



Citation for Dr. Anil Kumar

Rajvanshi

Dr. Anil Rajvanshi, a rural-based engineer residing in Phaltan, Maharashtra, India, has for the last four decades pioneered the development of technologies spanning a whole spectrum of areas affecting the lives of rural population, namely [renewable energy-based cooking and lighting](#); [power generation from agricultural residues](#); renewable fuel production from agriculture; [electric cycle rickshaws](#); [water purification](#); effluent treatment through the use of renewable energy and value-added products from farm produce. In this, **he was the first person to promote the use of high technology for rural development – an idea that is in vogue nowadays.**

Born and raised in Lucknow, Dr. Rajvanshi went to the United States to pursue higher studies at the **University of Florida (UF)** following his bachelor's and master's degrees in Mechanical Engineering from [I.I.T. Kanpur](#) in the early 1970s. After receiving his PhD from UF in 1979, he taught at the same university for two and half years and then did something that young men of his age and education rarely did those days. [He left a very lucrative career in the US](#) to come back to rural Maharashtra in 1981 to apply his training for developing rural India. Dr. Rajvanshi established the energy and sustainable development work at [Nimbkar Agricultural Research Institute](#) (NARI) situated in Phaltan taluka in Maharashtra.

His work at NARI has resulted in the following achievements.

1. He is the principal author (1996) of [national policy on energy self-sufficient Taluka](#) which is being managed by MNRE. This is the precursor of National Biomass power plant program and was probably the inspiration behind [PURA program](#).

2. Dr. Rajvanshi's group pioneered the [development of electric rickshaws in the late 1990s](#). He was the first person to initiate a program of e-rickshaws in the country-which are in vogue nowadays.
3. He developed a unique program of improving cooking and lighting technology for rural areas. Consequently, his group developed the multi-fuel Noorie lantern, [multi-fuel Lanstove](#) and the whole issue of [rural lighting and cooking technology strategy](#) including the [concept of rural restaurants](#). This concept probably gave rise to the setting up of Amma's kitchens in Tamil Nadu and other places.
4. He pioneered in late 1990s [the concept of using ethanol as a cooking and lighting fuel for rural areas](#). This strategy has been copied and promoted all over the world by organizations like World Bank, cooking stove Alliance of UN and various groups in Africa, Latin America and Madagascar.
5. In early 1990s, his group at NARI set up the world's largest program on production of [ethanol from sweet sorghum](#). This led to NARI being the only institute from India invited to become a member of EEU consortium on sweet sorghum in 1994. Their sweet sorghum varieties have been tested in about dozen countries. This work helped start the national program on sweet sorghum funded by ICAR, Government of India and being carried out in many universities and research centers.
6. He and his group pioneered the development of [loose biomass gasification system](#). NARI was the first institute in the world to develop 500 kW (thermal) loose sugarcane leaves gasifier in 1995. This development helped spawn such development efforts all over India.
7. He has pioneered the development of [low cost solar-based water purifiers](#). A US-based group (set up by ASME and IEEE) has named this [as one of the ten life-changing technologies to come out of India](#).
8. His efforts have shown how a [small rural S&T Institute working on shoestring budget](#) can pioneer technologies for rural India; and has inspired similar efforts in India and the world.

Dr. Rajvanshi has served on many committees like those of Planning Commission, Advisory Board on Energy, MNRE, MERC, etc. He has more than 230 publications, some of them in prestigious national and international journals, **seven patents**, [five books, and various chapters in books](#).

In 2014 he published a book which was a [human-interest story of his work on renewable energy at NARI](#) and has made it freely available as eBook in the hope of inspiring youngsters to work in rural development. In 2016 he published his autobiography entitled [“A life of an ordinary Indian – An exercise in self-importance”](#) in e-book form which has also been made freely available on the internet and in 2019 he published another e-book on spirituality; [Spirituality + Technology = Happiness](#).

He has lectured and given keynote addresses at [many universities in U.S.A. and India](#). He regularly gives [inspirational lectures](#) to a large number of students at prestigious institutes like IITs, NITs, [IIMs](#), etc.

Besides the technology work, Dr. Rajvanshi has great interest in spirituality, Indian Philosophical Thought and holistic development as evidenced in his [book “Nature of Human Thought”](#) and his [various writings](#) which appear regularly in [Speaking Tree \(Times of India\)](#), [Huffington Post](#), [Thrive Global](#), [South Asia Monitor](#), among others.

Dr. Rajvanshi believes that [spirituality with high technology should be the mantra of India’s development](#) and will lead to sustainable and holistic living. He practices what he preaches and thus lives a [simple life in rural Maharashtra](#) while developing high technologies for rural India. In essence, he is a spiritual engineer! Thus he is a person who blends effortlessly spiritual knowledge, modern high technology, and sustainable living.

Significant Contributions of Nominee

1. He has shown that in rural setting [excellent research and development on rural problems can be done in limited resources and budget](#). He calls this as **Romance of Innovation**. Thus he and his

group have many firsts to their credit in developing technologies for rural areas.

2. He has inspired youngsters in top engineering and other colleges to take part in nation-building through the use of science and technology. Dr. Rajvanshi has given [inspirational lectures on his work to almost 10,000 students](#) in IITs, IIMs, NITs and other colleges all over the country. Quite a number of these lectures have also been put on the [YouTube and have been accessed 30,000 times till today](#).
3. He has tried to interpret the ancient Indian philosophical thought in the light of modern science and technology and has shown how it can lead to sustainable development. Dr. Rajvanshi has written extensively on his work on [spirituality, technology and sustainability](#). He has published a [book on this subject](#) and his writings in [Times of India \(Speaking Tree\)](#) and [Huffington Post](#) have reached more than the 10 million readers all over the world.
4. He lives a simple and holistic life and preaches what he practices. This is very much in line of Gandhian thinking since he considers Mahatma Gandhi as his role model.

Major National Awards and Endowed Lectures

1. In 2001, Dr. Rajvanshi received the prestigious [Jamnalal Bajaj Award](#) for the application of science and technology for rural India from Dr. Manmohan Singh.
2. His work led to NARI getting the [FICCI Platinum Jubilee Award](#) in 2002 from Prime Minister Shri. Atal Behari Vajpayee.
3. In 2022 he was given [Distinguished Alumnus Award by IIT Kanpur](#).
4. In 2022 Government of India gave him one of the highest civil awards [Padma Shri](#) .

Besides the above, Dr. Rajvanshi has given prestigious endowment and other lectures in India. They include:

5. Invited to give an [Institute lecture at IIT, Bombay](#) in August 2006.
6. Invited to give Technology Day and [Prof. B. D. Tilak Memorial Lecture at NCL](#) on 22 May 2009.
7. Gave an invited talk at the [Tata Institute of Fundamental Research \(TIFR\), Mumbai](#) on 30 April 2010 at ASET colloquium to commemorate the centenary celebrations of Dr. Homi Bhabha.
8. Invited to give an [Institute lecture at IIT Kharagpur](#), 28 February 2011.
9. Invited to [deliver 9th IndSearch Public Awareness lecture in Pune](#) on Corruption and Corporate Sustainability, 9 August 2011.
10. [Invited as keynote speaker at Indian National Academy of Engineering Conference on Innovation](#). September 2012, New Delhi.
11. [Invited talk at Stanford University – Reliance Industry workshop](#) in Mumbai, on Game Changing technologies for Developing World. May 2013.
12. Invited to give [Second Gemini Ganesan Memorial lecture](#) at Madras Christian College, Chennai, 3 March 2015.
13. Invited to be [chief guest and deliver a Keynote address at the Second Mechanical Engineering Graduate Research Symposium \(MEGRES\) 2015](#) at IIT Bombay, 21 March 2015.
14. Invited to give [Plenary address at National Conference on Complex Engineering Systems of National Importance, Chandigarh, 12-13 October 2017](#).
15. Invited to be the [chief guest and deliver a lecture at the Foundation Day Function](#) of Savitribai Phule Pune University, 10 February 2019.
16. Invited talk given to [students and faculty of IIM, Lucknow](#), 1st March 2022. The talk was a part of “Azadi ka Amrit Mahotsav” celebrations.
17. [Keynote address given to Tata group](#) which included Tata Chairman and 30-40 CEOs of major Tata companies. 8 June 2022.
18. [Inspirational talk to incoming freshman MBA students](#) at NICMAR University, Pune. 16 August 2022.

International Awards and Prestigious Lectures

1. In 1998 Dr. Rajvanshi was [inducted in the U.S.- based Solar Hall of Fame](#). He is only the second Indian to be inducted in this Hall of Fame.
2. Dr. Rajvanshi received the [Globe Forum Award in Stockholm](#) from HRH Crown Princess Victoria in 2009 for his sustainability research. The other awardees were Tesla Motors (for Innovation), Novo Nordisk (for sustainability reporting) and Cardiff City, UK (sustainable city).
3. He received the [Distinguished Alumnus Award from University of Florida](#) in 2014. Dr. Rajvanshi is the first Indian to be given this prestigious award from one of the top Public University of U.S.A. He also gave his acceptance speech at the commencement ceremony.
4. He received the Distinguished Lecture Award by College of Engineering, University of Florida, Gainesville, September 2004.
5. He received the Patel Center Award to give a [public lecture in the prestigious Globalization series](#) at the University of South Florida, Tampa, March 2007.
6. Dr. Rajvanshi was invited to give the [plenary address at the International Conference on Environment Engineering at Penang](#), Malaysia, 13 December 2010.

Besides the above he has given [invited lectures at MIT, Boston](#); University of California, Berkeley; University of California, Davis; Carleton College, Minnesota; North Carolina A&M University, U.S.A.; among others.

Impact of Nominees Work

Dr. Rajvanshi's work had the following impact at national and international level:

- He developed the [complete technology of electric cycle rickshaw in the late 1990s](#) when no one in the world even conceptualized it. In 2002, when his design of the rickshaw was picked up by the internet, it spread like wildfire and now there are close to half a million rickshaws around the world, the designs of which could easily be traced back to his work.

- The biomass power generation report that he prepared in 1991 on a shoestring budget finally led to [MNRE-run national policy on biomass-based power plants](#) with NARI being the principal author. Under the scheme, 130 power plants running on agricultural residues and each with a capacity of 6-10 MW have been installed throughout the country.
- He pioneered in India [ethanol production from sweet sorghum](#) in the early 1980s and his work later on ethanol-based lantern and stove played a major role in initiating the program of alcohol cooking and lighting in Africa and southeast Asia where close to half a million stoves have been distributed.
- Dr. Rajvanshi is an inspirational speaker and his [lectures, articles and podcasts](#) have inspired a large number of students the world over to work for social good and live a sustainable life.

His story of [sacrificing a lucrative career in the US and settling down in rural India](#) has inspired hundreds of students studying abroad. Similarly his inspirational lectures in various colleges in India have inspired hundreds of students in nation-building. All of his research speaks for itself, and he is a living example of a person of sheer determination doing his best to solve some of the problems of rural areas.

Contributions to the Society

Dr. Rajvanshi's decision of leaving a stellar career in the United States and coming to a rural town with non-existent resources just to work for the country is in itself an inspiration for generations to come. He is a living role model for the youth of the country which prefers to go abroad rather than stay in India and try to improve it. After coming to India in 1981, he has worked on rural development for the past 37 years. All of his research has always been directed towards the goal of improvement in the quality of life of the rural poor. His key societal contributions are summarized below:

1. ***Pioneering development of technologies for rural areas.*** They included [cooking and lighting](#); [power generation](#); [renewable fuel](#)

[production](#); increasing farmers' income, [electric mobility](#) and [water purification](#) among others.

2. ***As a thought leader developing concepts and strategies for [rural development](#).*** They include [rural restaurants](#); [precision agriculture](#); [biomass power generation](#); [electric mobility](#); [cooking and lighting strategy](#) and the whole issue of sustainable development and life style.
3. ***Inspiring through his [lectures, writings and podcasts](#) thousands of students both in India and abroad*** to help light up the lives of rural poor.
4. ***Showing how even with [limited resources excellent science and technology \(S&T\) work can be done in rural areas](#).*** In this he pioneered the concepts of doing more from less for more (MLM) and using high technology for rural development. Both these ideas developed by him in 1990s are popular nowadays.
5. ***Living a sustainable and holistic life*** in rural areas and spreading this personal example of sustainability through his [talks, writings and podcasts](#).
6. ***Writing extensively on spirituality*** and interpreting the ancient Indian philosophical thought in the light of modern science and technology. Thus his writings on the subject of spirituality and technology in [Times of India](#), [Huffington Post](#) and syndicated articles have reached a wide audience all over the world.

What Dr. Rajvanshi preaches is something he practices too, [leading a simple and holistic life](#) using minimal resources and delivering maximum output. In this he is practicing what Mahatma Gandhi preached, “Be the change that you want to see”. He has been inspired by Mahatma Gandhi and considers him as his role model. He has also written [extensively on Gandhi ji](#).

[Dr. Anil Rajvanshi's detailed CV \(pdf\)](#)

[Dr. Anil Rajvanshi's short biodata \(pdf\)](#)

Dr. Rajvanshi's [writings, speeches, books, videos and podcasts](#).

Address: *Nimbkar Agricultural Research Institute (NARI)*

Tambmal, Phaltan – Lonand Road, Phaltan – 415523, Maharashtra

anilrajvanshi50@gmail.com