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NETCHEM

P4: Brno University of Technology (BUT)

BRNO
UNIVERSITY
OF TECHNOLOGY

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Brno University of Technology

- Founded on 19th September 1899 by decree of the Emperor Franz Joseph
- 2nd oldest university in the Czech Republic (the oldest one is Charles University founded on 7th April 1348 by Czech King and Roman Emperor Charles IV)
- The oldest university in Brno city and in Moravian region
- 2nd largest university in the city of Brno with 23 thousand students (the largest university in Brno is Masaryk university with 36 thousand students)
- BUT Today:
  - 8 faculties
  - 3 institutes

Brno University of Technology

Faculties

- **Faculty of Architecture (FA)**
- **Faculty of Electrical Engineering and Communication (FEEC)**
- **Faculty of Chemistry (FCH)**
- **Faculty of Information Technology (FIT)**
- **Faculty of Business and Management (FBM)**
- **Faculty of Civil Engineering (FCE)**
- **Faculty of Mechanical Engineering (FME)**
- **Faculty of Fine Arts (FFA)**

University Institutes

- **Institute of Forensic Engineering**
- **Central European Institute of Technology (CEITEC)**
- **Centre of Sports Activities**

FACULTY OF CHEMISTRY

History of the faculty:

Established on November 8, 1911

Closed in 1951

Re-established1992

Faculty of Chemistry, BUT

Faculty of Chemistry Today:

4 institutes

- Institute of Physical and Applied Chemistry
- Institute of Materials Chemistry
- Institute of Chemistry and Technology of Environmental Protection
- Institute of Food Chemistry and Biotechnology

1 research Centre

- Materials Research Centre

More than 1,000 students

- 700 Bc, 330 Mgr, 145 PhD.
  - 245 students from Slovakia, 55 from other foreign countries (Russia, Ukraine, Belorussia, Serbia, Bosnia-Hercegovina, …)

INSTITUTE OF PHYSICAL AND APPLIED CHEMISTRY

Is focused on:

- Consumer chemistry
- Paper technology
- Photochemistry
- Chemisty for medical applications

INSTITUTE OF FOOD SCIENCE AND BIOTECHNOLOGY

Is focused on:

- **Food chemistry and analysis**
- **Sensory food analysis**
- **Cosmetology**
- **Biotechnology**
- **Microbiology**

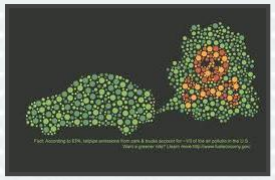
INSTITUTE OF MATERIALS CHEMISTRY

Is focused on:

- **Concrete**
- **Thin films**
- **Plasma nanotechnology**
- **Dental materials**
- **Advanced drug delivery systems**
- **Biodegradable packings**

INSTITUTE OF CHEMISTRY AND TECHNOLOGY OF ENVIRONMENTAL PROTECTION

Three main research areas



Environmental chemistry / analysis

Environmental Technologies

Ecotoxicology

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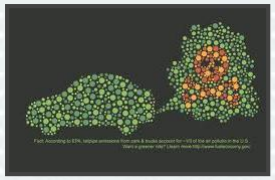
Other research activities



Renewable sources of energy

Solar

Wind

Biomass

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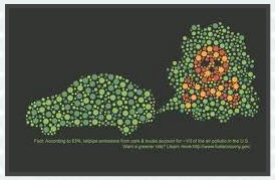
Other research activities



Waste Management

Reuse / recycle

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Analytical Instrumentation:

Pressurized Solvent Extraction

Microwave Assisted Extraction

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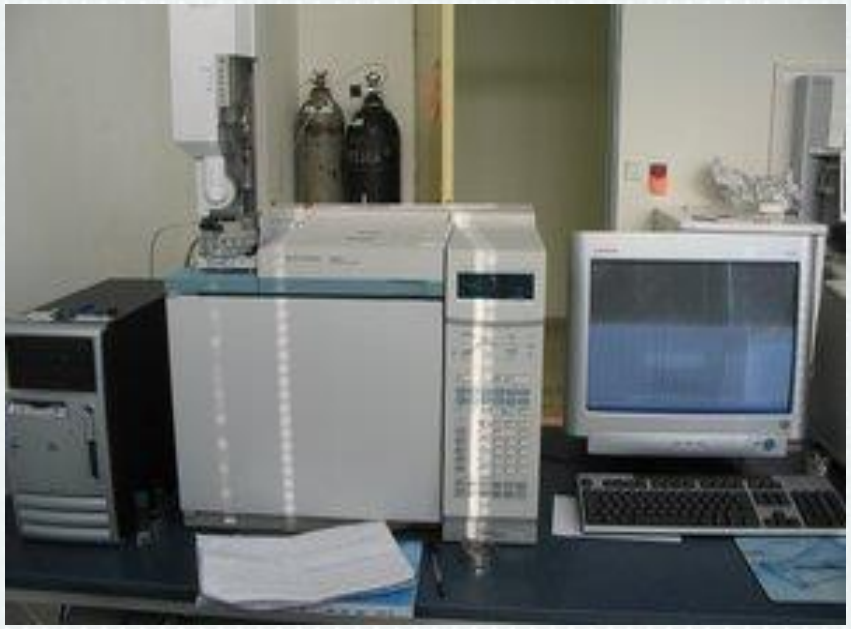
Analytical Instrumentation:

UHPLC Agilent 1290 Infinity (Agilent Technologies, USA)



GC Agilent 6890N, 2x μ-ECD (Agilent Technologies, USA)

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Analytical Instrumentation:

GC/MS/MS EVOQ™ (Bruker, Germany)

LC/MS^n Agilent 1100 / Agilent 6320 (Agilent Technologies, Germany)

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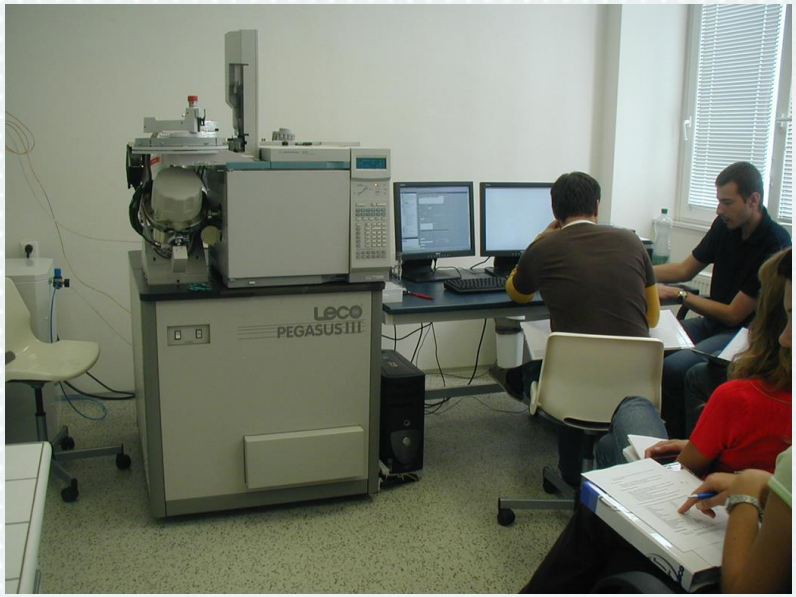
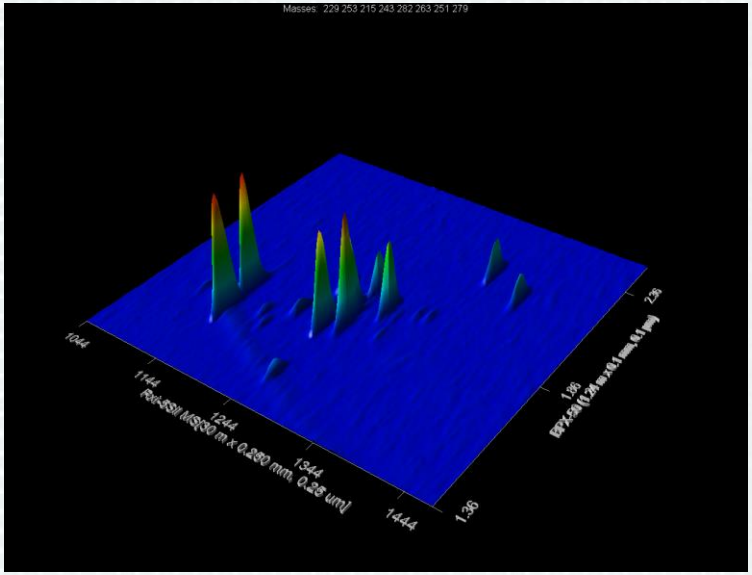
Analytical Instrumentation:



GCxGC–TOF MS Pegasus IVD (LECO Instrumente, USA)



Example of 2D chromatogram (mix of MUSK compounds)

Thank you
for your attention