

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

Committees

Symposium Chairman

A. Rashid KTH Royal Institute of Technology, Sweden

Symposium Co-Chairmen

P. Krajnik Chalmers University of Technology, Sweden

C.M. Nicolescu KTH Royal Institute of Technology, Sweden

Organizing Committee

Chairman

A. Rashid KTH Royal Institute of Technology, Sweden

Co-Chairmen

A. Yui National Defense Academy, Japan

X.P. Xu Huaqiao University, China

Members

T.F. Adane KTH Royal Institute of Technology, Sweden

A. Archenti KTH Royal Institute of Technology, Sweden

O. Bayard KTH Royal Institute of Technology, Sweden

H. Carlsson Scania CV AB, Sweden

Q. Fu KTH Royal Institute of Technology, Sweden

P. Hansson SSAB AB, Sweden

L.-H. Jörnving Scania CV AB, Sweden

P. Krajnik Chalmers University of Technology, Sweden

T. Laspas KTH Royal Institute of Technology, Sweden

G. Ljustina Volvo Cars, Sweden

M. Nicolescu KTH Royal Institute of Technology, Sweden

H.-O. Stålfelt KMT Precision Grinding AB, Sweden

Scientific Committee

Chairman

P. Krajnik Chalmers University of Technology, Sweden

Co-Chairmen

J. Badger The International Grinding Institute, USA

R. Dražumerič University of Ljubljana, Slovenia

A. Rashid KTH Royal Institute of Technology, Sweden

Members

E. Ahearne University College Dublin, Ireland

A. Archenti KTH Royal Institute of Technology, Sweden

D. Barrenetxea IDEKO, Spain

G. Bissacco Technical University of Denmark, Denmark

S. Devadula IIT Madras, India

F. Hashimoto Advanced Finishing Technology, USA

M.J. Jackson Kansas State University, USA

W. Leahy Element Six, Ireland

B.S. Linke University of California Davis, USA

F. Pušavec University of Ljubljana, Slovenia

ICAT Members (*Founding member)

Chairman

H. Aoyama Keio University, Japan

Vice Chairmen

X.P. Xu*

P.L. Tso* National Tsing Hua University, Taiwan

Ordinary Board Member

X. Chen* Liverpool John Moores University, UK

C.Z. Huang Shandong University, China

Secretariat

K. Ohashi
Okayama University, Japan

Immediate Past Chair

J. Wang* University of New South Wales, Australia

Emeritus Chair

K. Suzuki* Nippon Institute of Tech, Japan

Honorary Members

S.C. Salmon* Next Generation Technology Group Inc. USA

D.M. Guo Dalian University of Technology, China

T. Uematsu* Toyama Prefectural University, Japan

J. Tamaki* Kitami Institute of Tech, Japan

K. Kitajima* Kansai University, Japan

K. Tanaka* Toshiba Machine Company, Ltd., Japan

Active Members

M.N. Morgan* Liverpool John Moores University, UK

D. Walker University College London, UK

E. Brinksmeier IWT, University of Bremen, Germany

B. Denkena IFW, Leibniz Universität Hannover, Germany

T. Tawakoli Hochschule Furtwangen University, Germany

B. Azarhoushang Hochschule Furtwangen University, Germany

J.A. Webster Cool-Grind Technologies, USA

A. Slocum Massachusetts Institute of Technology, USA

Z.D. Shi National Research Council, Canada

H.Z. Choi* Korea Institute of Industrial Technology, Korea

C. Y. Wang* Guangdong University of Technology, China

F.H. Zhang* Harbin Institute of Technology, China

M. Chen Shanghai Jiao Tong University, China

H. Gao Dalian University of Technology, China

R.K. Kang Dalian University of Technology, China

J.L. Yuan Zhejiang University of Technology, China

S.H. Yin
Hunan University, China

Hui Huang Huaqiao University, China

J.H. Xu Nanjing University of Aeronautics and Astronautics, China

F.H. Sun Shanghai Jiao Tong University, China

Y. Fu Nanjing University of Aeronautics and Astronautics, China

Z.X Zhou
Hunan University, China

Y.D. Gong Northeastern University, China

Z.Q. Liu Shandong University, China

B. Lyu Zhejiang University of Technology, China

Y. Gao*
Hong Kong University of Science and Technology, China

Y.S. Liao	National Taiwan University, Taiwan
C.C.A. Chen	National Taiwan University of Science and Technology, Taiwan
C.L. Chao	Tam-Kang University, Taiwan
D.L. Butler	Nanyang Technological University, Singapore
P. Krajnik	Chalmers University of Technology, Sweden
T. Kuriyagawa*	Tohoku University, Japan
L. Zhou*	Ibaraki University, Japan
A. Yui	National Defense Academy, Japan
H. Suzuki	Chubu University, Japan
J. Yan	Keio University, Japan
Y.B. Wu	Akita Prefectural University, Japan
K. Okuda	University of Hyogo, Japan
M. Iwai	Toyama Prefectural University, Japan
S. Ninomiya	Nippon Institute of Tech, Japan
T. Enomoto	Osaka University, Japan
H. Sakamoto	Sophia University, Japan
T. Yamada	Nihon University, Japan
J. Shimizu	Ibaraki University, Japan
H. Huang	University of Queensland, Australia
L.C. Zhang	University of New South Wales, Australia
Z.Y. Jiang	The University of Wollongong, Australia
X.S. Li	CSIRO Earth Science and Resource Engineering, Australia

Associate Members

Y. Kakinuma	Keio University, Japan
N. Yoshihara	Iwate University, Japan
T. Sawa	Shibaura Institute of Technology
T. Kitajima	National University of Defense Academy
G.Q. Huang	Huaqiao University
B. Shen	Shanghai JiaoTong University
P. Yao	Shandong University

Sponsors

Organized by

KTH Royal Institute of Technology, Stockholm, Sweden

Chalmers University of Technology, Gothenburg, Sweden

Scania CV AB, Södertälje, Sweden

City of Stockholm, Stockholm, Sweden

The International Committee for Abrasive Technology (ICAT)



Sponsored by

Scania CV AB, Sweden

SSAB AB, Sweden

KMT Precision Grinding AB, Sweden

JSAT – The Japan Society for Abrasive Technology, Japan

