

## "ANGEL KANCHEV" UNIVERSITY OF RUSE UNION OF SCIENTISTS - RUSE





55th Annual Science Conference of Ruse University
SMART SPECIALIZATION - INNOVATIVE STRATEGY
FOR REGIONAL ECONOMIC TRANSFORMATION

55-та годишна конференция на Русенския университет интелигентната специализация - иновативна стратегия за регионална икономическа трансформация



**28 - 29.10.2016** Ruse, Bulgaria Русе, България





# "ANGEL KANCHEV" UNIVERSITY OF RUSE UNION OF SCIENTISTS – RUSE

## РУСЕНСКИ УНИВЕРСИТЕТ "АНГЕЛ КЪНЧЕВ" СЪЮЗ НА УЧЕНИТЕ – РУСЕ

# Sessions Schedule & Abstracts Програма & Резюмета

55th Annual Science Conference of Ruse University

SMART SPECIALIZATION -INNOVATIVE STRATEGY FOR REGIONAL ECONOMIC TRANSFORMATION

55та Годишна конференция на Русенския университет

ИНТЕЛИГЕНТНАТА СПЕЦИАЛИЗАЦИЯ - ИНОВАТИВНА СТРАТЕГИЯ ЗА РЕГИОНАЛНА ИКОНОМИЧЕСКА ТРАНСФОРМАЦИЯ

2016 - Ruse, Silistra, Razgrad, BlackSeaRama

## Booklet of the 55th Science Conference of Ruse University, Bulgaria, 2016

SAT-16.203-1-ID-08:	Influence of the Location of 9mm Carbon Filter in the System of Smoking Pipe on its Tar-Trapping Properties  Desislav G. Ivanov
SAT-16.203-1-ID-09:	Methodological Aspects of the Design in the Context of its Historical Periodization  Yordan Doichinov
09:00 - 11:00	Parallel Sessions Room 1.307
SAT-1.307-1-MME	Mechanics and Mechanical Engineering Session Chair: B. Sotirov
SAT-1.307-1-MME-01:	Study of high-strength of nano-composite materials for mechanical engineering S. Khalimov, K. Inoyatov
SAT-1.307-1-MME-02:	Solar technology and its prospects for obtaining composite polymer coatings on the surfaces of large-size equipment  A. Khabibullaev
SAT-1.307-1-MME-03:	Monolayered TiN coating deposited on manganese alloy V. Zaharieva, A. Genov
SAT-1.307-1-MME-04:	Changes in the structure during laser treatment of austenitic steel E. Yankov, M. Nikolova, V. Zaharieva, M. Firov
SAT-1.307-1-MME-05:	Classification, properties and application of titanium and its alloys <b>D. Gospodinov</b> , <b>N. Ferdinandov</b> , <b>S. Dimitrov</b>
SAT-1.307-1-MME-06:	Features in welding and heat treatment of titanium and its alloys N. Ferdinandov, D. Gospodinov, S. Dimitrov
09:00 - 11:00	Parallel Sessions Room 10.326
SAT-10.326-1-EEEA	Electrical Engineering, Electronics and Automation Session Chair: L. Mihaylov
SAT-10.326-1-EEEA-01:	Aninvestigation of the residential electricity consumption K. Koev, K. Martev
SAT-10.326-1-EEEA-02:	Modeling integrating strain gauges measuring converter whit instrumental amplifier S. H. Stoyanov
SAT-10.326-1-EEEA-03:	Specific features when using energy installations from renewable sources in urban areas  G. Dimitrov, I. Milenov
SAT-10.326-1-EEEA-04;	Investigation dielectric properties of ceramic capacitors derived from barium strontium titanate  I. Lazarov
SAT-10.326-1-EEEA-05:	Application of wireless sensor network in precision agriculture N. Paskova, T. Georgieva, P. Daskalov
SAT-10.326-1-EEEA-06:	Problems with the replacement of conventional light sources with led <b>P. Petrova</b>
09:00 - 11:00	Parallel Sessions Room 2G.303
SAT-2G.303-1-CST	Computer Systems & Technologies Session Chair: T. Georgiev
SAT-2G.303-1-CST-01:	Non-determinism support in the fiberos exokernel M. Loukantchevsky, N. Kostadinov, H. Avakyan
SAT-2G.303-1-CST-02:	System for generating of DoS network attacks M. Todorov, H. Valchanov

#### SAT-1.307-1-MME

SAT-1.307-1-MME-01

## STUDY OF HIGH-STRENGTH OF NANO-COMPOSITE MATERIALS FOR MECHANICAL ENGINEERING

#### **Shukhrat Khalimov**

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**Abstract:** Currently, the international market on a regular basis can be seen growth in consumption of high-strength polymer composite materials. Such materials provide a high-strength characteristics at creating high-nano-composite materials and a new generation of structures in mechanical engineering.

The study analysis of hetero composites shows that the mechanisms form the nano-structure compounds and gelation of materials, as well as physical-mechanical and chemical properties of high nano-composite materials.

Keywords: Nanocomposite, structure, strength, materials science, reinforcement, material.

SAT-1.307-1-MME-02

# SOLAR TECHNOLOGY AND ITS PROSPECTS FOR OBTAINING COMPOSITE POLYMER COATINGS ON THE SURFACES OF LARGE-SIZE EQUIPMENT

### Alimardon Khabibullaev

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**Abstract:** In this article are given new and useful scientific information on the technology of special polymer coatings on the surfaces of manufacturing equipment.

These findings indicate that solar radiation is significantly accelerates the curing of thermal active polymers that increases the degree of cross-linking of the macromolecular chains, allowing the subsequent strengthening of the physical and mechanical properties of polymer materials and coatings based on them.

Keywords: Solar Technology, coating, composites, hetero-composite.