



## assoc. prof. Oksana Velgosová, PhD.

### PRACTICE

#### **January 2024**

Professor | Institute of Materials, Faculty of Materials, Metallurgy and Recycling, Technical University of Košice

#### **August 2017 – December 2023**

associated professor | Institute of Materials and Engineering Quality, Faculty of Materials, Metallurgy and Recycling, Technical University of Košice

#### **Jun 2011 – Jun 2017**

associated professor | Department of Materials Science, Faculty of Metallurgy, Technical University of Košice

#### **August 2001 – Jun 2011**

assistant professor | Department of Non-Ferrous Metals and Waste Treatment, Faculty of Metallurgy, Technical University of Košice

#### **September 1997 - August 2001**

PhD student | Slovak Academy of Science, Košice, Institute of Materials Science

#### **September 1992 - Jun 1997**

student | Faculty of Metallurgy, Technical University of Košice

### EDUCATION

#### **Faculty of Materials, Metallurgy and Recycling, Technical University of Košice**

- defense of the inaugural lecture - prof.; 16<sup>th</sup> February 2024
- field of inauguration: materials
- topic of lecture: The path to advanced technology for the creation of new nanomaterials

#### **Faculty of Materials, Metallurgy and Recycling, Technical University of Košice**

- defense of the habilitation lecture – assoc. prof.; 01<sup>st</sup> Jul 2011
- field of habilitation: 5.2.26 materials
- topic of lecture: Composite materials - influence of selected parameters on the structure and properties of the dispersion-strengthened Al-Al<sub>4</sub>C<sub>3</sub> system

#### **Institute of Materials Science, Slovak Academy of Science, Košice**

- defense of the PhD. thesis; 01<sup>st</sup> March 2001



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10. 06. 1973



#### **ORCID:**

<https://orcid.org/0000-0001-8903-2604>



#### **WoS:**

<https://www.webofscience.com/wos/author/record/F-3096-2011>

- field: 22-03-9 Physical Metallurgy
- PhD thesis: Structure and mechanical properties of selected mechanically alloyed systems

#### **Department of Materials Science, Faculty of Metallurgy, TU of Košice**

- State exam - Ing.; 04<sup>th</sup> Jun 1997
- field: 22 35-8 Metallurgy
- thesis of diploma work: Fatigue properties of steels with increased resistance to atmospheric corrosion

### **SCIENTIFIC AND RESEARCH EXPERIENCES**

#### **Grants and projects:**

- **Solved VEGA projects - principal investigator:**

1. VEGA 1/0020/22: Development and analysis of properties of progressive composites with polymer matrix doped with silver nanoparticles for sensors and antibacterial applications (2022-2024)
2. VEGA 1/0134/19: Analysis of structural, corrosion, and antimicrobial properties of biologically synthesized silver nanoparticles and preparation of polymer-based nanocomposites containing Ag nanoparticles (2019-2021)
3. VEGA 1/0197/15: Study of the use of silver nanoparticles produced by biometallurgical processes in the prevention of biofilm formation (2015-2017)

- **Solved VEGA, KEGA, and APVV projects - investigator:**

1. KEGA 009TUK-4/2023: Creation of materials engineering education aids using IT resources for Industry 4.0 (2023-2025)
2. VEGA 12/0101/20: Advanced composites based on magnesium and carbon nanomaterials (CNT/CNF/GNP) prepared by pulsed electric current sintering (2020-2022)
3. VEGA 2/0080/17: Effect of secondary particles on the microstructure and mechanical properties of magnesium nanocomposite structures (2017-2019)
4. KEGA 007TUK-4/2017: Combined form of education and innovation of selected study programs at HF TUK Project number (2017-2019)
5. VEGA 2/0118/14: The influence of intense plastic deformations on the formation of the structure and properties of progressive composite nanomaterial systems (2014-2016)
6. VEGA 1/0235/12: Study of new procedures in biometallurgical and hydrometallurgical extraction of noble metals from wastewater (2012-2014)
7. VEGA 2/0025/11: The influence of dispersed particles on the formation of the structure and properties of nanocomposites prepared by the SPD method (2011-2013)
8. VEGA 1/0134/09: Study of obtaining common and noble non-ferrous metals from secondary sources by biometallurgical and hydrometallurgical processes (2009-2011)
9. APVV-20-13405: Acquisition of usable substances by efficient processing of waste from the production of aluminum - aluminum scraps (2006-2009)
10. VEGA 2/5142/25: Evaluation of structural parameters and analysis of physical-mechanical properties of dispersion-reinforced systems (2005-2007)
11. VEGA 1/0390/03: Synthesis of materials with specific properties using waste and/or low-quality input raw materials (2003-2005)
12. VEGA 2/2114/22: Comprehensive analysis of structure, assessment of deformation and failure of composites with particles (2001-2004)
13. VEGA 2/6097/99: Quantification of the structure and deformation processes of dispersion reinforced systems (1996-2001)
14. VEGA 2/1316/96: Structure and mechanical properties of dispersion systems (1996-1999)

- **Solved other projects:**

1. IOM Poland: Hydrometallurgical processing technologies of polymetallic concretions (2001)

### **Research activities:**

- Materials
- Preparation of metal nanoparticles of precious metals
- Preparation of polymer composites doped with metal nanoparticles
- Composite materials
- Characteristics: properties and structure of materials; Toxicity

### **PEDAGOGICAL ACTIVITIES**

**Since 2001, she has taught 24 subjects (lectures, exercises). She currently teaches the following subjects:**

- **for Ing. students:**
  - Composite materials for II. Ing. year
  - Structural engineering of steel sheets for I. Ing. year
  - Nanomaterials for I. Ing. year
- **for PhD. students:**
  - Biomaterials
  - Biomimetics
  - Nanomaterials and nanotechnologies
  - Modern material technologies
- **Leading of students:**
  - 12 Bc. students
  - 13 diploma works
  - 4 doctoral students (1 did not complete; 1 completed; 1 after successfully defending a written thesis on the dissertation experience; 1 in the 2<sup>nd</sup> year of study)
- **She is an opponent of bachelor, engineering, and dissertation theses.**

### **PUBLICATION ACTIVITY AND CITATIONS**

- **TUKE library: 176 records**
- **WoS: 75 publications; 416 citations; h index 11**  
<https://www.webofscience.com/wos/woscc/citation-report/3ccf911d-9655-4133-a96a-9f99b384a69a-01385ba4ec>
- **Scopus: 89 publications; 576 citations; h index 13**  
<https://www.scopus.com/pages/citationOverview?key=d6e11caa-a755-4864-a9de-370046daf480&origin=resultslist>

### **COURSES AND CERTIFICATES**

- University pedagogy according to European standards – 2007
- Driving license: B

### **OTHER PROFESSIONAL ACTIVITIES**

- **Professional foreign stays:**
  1. 2011 - Erasmus, University of Birmingham, Department of Chemical Engineering, Birmingham, UK
  2. 2019 - Erasmus, IST Lisboa, Department of Chemical Engineering, Lisboa, Portugal
  3. 2023 - Erasmus+, Teaching Mobility, University J.E. Purkyně in Ústí nad Labem, Czech Republic
  4. 2023 - Horizon Europe Cluster 6 Information Days, Brokerage Event, the European Commission, Charlemagne building, Rue de la Loi 170, 1000, Brussels
  5. 2024 - Erasmus+, Staff Mobility for Training, Université Côte d'Azur
  6. 2024 - Erasmus+, Staff Mobility for Teaching, Silesian University of Technology, Katowice, Poland

- **Membership**

- Academic Senate of the FMMR TUKE – vice-president  
[https://fmmr.tuke.sk/wps/portal/fmmr/fakulta/akademicke-organy/akademicky\\_senat\\_fmmr](https://fmmr.tuke.sk/wps/portal/fmmr/fakulta/akademicke-organy/akademicky_senat_fmmr)
- Scientific Council of the FMMR TUKE  
<https://fmmr.tuke.sk/wps/portal/fmmr/fakulta/akademicke-organy>
- Advisory Editorial Members of Acta Metallurgica Slovaca journal  
<https://journal-ams.org/editorial-board/>
- member of the guaranteeing base for:
  - o 2nd degree in the study program Materials Engineering, study field Mechanical Engineering,
  - o 3rd degree in the Materials Science study program, Mechanical Engineering field of study,
  - o habilitation and inaugural procedures for the Department of Materials, Study Department of Mechanical Engineering

- **Membership in commissions**

- member of the commission for the evaluation of VEGA and APVV projects
- the trade union commission for doctoral studies at FMMR TUKE in the field of Mechanical Engineering
- member of the commission for Student Scientific activities
- member of the commission for the state examinations - defense of the doctoral dissertation and the dissertation examination in the field of study: Acquisition and processing of land resources

### **PC SKILLS**

MS Office (Word, Excel, PowerPoint, ...) – advanced level

GIMP 2.10 - advanced level

### **LANGUAGE SKILLS**

English B2, Ukrainian C2, Russian C2, Czech C2

### **SOCIAL SKILLS AND COMPETENCES**

- good communication skills
- team spirit
- responsibility
- reliability, empathy
- flexibility
- personal motivation

### **ORGANIZATIONAL SKILLS AND COMPETENCES**

- good organizational and managerial skills
- ability to set priorities and meet deadlines
- experience in leading teams and colleagues
- ability to resolve crisis situations

In Košice 19<sup>th</sup> March 2025

  
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Oksana Velgosová