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## Computational Methods for Optimizing Manufacturing Technology: Models and Techniques

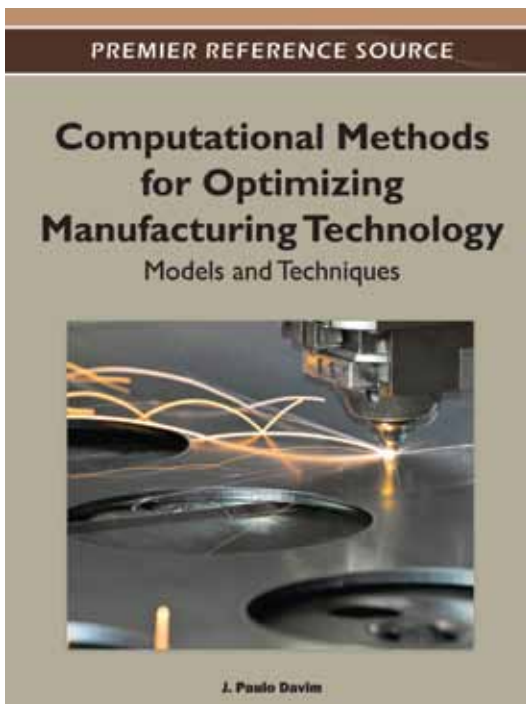
J. Paulo Davim (University of Aveiro, Portugal)

As manufacturing technology and its applications become more complex and beyond the scope of conventional approaches, there has been considerable interest in developing computational methods for optimizing manufacturing.

**Computational Methods for Optimizing Manufacturing Technology: Models and Techniques** contains the latest research developments in manufacturing technology and its optimization, and demonstrates the fundamentals of new computational approaches and the range of their potential application. Including research on topics such as cellular manufacturing systems, evolutionary algorithms, mobile robots, and particle swarm optimization, this book serves as a useful reference for academics, manufacturing and computational science researchers, mechanical, industrial and manufacturing engineers, and professionals in related industries.

### Topics Covered:

- Artificial Neural Networks
- Computational Techniques in Statistical Analysis and Exploitation
- Evolutionary Algorithms
- Finite Element Technology
- Fuzzy Logic
- Optimization Formulations for Sheet Metal Forming
- Optimization of Machining Parameters
- Particle Swarm Optimization
- Soft Computing Methods in Cellular Manufacturing
- Statistical Models for Predicting Disqualification Probability



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**J. Paulo Davim** received his PhD degree in Mechanical Engineering from the University of Porto in 1997 and the Aggregation from the University of Coimbra in 2005. Currently, he is an Aggregate Professor at the Department of Mechanical Engineering of the University of Aveiro. He has more 25 years of teaching and research experience in manufacturing, materials and mechanical engineering with special emphasis in machining and tribology. Recently, he has also interest in sustainable manufacturing and industrial engineering. He is the Editor-in-Chief of six international journals, guest editor of journals, books editor, book series editor and scientific advisory for many international journals and conferences. Presently, he is an editorial board member of 20 international journals and acts as reviewer for than 70 prestigious ISI Web of Science journals. In addition, he has also published in his field of research as author and co-author more than 40 book chapters and 350 articles in journals and conferences (more 180 articles in ISI Web of Science, h-index 25+).



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