

## BIODATA



**NAME** : ANIL K. RAJVANSHI

**PRESENT POSITION** : Director and Hon. Secretary  
**Nimbkar Agricultural Research Institute (NARI)**  
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 Maharashtra, India.  
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**EDUCATION** : Ph.D. in Mechanical Engineering, **University of Florida**,  
 Gainesville, Florida, U.S.A. 1979;  
 B.Tech. and M.Tech. in Mechanical Engineering from **Indian Institute of Technology (IIT) Kanpur** in 1972 and 1974, respectively. Passed Indian School Certificate in 1966 from St. Francis School, Lucknow.

**AREA OF SPECIALIZATION** Solar Distillation; Heat Transfer; Solar Energy Thermal Processes; Biomass Gasification and Combustion; Biomass Power plants: Electric Vehicles; Rural Energy R&D and Policy; Sustainable Development and Spirituality.

### PROFESSIONAL EXPERIENCE

- **Director**, [Nimbkar Agricultural Research Institute](http://www.nariphaltan.org), Phaltan, Maharashtra (1981- ).
- Trustee and Hon. Secretary, [Nimbkar Agricultural Research Institute](http://www.nariphaltan.org), Phaltan.
- Member, State Advisory Committee, **Maharashtra Electricity Regulatory Commission (MERC)** (2000-2014)
- Member, Awards Committee, **Jamnalal Bajaj Foundation**, Mumbai (2003- ).
- Member, Core Advisory Group for Rural Technologies, **Office of the Principal Scientific Adviser to the Government of India**, New Delhi (2003-2005).
- Member, Sub Group on Rural technology Transfer, **Planning Commission**, GOI (2003-2004).
- Member, Sub Group on Resource Mobilization for NRSE, **Planning Commission, Government of India (2001)**. The mandate of this group was to assist in making the 10<sup>th</sup> Five-year National Plan in Non-conventional energy sources.
- Member, Sub group on Energy and Environment, **State Planing Commission, Government of Maharashtra, (1990-96)**.

- India Representative of **E & Co.**, a U.S.-based and **Rockefeller Foundation**, sponsored energy investment company (1995-2000)
- Creator of the **first venture fund for renewable energy in India**. This was a \$10 million fund for which an MOU was signed between Winrock International, NARI and United Western Bank Ltd. in 2000. Unfortunately, Winrock could not raise the corpus.
- Consultant to **Winrock International**, a USA based organization (1999-2000)
- Visiting Professor, Department of Mechanical Engineering, **Indian Institute of Technology, Powai, Bombay**, (1982- ). I occasionally give lectures on alternative energy to graduate and undergraduate students.
- Permanent **Ph.D. guide**, Shivaji University, Kolhapur, (1985- ).
- Member, Task Force on Biomass based Power plants at Taluka level, **Ministry of Non-conventional Energy Sources**, Govt. of India, New Delhi (1994). As a **principal author** of this concept, I was asked to help formulate the national policy for energy self-sufficient Talukas.
- Member, Publications Committee, **International Solar Energy Society (ISES)**, (1989-1991).
- Member, working Group on Rural Cooking Energy Needs, **Planning Commission, Govt. of India**, New Delhi, (1988-89). The mandate of this group was to prepare the Eighth, 5-year plan for the nation.
- Member, Expert Panel on Rural Domestic Energy, **Advisory Board on Energy, Govt. of India**. This was the highest energy policy body in the country set up to advise the Prime Minister on energy matters, (1983-1988).
- Member, Working Group on Biomass Gasification, Department of Non-conventional Energy Sources, **Ministry of Energy**, Govt. of India, New Delhi, (1985-87). The mandate of this group was to develop a national plan for biomass gasification for India.
- Advisor, Nirma Institute of Technology, Ahmedabad (2002-2005).
- Technical Advisor on Solar Energy Projects to National Chemical Laboratory, Pune, India, (1981-83).

## **U.S.A. EXPERIENCE**

- Instructor in the Center for Training in Alternative Energy Technologies (TAET), Department of Mechanical Engineering, **University of Florida, Gainesville, U.S.A.** This center was set up to train scientists and energy planners from developing countries, in solar energy and other renewable energy technologies. I was instrumental in setting up this center (1979-1981).

- Consultant to Volunteers in Technical Assistance (VITA), Maryland, U.S.A. Was invited by **Egyptian Government** to visit Cairo to advise them on kerosene stove improvement and development program. (June 1981).
- Taught post-graduate and undergraduate courses on heat transfer, energy conversion and solar energy utilization at Dept. of Mech. Engg., **University of Florida, Gainesville, U.S.A.**
- Graduate student in the Department of Mech. Engg., University of Florida, Gainesville, U.S.A. (1975-1979).

## AWARDS / GRANTS

- Recipient of Government of India **National Scholarship** for study abroad for study of solar energy at the University of Florida, (1974-1979). About 50 scholars every year were chosen from whole country by the Govt. for this scholarship.
- Inducted in prestigious U.S. based **Solar Hall of Fame (1998)**. I am the second Indian to be chosen for this prestigious award.
- **Jamnalal Bajaj Award** for Application of S&T for rural areas (2001). Given by Dr. Manmohan Singh
- **FICCI Annual Award** for Rural Development (2001-02). Received the award on behalf of NARI from Prime Minister Shri Atal Behari Vajpayee
- **Energy Globe Award** for motor assisted cycle rickshaw (MAPRA) (2004).
- **Globe Forum Award** for ethanol lanstove (2009). Given by HRH princes Victoria in Stockholm, Sweden.
- **Distinguished Alumnus Award** from University of Florida, USA. (2014). I became the first Indian to be given this award.
- Principal Investigator of 38 projects (1982-2014) funded by various Govt. of India and international agencies with grants totaling Rs. 65 million.

## INVITED/KEYNOTE TALKS

- Invited as a lecturer in the “Distinguished Lecturer Series” at Indian Institute of Science, Bangalore. (1988).
- Was sent as a part of two-member study team by Govt. of India (Ministry of Energy) and sponsored by **FAO** to Philippines and Thailand to look at their biomass energy program, (1986).
- Invited by Department of Mechanical Engineering, **University of Florida, Gainesville, USA** to deliver the inaugural lecture of Charles V. and Bertha C. Perrill lecture series on Sustainable development,(July 2002)

- Invited by the **Principal Scientific Advisor to the Government of India** to [address scientists at Bhabha Atomic Research Center \(BARC\)](#), Mumbai on rural technology, September 2003.
- Invited by School of Engineering at University of Florida, Gainesville in September 2004 to give a **Distinguished Lecture** to the faculty and staff.
- Invited to give an [Institute lecture at IIT, Bombay](#) in August 2006. [It is on YouTube](#).
- Invited for public [lecture in the prestigious Globalization Series](#) at Patel Center, University of South Florida, Tampa, USA. March 2007.
- Invited by UNDP and Chinese Government in November 2007 to [advise them on rural energy programs](#).
- Invited to give Technology Day and Prof. [B.D.Tilak Memorial Lecture](#) at [NCL](#) on 22 May 2009.
- An [invited talk given at Tata Institute of Fundamental Research \(TIFR\)](#), Mumbai on 30 April 2010 at ASET colloquium to commemorate the centenary celebrations of Dr. Homi Bhabha.
- [Plenary address](#) at [International Conference on Environment 2010](#), 13-15 December 2010, Penang, Malaysia.
- Invited to give an [Institute lecture at IIT Kharagpur](#), 28 February 2011.
- [Issues in Food and Energy security](#). A guest of honor lecture at International Conference on Food Security and Hunger Management, Organized by Vishwa Yuwak Kendra, New Delhi. 28-30 July, 2011.
- Invited to deliver 9<sup>th</sup> IndSearch Public Awareness lecture in Pune on [Corruption and Corporate Sustainability](#), 9<sup>th</sup> August 2011.
- [Keynote address at North India HR Conference in Lucknow](#), 25 February 2012.
- [Keynote address at Indian National Academy of Engineering](#), New Delhi. September 2012.
- [Invited talk at Stanford University – Reliance Industry workshop](#) on Game Changing technologies for Developing World. May 2013.
- [Second Gemini Ganesan Memorial lecture](#) at Madras Christian College, Chennai. 3<sup>rd</sup> March 2015.
- [Keynote address](#) and chief guest at Second Mechanical Engineering Graduate Research Symposium (MEGRES) 2015 at IIT Bombay. 21 March 2015.
- [Chief Guest lecture](#) on Technology Day at Emerson Innovation Center, Pune. 15<sup>th</sup> September 2015.
- [Invited lecture at IIT Kanpur](#). Organized by Alumni Contact Program. 26<sup>th</sup> September 2015.

- [Inspirational lectures to incoming freshman 2016 class at IIT Kanpur](#). August 2016.
- Invited to give keynote lectures and speeches at many national and international seminars including CII (India), NCIIA (USA), NIAS(Bangalore), etc.
- Our work on alternative energy has been featured many times in National mass media including T.V. and radio. Thus, **BBC World service**, **STAR News**, **ZEE News**, **Surabhi**, **Sam TV**, **NDTV**, Doordarshan, Better India, etc. have shown films on our work. Similarly almost all the major newspapers have carried news items on our Institute. The details of news coverage are [available here](#). A [half hour video clips on our work was shot by Cornell University](#), USA in March 2007.

## SELECTED TECHNICAL PUBLICATIONS

1. Hseih, C.K., and Rajvanshi, Anil K., "[The effect of dropwise condensation on glass solar properties](#)", Solar Energy, Vol. 19, No.4, 1977.
2. Rajvanshi, A. K., "[Large Scale Desalination of Sea Water Using Solar Energy](#)", Solar Energy, Vol. 24, No. 6, 1980
3. Rajvanshi, Anil K., "[Effect of Various Dyes on Solar Distillation](#)", Solar Energy, Vol. 27, pp 51-65, 1981
4. Rajvanshi, A. K., "[Dew Condensation as a means of large scale production of fresh water](#)", Journal of Desalination, Vol. 36, No. 3, 1981.
5. Rajvanshi, A.K., "[Biomass Gasification](#)", Published as a chapter in book Alternative Energy in Agriculture, Vol. II (Ed. D.Yogi Goswami), CRC Press, 1986, pgs. 83-102.
6. Rajvanshi, A. K. and Sudhir Kumar, "[Design and Development of Improved Lantern for Rural Areas](#)", Published by NARI, Phaltan, Dec. 1987.
7. Rajvanshi, A.K. and S.M.Joshi, "[Development and Operational Experience with Topless Wood Gasifier Running a 3.75 kW Diesel Engine Pumpset](#)", Biomass, 19 (1989), pg.47-56
8. Jorapur, R. M. and Rajvanshi, A. K., "[Alcohol Distillation by Solar Energy](#)", Proceedings of 1991 ISES Solar World Congress, Vol. I, Part II (pg. 772-777) Denver, Colorado, U.S.A., August 19-23, 1991.
9. Rajvanshi, A. K. and Zende, N. J., "[Production of Water from Soil by Solar Energy for Biomass Energy Plantation](#)", Proceedings of 1991 ISES Solar World Congress, Vol. I, Part II (pg. 843-848) Denver, Colorado, U.S.A., August 19-23, 1991.
10. Rajvanshi, A. K., "[Development of Technologies for Rural Areas - Need for New Thinking](#)", 'Moving Technology', Vol. 7, No. 1, CAPART, New Delhi. March 1992.
11. Jorapur, R.M. and A.K.Rajvanshi, "Development of a sugarcane leaf gasifier for electricity generation", Biomass and Bioenergy, Vol 8, Issue 2, 1995. pg 91-98.
12. Rajvanshi, A. K., "[Energy Self Sufficient Talukas - A Solution to National Energy Crisis](#)", Economic and Political Weekly, Vol. XXX, No. 51, pp. 3315-3319, Dec 23, 1995.
11. Rajvanshi, A. K., and Nimbkar, N., "[Sweet Sorghum R & D at the NARI](#)" Paper presented at First European Seminar on Sorghum for Energy and Industry held at Toulouse, France, 1-3, April 1996.
12. Jorapur, R.M. and Rajvanshi, A. K., "[Sugarcane Leaf-Bagasse Gasifiers for Industrial Heating Applications](#)", Biomass and Bioenergy, Vol. 13, No. 3, pp. 141-146, 1997.
13. Rajvanshi, A.K., "[Talukas can provide critical mass for India's sustainable development](#)", Current Science, Vol. 82, No. 6, 25 March 2002.

14. Rajvanshi, A.K., "[Electric and improved cycle rickshaw as a sustainable transport system for India](#)", Current Science, Vol. 83, No. 6, 25 September 2002.
15. Rajvanshi, A.K., "[R&D strategy for cooking and lighting energy for rural households](#)", Current Science, Vol. 85, No. 4, 25 August 2003.
16. Nandini Nimbkar and Anil K Rajvanshi, "[Sweet Sorghum Ideal for Biofuel](#)", Seed World, Vol. 14, No. 8, November 2003.
17. Rajvanshi, Anil K., "[Solar Detoxification of Distillery Waste.](#)" June 2004.
18. Rajvanshi, A.K., "[Safflower Petal Collector](#)", Presented in International Safflower conference, Istanbul, Turkey, June 2005.
19. Lindner, A., Stanfill, K., Hodges, M. and Rajvanshi, Anil K. "Expanding the Boundaries of Design of Products and Processes for Solutions to Problems in Developing World", Proceedings of 9th International Conference on Engineering Education (ICEE), Paper R3F-16, San Juan, PR, USA. July 23-28, 2006.  
<http://www.ineer.org/Events/ICEE2006/papers/3468.pdf>
20. Rajvanshi, A.K., "[Biofuels - promise and prospect](#)". A thematic talk given at National seminar entitled 'Changing Global Vegetable Oils Scenario: Issues and Challenges before India' in Hyderabad. January 19-21, 2007.
21. Rajvanshi, A.K., S.M. Patil and B.Mendoca, "[Development of Stove running on low ethanol concentration](#)", Energy for Sustainable Development, Volume XI No.1, March 2007.
22. Rajvanshi, Anil K., "[Nikola Tesla-The creator of electric age](#)". An article published in Resonance, March 2007.
23. Rajvanshi, Anil K., "[Energy for rural poor – Challenge for the global community](#)". Current Science, Vol.93, No.5, 10 September 2007.
24. Rajvanshi, Anil K., "[Irving Langmuir - An Industrial Physical Chemist](#)". An article published in Resonance, July 2008.
25. Rajvanshi, Anil K., "[Langmuir approach to rural development](#)". Current Science, Vol.95, No.7, 10 October 2008.
26. Rajvanshi, Anil K., "[Ethanol lantern cum stove for rural areas](#)". An article on the new development of lantern cum stove running on low-grade ethanol, January 2009.
27. Rajvanshi, Anil K., "[Lanstove for Rural Households](#)", An article on kerosene lanstove, February 2011. A version of this article was presented as poster in *Indoor Air 2011*, held in Austin, Texas, June 2011.
28. Nimbkar N. and Rajvanshi, Anil K., "[Simple filtration and low temperature sterilization of water](#)". Current Science, Vol. 104, No. 3, 25 February 2013.
29. Rajvanshi, Anil K., "[Kerosene revisited – an excellent fuel for rural households](#)", Current Science, Vol. 105, No.4, 25 August 2013.
30. Rajvanshi, Anil K., et al. "[A simple technique for measuring soot](#)". September, 2013.
31. Rajvanshi, Anil K., "[Diesel as a household fuel for rural areas](#)". April 2015.
32. Rajvanshi, Anil K., et al. "[Low cost solar water purifier for rural households](#)". May 2015.
33. Rajvanshi, Anil K., "[The Consciousness Conundrum](#)". NATURE (India). 17 December 2015.
34. Rajvanshi, Anil K., "[Roadmap for Rural India](#)", Current Science, Vol. 111, No. 1, 10 July 2016.
35. Rajvanshi, Anil K., "[Erich Farber \(1921-2017\)](#)", Current Science, Vol. 112, No.11, 10 June 2017.

## PAPERS, BLOGS, ETC.

More than [160 in various national, international journals](#), conferences proceedings and technical reports, including 30 editorial articles on energy, spirituality and sustainability in some of the leading newspapers and magazines of India; [blog on Spirituality in Speaking Tree](#) ; [Blogs in Huffington Post](#).

## BOOKS AND CHAPTERS IN BOOKS

- Book entitled "[Nature of Human Thought](#) - Essays on Mind, matter, Spirituality and Technology". Second edition. Published by NARI, India. (October 2010).
- "[Biomass Gasification](#)" in a book *Alternative Energy in Agriculture*", published by CRC Press, U.S.A. (1987)
- A Chapter entitled "**Sustainable Energy Development -- A Gandhian Approach**" in a book *Gandhi in 21st Century*, published by Prachee Publications, Hyderabad (1999).
- Book entitled "[1970s America – An Indian student’s journey](#)". Published by NARI, India (November 2007).
- An article entitled "[Sustainable Development – the Gandhian Way](#)" in a book [Timeless Inspirator – Reliving Gandhi](#), (Ed. R.M. Mashelkar). Published by Sakal Publications, Pune (October 2010).
- "[Romance of Innovation- A human interest story of doing R&D in rural setting](#)". An e-book published by NARI and available free on the internet. (June 2014)
- "[A life of an ordinary Indian – An exercise in self-importance](#)". Autobiography (e-book). Published by NARI. May 2016.

**Patents: Seven (7)** on gasification, effluent treatment, lanterns, ethanol stove and efficient electric rickshaws.

## INVITED LECTURES

Given at large number of organizations and institutes in **INDIA** like [PAN IIT](#); [I.I.T., Bombay](#); IIM, Lucknow; Indira Gandhi Institute of Development Research (IGIDR), Bombay; **TERI**, New Delhi; **I.I.Sc.**, Bangalore; Staff College, Hyderabad; Centre of Cellular & Molecular Biology (CCMB), Hyderabad; [BARC](#), Mumbai; **R&D (E) -a DRDO Lab**, Pune; [TIFR](#); Mumbai; [ORF, Mumbai](#); **Indian Institute of Mines**, Dhanbad, [SKDU, Gujarat](#); [Railway Staff College](#), Vadodara; etc.

In **U.S.A.** invited lectures given at **University of California**, Berkeley; **MIT**, Boston; **University of California**, Davis; **University of Florida**, Gainesville; **Carleton College**, Minnesota; University of South Florida (**USF**), Tampa; **N.C. State A &M**, Greensboro, etc. Chaired various sessions in National and International conferences.

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