



**HUMAN CAPITAL**  
NATIONAL COHESION STRATEGY



**EUROPEAN UNION**  
EUROPEAN REGIONAL  
DEVELOPMENT FUND



The project is co-funded by European Union from financial resources of European Regional Development Fund

## **Institute of Engineering Materials and Biomaterials SILESIA UNIVERSITY OF TECHNOLOGY**

QUAPINFO Project



**Increasing attractiveness  
of education quality  
in the macro-field of study:  
Applied Computer Science  
and Computational  
Materials Science**



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# **Institute of Engineering Materials and Biomaterials SILESIAN UNIVERSITY OF TECHNOLOGY**

NANATRIM Project



**Improvement of education  
attractiveness  
in the macro-field of study:  
Nanotechnology  
and Materials Processes  
Technology**





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# **Institute of Engineering Materials and Biomaterials SILESIA UNIVERSITY OF TECHNOLOGY**

IMOTECH Project



**Improvement  
of education  
attractiveness  
in the field of study:  
Materials  
Engineering**





**Institute of Engineering Materials and Biomaterials**  
**Faculty of Mechanical Engineering**  
**SILESIAN UNIVERSITY OF TECHNOLOGY**

**PROJECT**



**infonano**

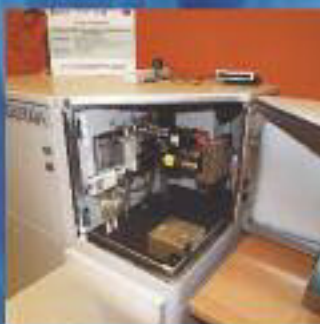
**Priority courses**

- **Nanotechnology and Materials Processes Technologies**
- **Applied Computer Science with Computational Materials Science**
- **Materials Engineering** with 4 education profiles:
  - Dental Engineering
  - Surface Engineering
  - Management Engineering
  - Processes Automation





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## Laboratory of Engineering Materials and Biomaterials Researches



of the institute of Engineering Materials and Biomaterials of the Silesian University of Technology, Gliwice, Poland modernized in the framework of MERMFLG project co-funded by the European Union from financial resources of the European Regional Development Fund and consisting of:

- Workroom for Materials Processing Technology
- Workroom for Fundamentals of Materials Science
- Workroom for Surface Engineering
- Workroom for Tribological Examinations and Model and Operational Examinations of Materials and Prosthodontics Elements
- Workroom for Strength Examinations
- Methodological Room for Examination of Engineering Materials
- Workroom for Specimen Preparation for Transmission Electron Microscopy
- Workroom for Transmission Electron Microscopy
- Workroom for Scanning Electron Microscopy and Spectral Analysis
- Workroom for Light Microscopy and Stereology
- Workroom for Specimen Preparation for Light and Scanning Microscopy
- Workroom for Chemical Analysis
- Workroom for Structural X-ray Examination
- Workroom for Methodology of Transmission and Scanning Electron Microscopy
- Workroom for Metallurgical Processes Simulations
- Workroom for High Definition Transmission Electron Microscopy
- Workroom for Specimen Preparation for High Definition Transmission Electron Microscopy
- Methodological Room for Light Microscopy
- Workroom for Powder Metallurgy
- Workroom for Forming Properties of Engineering Materials and Materials Processing Technology
- Workroom of Structure of Engineering Materials

**will be opened in 2013**





**INFRASTRUCTURE  
AND ENVIRONMENT**  
NATIONAL COHESION STRATEGY

EUROPEAN UNION  
EUROPEAN REGIONAL  
DEVELOPMENT FUND



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# **Institute of Engineering Materials and Biomaterials SILESIA UNIVERSITY OF TECHNOLOGY**

## **The Scientific-Didactic Laboratory of the Nanotechnology and Materials Technology in Gliwice**

PROJECT







The project is co-funded by European Union from financial resources of European Regional Development Fund

## Ultra-modern, well-equipped and newly-built **Scientific and Didactic Laboratory of Nanotechnology and Materials Technologies**

of the Institute of Engineering Materials and Biomaterials of the Silesian University of Technology, Gliwice, Poland realised in the framework of LANAMATE project co-funded by the European Union from financial resources of the European Regional Development Fund and consisting of:

- Workroom of Materials, Composites and Polymer Nanocomposites Processing
- Workroom of Metal Materials, Ceramic and Photovoltaic Laser Surface Treatment
- Workroom of Powder Metallurgy and Ceramic Materials
- Workroom of Composite and Nanostructural Materials Technology by the Use of Intensive Plastic Deformation Methods
- Workroom of Metal Alloys and Materials Heat Treatment by the Use of Semiconductors
- Workroom of Metal Alloys Plastic Deformation
- Workroom of Computational Materials Science
- Workroom of Computer Assistance in Nanotechnology and Materials Technology
- Workroom of Equipment and Materials Technologies Design by the Use of Virtual Reality Methods
- Workroom of Technological Processes Visualisation by the Use of Virtual Reality Methods
- Workroom of Nanostructural Coatings Surface Engineering
- Workroom of Amorphous and Nanocrystalline Materials Manufacturing and Metal, Ceramic and Gradient Materials Laser Constitution
- Workroom of Nanotubes and Nanomaterials
- Workroom of Materialographic Control and Manufacturing Quality Management

PROJECT



**will be opened in 2013**





# Journal

of Achievements in Materials  
and Manufacturing Engineering



Published monthly on the journal of the World Academy of Materials and Manufacturing Engineering

Editor-in-Chief: Prof. Leszek A. Dobrzanski Volume 80 | Issue 1 | January 2012



<http://www.journals.waem.org>

# Journal

of Achievements in Materials  
and Manufacturing Engineering



Published monthly on the journal of the World Academy of Materials and Manufacturing Engineering

Editor-in-Chief: Prof. Leszek A. Dobrzanski Volume 80 | Issue 2 | February 2012



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# Journal

of Achievements in Materials  
and Manufacturing Engineering

ISSN 1546-2218



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of Achievements in Materials  
and Manufacturing Engineering



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<http://www.journals.waem.org>

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and Manufacturing Engineering

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<http://www.journals.waem.org>



In 2012 volumes 50(1)-55(2) of Journal of Achievements in Materials and Manufacturing Engineering were published



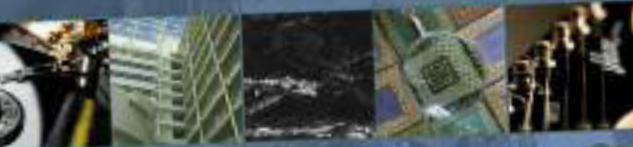




Volume 23  
Issue 1  
January 2012

ISSN 1587-7704

# Archives of Materials Science and Engineering



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In the passing year volumes 53(1)-58(2) of Archives of Materials Science and Engineering appeared.





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Volume 1 (7) 2012

Anna D. Dobrzańska-Danikiewicz

Metodologia komputerowo zintegrowanego prognozowania rozwoju inżynierii powierzchni materiałów

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Tomasz Tański

Kształtowanie struktury i własności powierzchni stopów Mg-Al-Zn

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Grzegorz Chład

Materiały nanokompozytowe ulepszone nanosrebrem na długoczasowe miękkie podścielenia protez stomatologicznych

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Volume 7 (13) 2012

Grzegorz Matuła

Gradientowe warstwy powierzchniowe z węglkostali narzędziowych formowane bezciśnieniowo i spiekane

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Volume 8 (14) 2012

Leszek A. Dobrzański  
Grzegorz Matuła

Podstawy metalurgii proszków i materiały spiekane

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Published since 1996 in Studies of the Institute of Engineering Materials and Technology  
Volume 9 (15) 2012

Hanna Maria Wiśniewska-Weinert

Wzrost wytrzymałości z siarczkowymi nanocząstkami grafenopodobnymi







Reception and Check-in in Marine Hotel\*\*\*\*\* in Kołobrzeg





Welcome and Cocktail Dinner





AMME'20  
20<sup>th</sup> INTERNATIONAL  
SCIENTIFIC CONFERENCE  
ON ACHIEVEMENTS  
IN MECHANICAL AND MATERIALS  
ENGINEERING  
September 2012  
Kołobrzeg

**Opening Ceremony in the Regional Cultural Centre in Kołobrzeg  
with the Ceremony of Handing the Honorary Awards  
of the Prof. Fryderyk Staub Golden Owl for 2012,  
of Prof. Jan Adamczyk and Great Honorary Awards**









**Banquet Dinner in the Amber Palace Hotel in Szczekęcino  
with the Ceremony of Handing Amber Owl Honorary Awards**









## Plenary and Training Sessions









# Plenary and Training Sessions









Plenary Session V and the Bidisciplinary Occasional Special Session BOSS'2012









Plenary Session V and the Bidisciplinary Occasional Special Session BOSS'2012

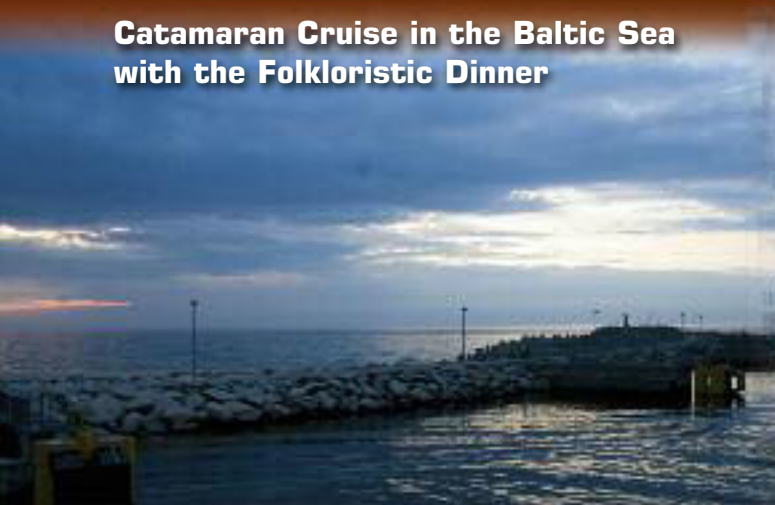








**Catamaran Cruise in the Baltic Sea  
with the Folkloristic Dinner**











### **Materials:**

Metallic Alloys, Tool Materials, Superplastic Materials, Ceramics and Glasses, Composites, Amorphous Materials, Nanomaterials, Biomaterials, Multifunctional and Smart Materials, Engineering Polymers

### **Properties:**

Ductility and Crack Resistance, Fatigue, Creep-resistance, Fracture Mechanics, Mechanical, Electrical, and Magnetic Properties, Corrosion and Erosion, Wear Resistance, Non-Destructive Testing, Reliability Assessment, Toxicity, Working Properties of Materials and Products

### **Methodology of Research:**

Electron Microscopy, X-ray Phase Analysis, Metallography and Quantitative Metallography, Image Analysis, Computer Assistance in the Engineering Tasks and Scientific Research

### **Analysis and Modelling:**

Numerical Techniques, Statistic Methods, Residual Life Analysis, Process Systems Design, Mould Flow Analysis, Rapid Prototyping, CAD/CAM, CAMS, CAQ, Engineering Design, Constructional Design, Technological Design, Materials Design, Applied Mechanics, Computational Material Science and Mechanics, Materials and Engineering Databases, Expert Systems, Artificial Intelligence Methods

### **Manufacturing and Processing:**

Casting, Powder Metallurgy, Welding, Sintering, Heat Treatment, Thermo-Chemical Treatment, Thin & Thick Coatings, Surface Treatment, Machining, Plastic Forming, Quality Assessment, Automation Engineering Processes, Robotics and Mechatronics, Technological Devices and Equipment

### **Cleaner Production and Biotechnology:**

Theoretical Fundamentals of Cleaner Production, Industrial Application of Cleaner Production, Biotechnology

### **Industrial Management and Organisation:**

Production and Operations Management, Production Planning and Control, Manufacturing Technology Management, Quality Management, Environmental Management, Safety and Health Management, Project Management, Physical Distribution and Logistics Management, Supply Chain Management, Productivity and Performance Management

### **Education and Research Trends:**

Development of New Curricula for BSc and MSc Studies in the field of Materials Science, Manufacturing and Mechanical Engineering, Challenges of the Widening Labour Market, Complementary Roles of Developed and Developing Nations in Promoting a Global Industrial and Economical Infrastructure and Requirements on Common International Research and Teaching Development in the field of Materials, Manufacturing and Mechanical Engineering, Computer Aided Teaching, E-learning

Only papers positively pre-reviewed by at least two reviewers are published in the Journal