

# **HINA GOKHALE PhD**

## **Former Director General (HR), DRDO HQ**

### **Education:**

B.Sc. (Mathematics) from Gujarat University in 1979

M.S. (Multivariate Analysis) from University of Pittsburgh, USA in 1982

Ph.D. (Applied Statistics) from University of Pittsburgh, USA in 1985

### **Certification:**

CIPM: IPMA Certificate in Project Management

CrHCM: Certificate in Human Capital Management

CrPRM: IPMA Certificate in Project Risk Management

International Diploma in Project Management (PMA, India)

### **Experience:**

- Worked for about 2 years as CSIR Pool Officer at Hyderabad Central University. Taught courses on Mathematical Statistics, Quality Control and Design of Experiments
- Joined Defence Metallurgical Research Laboratory in February 1988, with primary responsibility to set up a project management system at DMRL.
  - Designed Project Monitoring System to suit DMRL projects
  - Designed and developed relevant software to implement the same
  - The DMRL experiment in project management has been published in the International Journal of Project Management and other conferences of International Project Management Association.
- November 1993 took over responsibility as Technical Coordinator, covering
  - Project Management
  - HR Management
  - Intellectual Property Rights
  - International Export Control Regimes

- During this period, also provided statistical support towards
  - Design experiment for metallurgical processes
  - Statistical calculations for design allowable for indigenously developed alloys and components for defence applications
  - Statistical designs for round robin tests to arrive at chemical standards for indigenous alloys
- June 2007 initiated work in the area of Uncertainty modeling in metallurgy and materials science.
  - Statistical profiling of fracture toughness, strength and other properties of Gun Barrel Steels
  - Statistical estimation of remaining fatigue life of gun barrel steels
  - Initiated a programme of data generation and estimation of Probability of Detection (POD) of various NDT techniques used in Life Prediction Technologies for Aero Engine Components.
- April 2013 appointed as Director Human Resource Development at DRDO HQ.
- June 2015 appointed Director of Personnel as additional charge
- January 2016 appointed as Director of Personnel
- July 2017 appointed as Director General HR
- March 2018 appointed as Vice Chancellor Defence Institute of Advanced Technology (additional Charge)

## Publications

- More than 30 publications in Project Management and Statistics in various International Journals, Conferences and Technical Reports.

## PUBLICATIONS of HINA GOKHALE

### I. Publications in Peer Reviewed Journals

1. **Hina Gokhale**, ML Bhatia (1997), "A project planning and monitoring system for research projects", *International Journal of Project Management*, Vol. 15, No. 3 pp. 159-163.
2. S. Bandyopadhyay, **Hina Gokhale**, J.K. Sarin Sundar, G. Sundararajan, S.V. Joshi (2005), "A statistical approach to determine process parameter impact in Nd: YAG laser drilling of IN 718 and Ti-6Al-4V sheets", *Optics and Laser Engineering*, Vol. 43, pp 163-182.
3. K. Murugan, T. N. Rao, K. Radha, **Hina Gokhale** (2011), "Microwave Plasma Process Optimization to Produce Nano Titania through Design of Experiments", *Materials and Manufacturing Processes*, Vol 26, No. 6, pp 803-812
4. Dibyendu Chakravarty, **Hina Gokhale**, G. Sundararajan (2011), "Optimizing mechanical properties of spark plasma sintered ZTA using neural network and genetic algorithm" *Material Science and Engineering A*, Vol. 529, pp 492-496
5. N.V. Ravi Kumar, **Hina Gokhale**, A.A. Gokhale (2012), "Role of SiC<sub>p</sub> on Processing and Physical Characteristics of Al-Si-Mg/SiC<sub>p</sub> Composite Foams", *Material Science Forum*, Vol 710, pp 383 – 388.
6. U. Savitha, **Hina Gokhale**, G. Jagan Reddy, A. Venkatramana and A.A. Gokhale (2012), "Effect of process parameters on porosity in laser deposited IN625 alloy", *Transactions of Indian Institute of Metals*, Vol. 65, Issue 6, pp 765 – 770.
7. K. Ramanjaneyulu, G. Madhusudhana Reddy, **Hina Gokhale** (2015), "Optimisation of Process Parameters of Aluminum Alloy AA 2024-T3 Friction Stir Welds By Response Surface Methodology", *Defence Technology* 11 (2015), pp. 209-219.

### II. Research Papers Presented/ Published in Proceedings

8. **Hina Gokhale** (1998) "Spline function as growth model for age adjustment in the analysis of familial data with estimation of age maturity", *Proceedings of International Conference of Mathematical Modelling in Science and Technology*, Eds. L.S. Srinath, P Achuthan, S.N. Majhi.
9. A.D. Manohar, R.D. Sharma, **Hina Gokhale** (1992), "Nonuniformities in the binder distribution of injection moulded ceramics", Presented in Annual Convention of Ceramic Society of India.
10. **Hina Gokhale** (1994), "A project information management software for R&D projects." *Proceedings of 14<sup>th</sup> World Congress on Project Management*, Vol. 2, pp. 567-569.
11. **Hina Gokhale** (1994), "R&D Project management in multiproject environment", *Proceedings of 36<sup>th</sup> National Convention of Indian Institute of Industrial Engineering*.
12. **Hina Gokhale** (2003), "Design of Experiments and Statistical Analysis", in *Proceedings of National Workshop on Testing and Characterisation of Engineering Materials*, 14 – 18 July 2003, RRL, Thiruvananthapuram, India, pp 214 – 228.
13. **Hina Gokhale** (2004), "Statistics and Material Science and Technology Education in India", Presented at the International Conference on the Future of Statistical Theory, Practice and Education, December 29, 2004 to January 1, 2005, ISB, Hyderabad.
14. **Hina Gokhale** (2008), "Statistical approach for certification of materials / components for airworthiness", Presented at National Conference on Showcasing Cutting Edge Science & Technology by Women, 8 – 9 March 2008, Vigyan Bhavan New Delhi.

15. **Hina Gokhale** (2009), "Statistical Analysis of Low Cycle Fatigue Properties of Aero Engine Disc Forgings", Proceedings of the International Conference on Frontiers of Metallurgy and Materials Engineering, 29 – 31 January, 2009, Hyderabad, India, pp 88-100.
16. **Hina Gokhale**, Vikas Kumar (2009), "Statistics in Materials Engineering – Design and Lifting Perspective", presented at International Conference on Interface Between Statistics and Sciences, 30 Dec. 2009 – 2 Jan. 2010, Hyderabad, India
17. Dibyendu Chakravarty, **Hina Gokhale**, G. Sundararajan (2010), "Optimization of Composition and Spark Plasma Conditions of ZTA using ANN and GA", presented at ICMST – International Conference of Recent Trends in Material Science and Technology, Trivendrum, 29 – 31 October 2010.
18. **Hina Gokhale**, Shahnawaz Ahmed, Raghu Nandan Jha, Vikas Kumar (2010), "Statistical Fatigue Life Prediction of Gun Barrel Steels", Presented at 48<sup>th</sup> NMD and 64<sup>th</sup> ATM of Indian Institute of Metals, 14 – 16 November, 2010, Bangalore, India.
19. **Hina Gokhale**, Shahnawaz Ahmed, Raghu Nandan Jha, Vikas Kumar (2011), "Probabilistic Fatigue Life Analysis of Gun Barrels: A Case Study", Proceedings of International Congress on Productivity, Quality, Reliability, Optimization and Modelling (ICPQROM-2011), Vol II, pp 789-797.
20. Dibyendu Chakravarty, **Hina Gokhale**, G. Sundararajan (2011), "Optimization of Mechanical Properties of Spark Plasma Sintered ZTA using Genetic Algorithm", presented at PACRIM-9; The 9<sup>th</sup> International Meeting of Pacific Rim Ceramic Society, Cairns, Queensland, Australia, 10 – 14 July 2011
21. A. Venkata Ramana, G. Jagan Reddy, **Hina Gokhale**, Amol A. Gokhale (2011), "Optimization of LENS Process Parameters for deposition of SS316 powder", Presented at 49<sup>th</sup> NMD and 65<sup>th</sup> ATM of Indian Institute of Metals, 13 – 16 November 2011, Hyderabad, India.
22. N.V. Ravi Kumar, **Hina Gokhale**, A.A. Gokhale (2011), "Al-Si-Mg/SiC<sub>p</sub> Foams – Influence of Process Parameters on Foamability", Presented at 49<sup>th</sup> NMD and 65<sup>th</sup> ATM of Indian Institute of Metals, 13 – 16 November 2011, Hyderabad, India.
23. N.V. Ravikumar, **Hina Gokhale**, A.A. Gokhale (2012), "Role of SiC<sub>p</sub> on Processing and Physical Characteristics of Al-Si-Mg/SiC<sub>p</sub> Composite Foams", presented at International Conference on Advances in Metallic Materials and Manufacturing Processes for Strategic Sectors (ICAMPS), 19 – 21 January 2012.

### III. Technical Reports

24. T.P. Bagchi, **Hina Gokhale**, Bijoy Sharma (1994), "Experimental Design and optimization of coating thickness in detonation coating process – Part I: Coating of tungsten carbide-cobalt powder on aluminium substrates without manipulator", Technical Report No. ARC/TR/94/006.
25. T.P. Bagchi, **Hina Gokhale**, Bijoy Sharma (1994), "Experimental Design and optimization of coating thickness in detonation coating process – Part I: Coating of tungsten carbide-cobalt powder on aluminium substrates without manipulator", Technical Report No. ARC/TR/94/007.
26. T.P. Bagchi, **Hina Gokhale**, DS Rao, D. Sen (1994), "Experimental design and optimization of coating thickness in detonation coating process – Part I: Coating of tungsten carbide-cobalt powder on aluminium substrates without manipulator", Technical Report No. ARC/TR/94/008.
27. **Hina Gokhale**, Sanjaya Choudhury (1994), "From OBDPM to PMDAS: Design and implementation of a R&D project monitoring system", Technical Report No. DMRL/TR/94181, November 1994.
28. **Hina Gokhale**, G.S. Reddy (2000), "Statistical analysis of mechanical properties of JFS castings", Technical Report No. DMRL/TR/2000268, March 2000.

29. **Hina Gokhale**, K. Gopinath, R.L. Saha (2002), "Statistical analysis of tensile properties of indigenous SUPERNI – 718 A", Project Office (Materials) Technical Report No. PO(M)/KAVERI/MAT/2002/1, July 2002.
30. B. Venkataraman, JKN Murthy, VSR Sarma, D. Jayaram, S. Koteswar Rao, T. Sudhakar, John David, YV Ramakrishna, Sai Madhav, A. Sambasiva Rao, **Hina Gokhale** (2004), "Evaluation of Cr<sub>3</sub>C<sub>2</sub>-20(NiCr) Coatings for Aero-Engine Application", Technical Report No. DMRL/TR/2004358, July 2004.
31. **Hina Gokhale** (2008), "Statistical Analysis of Low Cycle Fatigue Properties of Disc Forgings for Adour Engine", Technical Report No. DMRL TR 456, July 2008.
32. **Hina Gokhale** (2008), "Duration – Cost Relationship in DMRL Projects", Technical Report No. DMRL TR 462, October 2008.
33. **Hina Gokhale**, P. Vasundhara (2008), "Stochastic Model of Process to Make Ceramic Foam", Unpublished research report.
34. **Hina Gokhale**, R.P. Tiwari ( MIDHANI), C.V. Subrahmanyam, B.R.V. Narsimhan (NFTDC), B. Gopala Krishna, A.K. Gogia, (2009), "Statistical Analysis of Chemical Data of Round Robin Tests to Arrive at Secondary Chemical Analysis Standard for Indigenously Developed Supercast 247A Alloy", Technical Report No. DMRL TR 479, June 2009.
35. **Hina Gokhale**, B. Gopala Krishna, A.K. Gogia, (2010), "Development of Standard S-N Curves for High Cycle Fatigue Properties of Indigenously Developed Supercast 247 LC alloy", DMRL Unpublished Research Report
36. **Hina Gokhale**, R.K. Satpathy (2010), "Statistical Analysis to Compare the Russian and Indian Lubrication Oils of AL-31FP Engine.", Unpublished research report.
37. **Hina Gokhale**, R.K. Satpathy (2011), "Report on the Engine data for R25 to Compare the normal engine Performance with the Flamed out Engine Performance", Unpublished analysis report.
38. **Hina Gokhale**, Shahnawaz Ahmed, R.N. Jha and Vikas Kumar (2012)," Probabilistic Fatigue Life Assessment of Gun Barrels", DMRL Technical Report No. DRDO-DMRL-MSG-034-2012, December 2012.
39. S.G. Savio, K. Ramanjaneyulu, V. Madhu, **Hina Gokhale** and A.K. Gogia, "Statistical Analysis on the Ballistic Efficiency of Different Batches of Hot Pressed Boron Carbide Tiles", ", DMRL Technical Report No. DRDO-DMRL-MSG-035-2012, December 2012
40. M. Phani Surya Kiran, R. Vamshi Krishna, M.Sundararaman, **Hina Gokhale** and Vikas Kumar (2015), "Sensitivity Evaluation of NDT Techniques on naturally Initiating Cracks – An Experimental Approach for POD Framework", DMRL Technical Report No. DRDO-DMRL-NDTG-083-2015, march 2015.

## Classroom Lectures Delivered by Dr. Hina Gokhale

1. **Intellectual Property Rights** at CEP on Project Management organized jointly by DLRL, Hyderabad & ITM, Massoorie
2. **Project Management of R&D Projects** at short course on Project Management organized by ASCI, Hyderabad
3. **Project Management of R&D Projects** at Work Study Programme organized by ITM Massoorie
4. **Design of Experiments for Materials technology** at CEP on Advanced Materials Development organized by RRL, Trivandrum
5. **Design of Experiments** at CEP on Surface Engineering organized by DMRL
6. **International Export Control Norms: General Lecture to Senior Scientists** of DMRL, RCMA(M), PO(M) and DRDL
7. **International Export Control Norms and DRDO** at CEP on Materials Management organized by DRDL, Hyderabad
8. **Using MS Excel in office management** at CEP on Computers in Office management (for Personal Secretaries and Stenos) at DMRL
9. **MS Excel for data management and analysis** at CEP Computer Techniques and Applications (for Technical Officers) at DMRL
10. **Introduction to Intellectual Property Rights** at CEP organized by CRIDA, Hyderabad
11. **Intellectual Property Rights and DMRL** Special Lecture at DMRL
12. **Exploratory Data Analysis: Special Lecture to fresh Scientist B** of DMRL
13. **S&T Project Management at DMRL** in DMRL Wednesday Seminar Series
14. **Managing the Uncertainties in Material Science and Technology** in DMRL Wednesday Seminar Series
15. **Statistical Data Analysis** at Aeronautical Development Agency, Bengaluru
16. **Application of Statistics in Material Science and Technology** at Aurora Degree College
17. **Harnessing Uncertainties in Metallurgy and Material Science**, DMRL Wednesday Lecture Series
18. **Design of Experiments and Regression Analysis** in CEP on Surface Engineering and Tribology at DMRL, Hyderabad
19. **Artificial Neural Network – Application in Metallurgy** in DMRL Wednesday Lecture Series
20. **Reliability Engineering** at Sree Nidhi Institute of Science and Technology, Hyderabad (Keynote Address at the Faculty Training Program)
21. **Statistics in Material Science and Technology – Design and Lifting Perspective** at Dept. Of Mathematics, Gujarat University, Ahmadabad
22. **R&D Project Management – A Case Study** at Training programme of National Institute of Advanced Studies, Bengaluru on “Technology, Innovation and Development”, Sept 24 – Oct 5, 2012
23. **Nature Inspired Neural Networks and Genetic Algorithms for Modeling and Optimization** Invited Talk at Annual Conference of Gujarat Ganit Mandal, Amareli, Gujarat

24. **Probabilistic Life Analysis for Gun Barrels** Invited Talk at PSG College of Engineering, Coimbatore
25. **Research Management** Key note address at Administrative Staff College of India, Hyderabad
26. **Human Capital Management** at Delhi Institute of Pharmaceutical Sciences and Research, new Delhi in AICTE sponsored Quality Improvement Programme as Resource Person
27. **Human Resource Management in DRDO** at Introduction Programme for Newly Inducted DRDO Directors
28. **Human Resource Management and Development** at CEP for HR Coordinators.
29. **Sustainability** Valedictory Lecture delivered at NIAS Bengaluru.