

Description of the habilitation procedure and inauguration procedure

Name of the higher education institution: *Alexander Dubček University of Trenčín*

Address of the higher education institution: *Študentská 2, 911 50 Trenčín*

Identification number of the higher education institution: *719000000*

Name of the faculty: *Centre for Functional and Surface Functionalized Glass (FunGlass)*

Address of the faculty: *Študentská 3, 911 50 Trenčín*

Authority of the University for the Approval of the Habilitation Procedure and Inauguration

Procedure (hereinafter referred to as "HP" and "IP"): *Internal Evaluation Board of TnUAD; Scientific Board of TnUAD*

Date of approval by Internal Evaluation Board TnUAD: *June 18, 2025*

Reference: *Minutes No. 4/2025 – June 18, 2025*

Date of approval by the TnUAD Scientific Council: *December 1, 2025*

Reference: *Zápisnica č. 2/2025 zo zasadania Vedeckej rady TnUAD v Trenčíne zo dňa 1. decembra 2025*

Date of Accreditation Granted by the Slovak Accreditation Agency for Higher Education (SAAVŠ): *July 9, 2026, effective from August 6, 2026.*

1. Definition of the study field of the habilitation proceeding and inauguration proceeding

a) Name of the field of HP and IP: *Inorganic technology and materials*

b) Content definition:

The content definition of the field of habilitation and inauguration proceedings Inorganic Technology and Materials is directly linked to the study field Chemical Engineering and Technologies, to which it is assigned, and within which the third-level study program Inorganic Technologies and Non-Metallic Materials is carried out. The university-wide research center FunGlass conducts continuous creative activities in the field of habilitation and inauguration proceedings Inorganic Technology and Materials. The key areas of the habilitation and inauguration proceedings are primarily focused on fundamental and applied research in the field of glass and advanced ceramic materials and can be defined as follows:

- **Field of Glass Materials with a Focus on:**

- *Investigating the relationships between glass properties and their composition, supported by thermodynamic modeling,*
- *Developing new types of glass based on industry requirements,*
- *Studying the corrosion mechanisms of commercially produced glass surfaces for the glass industry and the corrosion and radiation resistance mechanisms of glass fibers (used as insulation) for the nuclear industry to enhance their corrosion resistance,*
- *Examining the corrosion mechanisms of refractory materials for the glass industry,*
- *Research and development of new approaches in melting commercially produced glass,*
- *Exploring glass waste recycling possibilities,*
- *Investigating the effects of chemical and physical surface treatments on the mechanical properties of glass,*
- *Research in the field of sol-gel methods (thin films, composites) for biomedical (antibacterial layers, anti-corrosion coatings), optical, and optoelectronic applications (reflective and anti-reflective coatings, luminescent active coatings),*
- *Advanced preparation methods (3D, 2D printing),*
- *Bioactive glass and composite materials,*
- *Development of analytical methods for instrumental glass analysis.*

- **Field of Ceramic and Inorganic Materials with a Focus on:**

- Research in the field of advanced ceramic materials, studying the relationships between microstructure and mechanical and optical properties, photoluminescent active ceramic materials, and transparent ceramic materials,
- Transparent oxyfluoride glass-ceramic materials with luminescent active fluoride nanophases,
- Preparation and characterization of glass-ceramic coatings for high-temperature corrosion protection of metallic materials,
- Preparation and study of photocatalytically active inorganic materials and composites for the degradation of organic pollutants and hydrogen technologies (water splitting),
- Advanced sintering methods for ceramic materials, including environmentally friendly sintering techniques (e.g., cold sintering),
- Advanced ceramic materials stabilized by high entropy,
- Utilization of inorganic waste through low-environmental-impact technologies (e.g., consolidation using alkali activation).

The field of habilitation proceeding and inauguration proceedings reflects current trends in the various areas of the study discipline, the requirements of economic practice, knowledge of social responsibility, sustainability, ethics, and ecological actions, while also fostering the development of critical and entrepreneurial thinking.

c) Awarded degree: **doc./prof.**

d) Assignment to field(s) of study: **16. Chemical engineering and technology**

2. Personnel responsible for the study field of the habilitation proceeding and the inauguration proceeding

A group of five persons, who are responsible for the development and quality assurance of the study field of HP and IP, work at the university for a set weekly working hours and meet the criteria specified in Article 4 of the Standards for Habilitation Proceeding and Inauguration Proceeding, Slovak Accreditation Agency for Higher Education of 17 October 2024. Each of these persons is not responsible for the development and quality assurance of another field of HP and IP and only at one university in the Slovak Republic.

Persons responsible for HP and IP at FunGlass at TnUAD in the field of Habilitation Proceeding and Inauguration Proceeding in Inorganic Technology and Materials are:

- **prof. Ing. Dušan Galusek, DrSc.** – position of a professor, title of professor, meets the criterion of Article 4, Paragraph 2, (a), (b), (c) of the Standards for HP and IP, SAAVŠ,
- **prof. RNDr. Karel Maca, Dr.** – position of a professor, title of professor, meets the criterion of Article 4, Paragraph 2, (c) of the Standards for HP and IP, SAAVŠ,
- **doc. Ing. Róbert Klement, PhD.** – position of an Associate Professor, title of Associate Professor (docent), meets the criterion of Article 4, Paragraph 2, (c) of the Standards for HP and IP, SAAVŠ,
- **doc. Ing. Mária Chromčíková, PhD.** - position of an Associate Professor, title of Associate Professor (docent), meets the criterion of Article 4, Paragraph 2, (c) of the Standards for HP and IP, SAAVŠ,
- **doc. Amirhossein Pakseresht, Ph.D.**- position of an Associate Professor, title of Associate Professor (docent), meets the criterion of Article 4, Paragraph 2, (c) of the Standards for HP and IP, SAAVŠ,

These persons work at the university-wide FunGlass Center for the designated weekly working hours and are not responsible for the development and quality assurance of the HP and IP in another field or at any other university in Slovakia.

Reference to the Research/art/teacher profile of a person responsible for HP and IP:

[61 ATaM HIK d\) VUPCH OZHIK 1 5](#)

3. Composition of the University Scientific Council

a) The composition of the Scientific Council of Alexander Dubček University of Trenčín is:

[Council of Alexander Dubček University of Trenčín](#)

The Scientific Council of Alexander Dubček University of Trenčín consists of 30 members, 5 of whom work in the field of study Chemical engineering and technology to which the field of HP and IP Inorganic technology and materials is assigned. Among them are prominent experts with the professional capacity to assess HP and IP in the field of Inorganic Technology and Materials.

- *prof. Ing. Dušan Galusek, DrSc.*
- *doc. Ing. Róbert Klement, PhD.*
- *doc. Ing. Miroslav Boča, DrSc.*
- *prof. RNDr. Pavol Šajgalík, DrSc.*

b) The composition of the Scientific Council of the Faculty of Social and Economic Relations can be found at:

The Centre for Functional and Surface-Functionalized Glass (FunGlass) is a university-wide research institute that does not have the status of a faculty within TnUAD and, as such, does not have its own Scientific Council. Therefore, in relevant matters, it is subject to the decisions of the Scientific Council of TnUAD.

4. Outputs of creative activity of persons responsible for HP and IP

References to the outputs of creative activity of persons responsible for HP and IP are available at:

[61 ATaM HIK e\) Charakteristiky VTC SJ EN](#)

The methodology for evaluating creative activities at:

[Methodology for Evaluating Creative Activities](#)

5. Level of criteria for evaluating the fulfilment of the conditions for obtaining the title of an associate professor

Quantified criteria for obtaining the title of an associate professor are available at:

[61 ATaM HIK b\) Minimum Criteria for Obtaining the Title of Associate Professor and the Title of Professor](#)

6. Level of criteria for evaluating the fulfilment of the conditions for obtaining the title of a professor

Quantified criteria for obtaining the title of a professor are available at:

[61 ATaM HIK b\) Minimum Criteria for Obtaining the Title of Associate Professor and the Title of Professor](#)

7. Rules and procedures of the habilitation procedure and the inauguration procedure

The university-wide document Rules and Procedures of HP and IP is published on the website

3-U-054 Organizational Directive on the Procedure for Obtaining the Scientific-Pedagogical and Artistic-Pedagogical Titles of Associate Professor and Professor at TnUAD

Rules and procedures of the habilitation procedure and inauguration procedure are in harmony with other legal standards:

- Standards of the Slovak Accreditation Agency for Higher Education for HP and IP
- Decree of the Ministry of Education, Research, Development and Youth of the Slovak Republic implementing certain provisions of Act No. 300/2025 Coll. on Higher Education Institutions and on Amendments to Certain Acts, as amended.
- Act No. 300/2025 Coll. on Higher Education Institutions
<https://www.slov-lex.sk/ezbierky/pravne-predpisy/SK/ZZ/2025/300/20260301>
- 3-U-054 Organizational Directive on the Procedure for Obtaining the Scientific-Pedagogical and Artistic-Pedagogical Titles of Associate Professor and Professor at TnUAD
- Code of Conduct for Research Integrity and Ethics in Slovakia: Code of Conduct
- Code of Ethics of A. Dubček University of Trenčín: Code of Ethics
- Declaration on Fostering the Culture of Scientific Integrity in Slovakia: Declaration

8. Completed habilitation proceedings and their results

Completed habilitation procedures at FunGlass: <https://tnuni.sk/habilitacie-a-inauguracie/>

9. Completed inauguration proceedings and their results

Completed inaugural proceedings at FunGlass will be available on the TnUAD website: <https://tnuni.sk/habilitacie-a-inauguracie/>

10. Field of HP and IP being replaced: *Inorganic technology and materials*

11. Justification of continuity or integration:

The new accreditation of the habilitation procedures and inauguration procedures in the field of Inorganic Technology and Materials is based on the original field of habilitation and inauguration committees (HP and IP) in Inorganic Technology and Materials, which has been aligned with the standards for HP and IP set by SAAVŠ. This field has been implemented and actively used in the process of evaluating the scientific and pedagogical competencies of candidates.

In the field of HP and IP for Inorganic Technology and Materials at the university-wide research center FunGlass, several experts from the Center have successfully completed their habilitation procedures. This fact confirms the relevance and acceptability of the professional criteria established for this HP and IP field.

The criteria for HP and IP are designed to reflect the high standards required for the scientific excellence of candidates. The scientific and scientometric criteria for habilitation procedures are based on the requirements for obtaining the scientific qualification level IIa (independent research worker), while the scientific and scientometric criteria for inauguration procedures correspond to the criteria for obtaining the scientific degree of Doctor of Sciences (DrSc.) in the relevant field.

The criteria for the HP and IP field are comparable to those applied at the European level, ensuring a high-quality evaluation process for candidates seeking academic titles such as Associate Professor

and Professor. The new accreditation builds upon existing professional foundations, ensuring continuity and the further development of scientific and pedagogical competencies in the field of Materials.