



INSTITUT  
BIOSTATISTIKY  
A ANALÝZ  
Masarykova univerzita



Ústav zdravotnických informací  
a statistiky ČR

# 13. ROČNÍK LETNÍ ŠKOLY APLIKOVANÉ INFORMATIKY BEDŘICHOV 2016

Martin Komenda, Matěj Karolyi

## Osnova

- Představení pracoviště
- Klíčové projekty
- Vývojové koncepty
- Publikační výstupy

# Společné pracoviště IBA MU & ÚZIS ČR, IBA s.r.o



# IT ve výuce medicínských oborů

- Aplikace nových konceptů
- Rozvoj výuky zdravotnických a medicínských oborů
- Posílení spolupráce
- Zdroje



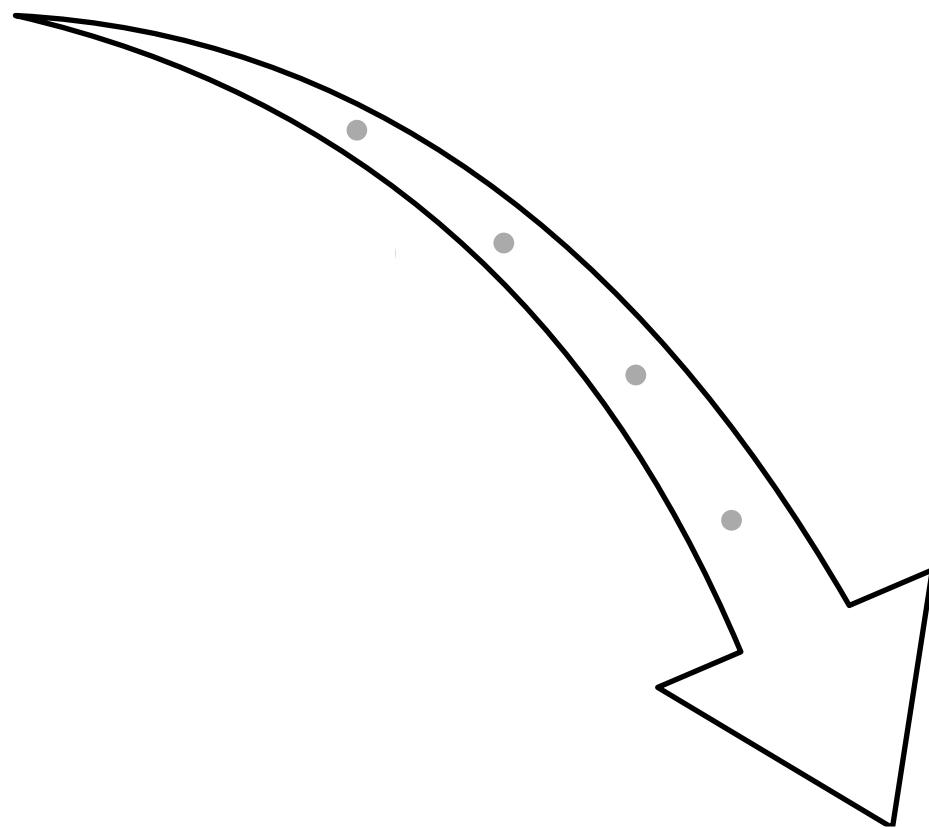
INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ



MINISTERSTVO ŠKOLSTVÍ,  
MLÁDEŽE A TĚLOVÝCHOVY



Erasmus+



# Medical Faculties NETwork

**mefanet** MEDICAL FACULTIES NETWORK

česky | [english](#)

úvod vzdělávací síť mefanet ict infrastruktura mefanet journal konference projekty publikace

Portálová platforma

RECENZE > > ÚROVEŇ > KOMPLEXNÍ SPECIALIZAČNÍ POKROČILÝ ZÁKLADNÍ > TYP > > UŽIVATELSKÉ HODNOCENÍ >

[Konference MEFANET 2016](#)  
tradiční konference zaměřená na e-learning a zdravotnickou informatiku ve výuce lékařských oborů

[Centrální brána](#)  
všechna edukační díla sítě MEFANET na jednom místě, vyhledávání podle lékařských disciplín a dalších kritérií

[mefanet JOURNAL](#)  
[MEFANET Journal](#)  
mezinárodní časopis pro publikaci odborných článků z oblasti medicínského vzdělávání a e-learningu

# Edukační portál MEFANET

[česky](#) | [english](#) | [starší verze](#)



MEDICAL  
FACULTIES  
NETWORK



Hledaný výraz

Hledat

▼  
filtr lékařských disciplín

mefanet  
JOURNAL

mefanet  
2014

MEDICAL  
FACULTIES  
NETWORK

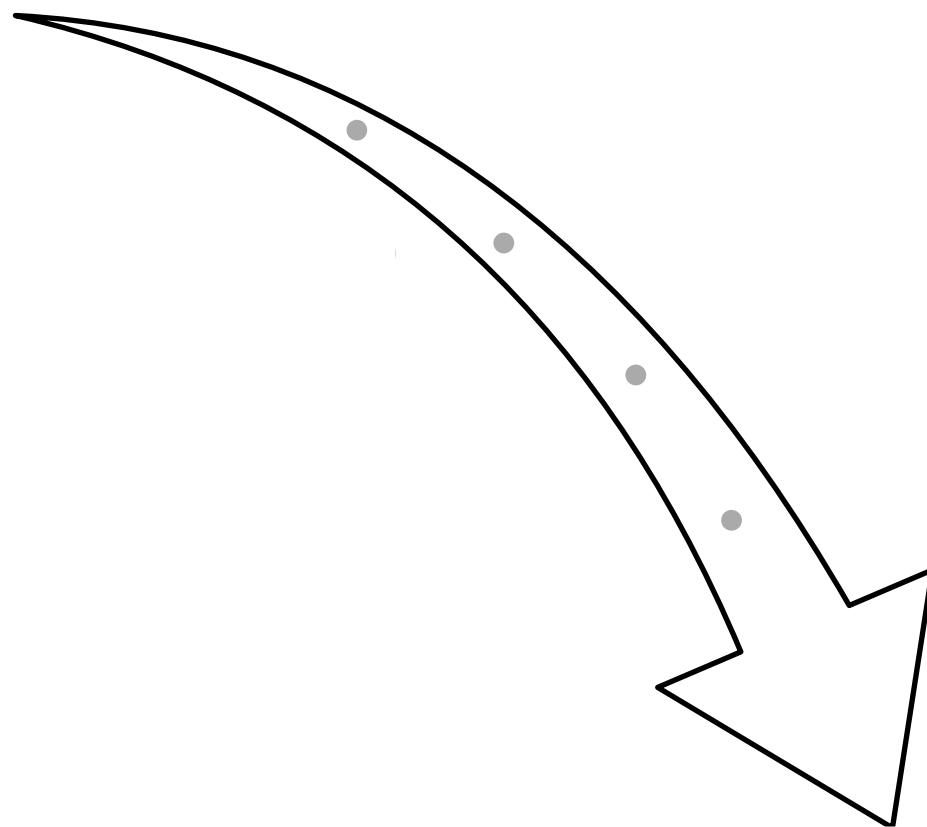


moodle

<http://portal.mefanet.cz/>

13. ROČNÍK LETNÍ ŠKOLY APLIKOVANÉ INFORMATIKY

# MEFANET



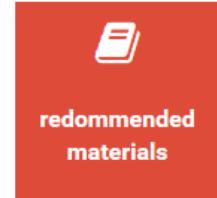
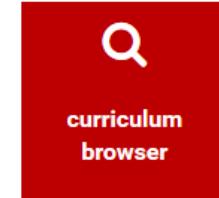
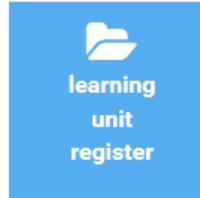
# Portál OPTIMED & OPTILAW

 Martin Komenda | [logout](#)

**FACULTY  
OF MEDICINE**  
Masaryk University

[About project](#) [Publications](#) [Tutorial](#) [Contacts](#)

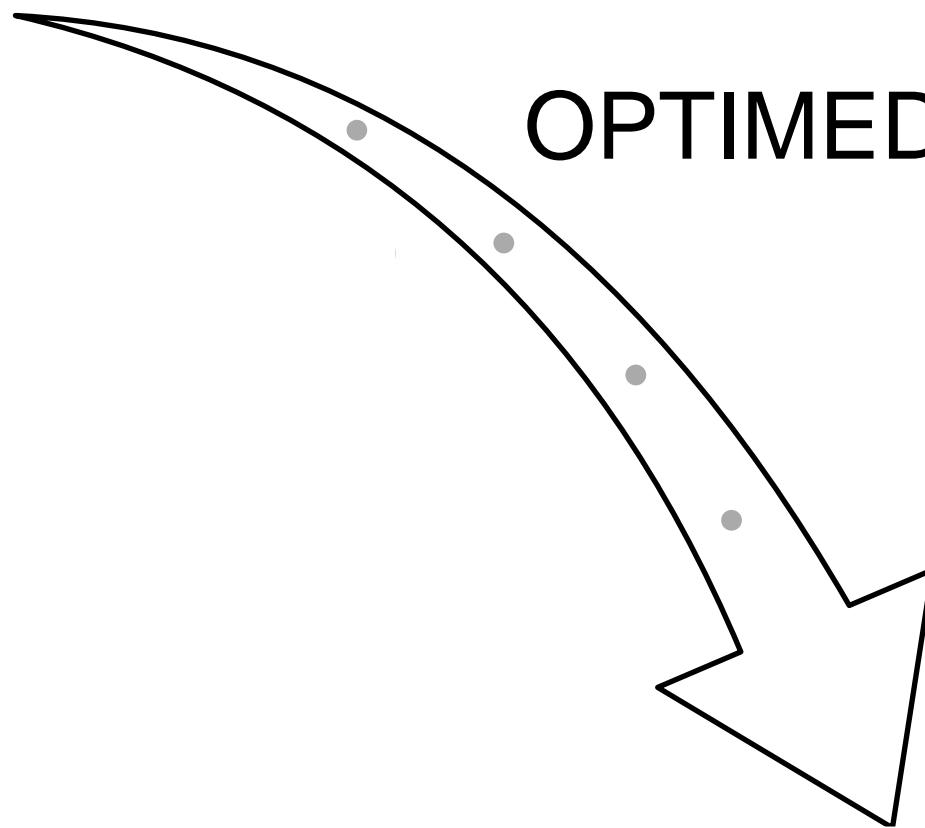
## PORTAL OPTIMED



<http://opti.med.muni.cz/>

# MEFANET

OPTIMED



# CROESUS – klinické rozhodování v praxi

 **CROESUS**  
**CLINICAL REASONING SKILLS ENHANCEMENTS WITH THE USE OF SIMULATIONS AND ALGORITHMS**

[Homepage](#)   [Project summary](#)   [People](#)   [Training](#)   [Events](#)   [Virtual patients](#)

**About the project**

Medical education is unique in the sense that apart from ordinary teaching and learning interactions it includes the notion of clinical apprenticeship and the acquisition of clinical skills. CROESUS will change the old-fashioned way of teaching and move the clinical phase of medical education at participating institutions inside MEFANET from traditional classroom teaching approaches to active learning using self-directed, personalised collaborative learning environments.

Institutions inside MEFANET will get a modernised biomedical science curriculum component, utilising competency-based pedagogy that better links with clinical practice, ultimately leading to improved methods of developing and assessing clinical competency in learners.

The project comes up with two intellectual outcomes: 1) ICT platform for scenario-based learning, 2) Methodologies for preparation, training and implementation of VP/PBL in clinical medicine.

**Training**

CROESUS has trained clinicians to facilitate PBL sessions appropriately for student groups. PBL training involved the understanding of the PBL process to deliver information in a structured way but also being able to prompt students in the right direction. The project has also trained staff to create VPs which are suitable to use within PBL sessions. The training focused on how to create the VPs using OpenLabyrinth software and on how to construct the narrative and options within the VP.



**MEFANET**

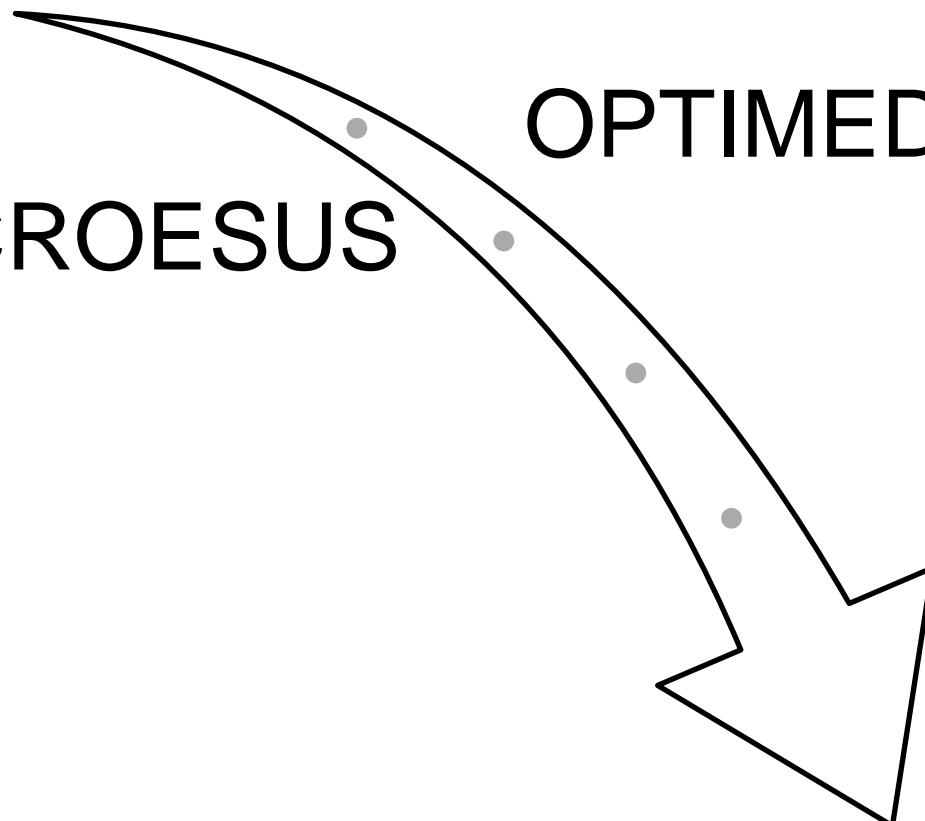
The Medical Faculties Network (MEFANET) has established itself as the authority for setting standards for medical educators in the Czech Republic and Slovakia, two independent countries with similar languages that once comprised a federation and that still retain the same curricular structure for medical education.

One of the basic goals of the network is to advance medical teaching and learning with the use of modern information and communication technologies. For this purpose, MEFANET, as an instrument, embarked on developing an original and uniform solution for education web portals that, together with Central Gateway, offer and share digital education content.

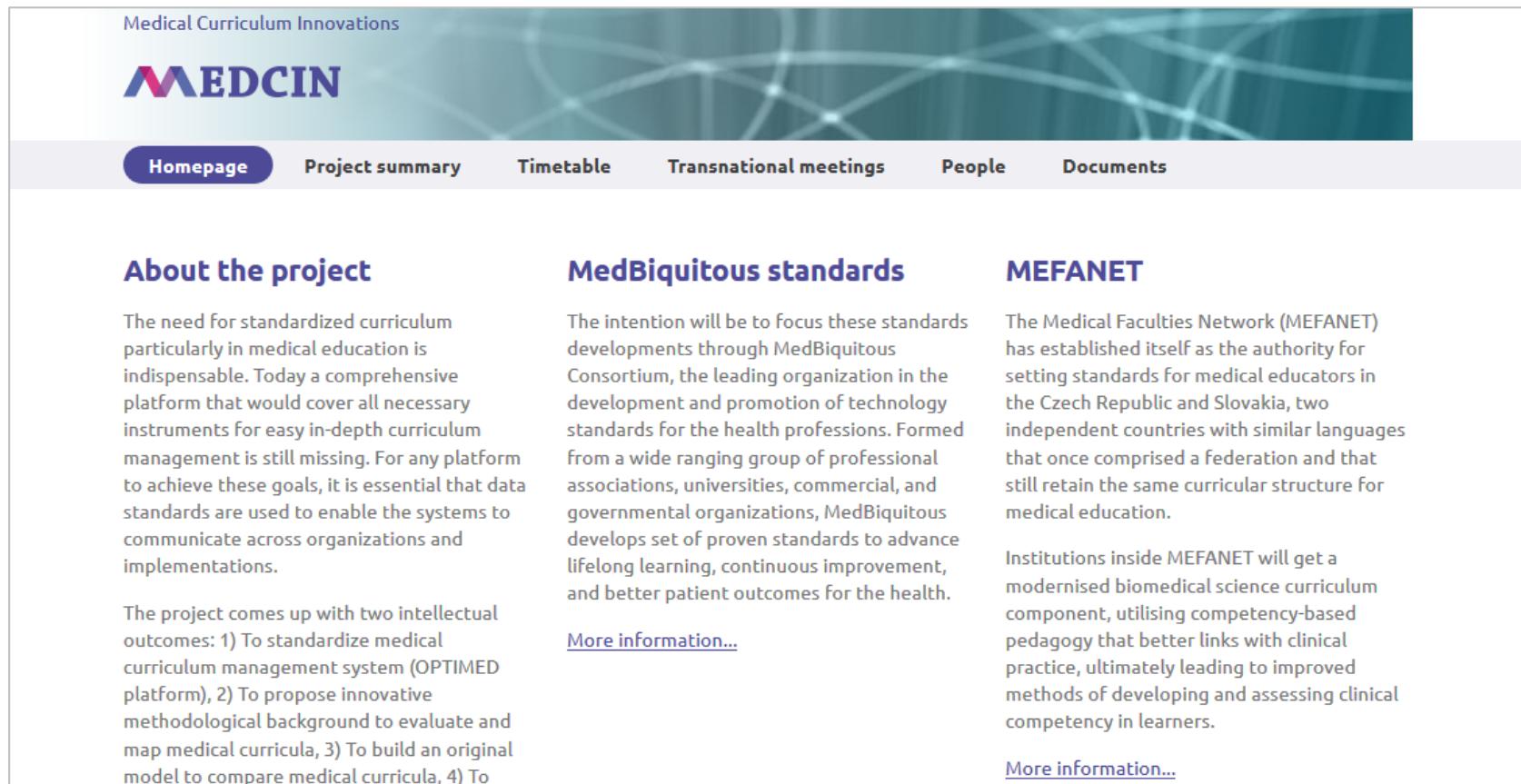
The primary objective of the [MEFANET portal platform](#) is to ensure publishing and horizontal accessibility of electronic teaching tools for teachers and students, while fully respecting the independence of the individual faculty.

# MEFANET

# CROESUS      OPTIMED



# MEDCIN – standardizace medicínského kurikula



The screenshot shows the MEDCIN project website. At the top, there is a navigation bar with links: Homepage (highlighted in blue), Project summary, Timetable, Transnational meetings, People, and Documents. Below the navigation bar, there are three main sections: "About the project", "MedBiquitous standards", and "MEFANET". Each section contains a brief description and a "More information..." link.

**About the project**

The need for standardized curriculum particularly in medical education is indispensable. Today a comprehensive platform that would cover all necessary instruments for easy in-depth curriculum management is still missing. For any platform to achieve these goals, it is essential that data standards are used to enable the systems to communicate across organizations and implementations.

The project comes up with two intellectual outcomes: 1) To standardize medical curriculum management system (OPTIMED platform), 2) To propose innovative methodological background to evaluate and map medical curricula, 3) To build an original model to compare medical curricula, 4) To

**MedBiquitous standards**

The intention will be to focus these standards developments through MedBiquitous Consortium, the leading organization in the development and promotion of technology standards for the health professions. Formed from a wide ranging group of professional associations, universities, commercial, and governmental organizations, MedBiquitous develops set of proven standards to advance lifelong learning, continuous improvement, and better patient outcomes for the health.

[More information...](#)

**MEFANET**

The Medical Faculties Network (MEFANET) has established itself as the authority for setting standards for medical educators in the Czech Republic and Slovakia, two independent countries with similar languages that once comprised a federation and that still retain the same curricular structure for medical education.

Institutions inside MEFANET will get a modernised biomedical science curriculum component, utilising competency-based pedagogy that better links with clinical practice, ultimately leading to improved methods of developing and assessing clinical competency in learners.

[More information...](#)

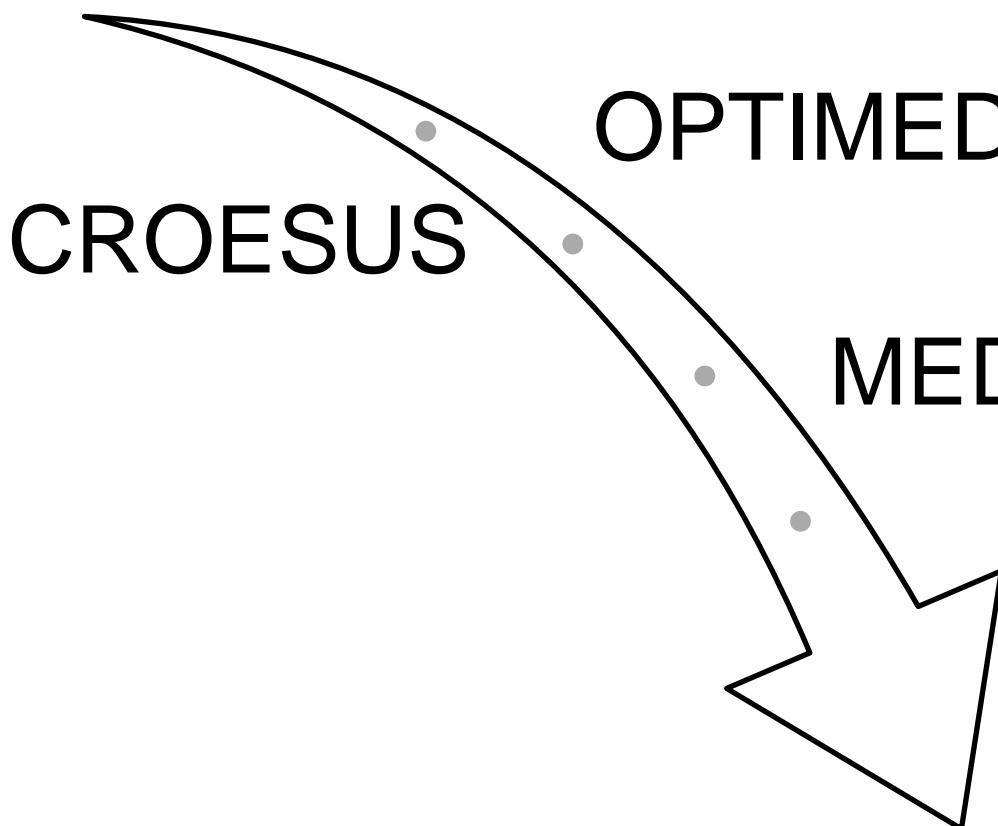
<http://www.medcin-project.eu/>

# MEFANET

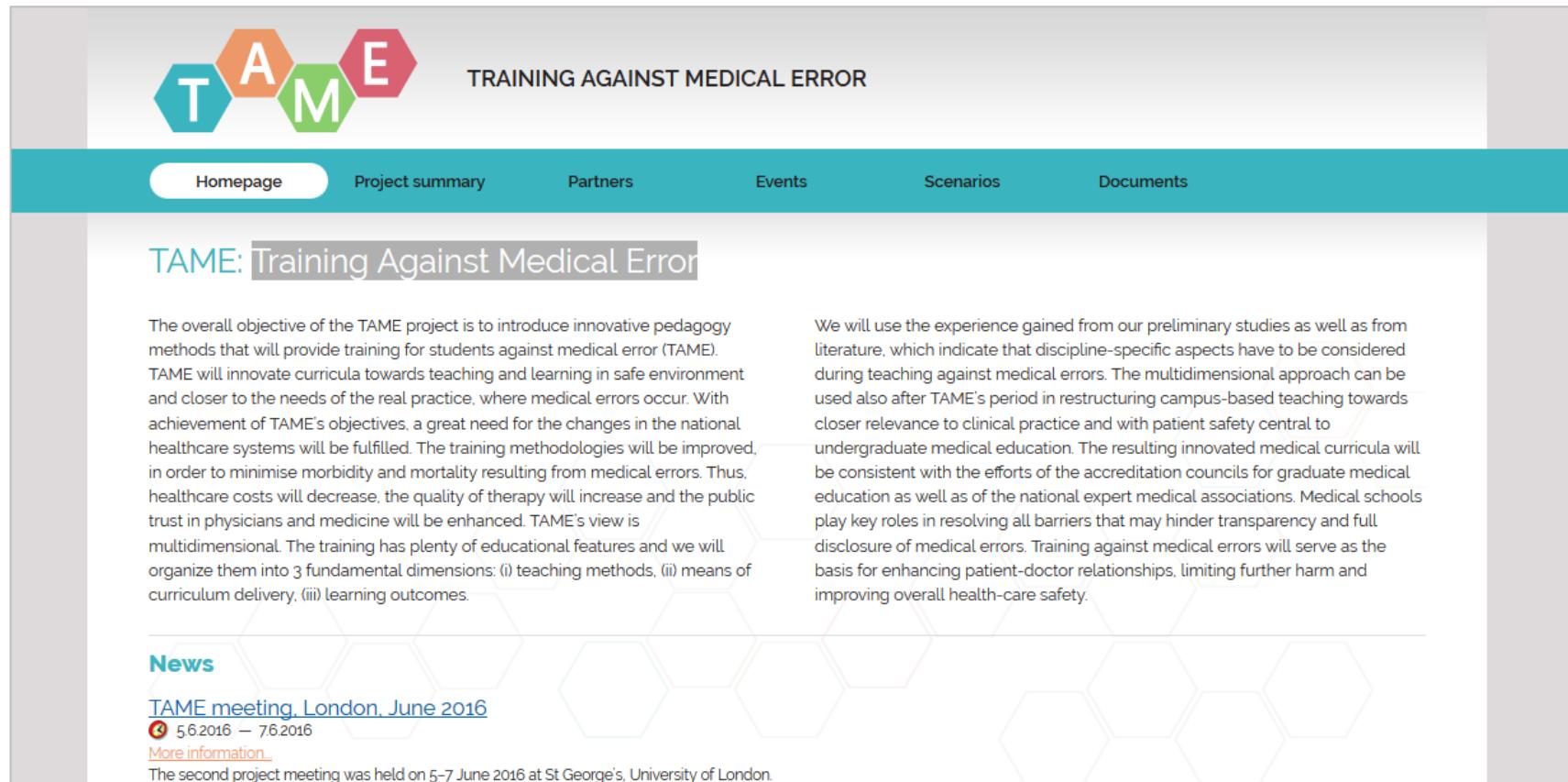
# CROESUS

# OPTIMED

# MEDCIN



# TAME - Training Against Medical Error



The screenshot shows the homepage of the TAME project website. The header features the TAME logo (hexagons spelling 'TAME' in blue, orange, green, and red) and the text 'TRAINING AGAINST MEDICAL ERROR'. Below the header is a navigation bar with links: 'Homepage' (highlighted), 'Project summary', 'Partners', 'Events', 'Scenarios', and 'Documents'. The main content area has a grey background with a hexagonal pattern. It features a section titled 'TAME: Training Against Medical Error' with a detailed description of the project's objective and multidimensional approach. To the right is another column of text detailing the use of experience from preliminary studies and literature to guide teaching methods. At the bottom left is a 'News' section with a link to a 'TAME meeting, London, June 2016' entry, which includes a date (5.6.2016 – 7.6.2016) and a 'More information...' link.

The overall objective of the TAME project is to introduce innovative pedagogy methods that will provide training for students against medical error (TAME). TAME will innovate curricula towards teaching and learning in safe environment and closer to the needs of the real practice, where medical errors occur. With achievement of TAME's objectives, a great need for the changes in the national healthcare systems will be fulfilled. The training methodologies will be improved, in order to minimise morbidity and mortality resulting from medical errors. Thus, healthcare costs will decrease, the quality of therapy will increase and the public trust in physicians and medicine will be enhanced. TAME's view is multidimensional. The training has plenty of educational features and we will organize them into 3 fundamental dimensions: (i) teaching methods, (ii) means of curriculum delivery, (iii) learning outcomes.

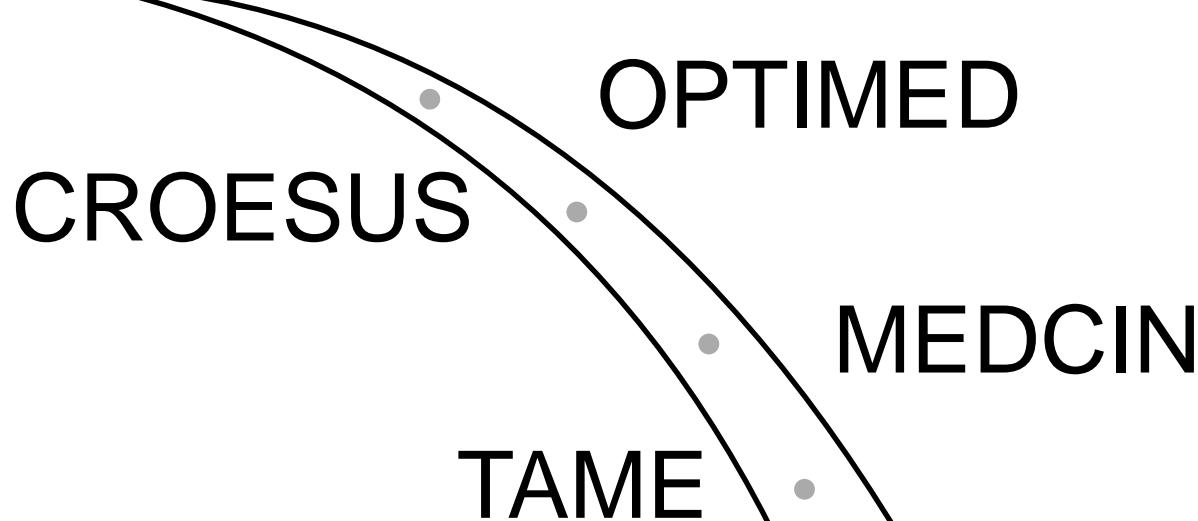
We will use the experience gained from our preliminary studies as well as from literature, which indicate that discipline-specific aspects have to be considered during teaching against medical errors. The multidimensional approach can be used also after TAME's period in restructuring campus-based teaching towards closer relevance to clinical practice and with patient safety central to undergraduate medical education. The resulting innovated medical curricula will be consistent with the efforts of the accreditation councils for graduate medical education as well as of the national expert medical associations. Medical schools play key roles in resolving all barriers that may hinder transparency and full disclosure of medical errors. Training against medical errors will serve as the basis for enhancing patient-doctor relationships, limiting further harm and improving overall health-care safety.

**News**

[TAME meeting, London, June 2016](#)  
⌚ 5.6.2016 – 7.6.2016  
[More information...](#)

The second project meeting was held on 5-7 June 2016 at St George's, University of London.

# MEFANET



# WAVES - Widening Access to Virtual Educational Scenarios

HOME PROJECT OVERVIEW PARTNERS EVENTS COURSES DOCUMENTS CONTACT

LOG IN



WIDENING ACCESS TO VIRTUAL EDUCATIONAL SCENARIOS

 ERASMUS+ programme

 01/01/2016 - 31/12/2018

 6 Partners

<http://wavesnetwork.eu/>

13. ROČNÍK LETNÍ ŠKOLY APLIKOVANÉ INFORMATIKY



INSTITUT  
BIOSTATISTIKY  
A ANALÝZ  
Masarykova univerzita



Ústav zdravotnických informací  
a statistiky ČR

# Vize do budoucna...

Interactive virtual  
patient scenarios



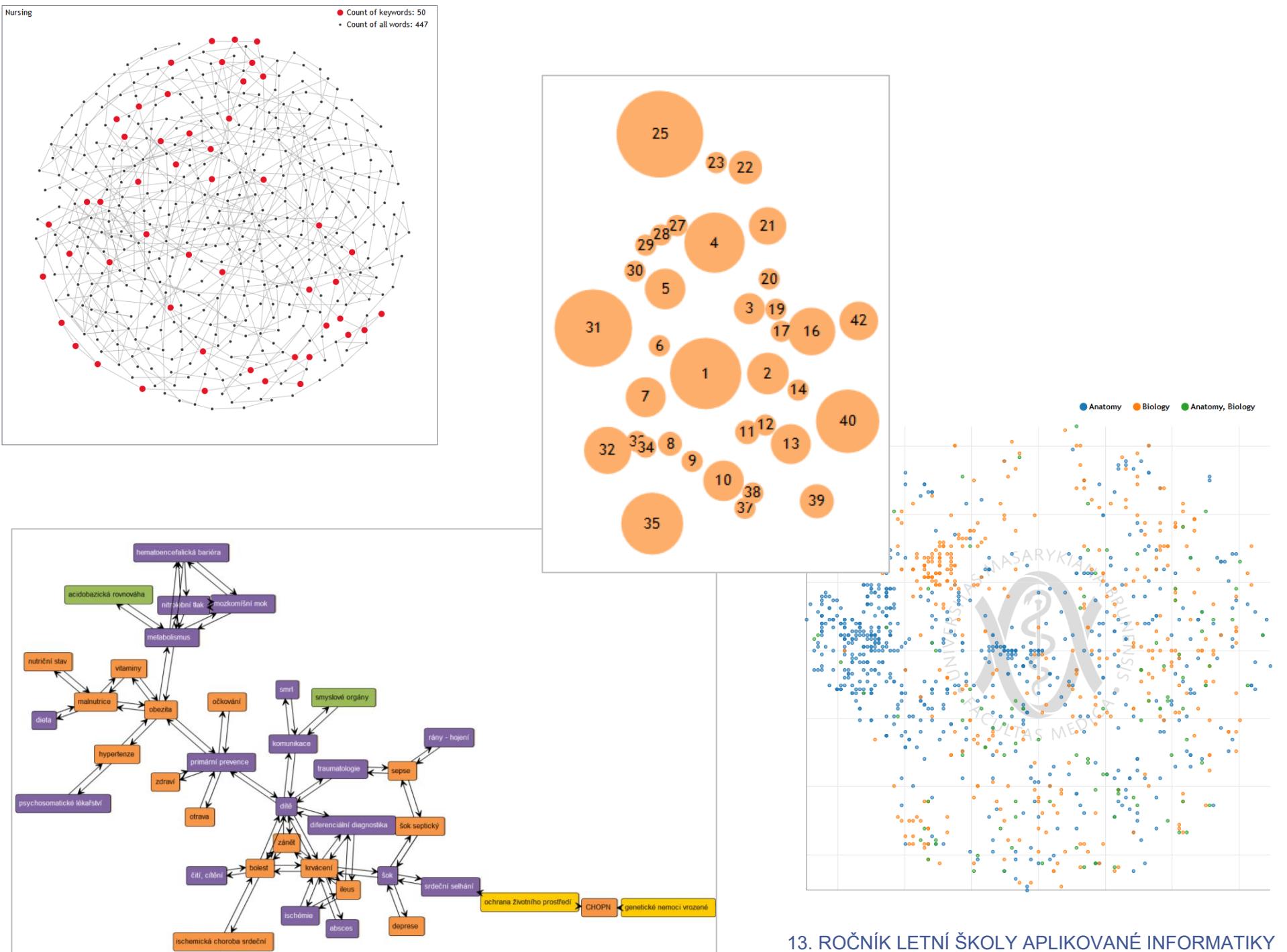
XML  
standard

Medical curriculum  
management system

**OPTIMED PROJECT**



Curriculum inventory



### Core partners



# Center for Health Education Quality

### Involved organizations



#### Mission

- The systematic quality improvement of medical and healthcare education in European context

#### Vision

- To contribute to human health and well-being through optimization of health education

#### Value and benefits

- Access to large data
- Incoming funding from involved academic institutions
- Wide dissemination of activities
- Being leaders in health education quality
- Joining experts across scientific domains
- Community and networking between academic institutions and organizations

#### Services

Curriculum mapping

Curriculum standardization

Intelligent data analysis

Data visualization

Evaluation, Comparison & Assessment

Benchmarking and research

More...

#### Technological background

Curriculum management system implementation

Curriculum mapping and standardization methodology

Online platform for intelligent analysis and visualizations

Other...

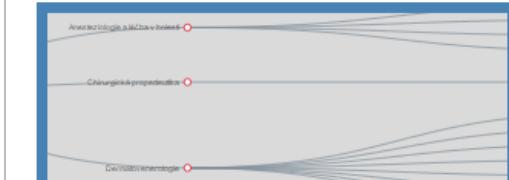
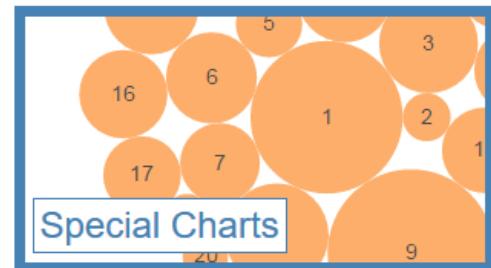
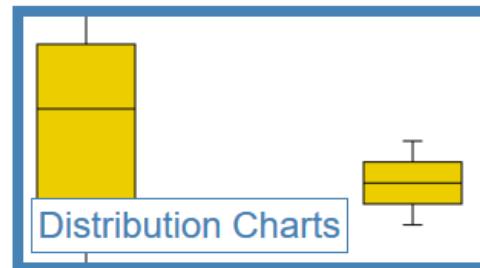
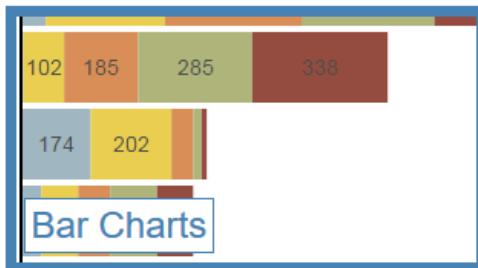
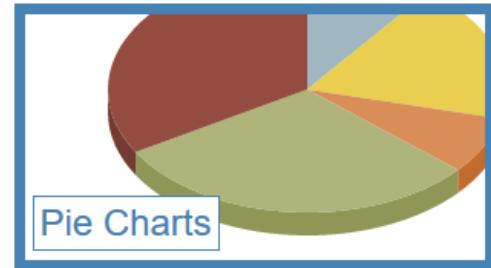
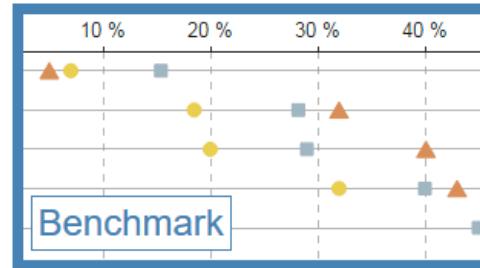
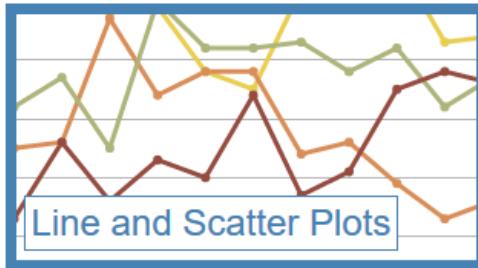


INSTITUT  
BIOSTATISTIKY  
A ANALÝZ  
Masarykova univerzita

**ÚZIS**  
*Ústav zdravotnických informací  
a statistiky ČR*

# Vývojové koncepty

# Visual Analytic Tools & R (OpenCPU)



# UNIWEB

MASARYKOVA  
UNIVERZITA

ABOUT US ▾ RESEARCH EDUCATION ▾ OPEN ACCESS COLLABORATION CONTACT ▾

FIRST TOPIC SECOND TOPIC THIRD TOPIC

Tab7 - Nulla facilisi. Sed interdum orci interdum sapien. Nulla quam. Curabitur eu neque a felis dictum iaculis. Curabitur sodales dui sit amet mi. Donec cursus sapien et neque. Aenean nisi sapien, sagittis a, eleifend sed, tristique pretium, enim. Proin pulvinar sollicitudin augue. Vivamus ac lorem. Quisque ut ipsum. Vivamus in pede quis erat condimentum adipiscing. Curabitur risus erat, scelerisque sit amet, mollis id, consectetur eu, neque. Sed vitae risus sed enim fermentum venenatis.

Tab7 - Nulla facilisi. Sed interdum orci interdum sapien. Nulla quam. Curabitur eu neque a felis dictum iaculis. Curabitur sodales dui sit amet mi. Donec cursus sapien et neque. Aenean nisi sapien, sagittis a, eleifend sed, tristique pretium, enim. Proin pulvinar sollicitudin augue. Vivamus ac lorem. Quisque ut ipsum. Vivamus in pede quis erat condimentum adipiscing. Curabitur risus erat, scelerisque sit amet, mollis id, consectetur eu, neque. Sed vitae risus sed enim fermentum venenatis.



Nadpis slidu

Cílem vyhlašované soutěže o Cenu rektora...

● ○ ○

# Publikujeme...

## Dolování, analýza a vizualizace dat z oblasti vzdělávání

### Vedoucí pracovní skupiny

- » RNDr. Martin Komenda, Ph.D.

### Členové pracovní skupiny

- » Bc. Matěj Karolyi (data preprocessing, interactive data visualization)
- » doc. ing. Daniel Schwarz, Ph.D. (digital signal and image processing, visual & learning analytics, 3D medical image data visualisation, telemedicine, bio-cybernetics)
- » Christos Vaitsis, MSc. (neuro-educational data driven decision making with Visual Analytics)
- » Mgr. Martin Vítá (NLP, text mining, fuzzy logic and fuzzy structures)

### Klinický konzultační tým

- » doc. PhDr. Andrea Pokorná, Ph.D.
- » MUDr. Petr Štourač, Ph.D.

# MEFANET 2016

## VENUE

Hotel Continental Brno  
Kounicova 6, 602 00 Brno, Czech Republic  
GPS: 49°12'2.194"N / 16°36'16.155"E

[www.continentalbrno.cz](http://www.continentalbrno.cz)

## LANGUAGES

oral, poster: Czech, Slovak, English  
proceedings: English

## IMPORTANT DATES

on-line registration: 1 September – 25 November 2016  
extended abstract submission deadline: 1 October 2016  
on-site registration: 29–30 November 2016



more information on  
[www.mefanet.cz/conference](http://www.mefanet.cz/conference)