

Preface

Understanding modern production organization becomes a key element that accounts for the structure and operation of the production system. In fact, this type of production organization should be analyzed against a much wider background: as it develops, industrial economy becomes increasingly complex, with two-fold specialization tackling, namely: multiplication of sequences in the process of turning raw materials in finite products; development of service functions that precede, accompany or extend the actual manufacturing process, with a view to improving the effectiveness of the factors involved.

Modern technologies must be seen as tools used to help develop industrial areas of activity which implicitly means improving life. Firstly, Modern technologies should be considered from the viewpoint of their impact on engineering and the advantages or disadvantages brought to society. Secondly, Modern technologies should be analyzed through their contribution to products quality increase.

Under the Scientific Patronage of the Faculty of Mechanical Engineering of the Silesian University of Technology, Gliwice, Poland, the ModTech2014 International Conference brought together representatives of technology and materials manufacturers, various universities, professional associations and research institutes, that exchanged the latest knowledge on the conference topics.

The second edition of ModTech International Conference was held in Gliwice, Poland, between July 13-16, with the Professional Association in Modern Manufacturing Technologies, ModTech, as main organizer, and the Silesian University of Technology, Gliwice-Poland, the Maritime University of Constanta-Romania, the Technical University of Chisinau-Republic of Moldova and the Donetsk National Technical University, Donetsk-Ukraine as co-organizers.

The authors and coauthors were from various countries worldwide, namely: Japan, South Korea, Romania, Poland, Italy, Iraq, India, Serbia, Portugal, Russia, Spain, Republic of Moldova, Uzbekistan, Ukraine, Turkey, Czech Republic and Mexico.

The main publications of ModTech2014 International Conference are as follow: International Journal of Materials & Product Technology (Special issue - Modern Technologies as Future Solutions for Performance Products), Indian Journal of Engineering & Materials Sciences (Special issue - Composite Materials: Science & Engineering.), International Journal of Modern Manufacturing Technologies and Advanced Materials Research-AMR by Trans Tech Publications Inc. (TTP).

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Invited Speakers



Prof. Makio Naito

Osaka University, Joining and Welding Research Institute, Osaka, Japan
SMART SYNTHESIS OF NANOCOMPOSITE PARTICLES
BY MECHANICAL PROCESSING AND ITS APPLICATIONS



Prof. Anna Timofiejczuk

Silesian University of Technology, Gliwice, Poland
CONTEXTUAL APPROACH TO TECHNICAL DIAGNOSTICS



Dr. Radhey Shyam Beniwal

CSIR-NISCAIR, New Delhi, India
MATERIALS SCIENCE RESEARCH: A MULTI-DISCIPLINARY
APPROACH



Prof. Leandru Bujoreanu

"Gheorghe Asachi" Technical University of Iasi, Romania
THERMOMECHANICAL TRAINING EFFECTS OF
MULTIFUNCTIONAL MODULES, PROCESSED BY HIGH-SPEED
HIGH PRESSURE TORSION, WHEN SUBJECTED TO COMPRESSION
LOADING-UNLOADING CYCLES



Dr. Jae-Ho Jeon

Institute of Materials Science, South Korea
MECHANOCHEMICAL SYNTHESIS AND MECHANOCHEMICAL
ACTIVATION-ASSISTED SYNTHESIS OF ALKALINE NIOBATE-
BASED LEAD-FREE PIEZOCERAMIC POWDERS



Prof. Jose Manuel Torralba

University Carlos III, Madrid, Spain
DESIGN AND DEVELOPMENT OF MASTER ALLOYS FOR LIQUID
PHASE SINTERING



Prof. Hidehiro Kamiya

TAT, Tokyo, Japan
NANOPARTICLES AND CARBON NANOMATERIAL COATING ON
FINE PARTICLES PREPARED THROUGH COLLOIDAL AND CVD
COMBINED PROCESS □



Prof. Andrzej Buchacz

Silesian University of Technology, Gliwice, Poland

CLASSICAL AND UNCLASSICAL METHODS IN MODELING,
ANALYSIS AND SYNTHESIS OF DISCRETE AND CONTINUOUS
SYSTEMS AS AN INTRODUCTION TO SYNTHESIS OF TRANSVERSE
VIBRATING MECHANICAL AND MECHATRONIC COMPLEX
SYSTEMS



Prof. Hong Seok Park

University of Ulsan, South Korea

ENERGY EFFICIENCY PROCESS FOR MANUFACTURING CRANK
SHAFT



Prof. Loredana Santo

Tor Vergata University of Rome, Italy

SELF-DEPLOYABLE COMPOSITE STRUCTURES



Prof. Salam Bash Al-Maliky

Al-Mustansirya University, Baghdad, Iraq

EFFECT OF SUCTION PIPE DIAMETER AND SUBMERGENCE RATIO ON
AIR LIFT PUMPING RATE



Prof. Manuel Alberto M. Ferreira

ISCTE-IUL, Lisboa, Portugal

PERFORMANCE AND DIFFERENTIAL COSTS ANALYSIS IN A TWO
ECHELONS REPAIR SYSTEM WITH INFINITE SERVERS QUEUES



Prof. Pavel Topala

“Alecu Russo” University of Balti, Republic of Moldova

NANO-OXIDE FILMS FORMED ON METAL SURFACES BY APPLYING
EDI



Dr. Ildiko Peter

Politehnica University of Torino, Italy

METALLIC ALLOYS FOR MEDICAL APPLICATIONS

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