

## Profile of Dr. R. Venkata Rao



1. **Name in full** : Dr. RAVIPUDI VENKATA RAO
2. **Father's Name** : Shri R.L. Narayana
3. **Present Postal Address:**  
**Dr. R. Venkata Rao**  
**Professor, Department of Mechanical Engineering**  
S. V. National Institute of Technology, Surat  
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6. Nationality : Indian
7. Date of Birth : 04-07-1967
8. Date of Superannuation : 03-07-2032
9. **Educational Qualifications** :

Degree	Division/Grade	Year	Subjects Taken	Name of the University/Institute
S.S.C	First Class (76.8%)	1982	Maths, Sciences, etc.	Board of Secondary Education, Andhra Pradesh
Intermediate	First Class (78.5%)	1984	Maths, Sciences, etc.	Board of Intermediate Education, Andhra Pradesh
B. Tech. (Mech. Engg.)	First Class with Distinction (79.3%)	1988	Mechanical Engg.	Nagarjuna University, A.P.
M. Tech. (Mech. Engg.)	CGPA=9.23/10	1991	Production Engineering Specialization	Banaras Hindu University, Varanasi, U.P.
Ph.D.	Degree was Awarded	2002	Mechanical Engineering	B.I.T.S., Pilani, Rajasthan (Under the sole guidance of Dr O.P. Gandhi of IIT Delhi)

**10. Field of Specialization:** Mechanical Engineering with Production Engineering Specialization

**11. Professional Experience :**

Address of the Institution	Post Held	Duration	Nature of Experience
Sardar Vallabhbhai National Institute of Technology (SV NIT) Surat (Govt. of India's Institution of National Importance)	Professor (Completed a term of <b>3 years as Head of the Department of Mech. Engg.</b> )	Since November 2006	(i) Teaching courses to the UG, PG and Ph.D. students (ii) Conducting Research at PG and Ph.D. Levels (iii) Administrative works
Shri Mata Vaishno Devi University, Kakrial, J&K	Professor & <b>Dean</b>	1 ½ years (2005 to 2006)	(i) Taught courses to the students of M.Tech. (Energy Management) (ii) Conducted Research at PG and Ph.D. Levels (iii) Administrative works
Kumaraguru College of Technology (KCT), Coimbatore, Tamilnadu	Professor & <b>Head</b>	2 Years (2003 to 2005)	(i) Taught courses to the students of M.Tech. (Industrial Engg.) and M.Tech. (CAD/CAM) programs (ii) Conducted Research at PG and Ph.D. Levels (iii) Administrative works
Beant College of Engg. & Technology, Gurdaspur, Punjab (Punjab State Government's College)	Asst. Professor & <b>Coordinator of the Dept.</b>	7 years (1996 to 2003)	(i) Taught courses to the students of B.Tech. (Mech. & Production Engg) & M.Tech. (Production Engg.) programs (ii) Conducted Research at PG Level (iii) Administrative works
Sant Longowal Institute of Engg. & Technology, Longowal, Punjab (Government of India's Institution)	Lecturer	5 ½ years (1991 to 1996)	(i) Taught courses to the students of B.Tech. (Mech. & Production Engg) (ii) Coordinated the industrial training programs of the undergraduate students

### **Considerable Recognitions:**

- Selected as a **Visiting Professor by MHRD, New Delhi to teach at AIT Bangkok, Thailand for one term of 16 weeks from August 2010 to December 2010.**
- Selected as a **Visiting Professor by MHRD, New Delhi to teach at AIT Bangkok, Thailand for one term of 16 weeks from Jan'08 to May'08.**
- Selected as a Visiting Professor by ISTE New Delhi for the academic year 2007-2008.
- Included in the panel of Expert Members, AICTE-NBA, India

### **12. Details of Research Publications : 223**

(A) International Journals :	66
(B) National Journals :	20
(C) International Conferences:	94
(C) National Conferences :	43

### **Books Published:**

#### **Books Published by Springer Verlag, London, UK:**

1. Decision Making in the Manufacturing Environment Using Graph theory and Fuzzy Multiple Attribute Decision Making Methods, **Springer-Verlag London, UK**, June 2007 (**cited by researchers 57 times as on August 31, 2011 {please refer to Google Scholar for details}**).
2. Advanced Modeling and Optimization of Manufacturing Processes: International Research and Development. **Springer-Verlag London, UK**, December 2010 (**Refer to www.springerlink.com for details}**).
3. Mechanical Design Optimization Using Advanced Optimization Techniques. **Springer-Verlag London, UK (in press).**

#### **Book Chapters published by International Publishers**

1. Multi-objective optimization of multi-pass milling process parameters using artificial bee colony algorithm. Artificial Intelligence in Manufacturing, **Nova Science Publishers, USA**
2. Process parameter optimization of advanced finishing processes using PSO and SA algorithms. Artificial Intelligence in Manufacturing, **Nova Science Publishers, USA**
3. Modeling and optimization of parameters of GMAW process. Optimization Methods in Manufacturing, **IGI Global Publishers, USA.**
4. Vendor selection in supply chain using particle swarm optimization algorithm, **Excel Books, India**

#### **Books Published by Indian Publishers:**

1. Fundamentals of Machining and Machine Tools. S.K.Kataria and Sons Publishers, New Delhi, 1997.
2. Metal Cutting and Machine Tools. S.K.Kataria and Sons Publishers, New Delhi, 1998.
3. Design and Manufacturing. S.K.Kataria and Sons Publishers, New Delhi, 1998.

### **13. Relevant Information:**

#### **(a). Major Administrative Responsibilities**

- Head, Mechanical Engineering Department at SV NIT Surat for a term of 3 years (2007-2010)
- Dean, College of Engineering at SMVD University, Jammu (July 2005 – November 2006)
- Head, Mechanical Engineering Department (PG Stream) at Kumaraguru College of Technology, Coimbatore (2003 – 2005)
- Head, Mechanical & Production Engineering Department at BCET Gurdaspur (during May 2001 – May 2003)
- Warden, Boys Hostel at SLIET Longowal (during 1994 - 1996)
- Worked either as a Chairman or Member of various committees constituted at department and at institute level at SMVD University and at SVNIT Surat.

#### **(b). Awards:**

- “Rashtriya Gaurav” award by the India International Friendship Society, New Delhi
- Received “Best Research Paper Award” of ISNT Journal, India for 2010
- Received the “Meritorious Award” from IIAS Canada in 2008 for innovative research work
- Received ‘Best Research Paper Award’ of IIIE Journal, India for 2006
- Received ISTE-New Delhi National Award for the year 2001 for "Best Research Work Done"
- Received Gold Medal for B. Tech. Studies
- Topped throughout the academic career during studies and received merit scholarships by the State Govt. of A. P., India

#### **(c). Conferences conducted:**

##### *National Conferences:*

- National Conference on “Environmentally Conscious Design and Manufacturing” (23-24 July 2004)
- National Conference on “Emerging Trends in Mechanical Engineering” during 4-5 June 2007
- National Conference on “Recent Trends in Design and Manufacturing Technologies” (17-18 March 2005)

##### *International Conferences:*

- International Conference on Advances in Mechanical Engineering (ICAME 2008) held at SVNIT Surat during 15-17 December 2008
- Second International Conference on Advances in Mechanical Engineering (ICAME 2009) held at SVNIT Surat during 3-5 August 2009
- Third International Conference on Advances in Mechanical Engineering (ICAME 2010) held at SVNIT Surat during 4-6 January 2010

- Fourth International Conference on Advances in Mechanical Engineering (ICAME) held at SVNIT Surat during 23-25 September 2010
- Fifth International Conference on Advances in Mechanical Engineering (ICAME) held at SVNIT Surat during 06-08 June 2011

**(d). Editorship of International Journals (Editor-in-Chief/Guest Editor):**

- International Journal of Applied Evolutionary Computation, IGI Global Publishers, USA (**Associate Editor**)
- International Journal of Materials, Manufacturing and Mechanical Engineering, IGI Publishers, USA (**Associate Editor**)
- International Journal of Mechatronics and Intelligent Manufacturing, Nova Science Publishers, USA (**Guest Editor**: 2 issues)
- International Journal of Design Engineering, Inderscience Publishers, UK (**Guest Editor**: 1 issue)
- International Journal of Machining and Machinability of Materials, Inderscience Publishers, UK (**Guest Editor**: 1 issue)
- International Journal of Materials and Engineering Innovation, Inderscience Publishers, UK (**Guest Editor**: 2 issues)
- International Journal of Manufacturing Technology and Industrial Engineering, Serials Publications, New Delhi (**Editor-in-Chief**)
- International Journal of Advanced Manufacturing Systems, Serials Publications, New Delhi (**Editor-in-Chief**)
- International Journal of Advances in Thermal Sciences and Engineering, Serials Publications, New Delhi (**Editor-in-Chief**)

**(e). Editorial Board Membership of International Journals:**

- International Journal of Mechatronics and Manufacturing Systems, Inderscience Publishers, UK
- International Journal of Mechatronics and Intelligent Manufacturing, Nova Science Publishers, USA
- International Journal of Sustainable Engineering and Renewable Energy, Nova Science Publishers, USA
- International Journal of Machining and Forming Technologies, Nova Science Publishers, USA
- International Journal of Decision Support Systems Technology, IGI Publishers, USA.
- International Journal of Modern Manufacturing Technology, Serial Publications, New Delhi
- International Journal of Network and Mobile Technologies, HPU, Hong Kong
- International Journal of Engineering Project, Production Management, NUS Singapore

**Editorial Board Membership of National Journals:**

ISST Journal of Mechanical Engineering, Ghaziabad

**(f). Reviewer of International Journals:**

- IIE Transactions-Design & Manufacturing, Taylor & Francis, UK
- International Journal of Production Research, Taylor & Francis, UK
- International Journal of Engg. Tribology, IMechE, UK
- International Journal of Advanced Manufacturing Technology, Springer, UK
- International Journal of Robotics& Computer Integrated Manufacturing, Elsevier, USA.
- International Journal of Machining and Machinability of Materials, Inderscience, UK.
- International Journal of Materials & Product Technology, Inderscience, UK.
- International Journal of Mechatronics and Manufacturing Systems, Inderscience, UK.
- Journal of Indian Institute of Science (IISc), Bangalore, India
- Journal of Materials Processing Technology, Elsevier, USA
- Journal of Engineering Manufacture, IMechE, UK
- International Journal of Vehicle Design, Inderscience, UK
- International Journal of Computers & Industrial Engineering, Elsevier, USA
- International Journal of Mathematical and Computer Modeling, Elsevier, USA
- International Journal of Applied Thermal Engineering, Elsevier, USA
- International Journal of Management Research News, USA
- ASME Journal of Mechanical Design, ASME, USA
- International Journal of Production Research, Taylor & Francis, UK
- European Journal of Industrial Engineering, Inderscience, UK
- International Journal of Manufacturing Research, Inderscience, UK
- Journal of Intelligent Manufacturing, Springer, UK
- International Journal of Decision Support Systems and Technology, USA
- International Journal of Information Technologies and Systems Approach, USA
- International Journal of Applied Mathematical Modeling, Elsevier, USA.
- International Journal of Decision sciences, Elsevier, USA.
- International Journal of Approximate Reasoning, Elsevier, USA.
- Journal of Heat and Mass Transfer, Springer, Germany.
- International Journal of Mechanics of Time-Dependant Materials, Springer, UK
- International Journal of Applied Mathematical Modeling, Elsevier, USA
- International Journal of Industrial Engineering Computations, Canada
- IEEE Conferences on Automation Science and Engineering

**(g). Short Term Training Programs Organized: 15**

**(h). Expert Lectures Delivered: More than 100**

**(i). Membership of Professional Societies:**

- Life Member, Indian Society of Technical Education (ISTE)
- Life Member, Indian Institution for Industrial Engineering (IIIE) Navi Mumbai
- Executive Council Member of IIIE during 2008-2009
- Life Member, Indian Society of Mechanical Engineers (ISME), New Delhi
- Life Member, Institution of Engineers (India), Kolkata
- Associate Member, IMechE, UK

**(j). Research projects completed:** 3 (Completed) + 2 (ongoing)

**(k). International Collaboration Research Projects/Workshops:**

- **Indo-Austrian Joint Research Project** on “Environmentally Conscious Design and Manufacturing of Products – Application of MADM Methods”  
Project Status: Ongoing  
Funding Agency: DST, India & BMWF, Austria  
Duration: 2 years (2011-2013)  
Sanctioned amount: Rs. 8,00,000  
Co-Investigator: Prof. F.Bleicher, Technical University of Vienna, Austria
- **Indo-Russian Joint Research Workshop:** on “Computational Intelligence and Modern Heuristics on Automation and Robotics”  
Funding Agency: DST, India & RFBR, Russia  
Co-Investigator: Prof. Vadim Zhmud, Novosibirsk State Technical University, Russia  
Workshop was held successfully during 20-22 September 2010
- **Second Russian-Indian Joint Research Workshop:** on “Computational Intelligence and Modern Heuristics on Automation and Robotics”  
Funding Agency: DST, India & RFBR, Russia  
Co-Investigator: Prof. Vadim Zhmud, Novosibirsk State Technical University, Russia  
The joint Workshop was held successfully during 10-13 September 2011

**(l). No. of Ph.D. candidates guided:** 04 (awarded) + 07 ongoing

**(m). Countries visited:** Hong Kong (2), Czech Republic, Russia (2), Thailand(2), Germany(2), Singapore(2), South Korea, Turkey, and Ukraine

**(n). Nominated by MHRD New Delhi** and attended 3 Regional Programs conducted by CPSC Manila, Phillipines on “TVET Education for Principals and Instructors” in Singapore (2011), “Public-Private-Community-Partnership (PPCP)” in South Korea (2009) and “Enhancing Pedagogical Skills” in Singapore (2008). Country papers related to “TVET system in India” and “PPCP status in India” were presented by me during the programs.

**Selected Research Papers Published in Refereed International Journals  
During 2010-2011**

<b>Title of Paper</b>	<b>Authors</b>	<b>Journal</b>	<b>Page No.</b>	<b>Year</b>
Parameter optimization of machining processes using a new optimization method	R. V. Rao V.D.Kalyankar	Materials & Manufacturing Processes ( <b>Taylor &amp; Francis, UK</b> )	Accepted for publication	2011
Industrial robot selection using a novel decision making method	R. V. Rao, B.K. Patel, M. Parnichkun	Robotics and Autonomous Systems ( <b>Elsevier</b> ), 59(6)	367-375	2011
Multi-objective optimization of combined Brayton and inverse Brayton cycle using advanced optimization algorithms	R. V. Rao, V.K.Patel	Engineering Optimization ( <b>Taylor &amp; Francis, UK</b> )	Accepted for publication	2011
Design of cooling tower using artificial bee colony algorithm	R. V. Rao, V.K.Patel	Energy Conversion and Management ( <b>Elsevier</b> ), 52(7), 2011	2611-2622	2011
Evaluating flexible manufacturing systems using Euclidean distance-based integrated approach	R. V. Rao D.singh	International Journal of Decision Sciences, Risk and Management ( <b>Inderscience, UK</b> ), 3(1/2)	32-53	2011
Design optimization of shell and tube heat exchangers using swarm optimization algorithms	R. V. Rao V.K. Patel	Journal of Power and Energy ( <b>IMechE, UK</b> ), 225(5), 2011,	619-634	2011
Design optimization of rotary generator using artificial bee colony algorithm	R. V. Rao V.K. Patel	Journal of Power and Energy ( <b>IMechE, UK</b> )	Accepted, doi: 10.1177/0957650911407817,	2011
Teaching-learning-based-optimization: a novel method for constrained mechanical design problems	R. V. Rao, V.J.Savsani D.P.Vakharia	Computer-Aided Design ( <b>Elsevier</b> ), 43(3)	303-315	2011
A novel optimization method for continuous non-linear large scale problems	R. V. Rao V.J.Savsani D.P.Vakharia	Information Systems ( <b>Elsevier</b> )	Accepted for publication, DOI:10.1016/J.INS.2011.08.006	2011
Novel method for decision making in the manufacturing environment	R. V. Rao B.K. Patel	Journal of Engineering Manufacture ( <b>IMechE, UK</b> ), 225(3)	422-434	2011
Euclidean distance based approach as a multiple attribute decision making method for manufacturing situations	R. V. Rao D.Singh	International Journal of Multicriteria decision making ( <b>Inderscience, UK</b> )	Accepted for publication	2011
A hybrid multiple attribute decision making method for solving problems of	R. V. Rao D.Singh	International Journal of Industrial Engineering Computations, 2	631–644	2011

industrial environment				
A subjective and objective integrated multiple attribute decision making method for material selection	R. V. Rao B.K. Patel	Materials and Design <b>(Elsevier)</b> , 41(10)	4738-4747	2010
Parameter optimization of a multi-pass milling process using non-traditional optimization algorithms	R. V. Rao, P. J. Pawar	Applied Soft Computing <b>(Elsevier)</b>	10 (2), 445-456	2010
Grinding process parameter optimization using non-traditional optimization algorithms	R. V. Rao P.J. Pawar	Journal of Engineering Manufacture <b>(IMechE, UK)</b> , 224(6)	887-898	2010
Multi-objective Optimization of Grinding Process Parameters Using Particle Swarm Optimization Algorithm	R. V. Rao P.J. Pawar	Materials and Manufacturing Processes <b>(Taylor &amp; Francis, UK)</b> , 25(6)	424-431	2010
A decision-making methodology for best product End-Of-Life scenario selection using an improved compromise ranking method	R. V. Rao, T.S.Rajesh	International Journal of Sustainable Design <b>(Inderscience, UK)</b> , 1(3)	278-292	2010
An improved grey relational analysis as a decision making method for manufacturing situations	R. V. Rao, D. Singh	International Journal of Decision Sciences, Risk and Management <b>(Inderscience, UK)</b> , 2(1/2)	1-23	2010
Optimization of process parameters of mechanical type advanced machining processes using a simulated annealing algorithm	R. V. Rao, P.J. Pawar, J. P. Davim	International Journal of Materials and Product Technology <b>(Inderscience, UK)</b> , 37(1/2)	83-101	2010
Optimal weight design of a gear train using particle swarm optimization and simulated annealing algorithms	R. V. Rao, V. J. Savsani D. P. Vakharia	Mechanisms & Machine Theory <b>(Elsevier)</b> , 45(3)	531-541	2010
Selection of best product end-of-life scenario using digraph and matrix methods	R. V. Rao. K.K. Padmanabhan	International Journal of Engineering Design <b>(Taylor &amp; Francis, UK)</b> , 21(4)	455-472	2010
Process parameters modeling and optimization of wire electric discharge Machining.	R. V. Rao P.J. Pawar	Advances in Production Engineering and Management (University of Maribor Press, Slovenia), 5(3)	139-150	2010
Parameter optimization of an injection molding process using artificial bee colony algorithm.	R. V. Rao P.J. Pawar	Journal of Mechatronics and Intelligent Manufacturing <b>(Nova Science, USA)</b> , 2 (1-2).	68-73	2010
Thermodynamic optimization of cross flow plate-fin heat exchanger	R. V. Rao V.K. Patel	International Journal of Thermal Sciences <b>(Elsevier)</b> , 49(9)	1712-1721	2010

using a particle swarm optimization algorithm				
Design of shell and tube heat exchanger using particle swarm optimization technique.	R. V. Rao V.K. Patel	Applied Thermal Engineering ( <b>Elsevier</b> ), 30(11-12)	1417-1425	2010
Decision making in the manufacturing environment using improved ELECTRE method.	R. V. Rao B.K. Patel	International Journal of Manufacturing Technology and Industrial Engineering (Serials Publications, New Delhi), 1(1).	82-88	2010
Selection of an Optimized Maintenance Strategy for Petrochemical Industry using a Combined MADM Method.	R. V. Rao T.S.Rajesh	International Journal of Advanced Manufacturing Systems (Serials Publications, New Delhi), 1(1).	91-101	2010
Decision making in the manufacturing environment using an improved PROMETHEE method	R.V. Rao, B.K. Patel	International Journal of Production Research ( <b>Taylor &amp; Francis, UK</b> ), 48(16)	4665-4682	2010