Preface

Increasing quality and productivity of advanced manufacturing in a variety sectors, including automotive, aerospace, medical and energy, requires continuous advancement of high precision material removal technologies, ranging from machining of large scale components and ending with machining of micro- and nanoscaled components.

This special volume of journal "Materials Science Forum" is intended to disseminate the recent advances in both conventional and nonconventional technologies of materials removal and covers many aspects of modern scientific and engineering practice in area of materials machining. The volume contains selected peer-reviewed papers presented during the 19th International Symposium on Advances in Abrasive Technology (ISAAT 2016), held in Stockholm, Sweden, October 2-5, 2016. About 140 papers are presented orally or via poster sessions, and 86 full papers are published in this special volume. The published papers were contributed from Japan, China, Australia, Europe, India, and United States. Topics include: grinding and polishing, abrasive fine-finishing, micro- and nanomachining, ultrasonic and laser machining, surface integrity and materials characterization, as well as other advanced cutting technologies and etc. This book will be useful for academics and practicing engineers in advancement of the efficient materials removal technologies for modern mechanical engineering.

We would like to express our appreciation to all authors for their contribution to this symposium. Moreover, we are pleased to acknowledge the support of the ISAAT 2016 regional editors, professors Hideki Aoyama, Xiping Xu and Jun Wang, as well as the reviewers and the Swedish organizing committee.

Amir Rashid
Peter Krajnik

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