

HARSHA VARDHAN

1. Personal Details

1	Name	Dr. Harsha Vardhan
2	Date of birth	22-02-1973
3	Place of birth	Ghazipur, Uttar Pradesh
4	Present Position Held	Associate Professor
5	Address	Official Address: Department of Mining Engineering National Institute of Technology Karnataka, Surathkal P.O- Srinivasnagar Pin – 575025 (D.K) Mangalore; Karnataka Residential Address: Qr. No. AP- 27; 5 th Main, 3 rd Cross, National Institute of Technology Karnataka, Surathkal Campus P.O- Srinivasnagar Pin – 575025 (D.K) Mangalore; Karnataka
6	Tel no.	0824-2474000 Extn. 3373 (Office) 0824-2474373 (Residence) 9449084373 (Mobile)
7	E-mail	harshanitk@gmail.com

2. Academic Qualifications

Period	Qualification	University / Institute/ Board	Subject / field
2006	Ph. D	Indian School of Mines, Dhanbad	Mining Engineering
1996	B. E	National Institute of Technology Karnataka, Surathkal	Mining Engineering
1991	AISSCE	CBSE, New Delhi	XII Standard
1989	AISSE	CBSE, New Delhi	X Standard

3. Professional Career

Period	Years	Organization	Designation	Nature of work / responsibility
27-11-2010 till date	-	NITK Surathkal	Associate Professor (Order No.768/Enhance AGP/Estt./2011/B1 Dated 12-07-2011)	Teaching, Research and Consultancy

27-11-2007 to 26-11-2010	03 Years	NITK Surathkal	Assistant Professor of 5 th CPC under Regular Basis (Order No. 5211/Estt./2007/B1 dated 27-11-2007)	Teaching, Research and Consultancy
16-11-2004 to 26-11-2007	03 Years 10 Days	NITK Surathkal	Senior Lecturer under Career Advancement Scheme (Order No. BOG/Estt./2007/B1 Dated 13-03-2007)	Teaching and Research
16-11-1998 to 15-11-2004	05 Years 29 Days	NITK Surathkal	Lecturer (Order No. 2768/1998/B1 Dated 14-11- 1998)	Teaching and Research
02-09-1998 to 15-11-1998	02 Months 13 Days	NITK Surathkal	Temporary Assistant Lecturer (Order No. 2768/1998/B1 Dated 02-09-1998)	Teaching
04-06-1998 to 01-09-1998	02 Months 27 Days	NITK Surathkal	Research Assistant (Order No. 4358/MED/RS Project/98- 99/B3 Dated 04-06-1998)	Research
27-02-1998 to 03-06-1998	03 Months 06 Days	NITK Surathkal	Temporary Assistant Lecturer (Order No. 6296/1997/B1 Dated 27-02-1998)	Teaching
16-08-1996 to 26-02-1998	01 Year 6 Months 10 Days	Mysore Minerals Limited (A Govt. of Karnataka Undertaking)	Graduate Management Trainee (Order No. PER/197/GEN/96-97/1400 Dated 03-07-1996)	As Mining Engineer in the field/mines

Profile professional career/life sketch : (Write-up not to exceed 300 words)

I belong to a middle class family. I was born in a village in Uttar Pradesh. I did my schooling from Kendriya Vidyalaya Maligaon Guwahati, Assam (1st standard to 12th standard). I completed my B. Tech Mining Engineering from NITK Surathkal in 1996 and worked with Mysore Minerals Limited (A Govt. of Karnataka Undertaking) for around 1 ½ years. I had a keen interest for teaching and research. I got the opportunity to join NITK Surathkal in 1998 (First on temporary basis for few months and latter got confirmed in the same year). I completed my Ph. D from Indian School of Mines, Dhanbad in 2006. At present I am working as Associate Professor in the Department of Mining Engineering, NITK Surathkal.

Government of Karnataka entrusted a very important assignment for carrying out lease boundary survey of Bellary, Chitradurga and Tumkur districts to the Department of Mining Engineering, NITK Surathkal with me as my team leader. Our team provided technical assistance to Central Empowered Committee appointed by Hon'ble Supreme Court of India. I can only say that we carried this work with utmost dedication, sincerity and integrity.

I don't want to elaborate here anymore on my professional career as the total details are given in this application.

I am a silent worker and believe in hard work. I love nature a lot. I got married in 2000 with Archana and have two daughters Riya Vardhan and Rushali Vardhan.

4. Area of Professional Activity

- Geological Science/Earth Science
- Engineering Science

5. Research Papers/ Publications

5.1 Summary of Publications

	Publications	Numbers
a	Papers published in journals	40: Peer reviewed International and National Journals
b	Papers published in conferences / seminars	32
c	Articles published in newsletter / bulletin	02
d	Books	02
e	Chapters in Books	01
f	Reports	05: R&D Project Reports 20: Consultancy Project Reports
g	General / popular articles	04
h	Other types publications, if any	11: Non-referred Journals
i	Patents granted	NIL

5.2 Details of Publications

a. Papers published in journals

(i) International Journals (Peer-reviewed)

Name of all the authors as they appear in each paper	Title of the paper	Name of the journal, volume, year and page
Vardhan, H., Adhikari, G. R. and Govinda Raj, M.	Estimating rock properties using sound levels produced during drilling	International Journal of Rock Mechanics and Mining Sciences; 2009; Elsevier; Vol.46(3); pp. 604-612. (Five Year Impact Factor: 1.600; H Index: 49)
Rajesh Kumar, B., Vardhan, H., Govindaraj, M. and Vijay, G. S.	Regression analysis and ANN models to predict rock properties from sound levels produced during drilling	International Journal of Rock Mechanics and Mining Sciences; 2013; Elsevier; Vol.58(1); pp. 61-72. (Five Year Impact Factor: 1.600; H Index: 49)
Rajesh Kumar, B., Vardhan, H. and Govindaraj, M.	Estimating rock properties using sound level during drilling: Field investigation	International Journal of Mining and Mineral Engineering; 2010; Inderscience; Vol.2(3); pp. 169-184.
Rajesh Kumar, B., Vardhan, H. and Govindaraj, M.	Prediction of uniaxial compressive strength, tensile strength and porosity of sedimentary rocks using sound level produced during rotary drilling	Rock Mechanics and Rock Engineering; 2011; Springer; Vol.44(5); pp.613-620. (Impact Factor: 0.990; H Index: 22)

Rajesh Kumar, B., Vardhan, H. and Govindaraj, M.	A new approach for estimation of properties of metamorphic rocks	International Journal of Mining and Mineral Engineering; 2011; Inderscience; Vol.3(2); pp. 109-123.
Rajesh Kumar, B., Vardhan, H. and Govindaraj, M.	Sound level produced during rock drilling vis-à-vis rock properties	Engineering Geology; 2011; Elsevier; Vol.123(4); pp. 333-337. (Five Year Impact Factor: 1.892; H Index: 48)
Vardhan, H. and Badal Yadav	An experimental study and analytical approach for estimating rock properties using sound levels from drilling	Exploration and Production: Oil and Gas Review; 2011; Touch Briefings; Vol.9(2); pp.25-28.
Rajesh Kumar, B., Vardhan, H. and Govindaraj, M.	Artificial neural network model for prediction of rock properties from sound level produced during drilling	Geomechanics and Geoengineering: An International Journal; 2013; Taylor and Francis; Vol. 8(1); pp. 53 - 61. (H Index: 6)
Vardhan, H. & Murthy, Ch. S. N.	An experimental investigation of jack hammer drill noise with special emphasis on drilling in rocks of different compressive strengths	Noise Control Engineering Journal – An International Publication; 2007; American Institute of Physics; Vol. 55(3); pp. 282-293. (Impact Factor: 0.317; H Index: 13)
Vardhan, H. , Karmakar, N.C. & Rao, Y.V.	Experimental study of sources of noise from heavy earth moving machinery	Noise Control Engineering Journal – An International Publication; 2005; American Institute of Physics; Vol. 53(2); pp. 37-42. (Impact Factor: 0.317; H Index: 13)
Vardhan, H. , & Adhikari, G. R.	Development of noise spectrum based maintenance guideline for reduction of heavy earth moving machinery noise	Noise Control Engineering Journal – An International Publication; 2006; American Institute of Physics; Vol. 54(4); pp. 236-244. (Impact Factor: 0.317; H Index: 13)
Kashinath Pal, Vardhan, H. and Aruna, M.	Investigation of contaminant transport in groundwater from the tailings pond of uranium mine: a case study	International Journal of Mining and Mineral Engineering; 2011; Inderscience; Vol.2(4); pp. 290-309.
Kashinath Pal, Deb, D., Vardhan, H. , Aruna, M. and Samanta, B.	Land use land cover changes in East Singhbhum mineralized zone: a case study	Disaster Advances; 2011; Vol.4(4); pp. 5-10. (Impact Factor: 0.407; H Index: 2)
Kashinath Pal, Vardhan, H. and Aruna, M.	Impact of pumping in open pit mining on groundwater flow: a case study	International Journal of Mining and Mineral Engineering; 2010; Inderscience; Vol.2(2); pp. 101-122.
Govindaraj, M., Vardhan, H. & Rao, Y. V.	Development of probabilistic simulation model for production optimization in open pit mines	Journal of Characterization and Development of Novel Materials; 2009; Vol. 1(1); pp. 49-70.

Govindaraj, M., Vardhan, H. & Rao, Y. V.	Production optimization using simulation models in mines – a critical review	International Journal of Operations Research; 2009; Inderscience; Vol. 6(3); pp. 330-359. (H Index: 8)
Vardhan, H. & Govindaraj, M.	An experimental investigation of the sound level produced by bulldozers with various maintenance schedules	International Journal of Vehicle Noise and Vibration; 2008; Inderscience; Vol. 4(2); pp. 107-122. (H Index: 3)
Vardhan, H.	Assessment of machine generated noise in opencast mines and development of suitable maintenance guidelines for its attenuation	Ph. D Thesis Abstract; Acta Acustica United with Acustica; The Journal of the European Acoustics Association (EAA) – An International Journal on Acoustics; 2007; S. Hirzel Verlag; Vol.92(6); November-December; pp. 1073-1074. (Impact Factor: 0.707; H Index: 21)
Vardhan, H., Karmakar, N.C. & Rao, Y.V.	Assessment of heavy earth-moving machinery noise vis-à-vis routine maintenance	Noise Control Engineering Journal – An International Publication; 2006; American Institute of Physics; Vol. 54(2); March-April; 2006; pp. 64-78. (Impact Factor: 0.317; H Index: 13)
Karmakar, N.C., Vardhan, H. & Rao, Y.V.	Studies of noise creating by air supply and emission systems of hard earth-moving machines	Mining Journal (Gornyi zhurnal) published by Ore and Metals Publishing House, Moscow, Russia in Russian Language; No. 10; 2005; pp. 96-98.
Vardhan, H., Rao, Y. V. & Karmakar, N.C.	Noise analysis of heavy earth moving machinery deployed in opencast mines and development of suitable maintenance guidelines for its attenuation – Part I	Noise and Vibration Worldwide; Vol. 35(8); September; 2004; pp. 11-24. (H Index: 5)
Vardhan, H., Rao, Y. V. & Karmakar, N.C.	Noise analysis of heavy earth moving machinery deployed in opencast mines and development of suitable maintenance guidelines for its attenuation – Part II	Noise and Vibration Worldwide; Vol. 35(9); September; 2004; pp. 15-28. (H Index: 5)
Vardhan, H., Rao, Y. V. & Karmakar, N.C.	Noise analysis of heavy earth moving machinery deployed in opencast mines and development of suitable maintenance guidelines for its attenuation – Part III	Noise and Vibration Worldwide; Vol. 35(10); November; 2004; pp. 7-14. (H Index: 5)
Vardhan, H., Karmakar, N.C. & Rao, Y.V.	Methodology for evaluation of noise levels emanated from mining machinery	Pollution Research – An International Publication; Vol. 23(2); 2004; pp. 295-301. (H Index: 14)
Vardhan, H., Karmakar, N.C. & Rao, Y.V.	Noise – its impact on miners – a critical review	Pollution Research – An International Publication; Vol. 22(3); 2003; pp. 311-325. (H Index: 14)

Kivade, S. B., Murthy, Ch. S. N. and Vardhan, H.	Central composite design in optimization of the pneumatic drilling operations and operating parameters	International Journal of Mining and Mineral Processing; International Science Press; Vol. 3(1); 2012; pp. 21-27.
Kivade, S. B., Murthy, Ch. S. N. and Vardhan, H.	Prediction of penetration rate and sound level produced during percussive drilling	International Journal of Mining and Mineral Processing; International Science Press; Vol. 3(1); 2012; pp. 13-20.
Masood, Vardhan, H. , Aruna, M. and Rajesh Kumar, B.	A critical review on estimation of rock properties using sound levels produced during rotary drilling	International Journal of Earth Sciences and Engineering; Cafet-Innova Technical Society; Vol. 5(6); pp. 1809-1814.

(ii) National Journals (Peer-reviewed):

Kivade, S. B., Murthy, Ch. S. N. and Vardhan, H.	Laboratory investigation on percussive drilling	Journal of the Institution of Engineers (India): Series D, Metallurgical, Materials and Mining Engineering 2014; Vol. 94(2); October 2013 to March 2014; pp. 81-87.
Kivade, S. B., Murthy, Ch. S. N. and Vardhan, H.	Assessment of noise and effect of thrust on penetration rate in percussive drilling	Journal of the Institution of Engineers (India); Mining Engineering Division; 2011; Vol. 91; February; pp. 3-7.
Vardhan, H. , Karmakar, N. C. & Rao, Y. V.	Noise assessment of dumpers under loaded and empty conditions	Journal of the Institution of Engineers (India); Vol. 88; August; 2007; pp. 41 - 44.
Vardhan, H. , Khare, S., Rao, Y. V. & Murthy, Ch. S. N.	Strategies for design of mine pillars in multiple coal seams through evaluation of inner-burden rock – an approach	Journal of the Institution of Engineers (India); Vol. 88; August; 2007; pp. 13 - 21.
Khare, S., Rao, Y. V., Murthy, Ch. S. N. & Vardhan, H.	Multiple seam mining – a critical review	Journal of Mines, Metals and Fuels; Vol. 54 (12); 2006; pp. 327-331. (H Index: 6)
Karmakar, N. C., Vardhan, H. & Rao, Y. V.	Periodic maintenance vis-à-vis HEMM noise – a critical analysis	Journal of Mines, Metals and Fuels; Vol. 54 (12); 2006; pp. 508-514. (H Index: 6)
Karmakar, N.C., Vardhan, H. & Rao, Y.V.	Noise exposure of operators at different operating conditions of heavy earth moving machinery (HEMM)	Journal of the Institution of Engineers (India); Mining Engineering Division; Vol. 85; February; 2005; pp. 30 - 32.
Vardhan, H. , Rao, Y.V. & Karmakar, N.C.	Assessment of machine generated noise in opencast mines and development of suitable maintenance	Journal of the Institution of Engineers (India); Mining Engineering Division; Vol. 84; February; 2004; pp. 25-37.

	guidelines for its attenuation	
Vardhan, H., Karmakar, N.C. & Rao, Y.V.	Occupational noise exposure – a case study	Special issue of The Institution of Public Health Engineers (India); 2004; pp. 126-137.
Vardhan, H., Karmakar, N.C. & Rao, Y.V.	Noise problem and its control for heavy earth moving machinery deployed in opencast mines – a critical review	Journal of Mines, Metals and Fuels; Vol. 52(11); November; 2004; pp. 360-375. (H Index: 6)
Vardhan, H., Karmakar, N.C. & Rao, Y.V.	Assessment of machine generated noise with maintenance of various heavy earthmoving machinery	Journal of the Institution of Engineers (India); Mechanical Engineering Division; Vol. 85; October; 2004; pp. 93-97.
Sastry, V.R. & Vardhan, H.	Dust problems in mechanized underground coal mines – a critical study	Journal of Mines Metals & Fuels; Vol. XLIX(12), December, 2001; pp. 469-475. (H Index: 6)

(iii) Non-referred journals

Kivade, S. B., Murthy, Ch. S. N. and Vardhan, H.	Study of noise sources in pneumatic rock drills – its effect and control – a critical review	The Indian Mining and Engineering Journal; 2011; Vol. 50(1); January; pp. 12-23.
Masood, Shivam, S., Vardhan, H., Aruna, M. and Animesh, R.	A critical review on the use of drilling fluids in mining, oil and gas industry	Mining Engineers Journal; 2011; Vol. 13(1); pp. 18 – 25.
Reddy, D. V, Murthy, Ch. S. N., Vardhan, H. & Aruna, M.	Advances and latest trends in exploration and exploitation of commercial rock deposits	Mining Engineers Journal; 2007; Vol. 9(2); September; pp. 24 – 32.
Sridhar, S., Vardhan, H. & Murthy, Ch. S. N.	Forecasting the demand and price of minerals and metals – a case study of aluminium	Mining Engineers Journal; 2006; Vol. 8(4); November; pp. 11-18.
Vardhan, H., Rao, Y. V. & Karmakar, N. C.	Acoustic analysis of sound insulation characteristics of heavy earth moving machinery deployed in opencast mining	Mining Engineers Journal; 2004; Vol. 6(3); October; pp. 13-15.
Vardhan, H., Rao, Y.V. & Mahto, S.S.	Clay mining – a case study	Mining Engineers Journal; 2003; Vol. 4(6); pp. 14-20.
Rao, Y.V., Vardhan, H. & Aruna, M.	Underground mine lighting and illumination survey	Mining Engineers Journal; 2001 September; 2001; pp. 12-22.
Rao, Y.V., Aruna,	Value engineering in	The Indian Mining and Engineering

M. & Vardhan, H.	mining industry	Journal; Vol. 39(5); May; 2000; pp. 33-35.
Vardhan, H. , Rao, Y.V., Sridhar,S. & Aruna, M.	Reliability evaluation and reliability centered maintenance of production equipment in mechanized opencast mines – a case study	Mining Engineers Journal; 2000; Vol. 1(9); April; 2000; pp. 17-20.
Vardhan, H. , Rao,Y.V. & Aruna, M.	Trends and development in truck transportation system	The Indian Mining and Engineering Journal; December; 1999; pp. 13-15.
Murthy, Ch. S.N., Vardhan, H. & Aruna, M.,	Control techniques for machinery noise reduction	The Indian Mining and Engineering Journal; October/November; 1999; pp. 17-21.

b. Papers published in conferences / seminars

Name of all the authors as they appear in each paper	Title of the paper	Name of the conference, year and page
Rajesh Kumar B., Vardhan, H. , Govindaraj, M.	Study of relationship between uniaxial compressive strength of metamorphic rock and sound levels produced during drilling	Proceedings of the International conference on Earth Science and Engineering (ICESE 2011), 20 th to 21 st Feb., 2011; Hong Kong, China; Paper No. 1214. (Peer Reviewed)
Rajesh Kumar B., Vardhan, H. , Govindaraj, M. and Badal Yadav	A field investigation on the study of relationship between universal compressive strength of the rock and the sound levels produced during drilling	Proceedings of the International conference on "Frontiers in Mechanical Engineering" at NITK Surathkal during 20 th and 22 nd May, 2010; pp. 228-233.
Vardhan, H. & Govindaraj, M.	A review of the impact of noise on miners	Proceedings of the International Workshop on "Winning Strategies to Revitalize the Mineral Sector (WSRMS 2009) at NITK Surathkal during 8 th and 9 th August, 2009; pp. 55-71.
Sridhar, S., Vardhan, H. & Aruna, M.	Growth strategies for mineral sector	Proceedings of the International Workshop on "Winning Strategies to Revitalize the Mineral Sector (WSRMS 2009) at NITK Surathkal during 8 th and 9 th August, 2009; pp. 126-130.
Vardhan, H. , Roy, S., Deka, G. K. & Paul, P.	Utilizing sea pressure as a source of power for autonomous underwater vehicles – an approach	International Conference on Energy Security and Climate Change (ESCC 2008), Bangkok, Thailand, 6 th to 8 th August; pp. 1-5. (Peer Reviewed)
Vardhan, H. ,	A critical analysis of heavy	Proceedings of The First European Forum

Rao, Y. V. & Karmakar, N. C.	earth moving machinery noise vis-à-vis periodic maintenance	on Effective Solutions for Managing Occupational Noise Risks; Lille; France; 3 rd to 5 th July; 2007; pp. 145-154. (Peer Reviewed)
Vardhan, H. , Rao, Y. V. & Karmakar, N. C.	Noise analysis of exhaust, air inlet and cooling fan of heavy earth moving machinery	Proceedings of The First European Forum on Effective Solutions for Managing Occupational Noise Risks; Lille; France; 3 rd to 5 th July; 2007; pp. 67-75. (Peer Reviewed)
Murthy, Ch. S. N., Vardhan, H. , Aruna, M. & Khare, S.	Innovations in mining industry – its impact on productivity and safety	Proceedings of ENTMS – 2006; pp. 99-104.
Murthy, Ch. S. N., Aruna, M., Vardhan, H.	Studies on seasonal variation of water quality of mine water	Proceedings of ENTMS – 2007; pp. 13-17.
Murthy, Ch. S. N., Rao, Y. V., Vardhan, H. & Khare, S.	Ergonomics in mining – an approach through virtual reality	Proceedings of the International Symposium on “Advances in Mining Technology and Management”; 30 th November to 2 nd December; IIT Kharagpur; 2005; pp. 569 – 573.
Ch. S. N. Murthy, Aruna, M., Vardhan, H. & Khare, S.	Air pollution and its control measures in mining industry	National workshop on “Pragmatic Management of Industrial Pollution (PMIP 2004)”; Jointly organized by NIT Rourkela and AICTE New Delhi; 20 th to 21 st November; NIT Rourkela; 2004; pp. 121-127.
Ch. S. N. Murthy, Rao, Y. V., Vardhan, H. & Khare, S.	Noise pollution and its control measures in mining industry	National workshop on “Pragmatic Management of Industrial Pollution (PMIP 2004)”; Jointly organized by NIT Rourkela and AICTE New Delhi; 20 th to 21 st November; NIT Rourkela; 2004; pp. 177-182.
Rao, Y.V., Vardhan, H. , & Aruna, M.	Optimization of production scheduling in opencast mines	Proceedings of the International Conference on Mechanization and Automation – The Future for Mineral Industry; Organized by the Mining, Geological and Metallurgical Institute of India, Calcutta; 26 th to 28 th July; 2001.
Rao, Y.V., Aruna, M. & Vardhan, H.	Calculation of volumes of overburden and mineral in opencast mines	Proceedings of the 4 th Indian Conference on Coal Mine Surveying – 2001; Organized by The Singareni Collieries Company Ltd. & The Institution of Surveyors, Hyderabad Branch; 21 st and 22 nd July; 2001; pp. 67-84.
Rao, Y.V., Aruna, M. & Vardhan, H.	Design and management of spoil dumps	Proceedings of the International Symposium on Geoenvironmental Reclamation; Nagpur; 20 th to 22 nd

		November; 2000; pp. 7-11.
Rao, Y.V., Vardhan, H. & Aruna, M.	Impact of human population on resources and ecosystems	Proceedings of the International Symposium on Geoenvironmental Reclamation; Nagpur; 20 th to 22 nd November; 2000; pp. 343-349.
Vardhan, H. , Aruna, M. & Rao, Y.V.	Post mining land use planning	Proceedings of the International Conference on Technology Management in Mining, Processing & Environment; IIT Kharagpur; 1 st to 3 rd December; 2000.
Vardhan, H. , Aruna.M & Sastry V. R.	Improving the efficiency of tunneling: role of effective ventilation planning	International Conference on Tunneling Technology; Goa; 28 th to 30 th September; 2000.
Vardhan, H. , Jagannath, S. & Rao, Y.V.	A computer technique for calculation of heat load into an underground mine	Proceedings of the First International Mine Environment and Mine Ventilation Symposium; ISM Dhanbad; 11 th to 12 th December; pp. 23-24.
Rao, Y. V., Aruna, M. & Vardhan, H.	Design, construction and rehabilitation of spoil dumps – a case study	Proceedings of the International Conference on Environmental Issues and Management of Waste in Energy and Mineral Production – (SWEMP 2000); Calgary, Alberta, Canada; 30 th May to 2 nd June; 2000; pp. 165-169. (Peer Reviewed)
Vardhan, H. , Aruna.M. & Rao Y.V.	Blast casting- a economic technique for sidcasting overburden	Proceedings of the National Seminar on Specific Problems in Mining – Both for Coal & Non-Coal Mines; Puri; 24 th to 25 th September; 2000.
Rao, Y. V., Aruna, M. & Vardhan, H.	Off-the road tyres: care, maintenance and management	National Seminar on Specific Problems in Mining – Both for Coal and Non-Coal Mines; Organized by The Mining Engineers Association of India; Bhubaneswar; 24 th to 25 th September.
Rao, Y.V., Vardhan, H. & Aruna, M.	Selective inventory control – a case study	Proceedings of the International Conference on Management of Mining Machinery (MMM-99); Organized by The Mining, Geological and Metallurgical Institute of India (MGMI); Calcutta; 8 th to 10 th July, 1999; pp. 85-96.
Rao, Y.V., Vardhan, H. & Aruna, M.	Development of intelligent support system for vibration controlled blast design	Proceedings of the International Conference on Rock Engineering Techniques for Site Characterization (ROCKSITE -99); Organized by National Institute of Rock Mechanics (NIRM) and Norwegian Geotechnical Institute, NORWAY; 6 th to 8 th December; Bangalore, 1999; pp. 601-607. (Peer

		Reviewed)
Vardhan, H., Rao,Y.V. & Sridhar, S.	Bauxite mining - current Indian scenario	Proceedings of the National Seminar on Bauxite Vision 2050; Organized by Mining Engineers Association of India (MEAI); Belgaum Chapter; 1999.
Vardhan, H., Rao,Y.V. & Sridhar, S.	Productivity improvement - a managerial approach	Proceedings of the Platinum Jubilee Symposium on Productivity Improvement in Indian Mining Industry (PJSPIM); Organized by The Department of Mining Engineering, Institute of Technology, B.H.U; 29 th and 30 th January; 1999.
Vardhan, H., Rao,Y.V. & Aruna, M.	Trends and development in truck transportation system	National Seminar on Mining Machinery - Present Status and Future Developments (NSMM); Organized by Indian School of Mines, Dhanbad; 26 th and 27 th November; 1999.
Rao, Y.V., Vardhan, H., & Aruna, M.	Benchmarking - the search for best practices for superior performance	Proceedings of the All India Seminar on Problems and Prospects of Opencast Mining; Organized by The Institution of Engineers, India, Rourkela local centre, Mining Engineers Association of India, Rourkela chapter, The Mining, Geological and Metallurgical Institute of India & M/s Orissa Explosives Pvt. Ltd; 12 th and 13 th November; 1999.
Vardhan, H., Rao, Y.V. & Aruna, M.	Noise control and the law - a critical appraisal	Souvenir brought out on Mines Environment and Mineral Conservation Week; 1999; pp 99-108.
Vardhan, H., Sridhar, S. & Rao, Y.V.	Business process re-engineering - a tool to manage mining business in turbulent times	Proceedings of the International Conference on Technological Advances in Opencast Mining; Organized by The Mining, Geological and Metallurgical Institute of India; Calcutta; 9 th to 11 th July, 1998; pp. 247-258.
Vardhan, H., Rao,Y.V. & Sridhar, S.	Production planning and scheduling for pillar extraction in underground coal mines	Proceedings of the National Seminar on Global Mining in 2000 and Beyond in Indian Context; Organized by Mining Engineers Association of India; Kanyakumari; 10 th and 11 th April; 1998; pp. I32-I37.
Vardhan, H., Rao,Y.V. & Sridhar,S.	Total quality management - a tool to obtain better quality product in mining industry	Proceedings of the National Seminar on Outlook for Fossil Fuels and Non-Metallic Mining and Mineral Based Industries; Chennai; Anna University; 20 th and 21 st August; 1998; pp. 243-249.

c. Articles published in newsletter / bulletin

Vardhan, H., Rao, Y.V. & Sridhar, S.	Rock surface insulation -a technique for reduction of strata heat flow in underground mines	K.R.E.C Research Bulletin; Vol. 7(2), December; 1998; pp. 10-17.
Arun, M., Rao, Y.V., Vardhan, H. & Karmakar, N.C.	Illumination of opencast metalliferrous mines - a case study	ISLE News letter; 2003; pp. 22-24.

d. Books / Chapters

A chapter entitled **APPLICATION OF SOUND LEVEL FOR ESTIMATING ROCK PROPERTIES** is published in the book "Noise Control, Reduction and Cancellation Solutions in Engineering"; Chapter 12; pp. 267-298; Intech Publishers, ISBN: 978-953-307-918-9..

A book entitled **Noise Spectrum Based Maintenance Guideline for HEMM** is published by Lambert Academic Publisher, GmbH & Co.KG., Germany, ISBN: 978-3-8484-4000-9.

A book entitled **Rock Engineering Design: Properties and Applications of Sound Level** is published by CRC Press of Taylor & Francis Group; Publication Date: September 3, 2013; ISBN-10: 1466582952 | ISBN-13: 978-1466582958.

e. Reports / Popular articles Other types publications

Vardhan, H. and Shivam, S.	Issues and concerns with mine closure	Science India Magazine; September; 2011; Vol. 14(9); pp 26-30.
Vardhan, H.	Community noise – a public health hazard	Science Reporter; May; 2003; pp. 22-24.
Vardhan, H.	Rising population depleting resources	Science Reporter; December, 2001; pp. 16-20.
Vardhan, H.	A mine of opportunities	The Hindu; September, 2008

6 Patents: NIL

7 Guidance to Students (PG and Ph.D)

Ph.D Guidance – 04

- Development of regression and artificial neural network models for prediction of rock properties from sound levels of rotary drilling: Rajesh Kumar B. (Regd. No. 082015MN08P01) – Degree Awarded
- Experimental investigation on estimation and prediction of sound in percussive drilling: Sangshetty Kivade (Regd. No. MN06P03PT) – Degree Awarded
- Design and fabrication of drilling equipment for estimating rock properties: Masood (Regd. No. MN09F01FT) – On going (Advanced Stage)

- Experimental investigation on noise generation and assessment in rock cutting in underground coal mines: Mahantappa Batakhani (Regd. No.MN09P03) – On going
- Utilization of waste fines from iron ore mines in preparing bricks: Shreekant Revachand Lamani (Regd. No. 123003MN12P02) – On going

No. of M. Tech Thesis guidance – 08: Completed

8 Fellowship / Membership of professional bodies

- Life Member of "The Institution of Engineers, India" (M-132674-5).
- Life Associate Member of "The Institution of Public Health Engineers, India" (LAM716).
- Life Member of "Mining, Geological and Metallurgical Institute of India (MGMI)" (8986-LM, 2005-2006).
- Life Member of "Indian Society of Technical Education (ISTE)" (LM-47901).
- Life Member of "Acoustical Society of India (ASI)" (LM-683).
- Life Member of "Mining Engineers Association of India (MEAI)" (LM – 2968 / BAN)
- Fellow of "Disaster Advances"(FWDM/1014)

9 Awards & Citations received

- Received "**Award for Best Research Publication (Published) by Science Faculty (ARP)**" for the year 2011-12 instituted by Vision Group on Science and Technology (VGST), Department of IT, BT and S&T, **Government of Karnataka** for the paper "**Estimating rock properties using sound levels produced during drilling**". The award comprised of **Cash Prize and a citation.**
- Received "**D N Thakur Award**" from **Mining, Geological and Metallurgical Institute of India for outstanding contribution to Earth Sciences.** The award comprised of **Gold Medal and a citation.**
- Received "**Engineering Gold Medal – 2006-07 Award**" by **The Mining, Geological and Metallurgical Institute of India (MGMI)** for **outstanding contribution in Mining Sciences.** The award comprised of **Gold Medal and a citation.**
- Received "**Career Award for Young Teachers (CAYT)**" for the financial year 2006-07 from **All India Council for Technical Education.**
- Received "**Young Scientist Award**" from the **Ministry of Science and Technology,** Department of Science and Technology, Government of India under SERC Fast Track Proposals for Young Scientists Scheme entitled "Investigation of the sound level produced by jack hammer drill with drilling in rocks of different compressive strength".
- Received "**Certificate of Merit**" from The Institution of Engineers (India) for the paper "Assessment of machine generated noise with maintenance of various heavy earth moving machinery" for the year 2004-2005 published in the Journal of The Institution of Engineers (India). The award comprised of **citation.**
- Received "**Certificate of Merit**" from The Institution of Engineers (India) for the paper "Noise exposure of operators at different operating conditions of heavy earth moving

machinery” for the year 2004-2005 published in the Journal of The Institution of Engineers (India). The award comprised of **citation**.

10 Other information's to justify nomination for the award

Other recognitions

- Provided technical support to **Central Empowered Committee (CEC) appointed by Honourable Supreme Court of India** for survey of mining leases in Bellary, Chitradurga and Tumkur districts of Karnataka.
- Provided technical support to **Central Bureau of Investigation** pertaining to mine lease boundary survey.
- **Member, Editorial Board** of the **International Journal of Mining and Mineral Engineering** published by Inderscience Publishers, U.K from 2008 onwards. (<http://www.inderscience.com/browse/index.php?journalCODE=ijmme>).
- **Editor, Journal of Characterization and Development of Novel Materials** published by Nova Science Publishers, New York from 2009 onwards. https://www.novapublishers.com/catalog/editorial.php?products_id=7995
- **Member, Editorial Board of Disaster Advances from 2009 onwards.** http://www.managein.org/manage/disas/edit_board.htm
- **Member, Editorial Board of Journal of Chemical Engineering and Materials Science** published by Academic Journals. <http://www.academicjournals.org/JCEMS/Email.htm>
- **Panel of Reviewers of Noise Control Engineering Journal – An International Publication**, published by American Institute of Physics; **Environment Monitoring and Assessment**, Published by Springer, **Safety Science, Environmental Engineering Science** and **Applied Acoustics** published by Elsevier.
- A project entitled “**Investigation of the use of quarry dust as construction material**” was supported by Karnataka State Council of Science and Technology during the year 2008-09 (32nd series).
- **Invited to France by the Europe President Dr. Jean Turret of the International Institute of Noise Control Engineering** to present the research findings at the First European Forum on Effective Solutions for Managing Occupational Noise Risks; Lille; France; 3rd to 5th July, 2007. My name was referred by **Dr. Courtney B. Bourroughs, Editor-in-Chief of the Noise Control Engineering Journal – An International Publication**.
- Organized an International Workshop on “**Winning Strategies to Re-vitalize the Mineral/Coal Sector**” on 8th and 9th August, 2009 on the occasion of Silver Jubilee of the Department and Golden Jubilee of the Institute.
- Member, **Board of Examiners of Visvesvaraya Technological University (VTU) Belgaum** for the year 2006-07 (Ref. No. VTU/Exam/BOE/2006-2007/2240 dated 04th November, 2006 from the Registrar Evaluation of VTU).
- **Chaired a Technical Session “Emerging Technologies 3”** at the **International Conference on “Energy Security and Climate Change – Issues, Strategies and Options (ESCC 2008)** held at Bangkok, Thailand from 6th to 8th August, 2008.
- Member, Affiliation Inquiry Committee of Goa University for B. E. Mining Engineering (Letter No. 1/212/10-Acad-I/GEC/2011-12/360 Dated 28-07-2011) and BOS Member of

Goa University (Letter No. GU/Acad-PG/74/Ad-hoc-BOS-Mining/2011/812/3862 Dated 08-12-2011).

Research Projects completed

- Insulation of Mine Roadways Rock Surfaces – An alternative Technique for Reduction of Strata Heat Flow into Underground Workings – sponsored by C.S.I.R., New Delhi.
- Assessment & Design of Illumination System with respect to an Opencast Iron Ore Mine – Sponsored by Indian Society of Lighting Engineers (ISLE), Mumbai.
- Frequency Analysis and Modelling of Noise Pollution for an Opencast Coal Project – Sponsored by S&T grant of Ministry of Coal, Govt. of India. (Project code no. EE/23; Sanction order no. F. No. 34012/5/2001-CRC dated 28-06-2001).
- Evaluation, Design and Cost Analysis of Illumination System in Surface Mine Projects – Sponsored by MHRD; Sanction order no. F26-11/2004/TSV dated 31-03-2005).
- Application of Bio-diesel for Heavy Earth Moving Machinery Used in Surface Mines – Sponsored by M/s Madras Cements Ltd.

Consultancy Projects completed

- A total of more than 20 consultancy projects completed in the area of slope stability, lease boundary survey, illumination survey etc.

Number of training programs organized / guest lecturers delivered

- Delivered a lecture on “Noise Pollution” for the Executives of The Singareni Collieries Company Limited on KNOWLEDGE DAY (09-12-2003) [Ref. no. RG2/MVTC/38-A/866 dated 10-12-2003].
- Delivered lecture and organized workshop on “Noise Pollution – Its Effect on Human Health” on 04th of September, 2004 under Technical Education Quality Improvement Programme (TEQIP) Fund of the Institute.
- Organized workshop on “Road Safety” on 17-02-2005 under Technical Education Quality Improvement Programme (TEQIP) Fund of the Institute.
- Organized workshop on “Internet Usage” on 09th and 10th of November, 2005 under Technical Education Quality Improvement Programme (TEQIP) Fund of the Institute (MHRD Fund).
- Delivered a lecture on “Experimental study of sources of noise from heavy earth moving machinery” for the Executives of The Singareni Collieries Company Limited on KNOWLEDGE DAY (08-12-2006) [Ref. No. RG2/MVTC/38-A/1128 dated 11-12-2006].

Administrative Responsibilities

- Worked as Head, Department of Mining Engineering, National Institute of Technology Karnataka, Surathkal from 17th August, 2009 to 16th August, 2012.
- Worked as Rajbhasha (Hindi) Officer in the Institute for more than 5 years (Office order no. NITK/RGO/OM/2007-08 dated 22-05-2007).
- Worked as Warden for one of the Hostel Blocks for 3 – years.
- TEQIP (Technical Education Quality Improvement Program) Co-ordinator of the Department.