Territory of J&K is also an achievement which means that official works will also be done in Dogri and even much more.

RAJESHWAR: You have been bestowed upon prestigious Padma Shri for your colossal contributions to Dogri literature and theatre. In fact it has been an honour of entire Dogra Community and Dogri speaking people. How do you look at your journey as a creative person and what are the future goals?

MOHAN SINGH: I would like to continue contributing not only as a writer but as an activist also. Stagnation doesn't yield happiness. I know basic mantra to keep myself satisfied and that is to pen down whatever innovative thoughts come to my mind and inspire me to convert same in poetry or play. I derive pleasure from my creative pursuits. I wish to enjoy that journey without any halt. The basic instinct inspires to work on another project after the completion of one. It's a journey that I love to move on being escorted by my creative thoughts.

RAJESHWAR: It's really a matter of concern that mother tongues all over the world are suffering from threat. The fact remains that it takes centuries for a language to evolve but doesn't take much time to extinct. How much you rate this threat to our own sweet language Dogri?

MOHAN SINGH: We should be positive. The way efforts are being made by Government to promote mother tongue right from primary classes, it shows that they are on the job. Only need is to show urgency and implement the strategies without further delay. The way youths are promoting language through different mediums of expression on social media is also a positive sign. We have rich literature and cultural heritage with solid roots. Let us stay grounded firmly and realize to preserve same for our own existence. It will serve the purpose otherwise get ready to face identity crisis.

RAJESHWAR: Awards bring a lot of responsibilities and expectation level also increases tremendously. I know you are like a devotee and believe in devotion to your work. Your dedication is a source of inspiration for others and you are a strong voice for mother tongue and cultural traditions. How do you look at your role as a creative person with tag of Padma Shri?

MOHAN SINGH: Yes, I know that such a prestigious award carries responsibilities also. I will put in my best to come up to the expectations. I have derived inspiration from legends like Dinu Bhai Pant and Padma Sachdeva and am guided by my own heart that believes in being creative. I will love to continue serving my mother tongue with even more dedication and devotion.