

**LIST OF PUBLICATIONS AND PRESENTATIONS:
GAS TURBINE AND STEAM TURBINE TECHNOLOGY AREAS**

by

V. P. Swaminathan, Ph.D

TurboMet International

1. V. P. Swaminathan, "Creep-Fatigue Crack Propagation in Turbine Rotor Steels at Elevated Temperatures", Canadian Fracture Research Corp. Symposium, University of Waterloo, Canada, April 1978.
2. V. P. Swaminathan, "Advanced Steel Melting Technology and Turbine-Generator Rotor Quality", Westinghouse Steam Turbine-Generator Technology Symposium, Charlotte and Phoenix, Oct. 1980.
3. V. P. Swaminathan, "Advanced Technology High Temperature CrMoV Steam Turbine Rotors", ASM Materials/Design Conf. on Solution to Material Problems in Power Plants, Philadelphia, Dec. 1980.
4. "Corrosion Fatigue of Steam Turbine Blading Alloys in Operational Environments", Final Report, EPRI CS-2932, Project RP912-1, Sep. 1984.
5. J. E. Steiner, V. P. Swaminathan, and R. I. Jaffee, "Evaluation of Advanced Melting Technology for Large High Temperature Steam Turbine Rotor Forgings", Proceedings of 9th International Forging Conf., Duesseldorf, May 1981, pp.2.1-2.20.
6. "High-Cycle Corrosion Fatigue of Some Steam Turbine Blade Alloys", Ultrasonic Fatigue (Proc. of 1st Int. Conf. on Ultrasonic Fatigue and Corrosion Fatigue), J.M.Wells, Ottobuck, L.Roth and J.K.Tien, Eds., Oct. 1982.
7. V. P. Swaminathan, and N. S. Cheruvu, "Microstructure and Mechanical Properties of Electroslag Remelted CrMoV Turbine Rotor Forging" AIME Annual Meeting, Dallas, Feb. 1982.
8. V. P. Swaminathan, T. T. Shih, and A. Saxena, "Low Frequency Fatigue Crack Growth Behavior of A470 Class 8 Rotor Steel at 538°C(1000°F), Engineering Fracture Mechanics, Vol.16, No.6, 1982, pp.827-836.
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11. T. M. Rust, V. P. Swaminathan, and L. Willertz, "Corrosion Fatigue of Steam Turbine Blading Alloys", Electric Power Research Institute Workshop on 'Steam Turbine Blade Reliability', Boston, July 1982.

12. V. P. Swaminathan, "Fractographic Analysis of the Primary Oil Pump Shaft Fracture from a Steam Turbine", Fractography of Ceramic and Metal Failures, ASTM STP 827, ASTM, Philadelphia, 1984.
13. V. P. Swaminathan, and J. Landes, "Temperature Dependence of Fracture Toughness of Large Steam Turbine Forgings Produced by Advanced Steel Melting Processes", Fracture Mechanics - Fifteenth Symposium, ASTM STP 833, ASTM, Philadelphia, 1984.
14. 16. P. K. Liaw, and V. P. Swaminathan, "Effect of Load Ratio and Temperature of the Near Threshold Fatigue Crack Propagation Behavior in a CrMoV Steel", Metallurgical Transactions, Vol.14A, Aug. 1983, pp.1631-40.
15. V. P. Swaminathan, R. I. Jaffee, and J. E. Steiner, "Significant Improvements in the Properties of CrMoV HP rotors by Advanced Steel Making", in Life Assessment and Improvement of Turbo-Generator Rotors for Fossil Plants, R. Viswanathan, Ed., EPRI CS-4160, Pergamon Press, 1985.
16. V. P. Swaminathan, R. I. Jaffee, and J. E. Steiner, "Mechanical Properties of Advanced Technology 1CrMoV Steam Turbine Rotor Forgings", Steel forgings, ASTM STP 903, E.G. Nisbet and A.S. Mellili, Eds., ASTM, Philadelphia, 1986, pp.124-142.
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29. V. P. Swaminathan, H. B. Owens, and N. Hicks, "Evaluation of Gas Turbine Transitions After 20,000 and 37,000 Hours of Service," International Gas Turbine and Aeroengine Congress and Exposition, Cologne, Germany, June 1992, Paper No. 92-GT-274.
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31. V. P. Swaminathan, "Aging Degradation of Nickel Base Superalloys in Hot Gas Path Components in Gas Turbines," First International Symposium on Microstructure and Mechanical Properties of Aging Materials, ASM International/TMS Materials Week, Chicago, November, 1992.
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In addition to these external publications and presentations, Dr. Swaminathan has written numerous confidential reports on projects conducted for clients