RESEARCH GROUP HEADING

Biomechanics Research Group **BioMed**
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CV

PERSONAl INFORMATION

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Nationality	**Polish**
Date of birth	**07.02.1974**

EDUCATION AND TRAINING

Dates	**13.03.2007**
Title of qualification awarded	**Ph.D.**
Name and type of organisation providing education and training	**University of Science and Technology, Mechanical Engineering Faculty, Kaliskiego 7 Street, Bydgoszcz 85-789, Poland**
Dates	**26.06.1999**
Title of qualification awarded	**Mechanical Engineer, Master of Science**
Name and type of organisation providing education and training	**University of Science and Technology, Mechanical Engineering Faculty, Kaliskiego 7 Street, Bydgoszcz 85-789, Poland**

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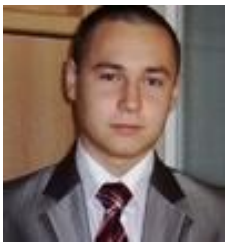

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LEADING RESEARCH TOPICS OF THE GROUP

- Research on structure, strength and fatigue life of human bones. Changes in density of bones and spatial orientation elements internal structure of bone, connected with ageing and during the diseases of bones (e.g. osteoporosis, arthrosis).
- Research on structure, strength and fatigue life bones of animals (livestock), related to kind of used fodder, additions to the fodder and growth of mass of animals.
- Estimating the consumption of energy during the milling of the plants, being the ingredients of fodder for the animals.
- Dentist's implants - research of mechanical properties and the influence of the environment of oral cavity on their degradation.
- Analysis and synthesis of body movements for biomechanics simulation.
- Geometry reconstruction of three-dimensional objects with non-contact measurements also medical imaging for biomechanics and reverse engineering.
- Determining the geometric and topological features of the reconstructed objects.
- Motion capture systems for biomechanics and computer games.
- Determining mechanical properties of materials and components in the FEM systems.
- The structure and the modernization of the equipment and methods for the rehabilitation of the patient.
- Biomechanical characteristics of forces and the power of upper limbs muscles.
- Rehabilitation on groups of muscles with the usage of isometric short circuits.

GENERAL EXPRESSION OF INTERESTS

Dear Sirs:

We are a research team of the University of Science and Technology in Bydgoszcz, acting on biomechanics in the broadest sense of the word. Academic teachers and students of the University are part of this team.

We are writing to you to explore the possibility to cooperate with us.

Please find more detailed information about our research interests, profiles of group members and the areas of their scientific interests.

In case you find it interesting, it would be highly appreciated if you could send us more detailed information about opportunities for cooperation.

Should you be interested in a scientific cooperation, we kindly request you to contact us.

Yours faithfully,

Adam Mazurkiewicz, Ph.D.

BEST SELECTED PUBLICATIONS

1. **Mazurkiewicz, Adam**; Topolinski, Tomasz;: Relationship between the mineral content of human trabecular bone and selected parameters obtained from its fatigue test with stepwise increasing amplitude, ACTA OF BIOENGINEERING AND BIOMECHANICS, DOI: 10.5277/ABB-00722-2016-02, 2016.
2. Topolinski, Tomasz; **Mazurkiewicz, Adam**; Jung, Stanislaw; **Nowicki, Krzysztof**; et al.: Microarchitecture Parameters Describe Bone Structure and Its Strength Better Than BMD, SCIENTIFIC WORLD JOURNAL, Article Number: 502781, Published: 2012.
3. Topolinski, Tomasz; Cichanski, Artur; **Mazurkiewicz, Adam**; **Nowicki, Krzysztof**; et al.: Study of the behavior of the trabecular bone under cyclic compression with stepwise increasing amplitude, JOURNAL OF THE MECHANICAL BEHAVIOR OF BIOMEDICAL MATERIALS, Volume: 4, Issue: 8, Pages: 1755-1763, Published: NOV 2011.
4. Topolinski, Tomasz; Cichanski, Artur; **Mazurkiewicz, Adam**; **Nowicki, Krzysztof**; et al.: Fatigue Energy Dissipation in Trabecular Bone Samples with Step-wise-Increasing Amplitude Loading, MATERIALS TESTING, Volume: 53, Issue: 6, Pages: 344-350, Published: 2011.
5. Cichanski, Artur; **Nowicki, Krzysztof**; **Mazurkiewicz, Adam**; et al.: Investigation of statistical relationships between quantities describing bone architecture, its fractal dimensions and mechanical properties, ACTA OF BIOENGINEERING AND BIOMECHANICS, Volume: 12, Issue: 4, Pages: 69-77, Published: 2010.
6. **Mazurkiewicz, Adam**; Topolinski, Tomasz;: Relationships between structure, density and strength of human trabecular bone, ACTA OF BIOENGINEERING AND BIOMECHANICS, Volume: 11, Issue: 4, Pages: 55-61, Published: 2009.