



TECHNICAL UNIVERSITY OF KOŠICE
FACULTY OF MATERIALS, METALLURGY
AND RECYCLING

**EVERY SUCCESSFUL JOURNEY
BEGINS WITH THE RIGHT
DECISION**



Slovakia



- **Population:** 5,4 mil.
- **Capital city:** Bratislava
- **Currency:** Euro



Košice

- **Population:** 239 000 (2nd in Slovakia)
- **First mention:** year 1230
- **First coat of arms in Europe (King Lodovicus the Great):** year 1369



Košice

- **Košice Peace Marathon**
 - Oldest marathon in Europe
 - Established in 1924



- **Košice 2013 – European Capital of Culture**
 - First city in Slovakia



- **Košice 2016 – European City of Sport**
 - First city in Slovakia



- **2011 and 2019: World Championship in Ice Hockey**



Technical University of Košice

Founded in: 1952, three establishing faculties

9 faculties:

- Faculty of Mining, Ecology, Process Control and Geotechnology **(1952)**
- **Faculty of Materials, Metallurgy and Recycling (1952)**
- Faculty of Mechanical Engineering **(1952)**
- Faculty of Electrical Engineering and Informatics **(1969)**
- Faculty of Civil Engineering **(1976)**
- Faculty of Economics **(1992)**
- Faculty of Manufacturing Technologies **(1992)**
- Faculty of Arts **(1998)**
- Faculty of Aeronautics **(2005)**





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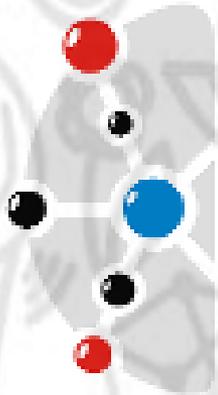


Institutes

Institute of
Materials and
Quality Engineering

Institute of
Metallurgy

Institute of
Recycling Technologies



Study

Bachelor study

Study branch	Study Program
Materials	Materials
	Construction Materials in Automotive Industry
Metallurgy	Metallurgy
	Control and Modeling of Metallurgical Processes
	Foundry for Automotive Industry
	Chemical Processes in Material Production
	Heat Engineering and Gas Industry
Environmental Engineering	Waste Treatment and Recycling
Quality of Production	Integrated Management Systems

Study

Master study

Study branch	Study Program
Materials	Materials Engineering
	Materials Forming
Metallurgy	Metallurgy
	Foundry
	Heat Engineering and Gas Industry
Environmental Engineering	Waste Treatment and Recycling
Quality of Production	Integrated Management Systems

Study

Doctoral study

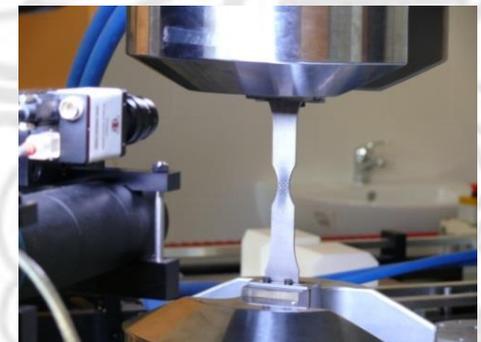
Study branch	Study Program
Materials	Material Science
	Plastic Deformations
Metallurgy	Metallurgy
	Heat Engineering
Environmental Engineering	Waste Treatment and Recycling
Quality of Production	Production Quality Engineering

Science and Research

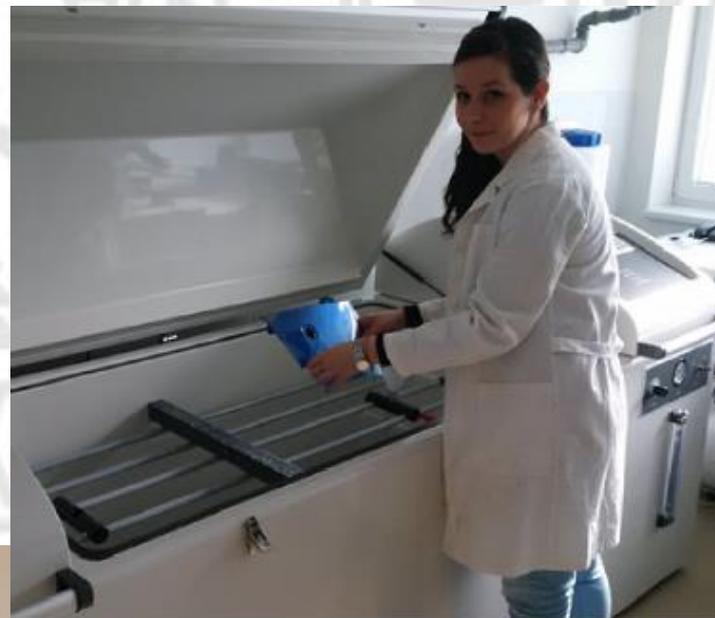
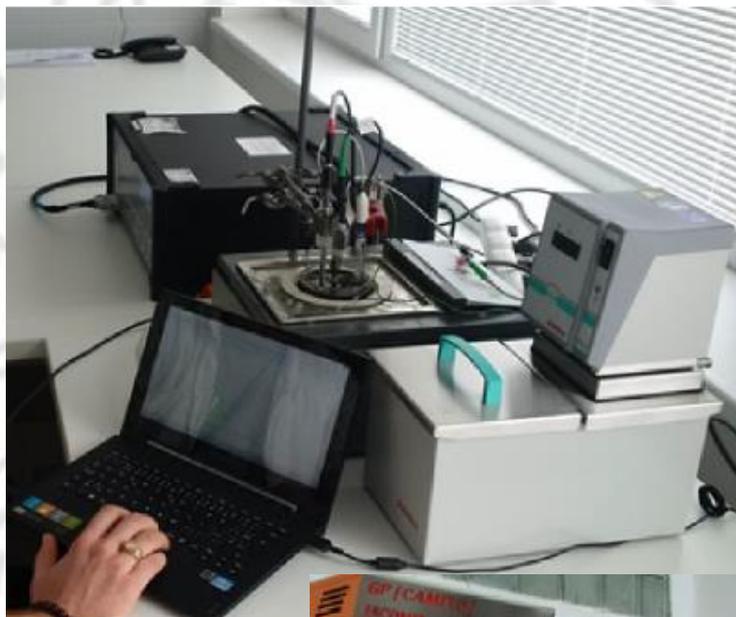
Institute of Materials and Quality Engineering

- new construction materials, manufacturing technology and applications (section of automation, robotics, technology of manufacturing and the automotive industry),
- new construction materials, manufacturing technology and applications (metallurgical, engineering and energy industries),
- the technology of powder metallurgy at the range of the applied temperature from 196 °C to 1200 °C,
- non-destructive corrosion monitoring and prediction of life of gas pipelines,
- proposal of new chemical concepts of steel with the addition of boron, production of tubes at high temperature,
- the modification technologies along with the proposed new concept of materials with the desired strength, plastic and fracture properties with special regard for application in difficult temperature-tension and deformation conditions,
- heat treatment and chemical-heat treatment of materials

Laboratory of Mechanoplastic Tests



Laboratory for Testing of Corrosion



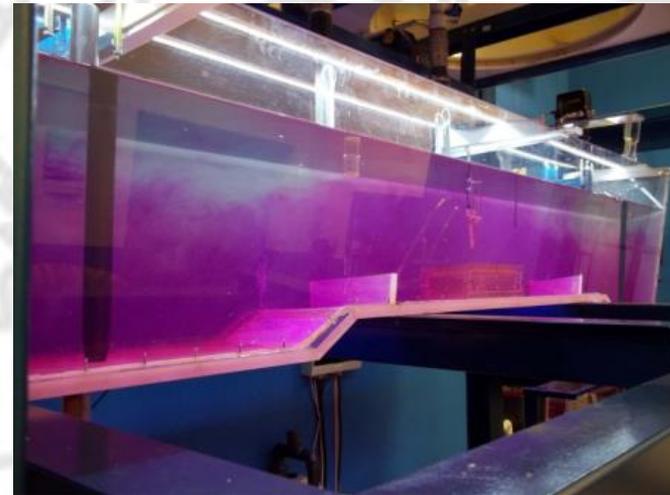
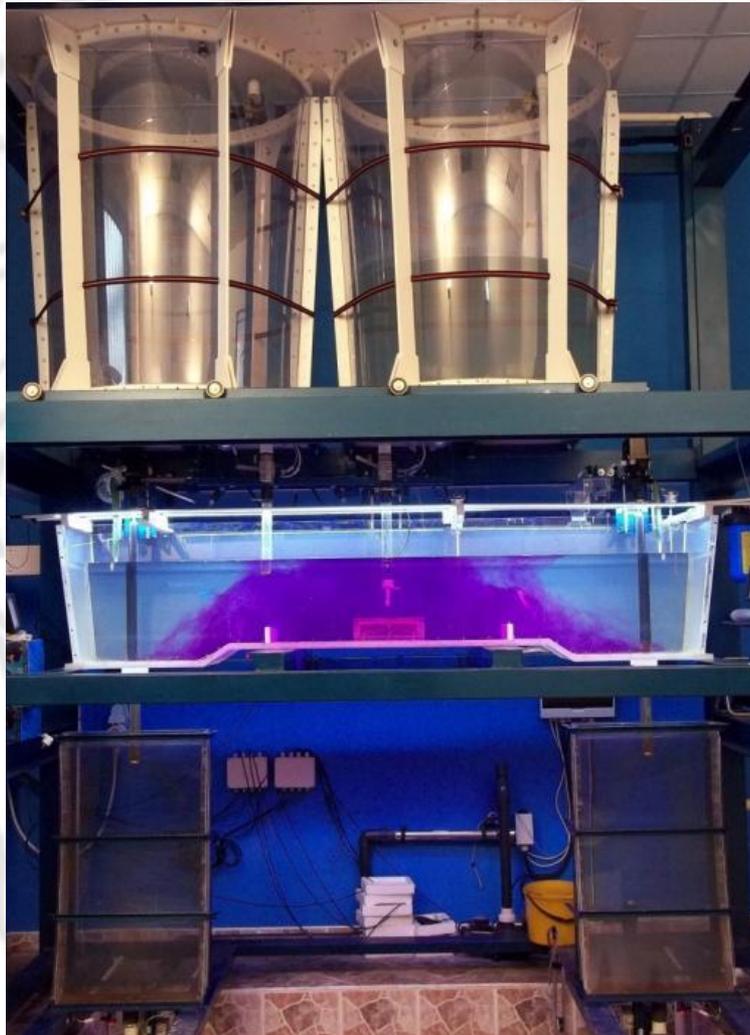
Crelabte Laboratory



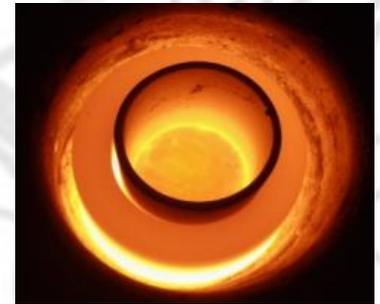
Institute of Metallurgy

- technological aspects of the production of coke, sinter, pellets, pig iron, steel and ferro-alloys
- simulation of continuous casting of steel using a water model
- modelling of the production of Fe-, Mn- and Ti-based sinter
- technology for the production of ferrous and non-ferrous castings
- optimisation of the technological parameters of high pressure die casting
- modern, waste-less technology of chemical processing of industrial materials, such as magnesite or serpentine
- production and application of refractory ceramic materials
- PLATAURUM laboratory for processing wastes containing precious metals, mainly gold and silver
- effective use of traditional, waste and renewable sources of thermal energy
- transport and distribution of the energy carriers

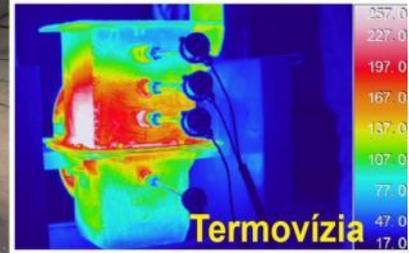
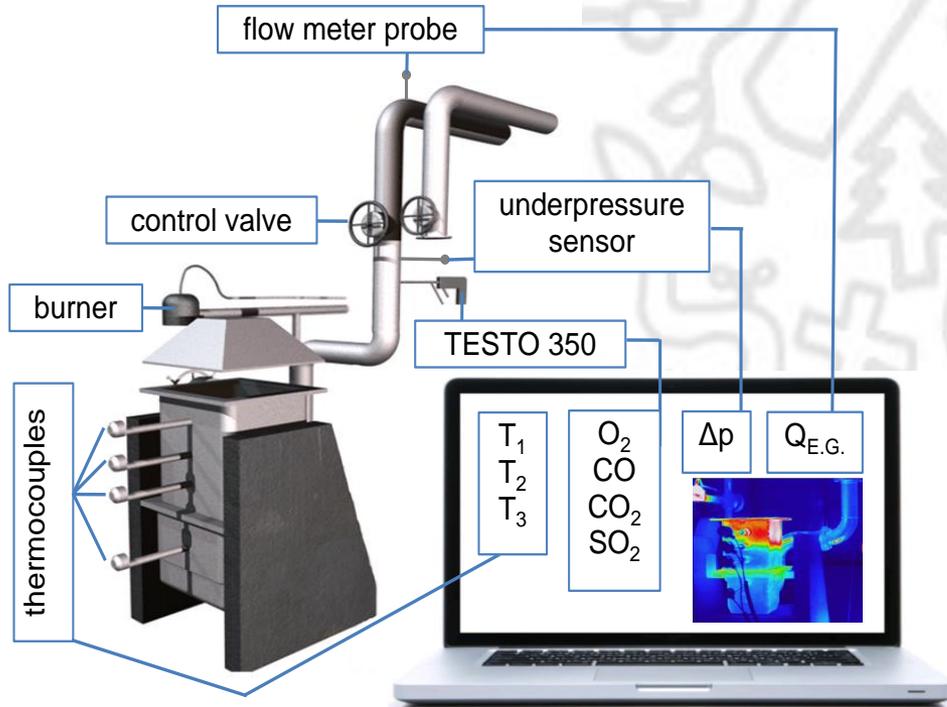
Laboratory of Process Flow Simulation



Laboratories of Steel and Foundry Technologies



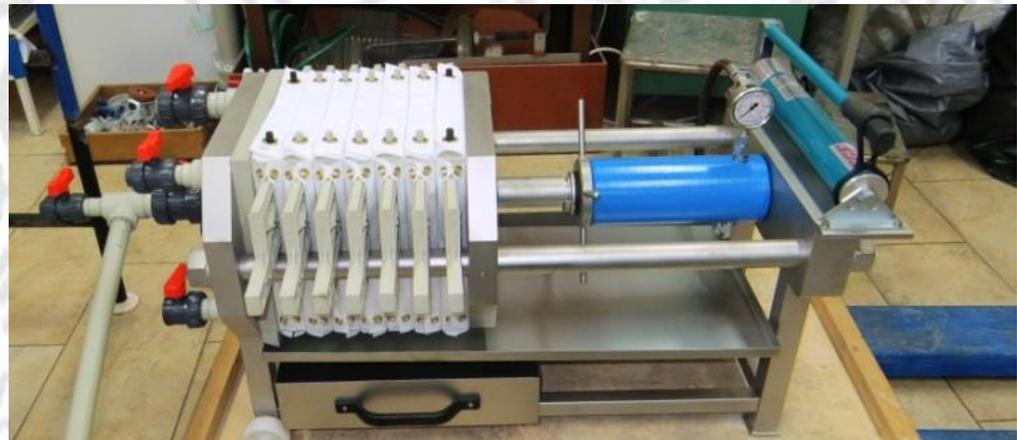
Laboratory of Sintering Pot



Institute of Recycling technologies

- Hydrometallurgy of sulphide materials,
- Recovery of precious metals from waste,
- Recovery of copper, tin, lead from waste of electric and electronic equipment,
- Recycling of dusts from scrap copper smelting and steel production
- Treatment and recycling of Al skimming,
- Processing and recycling of spent batteries and accumulators,
- Processing and recycling of industrial wastes containing zinc and tin
- Material analysis of municipal solid waste (MSW),
- Recycling of selected components from separately collected fractions of MSW,
- Experimental testing of hydrometallurgical, pyrometallurgical and combined methods for waste treatment in order to obtain metals and other materials
- Realization of elemental and phase analysis of raw materials and the overall characterization of starting materials, intermediates and products processing

Laboratory of Processing Industrial Wastes



Laboratory Centre of Waste Processing



Laboratory of Recycling Processes



Student scientific conference

Metallurgy



Erasmus Program



- National Technical University of Athens
- Aristoteleio Panepistimio Thessalonikis

• Miskolc Egyetem

- Uniwersytet Jagiellonski, Krakow
- Akademia Górniczo-Hutnicza Krakow
- Politechnika Czestochowska
- Akademia im. Jana Dlugosza w Czestochowie

• University of L'Aquila

- RWTH Aachen Univesity
- Otto von Guericke Universität Magdeburg

• Aalto University Helsinki

• Yildirim Beyazit University Ankara

- Univerzita Jana Evangelistu Purkyne v Usti nad Labem
- VŠB Technická univerzita Ostrava
- České vysoké učení technické v Praze
- Univerzita Pardubice
- Technická univerzita v Liberci

Excursions for students

- Železiarne Podbrezová a.s
- U. S. Steel Košice, s.r.o.
- Slovalco a.s., Žiar nad Hronom
- Nemak Slovakia s.r.o.
- OFZ, a. s. Istebné
- Zinkoza a.s. Krompachy
- Zlieváreň SEZ Krompachy a.s.
- RAILWAY CASTED COMPONENTS A.S. Prakovce
- Mint Kremnica
- And other



Šachták

- Traditional celebration of acceptance of new students into metallurgical guild
- **Jump from barrel over the leather**
- Tradition from Academy of Mining of Banska Stiavnica



Salamander parade

- Parade of **miners** and **metallurgists** from Slovakia and foreign countries
- Place: Banská Štiavnica
- Tradition from Academy of Mining of Banska Stiavnica



Kosice Peace Marathon

- Oldest marathon in Europe
- 1st sunday in October



**Thank you
for your attention**



fmmr.tuke.sk



[Fakulta materiálov, metalurgie a recyklácie TUKE](#)