
Editorial

Deng Jianxin*

Department of Mechanical Engineering,
Shandong University,
Jinan 250061, Shandong Province, PR China
E-mail: jxdeng@sdu.edu.cn
*Corresponding author

J. Paulo Davim

Department of Mechanical Engineering,
University of Aveiro,
Campus Santiago, Aveiro 3810-193, Portugal
E-mail: pdavim@mec.ua.pt

Biographical notes: Deng Jianxin is a professor of Shandong University. He received his PhD from Shandong University of Technology in 1995. He worked for two years (1997–1998) at Shandong University of Technology as a professor and one year (1999) at the Hong Kong Polytechnic University as a visiting scholar. He has published more than 200 papers in scientific journals and conference proceedings. He has also published two books. His research interests are currently focused on machining, advanced cutting tools, friction and wear, structure ceramic parts, etc.

J. Paulo Davim received a PhD in Mechanical Engineering from the University of Porto and the Aggregation from University of Coimbra. Between 1986 and 1996, he was a Lecturer in the Department of Mechanical Engineering at the University of Porto. Currently, he is Auxiliary Professor with Aggregation in the Department of Mechanical Engineering at the University of Aveiro. He teaches undergraduate and graduate courses in machining and tribology. He has about 20 years of teaching and research experience. His main research interests include machining and tribology. He is the Editor of two International Journals in these subjects. He is a Guest Editor, Reviewer and an Advisory for many international journals. He has also published more than 150 papers in refereed international journals and conferences.

Cutting tool is the most critical part in a machining system. Production costs are closely related to the use of cutting tools. Great improvements have been made in tool properties (such as flexural strength, fracture toughness, thermal shock resistance, hardness and wear resistance) in the last 20 years. Investigations into improving existing cutting materials and finding new ones are still in progress. For this reason, clarification of the development and applications of cutting tools have attracted intensive interest from industries and multidisciplinary researchers.

This Special Issue presents a collection of invited papers mainly on cutting tools and their applications in machining operations. A wide variety of different topics are addressed ranging from coated tools, gradient tools, self-lubricating tools, milling cutter

for high-speed machining, abrasive diamond wire saw, machinability of nickel-based super-alloys and intelligent selection system for tool materials. We hope this special issue is timely in delivering the latest R&D achievements to the research community.

As the Guest editors, we would like to take this opportunity to thank all the authors for the time and effort they spent in writing their paper and for complying with referees' comments in revising their manuscripts. We would also like to express heartfelt gratitude to the referees (Academician Ai Xing and Professor Zhao Jun) who reviewed the papers and made valuable comments for improving the quality of the manuscripts. Special thanks are also due to INDERSCIENCE Publishers for their support and encouragement that made this issue a reality.