DELIVERABLE D4.4 – Report from the kick-off meeting

Funded by the European Union under Grant Agreement No. 101158464. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

Project Acronym	COLOSSE
Project Full Name	Central European Platform for Plasma-Enabled Surface Engineering
Grant Agreement No.	101158464
Call	HORIZON-WIDERA-2023-ACCESS-04
Type of action	HORIZON Coordination and Support Actions
Project starting date	1 April 2024
Project duration	36 months
Deliverable number	D4.4
Deliverable name	Report from the kick-off meeting
Work Package	WP4
Type	R — Document, report
Main author	Eliška Skalická
Lead beneficiary	Masaryk University
Dissemination Level	PU - Public
Due Date	April 2024
Date	30.04.2024
Version	1.0

Funded by
the European Union

Table of Contents

Abbreviations

CEPLANT - R&D centre for plasma and nanotechnology surface modifications
CU – Comenius University
ERDF - European Regional Development Fund
EU – European Union
FAS - Faculty of Applied Sciences
FP – Framing programme
HE – Horizon Europe
HR – Human resources
KPIs – Key performance indicators
MU – Masaryk University
NTIS - New Technologies for the Information Society – European centre of excellence
OTM-R - Open, transparent and merit-based recruitment
R&D – Research and development
R&I – Research and innovation
UWB – University of West Bohemia
WP – Work package

List of figures

1 Introduction

The COLOSSE project connects Czech and Slovak research facilities in the area of plasma-enabled surface engineering at Masaryk University, Comenius University and University of West Bohemia. The goal is to increase the participation of these research centres in Horizon Europe and future EU Framework Programmes for R&I by these specific objectives:

- Strengthen the connections of COLOSSE centres to world-leading R&I centres
- Build conditions that will enable internationalization of human resources
- Develop skill-set that enables interdisciplinary and intersectoral collaboration and facilitates creativity
- Enable sustainability of the COLOSSE partnership through synergic use ERDF and HE/FP resources

The kick-off meeting officially launched the project serving as an introduction to its activities, outlining the implementation plan, establishing connections among the involved partners, and initiating work on the various work packages.

It took place on Thursday, April 4th, 2024, and Friday, April 5th, 2024 in Brno, Faculty of Sciences. The first day began with a warm welcome and an introduction from all participants, followed by a detailed overview of the project's objectives and key performance indicators (KPIs). After a brief coffee break, the focus shifted to discussing the various work packages, including their activities, deliverables, and milestones. Governance and dissemination strategies were also addressed.

The afternoon session delved into the human resources (HR) strategy within Work Package 2 (WP2), featuring partner presentations and in-depth discussions, with remote participation facilitated. The day concluded with a networking dinner, fostering collaboration among the project team members.

The following day commenced with a session dedicated to internationalization efforts within Work Package 1 (WP1), featuring partner presentations and discussions aimed at enhancing global collaboration. A guided tour of the laboratory facilities followed. The meeting concluded with a lunch, offering further opportunities for networking and informal discussions among the project team members.

Figure 1 - COLOSSE Core team

2 Agenda and meeting minutes

The meeting was structured as two days event, beginning on Thursday, April 4th afternoon and finishing by lunch on Friday April 5th. All presentations delivered during the meeting have been included as annexes for reference. The agenda was as follows:

Thursday, April 4th, 2024

13:00-14:00 Welcome & Tour de table

14:00-14:15 Project essentials (objectives, KPIs)

14:15-14:30 Coffee break

14:30-15:15 Work Packages (activities, deliverables, milestones)

15:15-15:45 Governance & Dissemination

15:45-16:00 Coffee break

16:00-18:00 HR strategy (WP2) – partner presentations & discussion

19:00 Networking dinner

Friday, April 5th, 2024

09:00-10:30 Internationalization (WP1) – partner presentations & discussion

10:30-11:00 Coffee break

11:00-12:30 Lab tour

12:30 Lunch

2.1 Thursday, April 4th, 2024

The first day was dedicated to the project overview and governance. Later in the day, the HR strategy was discussed, and first common results were established.

2.1.1 Welcome & Tour de table

The first section started with the presentation of the project coordinator, prof. Vašina from the Masaryk University, providing insights into CEPLANT (R&D centre for plasma and nanotechnology surface modifications). Next, Assoc. prof. Mikula from Comenius University Bratislava introduced the Faculty of Mathematics, Physics, and Informatics and its laboratories. Following this, Assoc. prof. Baroch from the University of West Bohemia presented on the Faculty of Applied Sciences (FAS), and its research centre New Technologies for the Information Society – European centre of excellence (NTIS).

Figure 2 - prof. Vašina

2.1.2 Project essentials (objectives, KPIs, Work packages, governance and dissemination)

The second section was dedicated to the project essentials presented by the project manager, Ladislav Čoček, from Masaryk University. He started with the basic data and continued with the consortium composition and the role of associated partners in relation to the work packages´ individual tasks. Afterwards, the explanation of project objectives and Key performance indicators were given.

Next, description of Work packages followed. The structure was – objectives, leading institution, short description of tasks with connection to milestones and deliverables. The discussion followed and next steps were outlined. As a conclusion, the Gannt chart and financial management were mentioned, and tentative schedule was set. We agreed on a common shared platform for internal communication and reporting as well as repository of project documentation.

Figure 3 - discussion on project essentials

2.1.3 HR strategy (WP2) – partner presentations & discussion

The afternoon was dedicated to the Work package 2 - Human Resources Development Strategy. The hybrid format was adopted so other HR colleagues could join in.

Representatives of each partner institution briefly presented their HR strategy to answer the following questions:

- What is your current % of international research staff?
- How do your internal guidelines and regulations embed OTM-R principles specified in the Charter and Code for Researchers?
    - Please provide general summary of your recruitment process a practice.
    - Does your institution have OTM-R (Recruitment) Policy? Please provide a link to the document if yes.
    - Which recruitment channels does your institution use for advertising research vacancies?
    - Please provide a link to your institution's Euraxess profile.
    - Please provide a link to your institution's career website.
- What is your institutional process for onboarding of new employees?
- How does your institution evaluate performance and work behaviour of employees? Do you use career development plans?
- What is your institutional process for training and development of employees?
- How do you determine training needs of your researchers?

After the presentations, the discussion followed and next steps were set (creating of check-list, mapping session with each institution, drafting of the strategy).

Figure 4 - HR strategy presentations

2.2 Friday, April 5th, 2024

The second day was focused on the internationalization strategy and ended with Lab tour and networking lunch.

2.2.1 Internationalization (WP1) – partner presentations & discussion

The section started with a discussion on potential travel arrangements (both short-term and long-term). Following this, the first draft of strategy for internationalization was set up. It will focus on expanding our network beyond collaboration with associated partners. In addition to fostering existing partnerships, we aim to offer unique technologies and methodologies to other potential collaborators, leveraging our expertise. We are also keen on exploring what these partners can offer us. Furthermore, we see the potential to enhance our internationalization efforts by using our current involvement in alliances.

Figure 5 – Discussion on Internationalization

2.2.2 Lab tour

The event concluded with a guided tour of the laboratory facilities. This was followed by a networking lunch providing an opportunity to continue discussions.

Figure 6 - Lab tour

3 Annexes

3.1 List of participants

Surname	First name	Institution
Baková	Eliška	MU
Baroch	Pavel	UWB
Čatlos	Ján	CU
Čoček	Ladislav	MU
Fekete	Matej	MU
Hrabovská	Zuzana	MU
Ježová	Kateřina	MU
Kelar	Jakub	MU
Kováčik	Dušan	MU
Krčméry	Silvester	CU
Krumpolec	Richard	MU
Lády	Tomáš	MU
Lisoňová	Zuzana	CU
Mikula	Marián	CU
Ohlídal	Ivan	MU
Porazilová	Lenka	UWB
Skalická	Eliška	MU
Slavíková	Pavlína	MU
Souček	Pavel	MU
Šimon	Petr	UWB
Tesaříková	Bohumila	MU
Vašina	Petr	MU
Wahlová	Barbora	MU
Winklerová	Anežka	MU
Zuzjaková	Šárka	UWB

3.2 Presentations

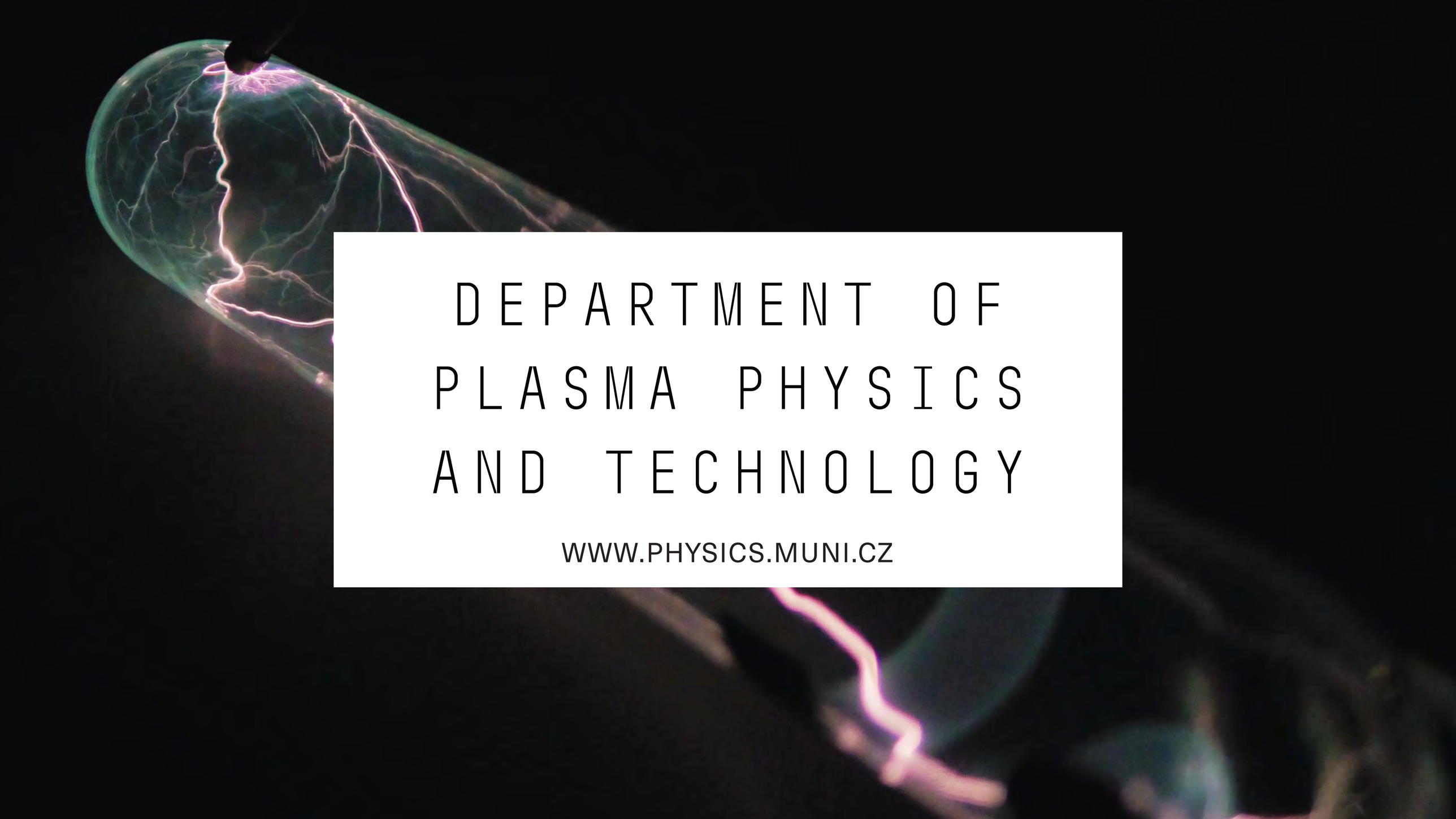
Tour de table

- Masaryk University
- Comenius University Bratislava
- University of West Bohemia

Project overview

HR strategy

- Masaryk University
- Comenius University Bratislava
- University of West Bohemia



DEPARTMENT OF PLASMA PHYSICS AND TECHNOLOGY

WWW.PHYSICS.MUNI.CZ

WHAT DO WE DO

- Physics of plasma and electrical discharges
- Diagnostics of plasma, discharges and processes
- Modelling and simulation of processes and phenomena
- Practical applications

- Low-temperature plasma, ionized gases, plasma chemistry
- Nanostructures, nanomaterials, thin films
- Plasma surface treatment

SCIENCE AT DPPT

6	20	27	168
research groups	laboratories	Ph.D. students	publications
Wide range of topics: from theory, through modelling and experiments to practical applications.	Everything from standard technical equipment to the most modern machines is available.	Students continue with studies after their graduation and begin their scientific career.	Number of scientific publication in the last three years, plus further 34 applied results.

PLASMA NANOTECHNOLOGIES AND BIOAPPLICATIONS

Research

- development of atmospheric plasma sources
- surface treatment of temperature-sensitive materials
- environmentally friendly

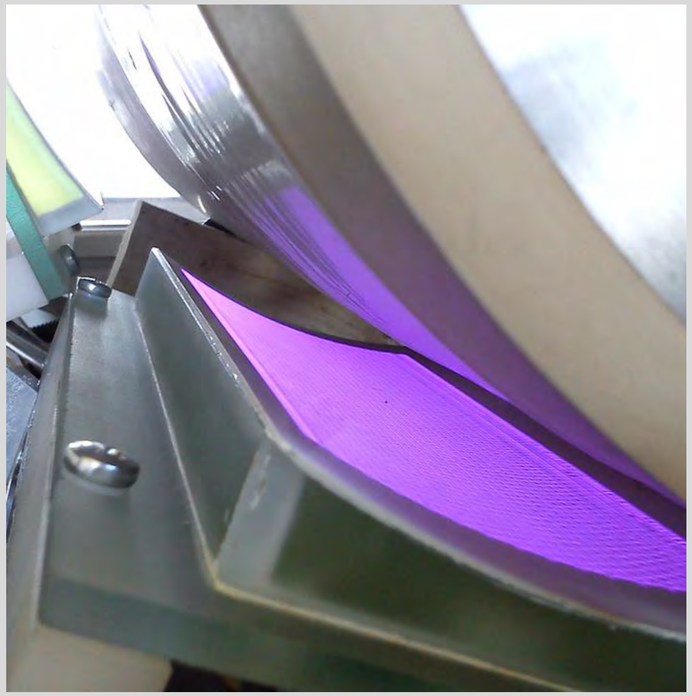
Applications

- Improvement of surface properties of various materials (e.g. glass, polymer, textile, metals, papers, etc.)
- surface cleaning, activation and decontamination
- ultrathin composites films (ALD)
- plasma reduced graphene oxides

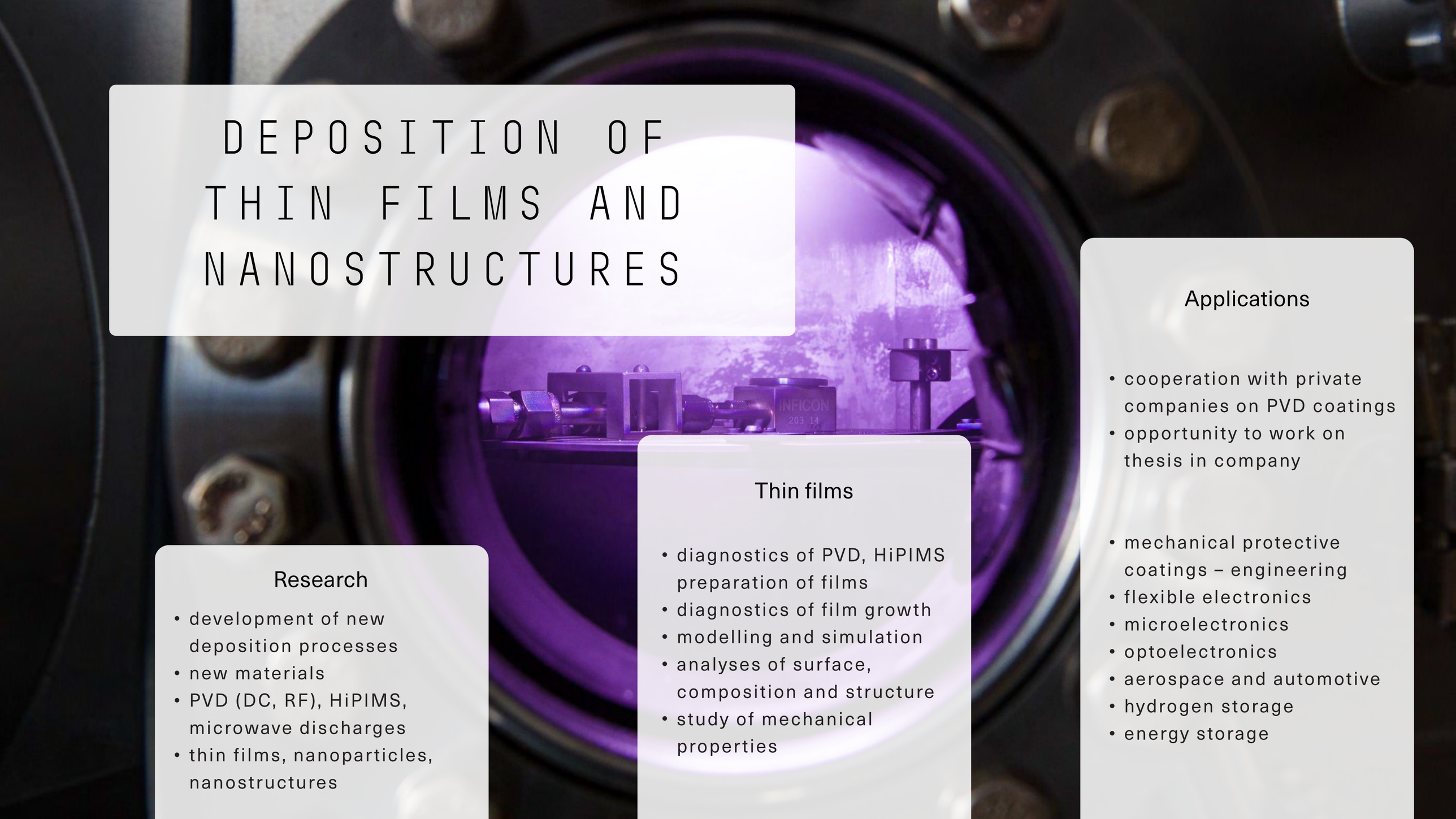
Cooperation with industry

- flexible and printed electronics
- UV digital printing
- glass surface treatment
- paper surface treatment
- Plasma assisted calcination of nanofibers
- roll-to-roll plasma treatment of flexible materials
- plasma treatment of hollow objects and tubes
- development and innovation of new plasma sources
- bioapplications

PLASMA NANOTECHNOLOGIES AND BIOAPPLICATIONS



DEPOSITION OF THIN FILMS AND NANOSTRUCTURES



Research

- development of new deposition processes
- new materials
- PVD (DC, RF), HiPIMS, microwave discharges
- thin films, nanoparticles, nanostructures

Thin films

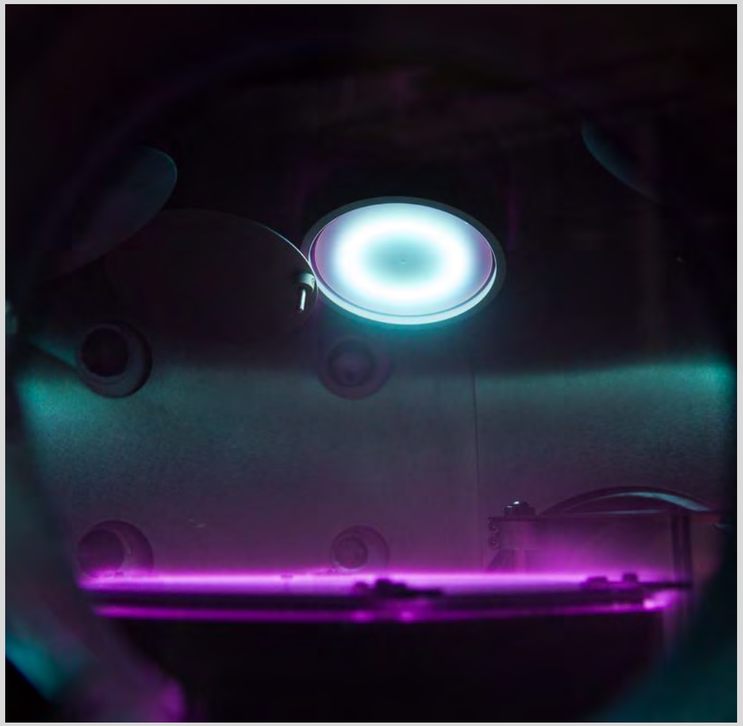
- diagnostics of PVD, HiPIMS preparation of films
- diagnostics of film growth
- modelling and simulation
- analyses of surface, composition and structure
- study of mechanical properties

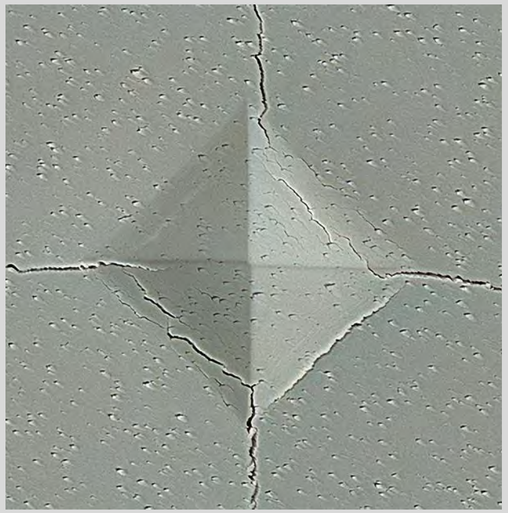
Applications

- cooperation with private companies on PVD coatings
- opportunity to work on thesis in company

- mechanical protective coatings – engineering
- flexible electronics
- microelectronics
- optoelectronics
- aerospace and automotive
- hydrogen storage
- energy storage

DEPOSITION OF THIN FILMS AND NANOSTRUCTURES





PLASMA DIAGNOSTICS AND MODELLING

Research

- basic physical and chemical processes in discharges and plasma in gases and liquids
- theory and experimental

Modelling

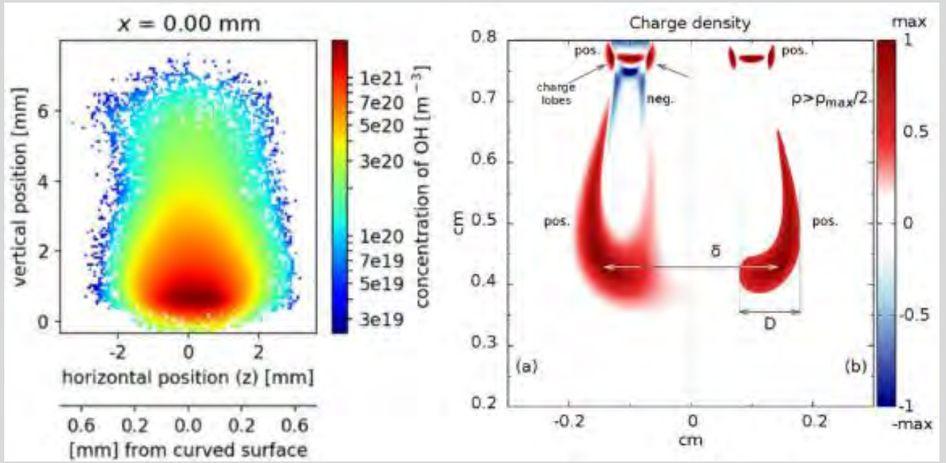
- acceleration of highly energetic electrons in gases
- plasma simulation in magnetic fields
- collision-radiative models in gases
- fluid, hybrid and particle models for propagation of ionizaed waves (streamers)

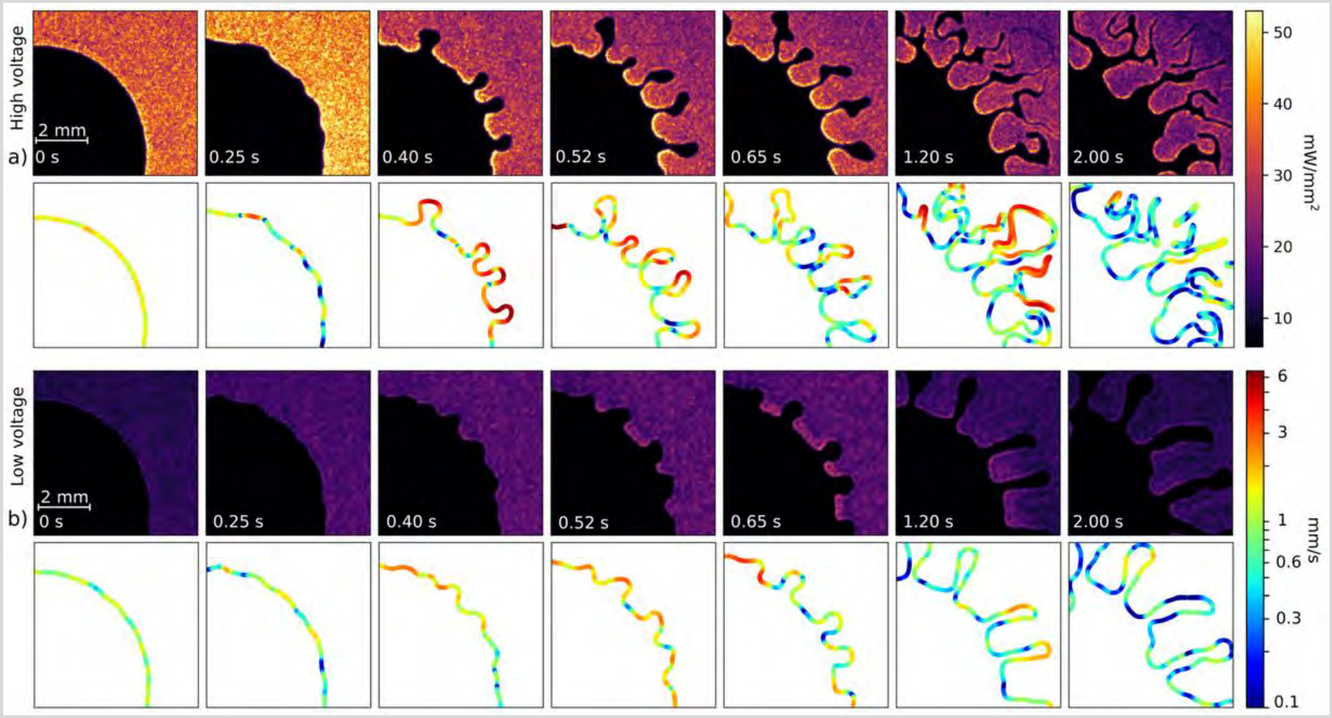
Topics

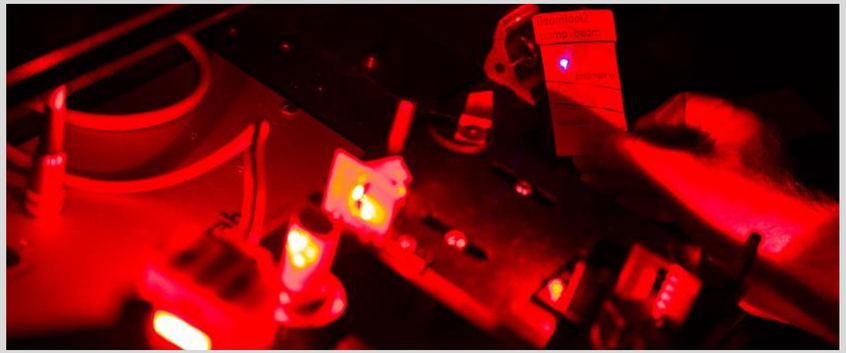
- advanced experimental methods (spectroscopy and electrical measurement)
- laser diagnostics
- determination of plasma basic parameters
- extremely small spacial and time scales
- models to prove experimental behavior
- deep understanding of physical processes in plasma

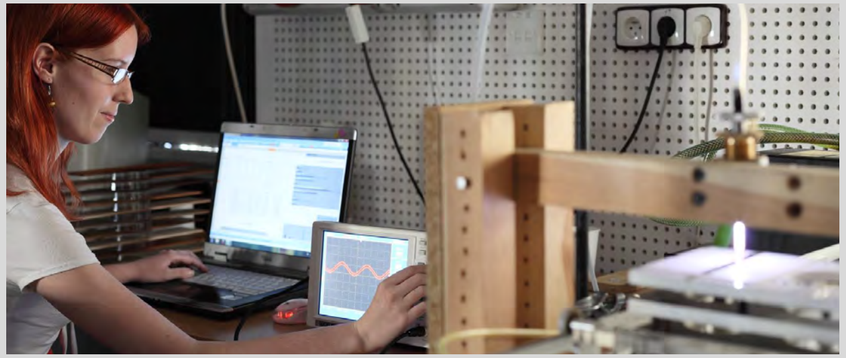
- cooperation with industry and other research institutions

PLASMA DIAGNOSTICS AND MODELLING









DIDACTICS OF PHYSICS

Experiments

- preparation of high-school experiments
- all parts of physics, including the modern physics
- reconstruction of historical experiments

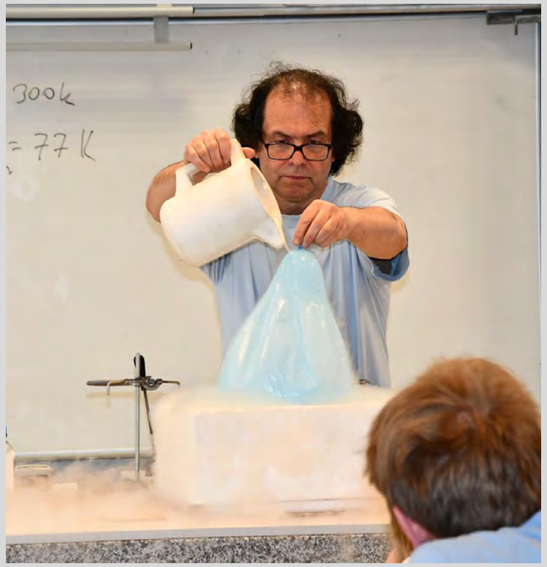
Teaching

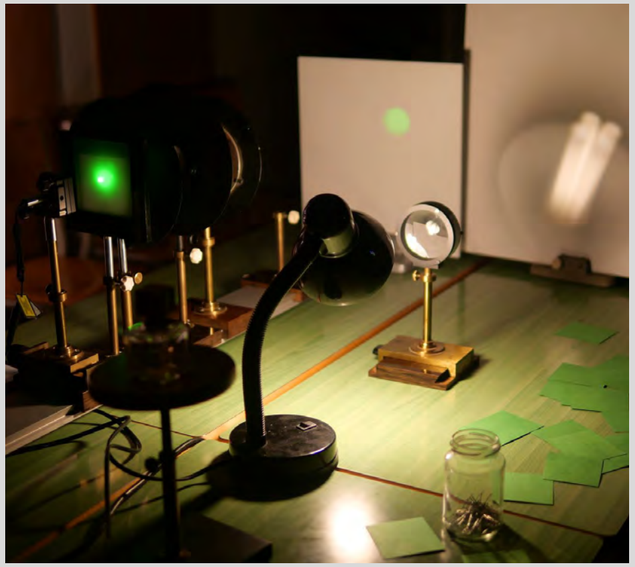
- education of future teachers for grammar and high schools
- high expertise in physical knowledge
- pedagogics basics
- final thesis on scientific levels
- many job opportunities after graduation

Popularization of physics and science

- lectures for high school teachers
- topical physics camp for high schoolersafternoon activities for elemtary and high schoolers
- experiments for high schools
- physical weekends
- physical shows
- physics theatre
- demonstrative experiments

DIDACTICS OF PHYSICS





OPTICS FOR THIN FILMS AND SOLID SURFACES

Equipment

- spectrophotometers
- ellipsometers

- wide spectral range from far infrared to vaccum ulraviolet

Research

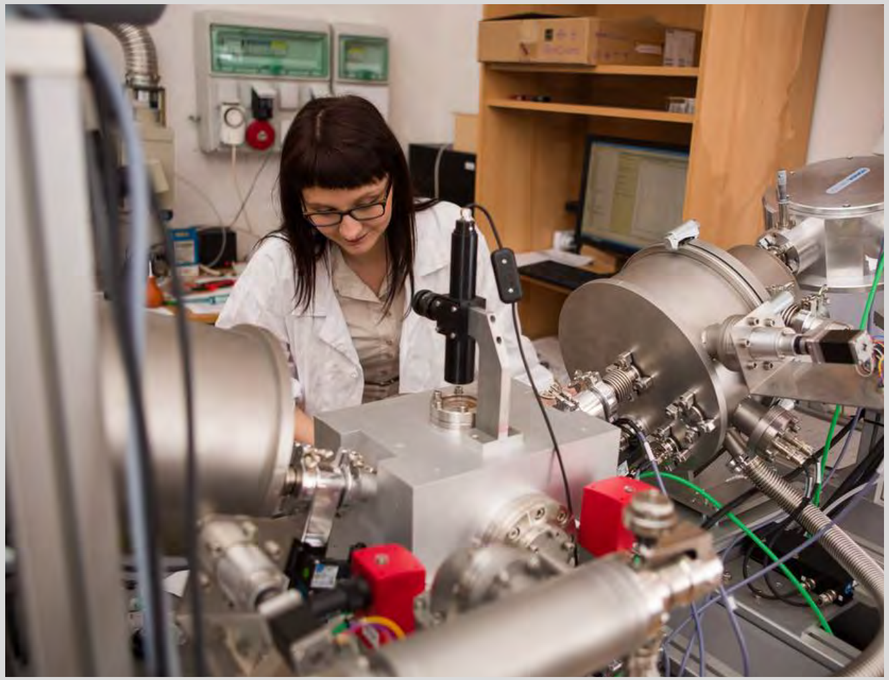
- optical properties of various systems
- characterization of optical properties of films
- formulation of new dispersion and structural models
- study of random surface roughness

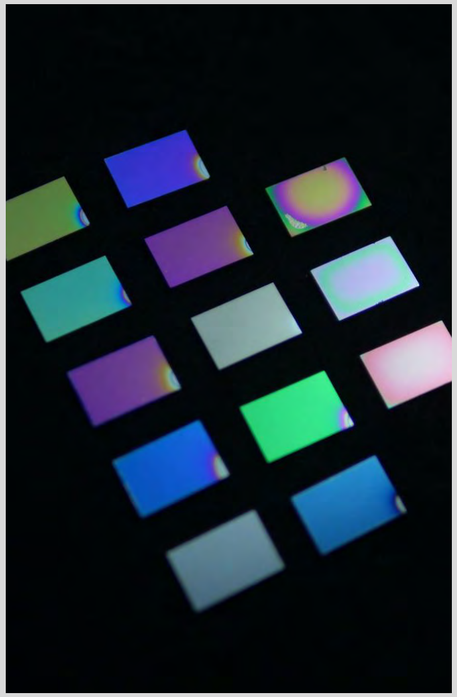
Cooperation

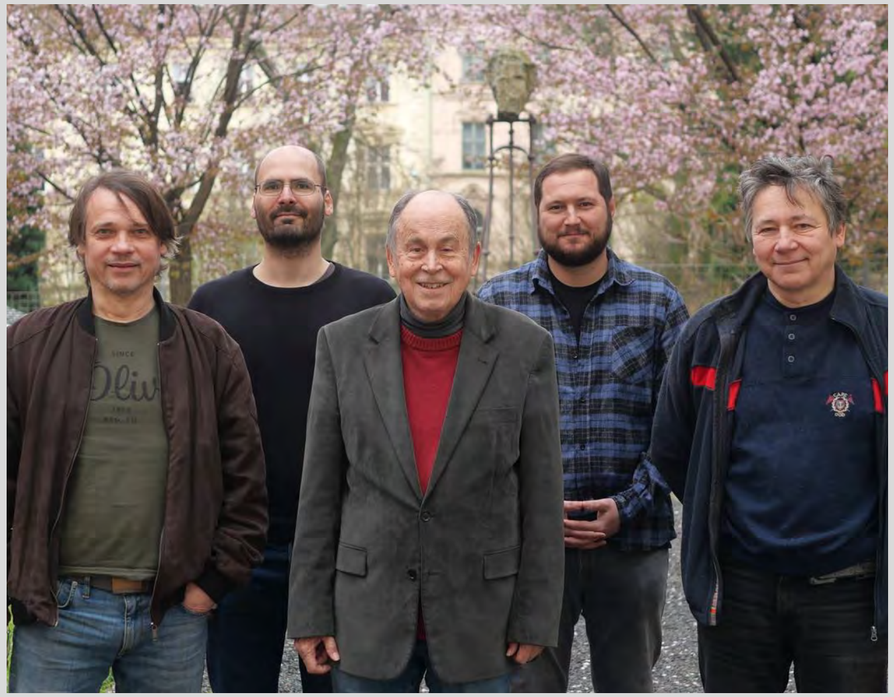
- analyses of films prepared by plasma-chemical methods, magnetron sputtering, or other vacuum coating methods

- cooperation in research of defects: random roughness on boundaries, inhomogeneity of films, thickness nonuniformity, transitional interlayers, or others

OPTICS FOR THIN FILMS AND SOLID SURFACES







APPLIED PLASMOCHEMISTRY

Research

- solution for contemporary problems in chemical engineering
- plasma for clean and energetically nondemanding alternatives for chemical processes in the industry

Applications

- development of new plasma systems
- computer modeling of plasma processes
- surface functionalization
- deposition of biocompatible films (DBD)

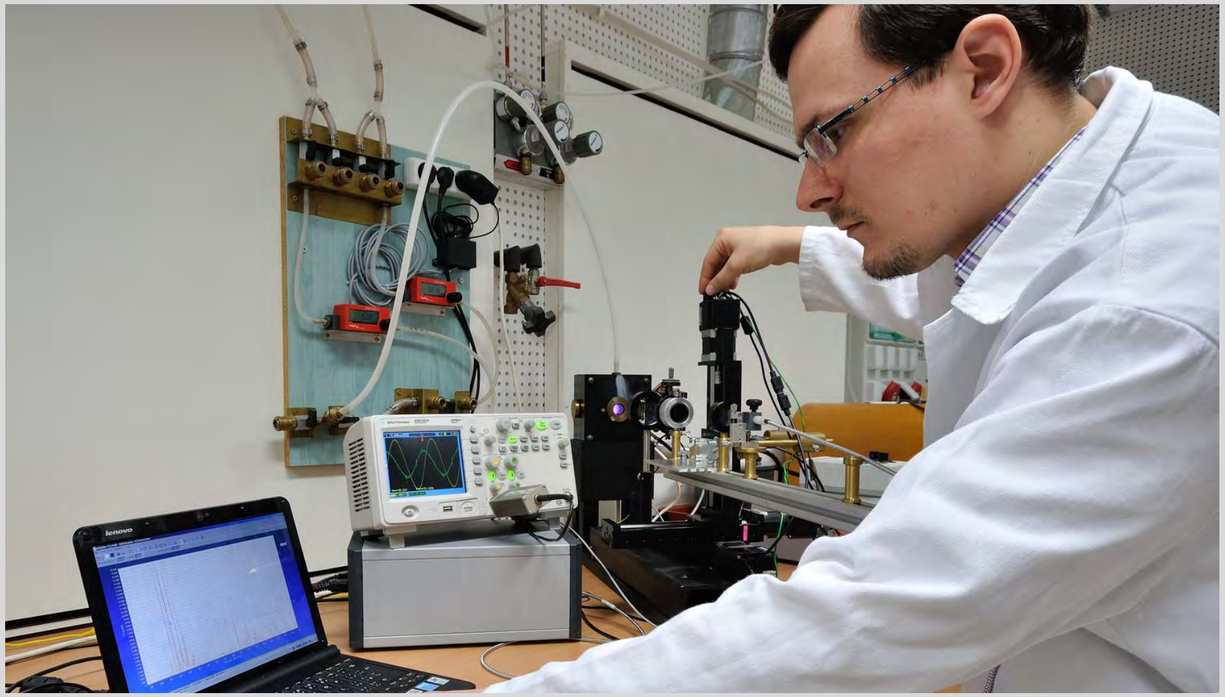
- patented technologies

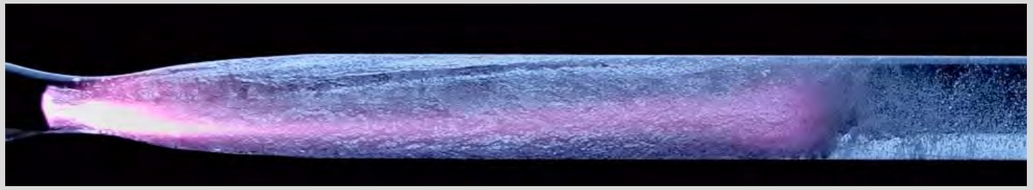
Cooperation with industry

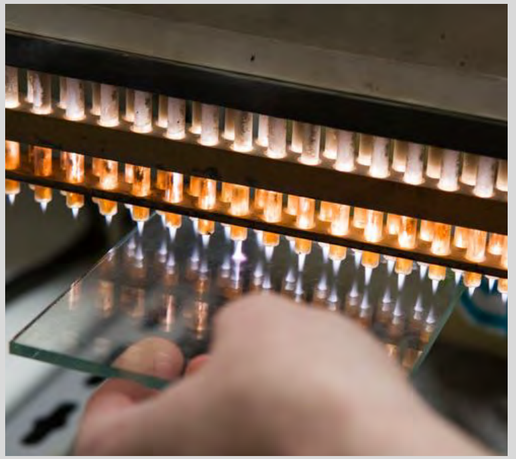
- plasma water cleaning from pollutants, drug residues and pathogens
- production of disinfectant water
- production of plasma-activated water (PAW) for agriculture

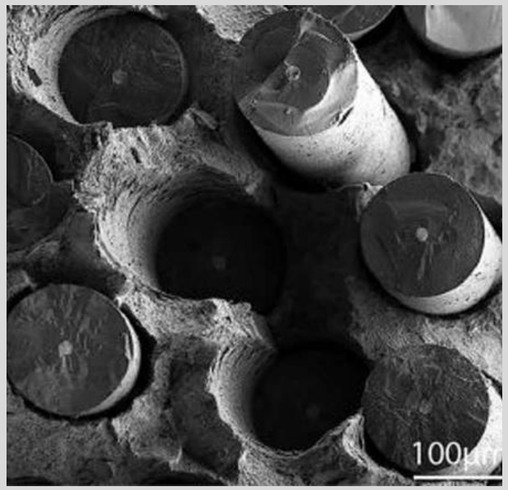
- plasma waste gas conversion
- decomposition of volatile organic compound
- production od NO_x for fertilizers

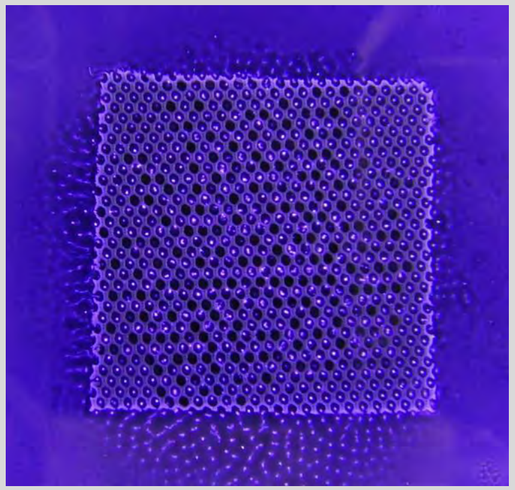
APPLIED PLASMOCHEMISTRY

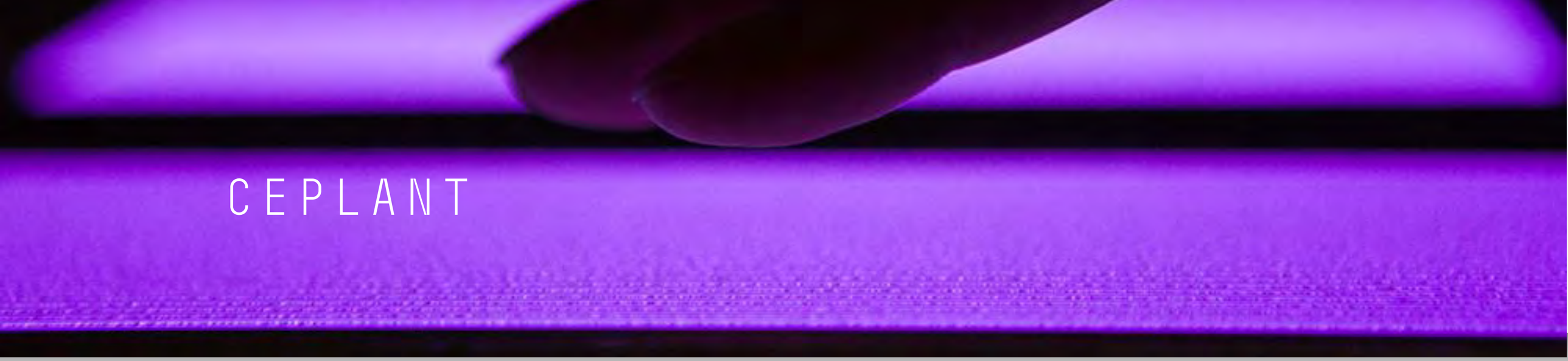






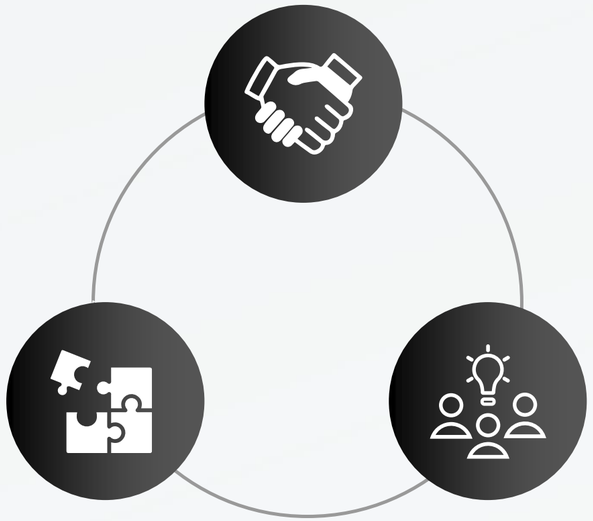






CEPLANT

R&D CENTRE FOR PLASMA AND NANOTECHNOLOGY SURFACE MODIFICATIONS



- offers equipment and services for analyses and scientific research for industry and other companies and research institutions
- established in 2010
- large research infrastructure – an unique facility with a high level of knowledge and technological sophistication in low-temperature plasma that operates on an open access basis
- since 2019, a part of the KET (Key Enabling Technologies) network

STUDY PROGRAMS

Bachelor

- Physics – nanotechnologies
- Physics
- Physics with an emphasis on education

Master

- Plasma physics and nanotechnology
- Physics educition of high schools

Ph.D.

- Plasma physics

HOW TO JOIN THE RESEARCH?

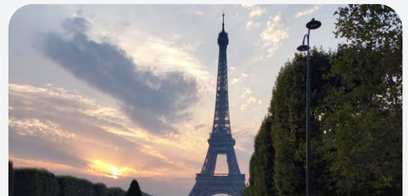
Do not wait for the third year!

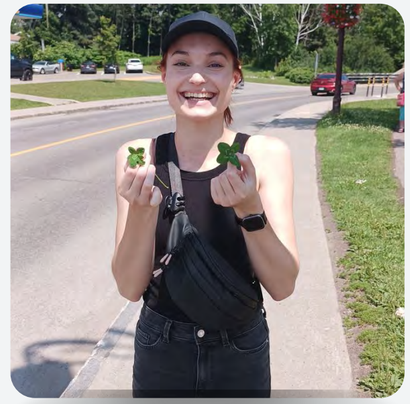
- You can join from the first semester
- Opportunity to work parallel to your studies – join the work of one of the research teams

Do not be shy and contact us:

- PNB – dusan.kovacik@mail.muni.cz
- DTVN – vasina@physics.muni.cz
- PDM – hoder@physics.muni.cz
- DF – zboch@physics.muni.cz
- OTVPPL – ohlidal@sci.muni.cz
- AP – trunec@physics.muni.cz

STUDY ABROAD





ALUMNI

Mgr. Zdeněk Frgala, Ph.D.

(alumni 2007)
director R&D, Thermo Fisher Scientific, Hillsboro, USA

Mgr. Radek Žemlička, Ph.D.

(alumni 2016)
scientist, Evatec AG, Švýcarsko

Mgr. Katarína Bernátová, Ph.D.

(alumni 2022)
Application Specialist Junior, TESCAN ORSAY HOLDING, a.s., Česko

Mgr. Adam Obrusník, Ph.D.

(alumni 2018)
CEO, head of consulting, co-founder, PlasmaSolve, Česko

Mgr. Jiří Večeře

(alumni 2022) Technologist of semiconductor manufacture, ON Semiconductor, Česko

ALUMNI

Mgr. Marta Kroker, Ph.D.

(alumni 2022)
Systems design engineer, Thermo Fisher Scientific, Česko

Mgr. Kristína Tomanková

(alumni 2023)
Junior plasma process engineer, PlasmaSolve, Česko

Mgr. David Nejezchleba

(alumni 2023)
Syste engineer FIB-SEM, TESCAN ORSAY HOLDING, a.s., Česko

Mgr. Eliška Materna Mikmeková, Ph.D.

(alumni 2014)
Head of Microscopy and surface spectroscopy at ISI CAS

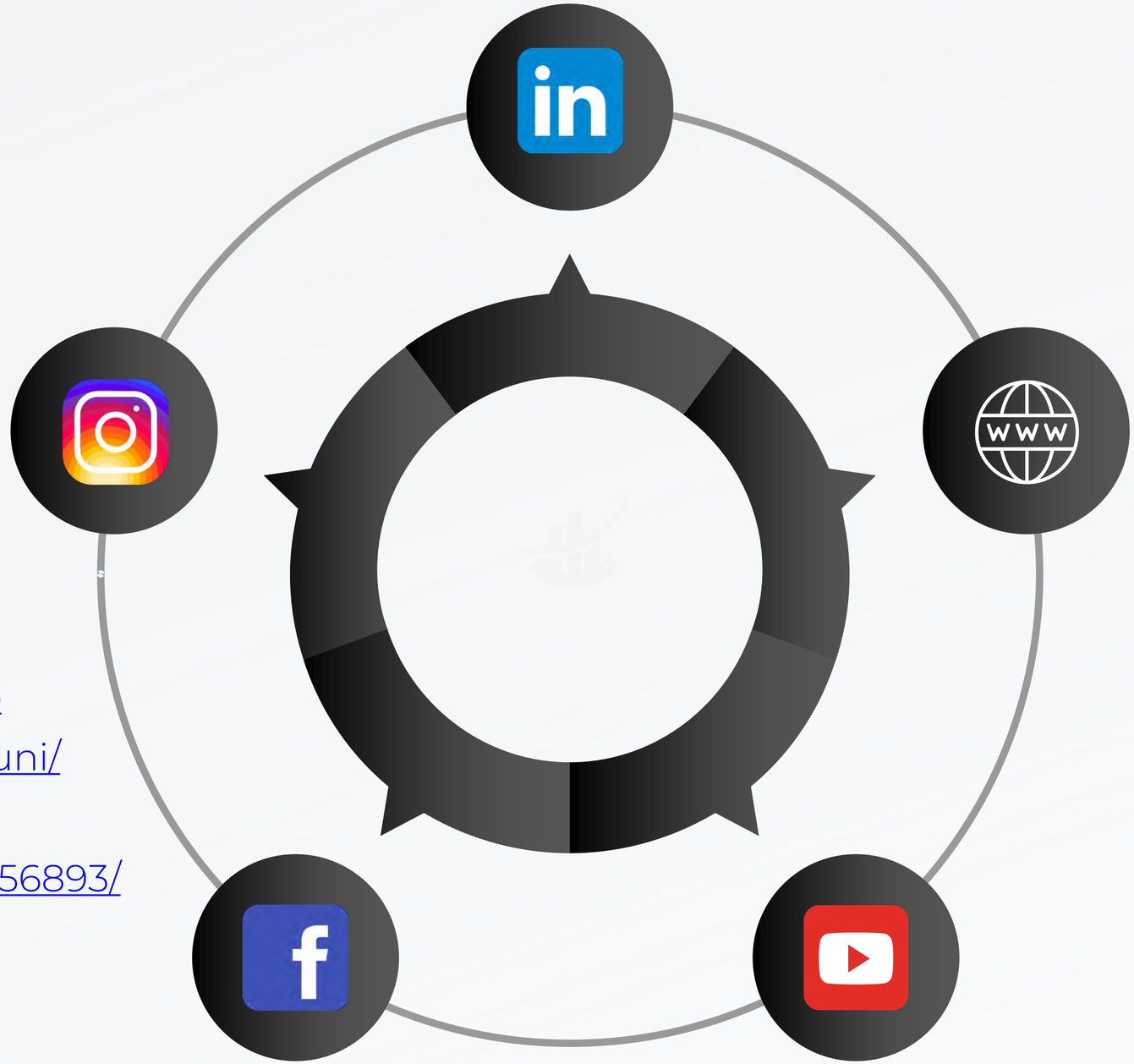
Mgr. Jan Schäfer, Ph.D.

(alumni 2002)
scientist, Leibniz Institute for Plasma Science and Technology (INP Greifswald), Německo

MUNI SCI

Department of Plasma Physics and Technology

MAY YOU BE SUCCESSFUL IN YOUR STUDIES!



- https://www.physics.muni.cz/ustavy/uftp
- https://www.instagram.com/uftp_sci_muni/
- https://www.facebook.com/ustavUFTP
- https://www.linkedin.com/company/86256893/
- https://www.youtube.com/@ustavUFTP

COMENIUS
UNIVERSITY
BRATISLAVA

FACULTY OF MATHEMATICS,
PHYSICS AND INFORMATICS
Comenius University
Bratislava

Project: 101158464 — COLOSSE — HORIZON-WIDERA-2023-ACCESS-04

Kick-off meeting

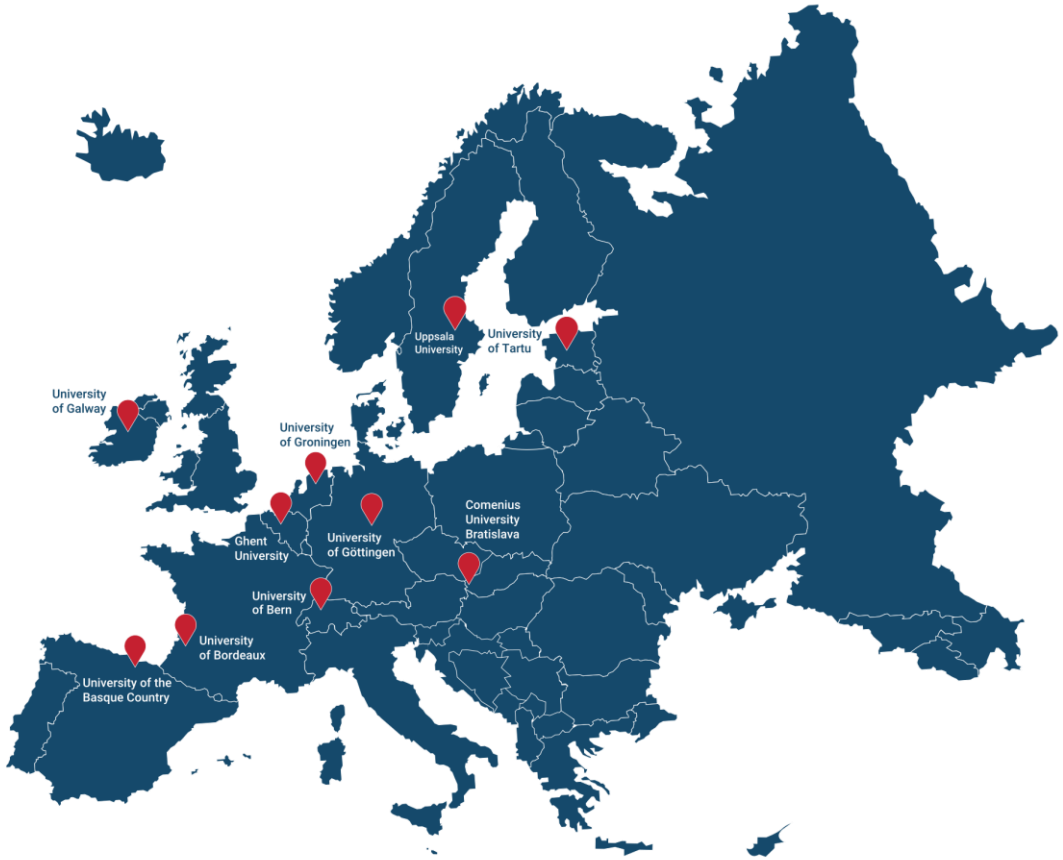
Brno 4-5.4 2024

Marián Mikula

CU BA in numbers (2023)

- 13 faculties & research park
- 22 743 students / 1 852PhDs
  - **FMPI: 1 440 students/ 174 PhDs**
- 4 843 staff / 352 professors, 586 associate professors, 1993 other research personnel
  - **FMPI: 423 staff / 31 professors, 89 associate professors, 289 research staff, 14 other research personnel**

- Member of European Alliance (since 2020, 10 Universities)



ENLIGHT

HR EXCELLENCE IN RESEARCH

- Holder of HR Excellence in Research (since 2023)

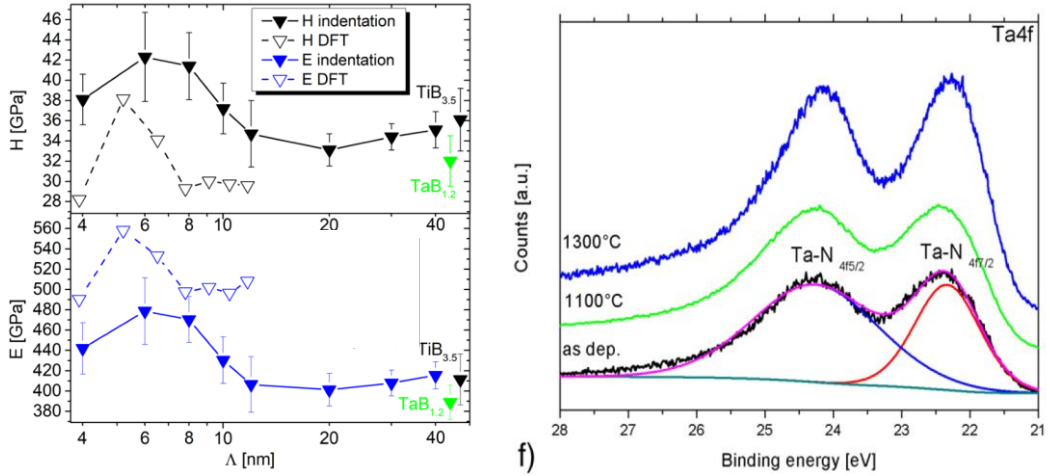
- Gender Equality Plan (since 2022)

RODOVÁ ROVNOSŤ NA UK

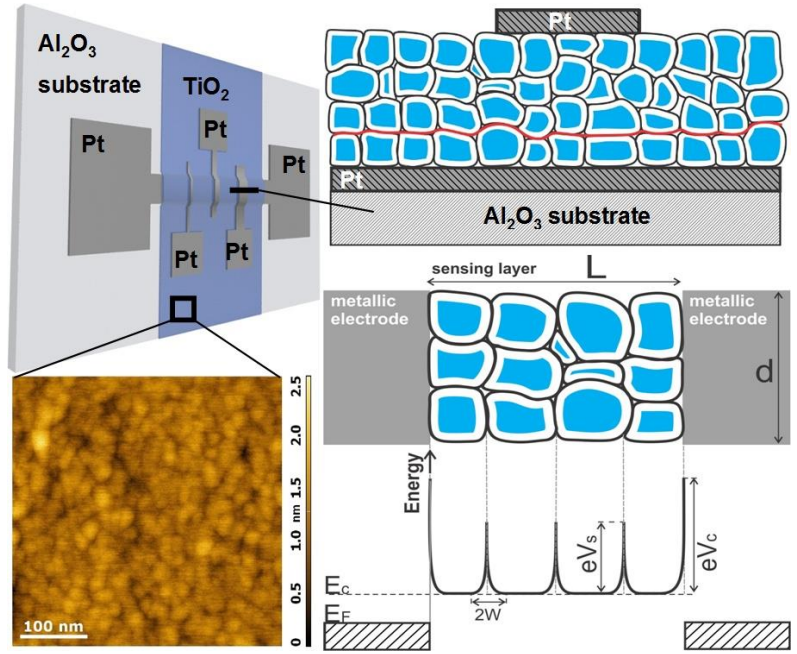
Laboratories of Advanced Technologies FMPI CU in Bratislava

Staff (2024)

- 1 Prof., DrSc
- 5 Assoc. Prof.
- 7 Researches
- 5 PhD Students
- 3 Technicians

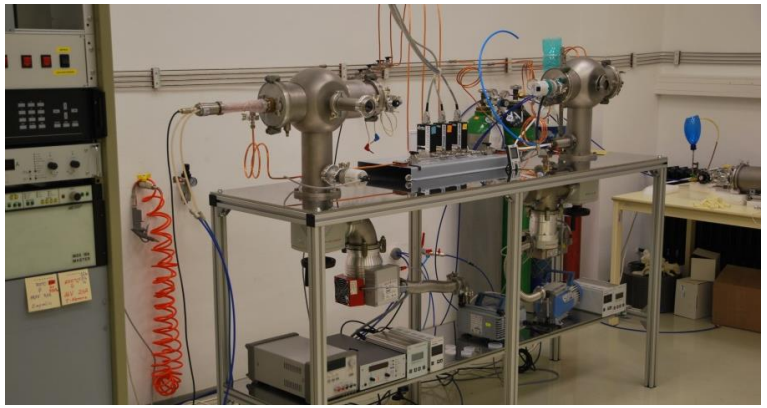


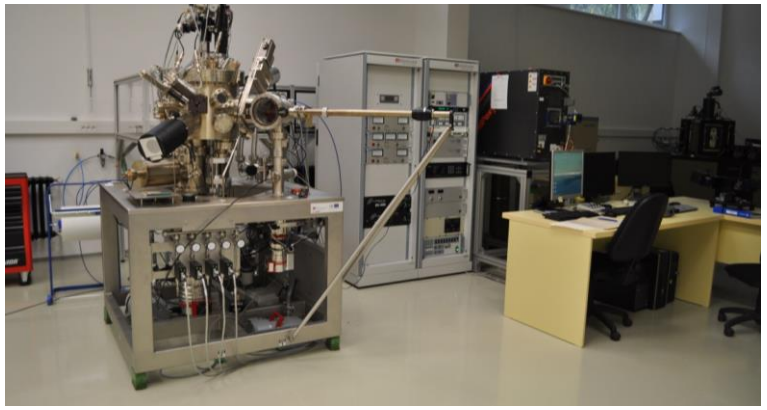
- ***Ab initio*** **(Density Functional Theory, DFT)**
- **PVD preparation of thin films based TM diborides, nitrides and oxides (hard materials, superconductors, gas sensors…)**
- **Complex characterization of the physical properties of thin films**

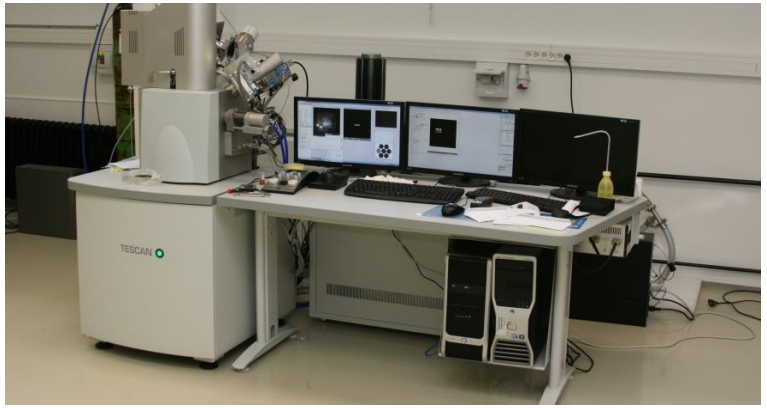


Laboratories of Advanced Technologies FMPI CU in Bratislava

Equipments





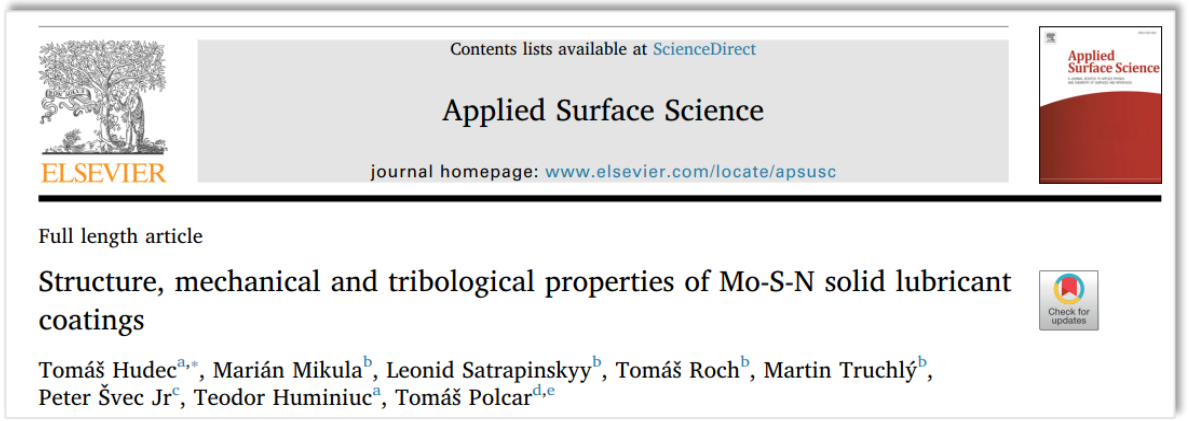


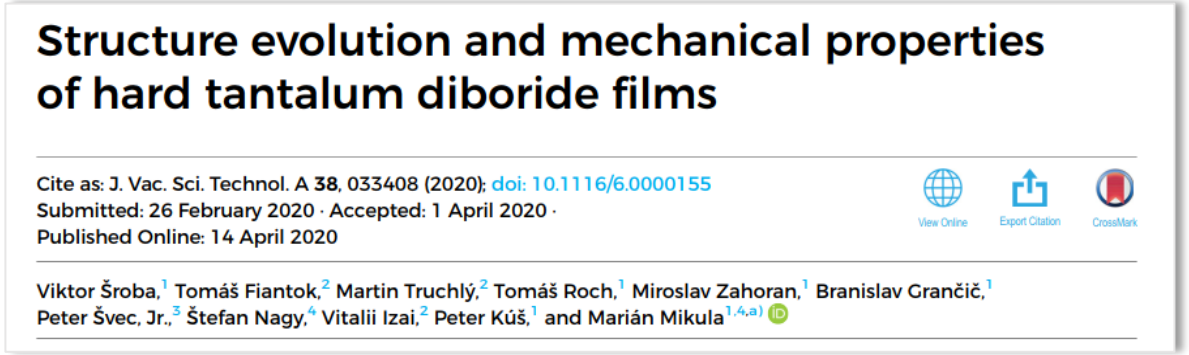
- Evaporation, magnetron sputtering (DC, RF, HiPPIMS), pulsed laser deposition (PLD with RHEED, ellipsometry).
- A wide variety of the compositional, structural and morphological analytical techniques (SEM, EDS, WDS, XPS, AES, ISS, UPS, HT-XRD, AFM).
- Lithographical methods (optical, nanoimprint…)

Laboratories of Advanced Technologies FMPI CU in Bratislava

Education

- Lectures (> 10) in Solid State Physics
- Education in all three levels of university studies
- B.Sc. and diploma theses are part of real research in the projects of the Agency for Research and Development Support (APVV) and the European Space Agency (ESA).
- Results of B.Sc. and diploma works are usually published in the form of CC publications.
- Students can present their results at international conferences. (Czech Republic, USA ...)



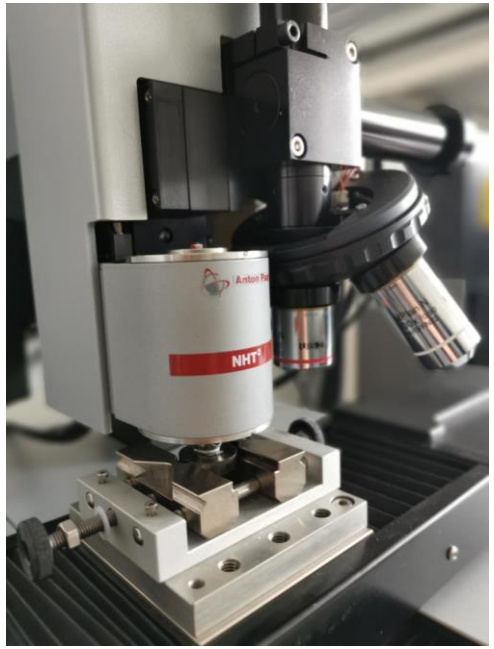


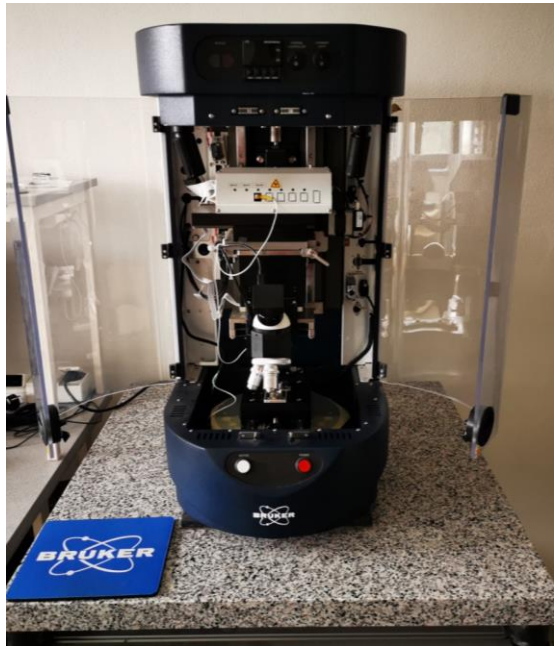
Research and Implementation Institute FMPI in Turany (since 2013)

Staff (2024)

- 4 PhD Researches

- magnetron sputtering (DC, HiPPIMS)
- ARC evaporation, HiTUS
- Complex characterization of the mechanical and tribological properties (nanoindentation, tribometer (up to 1000°C), scratch tester, optical profilemeter, calotest)

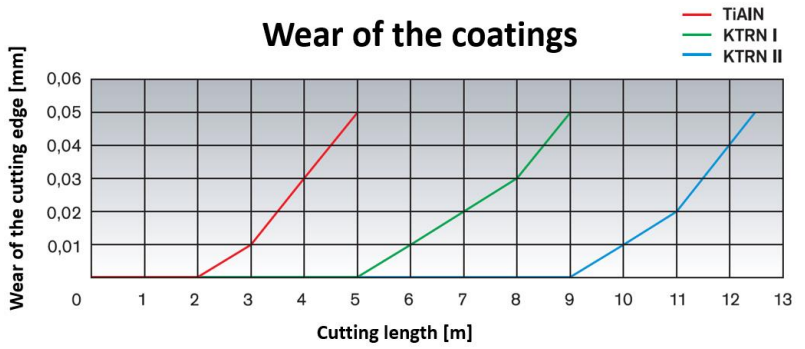


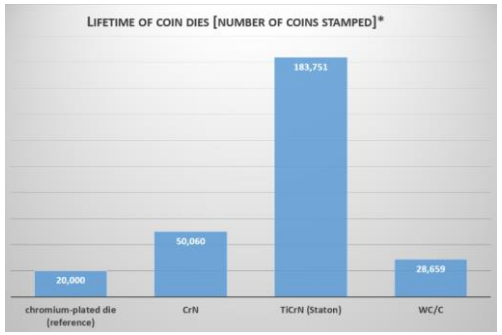


Research and Implementation Institute FMPI in Turany

Co-operation with Staton, s.r.o.

- **2021 – 2023** "Research Centre of progressive materials and inovative technologies based on nanostructured coatings for technical and biomedical applications" project in the frame of Operation program Research and Innovation. Applicant: STATON,s.r.o., Partner: Comenius University in Bratislava
- **2012-2014** "Plasma Technology Research and Development Centre in Turany" project in the frame of Operation program Research and Development ITMS: 26220220166. Applicant: STATON,s.r.o., Partner: Comenius University in Bratislava
- **2012-2014** "Modernization of the scientific-implementation workplace" project in the frame of Operation program Research and Development ITMS: 26210120010. Applicant: STATON,s.r.o, Partner: Comenius University in Bratislava
- **2009-2012** "Universal experimental plasma equipment" project in the frame of Operation program Research and Development ITMS: 26220220004. Applicant: Comenius University in Bratislava, Partner: STATON,s.r.o.





Laboratories of Advanced Technologies FMPI CU in Bratislava

Co-operation with international partners

- **Prof. Grzegorz Greczynski,** Department of Physics, Chemistry and Biology (IFM), **Linköping University (LiU)** in Sweden. The research program is aimed at increasing the atomistic understanding of vapor phase deposition, ion-surface interactions, and phase transitions in advanced materials.
- **Assoc. Prof. Davide Sangiovanni,** Department of Physics, Chemistry and Biology (IFM), **Linköping University (LiU)** in Sweden. The research program is based on calculations and simulations on supercomputer including design of alloys and coatings with excellent mechanical properties.
- **Prof. Jozef Keckes, Erich Schmid Institute of Materials Science** (Austrian Academy of Sciences) Leoben Austria. The research group aims for in-situ X-ray scattering on micro- and nano-scaled materials, structure and mechanical properties of thin films, structure-property relationship in biological materials, application of synchrotron radiation, XRD, SAXS, WAXS, GISAXS.

LINKÖPING UNIVERSITY

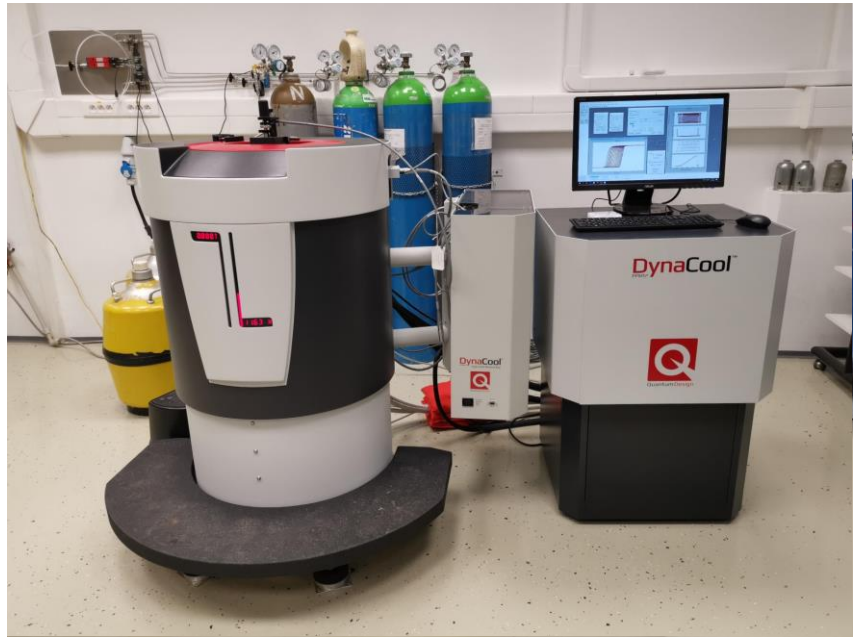
UNIBA in R&I EU projects

ACCORD: Advancing University Capacity and Competence in Research, Development, and Innovation, 313021X329

Major ESIF project investing 56 mil. € into STEM research and education infrastructure at UK BA. The **COLOSSE** project will directly benefit from newly built Centre of Leading Technologies with dedicated labs and equipments for materials research.

Physical properties measurement system (PPMS) (DynaCool USA)

- 14 T magnet
- Sub-Kelvin Capabilities (50 mK)
- Electrical transport measurements
- Magnetometry
- Thermal measurements up 1000°C
- Multi-Function Probes



Thank you for your attention!

Project:

Central European Platform for Plasma-enabled Surface Engineering (COLOSSE)

UNIVERSITY OF WEST BOHEMIA

FACULTY OF APPLIED SCIENCES
UNIVERSITY
OF WEST BOHEMIA

Department of Physics

New nanostructured thin-film materials prepared by plasma technologies

Pavel Baroch, Šárka Zuzjaková, Lenka Porazilová

FACULTY OF APPLIED SCIENCES
UNIVERSITY
OF WEST BOHEMIA

NTIS

FACULTY OF APPLIED SCIENCES
UNIVERSITY
OF WEST BOHEMIA

NTIS

New nanostructured thin-film materials prepared by plasma technologies

Department of Physics and NTIS - European Centre of Excellence
University of West Bohemia, Plzen, Czech Republic

FACULTY OF APPLIED SCIENCES
UNIVERSITY
OF WEST BOHEMIA

NTIS

New nanostructured thin-film materials prepared by plasma technologies

- **controlled preparation of thin-film materials by magnetron sputter deposition**
  - oxides, nitrides, borides, oxynitrides, alloys
  - multinary or multicomponent systems
  - multifunctional materials with unique combination of several properties

  - *high-temperature protective coatings*
  - *transparent dielectric films*
  - *thermochromic coatings*
  - *thin-film metallic glasses*
  - *antibacterial coatings*
  - *transparent conductive oxides*
  - *nanostructured materials for H_2 detection*
  - *thin-film materials for solar water splitting*

FACULTY OF APPLIED SCIENCES
UNIVERSITY
OF WEST BOHEMIA

NTIS

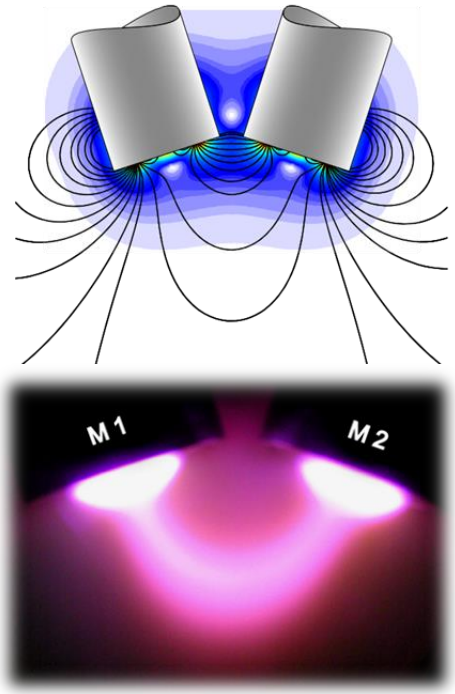
New nanostructured thin-film materials prepared by plasma technologies

- **controlled preparation of thin-film materials by magnetron sputter deposition**
- **characterization of composition, structure and properties of thin-film materials**
  - mechanical properties
  - optical properties
  - electrical properties
  - surface properties
  - tribological properties
  - thermal behavior

FACULTY OF APPLIED SCIENCES
UNIVERSITY
OF WEST BOHEMIA

NTIS

New nanostructured thin-film materials prepared by plasma technologies



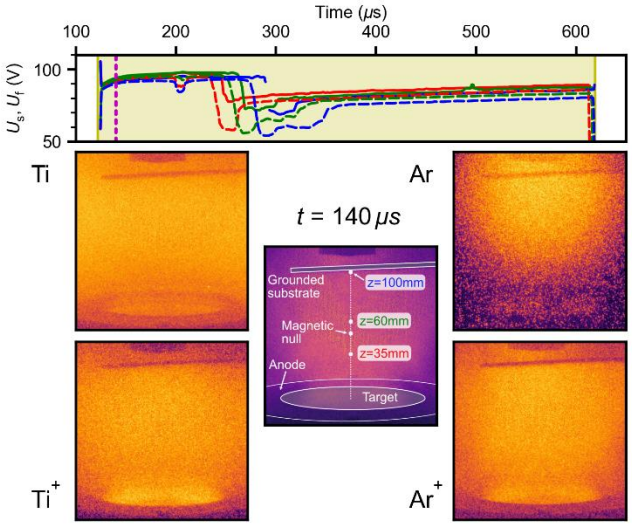
- **controlled preparation of thin-film materials by magnetron sputter deposition**
- **characterization of composition, structure and properties of thin-film materials**
- **design and development of new plasma sources and deposition techniques**
  - patented method for high-rate deposition of dielectric films (EU, USA, Japan and China)

J. Vlček et al: Patent EP 2 770 083 B1 - High-rate Reactive Sputtering of Dielectric Stoichiometric Films

FACULTY OF APPLIED SCIENCES
UNIVERSITY
OF WEST BOHEMIA

NTIS

New nanostructured thin-film materials prepared by plasma technologies



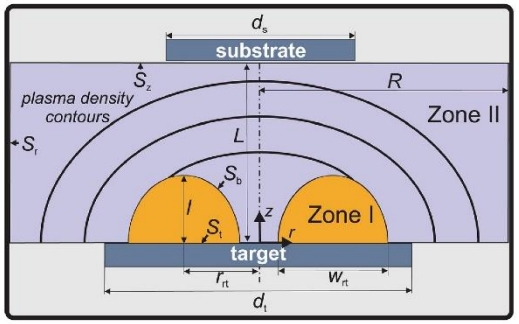
- **controlled preparation of thin-film materials by magnetron sputter deposition**
- **characterization of composition, structure and properties of thin-film materials**
- **design and development of new plasma sources and deposition techniques**
- **diagnostics of discharge plasma**
  - optical emission spectroscopy
  - energy mass spectroscopy
  - cavity ring-down spectroscopy
  - Langmuir probes

A.D. Pajdarová, et al: *On density distribution of Ti atom and ion ground states near the target in HiPIMS discharge using cavity ring-down spectroscopy and laser induced fluorescence*, Plasma Sources Sci. Technol. 31 (2022) 05LT04.

FACULTY OF APPLIED SCIENCES
UNIVERSITY
OF WEST BOHEMIA

NTIS

New nanostructured thin-film materials prepared by plasma technologies



$$\tilde{V}\frac{\mathrm{d}n(t)}{\mathrm{d}t}+\sum_i n(t)u_i(t)\tilde{S}_i=\sum_c n_{c1}(t)n_{c2}(t)K_c(t)\tilde{V}_c$$

- controlled preparation of thin-film materials by magnetron sputter deposition
- characterization of composition, structure and properties of thin-film materials
- design and development of new plasma sources and deposition techniques
- diagnostics of discharge plasma
- computer modelling of discharge plasma
  - magnetron discharges of various types

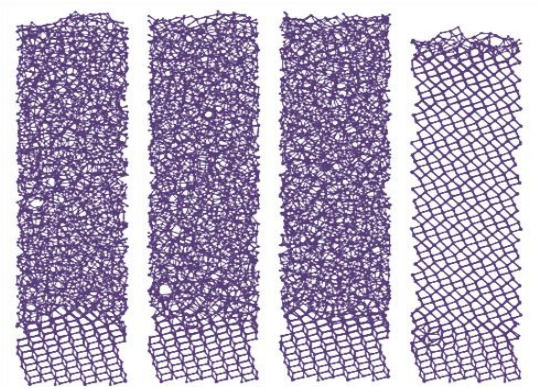
T. Kozák: *Particle-based simulation of atom and ion transport in HiPIMS: effect of the plasma potential distribution on the ionized flux fraction*, Plasma Sources Sci. Technol. 32 (2023) 035007

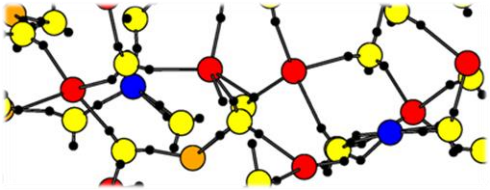
.

FACULTY OF APPLIED SCIENCES
UNIVERSITY
OF WEST BOHEMIA

+NTIS

New nanostructured thin-film materials prepared by plasma technologies





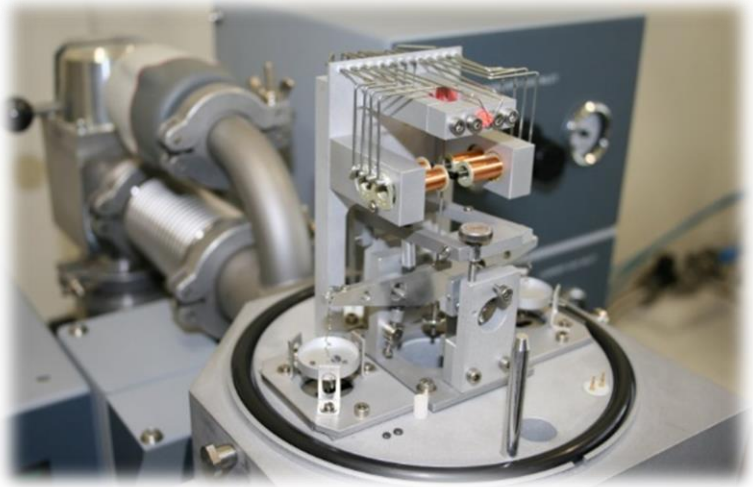
- controlled preparation of thin-film materials by magnetron sputter deposition
- characterization of composition, structure and properties of thin-film materials
- design and development of new plasma sources and deposition techniques
- diagnostics of discharge plasma
- computer modelling of discharge plasma
- computer calculations of structure and properties, and simulations of atom-by-atom growth of thin-film materials
  - ab initio calculations
  - empirical potentials

J. Houška: *Maximum Achievable N Content in Atom-by-Atom Growth of Amorphous Si−C−N,* ACS Appl. Mater. Interfaces 12 (2020) 41666-41673.

FACULTY OF APPLIED SCIENCES
UNIVERSITY
OF WEST BOHEMIA

NTIS

New nanostructured thin-film materials prepared by plasma technologies



- Physical Sciences/Fluids and Plasma Physics
  Materials Engineering/Coating and Films
- approx. 20 FTE
  (3 prof. + 5 assoc. prof. + 7 assist. prof. +
  + 6 post-docs + 8 PhD students)
- approx. 650 m^2 of lab facilities
  (15 labs)
- over 10 mil. EUR in equipment
  (deposition systems + analytical instruments)

https://ntis.zcu.cz/nanomat

FACULTY OF APPLIED SCIENCES
UNIVERSITY
OF WEST BOHEMIA

NTIS

New nanostructured thin-film materials prepared by plasma technologies

FACULTY OF APPLIED SCIENCES
UNIVERSITY
OF WEST BOHEMIA

NTIS

New nanostructured thin-film materials prepared by plasma technologies

International collaboration

- University of Texas at Arlington, USA
- Osaka University, Japan
- University of Leoben, Austria
- TU Wien, Austria
- Fraunhofer Institute, Germany
- Ionbond IHI group, Netherlands
- Ming Chi University of Technology, Taiwan
- University of Seville, Spain
- Chiang Mai University, Thailand
- Chosun University, Korea

Project: **Quantum materials for applications in sustainable technologies**

CZ.02.01.01/00/22_008/0004572

Opportunity for: **PhD students and postdocs**

COLOSSE

Central European Platform for Plasma-enabled Surface Engineering

Basic data

- **Title:** Central European Platform for Plasma-enabled Surface Engineering
- **Acronym:** COLOSSE
- **Start date:** 1 April 2024
- **End date:** 31 March 2027
- **Duration:** 36 months
- **Budget:** 1,2 mil. EUR

Consortium

Participant No.	Participant organisation name	Country
1 (Coordinator)	Masaryk University (MUNI)	Czechia
2	Comenius University in Bratislava (CU)	Slovakia
3	University of West Bohemia (UWB)	Czechia
Associated partners		
5	Linköping University (LiU)	Sweden
6	Montanuniversitaet Leoben (MUL)	Austria
7	RWTH Aachen University (RWTH)	Germany

MUNI

Role of associated partners

- **Visits of leading COLOSSE researchers** (T1.1).
- **Hosting secondments** (T1.2).
- Participation in young researchers' retreats (T2.3).
- Involvement in formulation of R&I priorities (T3.2).
- Involvement in follow-up project design (T3.4).
- Participation in final project workshop (T5.4)

MUNI

Project goal

Increase participation in Horizon Europe
and future EU R&I programmes.

Objectives & KPIs

1. Strengthen the connections of COLOSSE centres to world-leading R&I centres. (implemented through *WP1*)
a. Develop joint Internationalization Strategy of COLOSSE. *Result KPI:* **1 strategy** **b. Define collaboration areas with strategic partners.** *Result KPI:* **4 Letters of Intent** with strategic partners **c. Exchange staff with world-leading R&I counterparts.** *Result KPI:* **192 weeks of secondments** to develop strategic partnerships **d. Promote COLOSSE facilities as excellent and reliable partners for R&I.** *Result KPI:* **Integrated technology inventory** & collaboration offer
Impact KPIs: Publications in international collaboration; Publications with strategic partners; Participations in international conferences

MUNI

Objectives & KPIs

2. Build conditions that will enable internationalization of human resources. (implemented through *WP2*)
a. Develop joint HR Strategy that will build upon HRS4R of COLOSSE centres, with special focus on international recruitment, on-boarding, and continuous support for incoming staff. *Result KPI:* **1 strategy** **b. Implement pilot international recruitment scheme.** *Result KPI:* **6 postdocs** recruited from abroad
Impact KPIs: Share of non-Czech / non-Slovak staff; Number of MSCA-PF applications / projects; Number of ERC applications / projects

MUNI

Objectives & KPIs

3. Develop skill-set that enables interdisciplinary and intersectoral collaboration and facilitates creativity. (implemented through *WP2*)
a. Train soft and transferable skills of researchers based on needs identified in the joint HR Strategy. *Result KPI:* **3 workshops** *Result KPI:* **45 trained researchers**
b. Complement the set of researchers' hard skills through participation in training workshops and schools internationally, based on their individual career development plans. *Result KPI:* **15 participations in training abroad**
c. Facilitate development of young researchers' network connecting the COLOSSE centres. *Result KPI:* **2 young researchers' retreats** *Result KPI:* **60 participants** to young researchers' retreats
Impact KPIs: Publications in leading journals; Patents; Contracts / Projects with industry / public sector

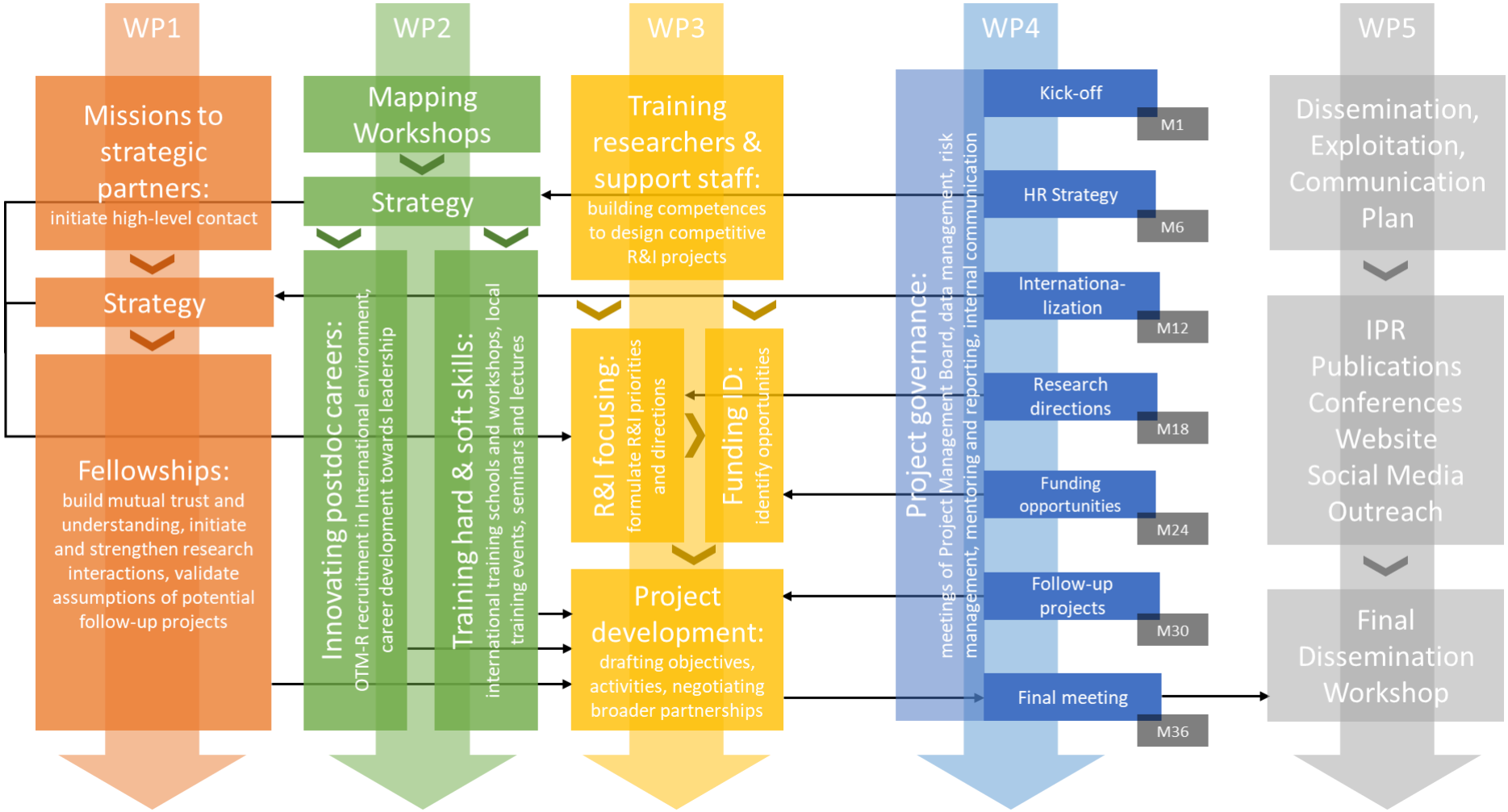
MUNI

Objectives & KPIs

4. Enable sustainability of the COLOSSE partnership through synergic use ERDF and HE/FP resources. (implemented through *WP3*)
a. Train research support personnel on the pre- and post-award aspects of HE/FP projects. *Result KPI:* **2 training events** on HE/FP proposal development / project management *Result KPI:* **20 trained research managers and administrators**
b. Develop project concepts and consortium cores to prepare for upcoming HE/FP funding opportunities. *Result KPI:* **3 project concepts**
Impact KPIs: Proposals to HE/FP (with at least one COLOSSE centres as partner / coordinator / individual); Funded projects from HE/FP

MUNI

Work Plan



MUNI

WP1 Internationalization Strategy

Objectives:

- Reinforce links with strategic partners.
- Develop COLOSSE Internationalization Strategy.
- Establish close R&I interactions with strategic partners through mobility of researchers in all career stages.

- **Leader: CU**

MUNI

T1.1 Internationalization Strategy design

- M1-M6: **visits to strategic partners**, introduce the opportunities for collaboration and discuss mutual R&I priorities
  - each partner 4x 700 € for 2-3-day trip
- M1-M6: **analysing** most frequent publication partners, project partners, and frequent targets of inward and outward mobility
- M7-M12: **drafting** the Internationalization Strategy
- M12: **finalize** Internationalization Strategy (**D1.1**) → **MS3**
  - identify and classify strategic partners
  - propose activities that may enhance our interaction

MUNI

T1.2 R&I mobility to establish links with strategic partners

- M13-M36
- **Steering Committee** will select researchers
- total of **48 months** of secondments to selected strategic partners
- **13,500 €** per 3 months: MUNI 8x; CU 4x; UWB 4x
- seconded researchers will write reports on their R&I and networking activities → **MS8** (distributed M27) → **D1.2** (M36)

- Strategic partners can also participate in T2.3; T3.4
- Mobilities should feed into T3.4

MUNI

WP2 Human Resources Development Strategy

Objectives:

- Implement HRS4R strategies at COLOSSE centres through adoption of joint HR strategy.

- **Leader: MUNI**

MUNI

T2.1 HR Strategy design

- M1: **form a task force** on HR in R&I
- M1-M3: **discussion** of the task force; identify how the **HRS4R** translates to the level of COLOSSE centres
- M4-M6: identification of **main training needs** (scientific and technical skills and of soft and transferrable skills) → **T2.3**
- M4-M6: identify challenges that we face in **recruitment and supervision** of staff → **T2.2**
- M6: **finalize** HR Strategy (**D2.1**) → **MS2**

MUNI

T2.2 Pilot international recruitment and career development strategy for young researchers

- M4-M6: prepare a **joint call for postdocs** → **MS1**
- M7-M8: **publish and promote**
- M9: first **pre-selection** round and **invitations to interview**
- M10: run the **interviews**; final **selection**
- M11-M16: entry procedures & **on-boarding** → **D2.2**
- first month of fellowship → **Career Development Plan** (CDP)
- submit an **application for MSCA-PF**
- M35: **conclude & report** status of CDP

MUNI

T2.3 COLOSSE training scheme

1) organize **3 training events** for researchers (1 at each partner) to develop **soft and transferable skills** (M12, M24, M36)
2) actively work with supervisors to promote career development of young researchers by training in important scientific and technical skills – **external workshops** (M7-M36)
3) organize **young researchers' retreat** at MUNI and CU to promote networking and presentation skills and develop links within and beyond the consortium (M18, M30)

– summarize our experiences and conclusions in **D2.3**

MUNI

T2.3 COLOSSE training scheme

1) **3 training events on soft and transferable skills**
- 1x each partner: M12, M24, M36
- 3x **3,000 €**: 15-20 people; 2-4 days; premises, catering, speakers

2) **participation in external workshops**
- 5x each partner: M7-M36
- 15x **2,000 €**: 3-4 day trip in Europe incl. training fee

3) **young researchers' retreat**
- MUNI and CU: M18, M30
- 2x **8,000 €**: 25-50 people; 3-5 days; premises, catering, speakers

WP3 Sustainability of ERDF Investment through Synergies

Objectives:

- Develop competences needed to prepare winning proposals among researchers and research managers and administrators.
- Identify topics and ideas with potential for development of projects suitable for HE/FP applications.
- Develop ideas into full-scale project concepts and project proposals.
- **Leader: UWB**

MUNI

T3.1 Training grant writing skills

- **CU (M6)** and **UWB (M12)**
- **2 training sessions for RMAs** and/or research leaders on selected topics from the portfolio of:
  i. identification and exploitation of funding opportunities,
  ii. building and management of project teams,
  iii. proposal writing,
  iv. project management,
  v. financial aspects and reporting; all with focus on HE/FP.
- **4000 €**: 8-15 people; 2-4 days; premises, catering, speakers

MUNI

T3.2 Formulation of COLOSSE R&I priorities

- entry point: Internationalization Strategy
- brainstorming on topics for long-term collaboration – mutual as well as with strategic international partners
- **M18:** determination of **joint R&I directions** → **MS5**
- **M24:** funding opportunities and engagement of international partners

MUNI

T3.3 Identification of funding opportunities

- several iterations (M15, M18, M21, M24)
- pre-award grant advisors from the partner institutions, with support from NCPs → **mapping of funding portfolios** for specific R&I priorities (analyses of previously funded projects, relevant policies and destinations of R&I at European level, and potential and actual topics in HE Work Programmes)
- **M24:** (R&I topics T3.2) + (Funding opportunities T3.3) → **D3.1**
  → **MS6**

MUNI

T3.4 Development of follow-up projects

- entry point: R&I priorities T3.2 + funding opportunities T3.3
- **M25** *(M13-M27)*: set-up core teams to outline project concepts for future submission to HE/FP
- **M16-M27**: strategic partners engaged
- **M16-M30**: outline main objectives for the future projects
- **M19-M33**: project development workshops
  - initial ideas into full-blown project concepts; participation not limited to project consortium
  - **2,000 €**: 6-20 people (incl. external); 1-3 days; premises, catering
- **M30**: review the progress of follow-up project development
- **M36**: annotations of the follow-up projects → **D3.2**

MUNI

WP4 Project Management

Objectives:

- Ensure efficient project management, monitoring, reporting and data management.

- **<u>Leader: MUNI</u>**

MUNI

T4.1 Project governance

- **Steering Committee** 2x a year
- M1 – MUNI: kick-off meeting → **D4.4**
- M6 – CU?: HR Strategy
- M12 – UWB?: Internationalization Strategy
- M18 – CU?: R&I priorities
- M24 – UWB?: Funding opportunities
- M30 – MUNI?: Follow-up projects
- M36 – CU?: Framework for sustainability
- **1,500 €**: 5-10 people; 1-2 days; premises, catering

MUNI

T4.1 Project governance

Steering Committee Composition

with voting rights

- MUNI: **Petr Vašina**
- CU: **Marián Mikula**
- UWB: **Pavel Baroch**

participants without voting rights

- MUNI: **Eliška Skalická**
- CU: **Ján Čatloš**
- UWB: **Lenka Porazilová**

MUNI

T4.2 Monitoring, reporting, evaluation

- **M1-M6**: platform for internal communication and reporting, repository of project documentation, baseline for impact KPIs
- **every 6 months**: updates from WP Leaders (progress in WPs, organized events, result KPIs) and institutional administrators (financing, mobility, impact KPIs)
- **M15, M36**: full reports EU → **D4.5**, **D4.6**
- **M18, M36**: online reviews by EU

MUNI

T4.2 Monitoring, reporting, evaluation

Impact KPIs

Impact Key Performance Indicator (KPI)	M18	M36	M72*
No. of publications in leading journals (cumulative)[37]	25	60	150
Share of publications in international collaboration (%)	35%	40%	50%
No. of proposals to HE/FP[38] as partner / coordinator / individual[39] (cumulative)	3/0/3	6/3/6	18/6/12
No. of funded projects in HE/FP[38] as partner / coordinator / individual[39] (cumulative)	1/0/1	2/0/2	4/1/4
No. of contracts / projects with industry or public sector (cumulative)	10	30	70
No. of registered patents (cumulative)	1	3	6
Share of non-Czech / non-Slovak staff (% increase)	+10%	+15%	+20%

* three years after the project conclusion

[37] plasma technologies: Plasma Sources Science and Technology, Surface and Coatings Technology, Journal o Physics D: Applied Physics, Coatings, Applied Surface Science, Acta Materialia; multidisciplinary: Optics Express, Materials Science & Engineering, Journal of Applied Physics, Vacuum, Physica Scripta

[38] with at least one COLOSSE centre as participant

[39] MSCA Postdoctoral Fellowships and ERC grants

MUNI

T4.3 Data management

- **M1-M3**: draft Data Management Plan (DMP)
- **M4-M5**: DMP review by all partners
- **M6**: DMP authorized by Steering Committee → **D4.1**
- **M15, M36**: reviewed DMP versions → **D4.2**, **D4.3**

MUNI

WP5 Dissemination, Exploitation, Communication

Objectives:

- Design and implement the Dissemination, Exploitation, Communication Plan (DECP).

- **Leader: CU**

MUNI

T5.1 Design of Dissemination, Exploitation, Communication Plan

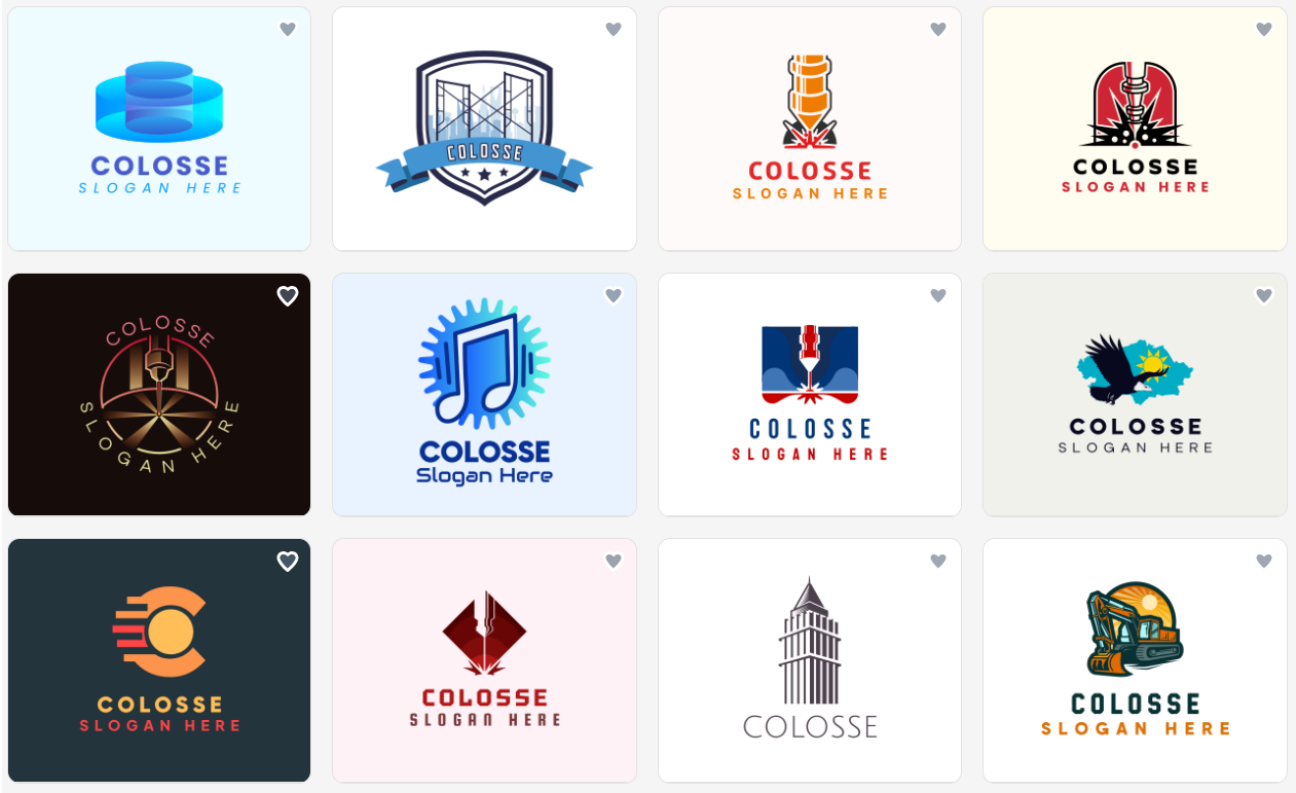
- **M1-M3**: draft Dissemination, Exploitation, Communication Plan (DECP)
- **M4-M5**: DECP review by all partners
- **M6**: DECP adoption by Steering Committee → **D5.1**
- **M15, M36**: updated versions of DECP → **D5.3, D5.4**

- each partner: **6x 2,000 €** for conferences / fairs

MUNI

T5.1 Design of Dissemination, Exploitation, Communication Plan

Visual identity?
Logo?
Color scheme?
Templates?



MUNI

T5.2 Implementation of Dissemination, Exploitation, Communication Plan

DECP KPIs

- participation in **3** plasma technology oriented events
- participation is **6** technology-oriented events without main focus on plasma technologies
- **6** newsletters
- **3** popular science articles
- **4** press articles
- **5** participants from industry at the final workshop

MUNI

T5.2 Implementation of Dissemination, Exploitation, Communication Plan

Communication channels

- Website (dedicated to project)
- Social media (of partner institutions)
- Technology inventory and offer
- Industry networks and associations
- Conferences and trade fairs
- Final dissemination workshop
- Project training events
- Scientific journals
- Direct address / mailing
- Project newsletter

darker = more intense	external			internal	
Dissemination targeted to → / Channels of ↓ **communication**	Researchers	Industry	Citizens	Researchers	RMAs
Website					
Social media					
Press & popular sci. articles					
Tech. inventory & offer					
Industry networks & assoc.					
Conferences & trade fairs					
Final dissemination ws.					
Project training events					
Scientific journals					
Direct address / mailing					
Project newsletter					

MUNI

T5.2 Implementation of Dissemination, Exploitation, Communication Plan

EU acknowledgement

Mention the below
to stay involved in the conversation!

#HorizonEU #ResearchImpactEU #EUInnovation

@REA_research @EUgreenresearch @HorizonEU

@European Research Executive Agency

@EU Science, Research and Innovation

@EU Science and Innovation

@EU_Science

@EC_REA

European Research Executive Agency

17.2 Visibility — European flag and funding statement

Unless otherwise agreed with the granting authority, communication activities of the beneficiaries related to the action (including media relations, conferences, seminars, information material, such as brochures, leaflets, posters, presentations, etc., in electronic form, via traditional or social media, etc.), dissemination activities and any infrastructure, equipment, vehicles, supplies or major result funded by the grant must acknowledge the EU support and display the European flag (emblem) and funding statement (translated into local languages, where appropriate):

Funded by
the European Union

Co-funded by
the European Union

MUNI

T5.3 COLOSSE Technology Offer

- promotion package summarizing the skills and infrastructure available at the COLOSSE centres
- **M12**: Technology Offer published → **D5.2** / **MS4**
- promotion through T5.2 across academia and industry.

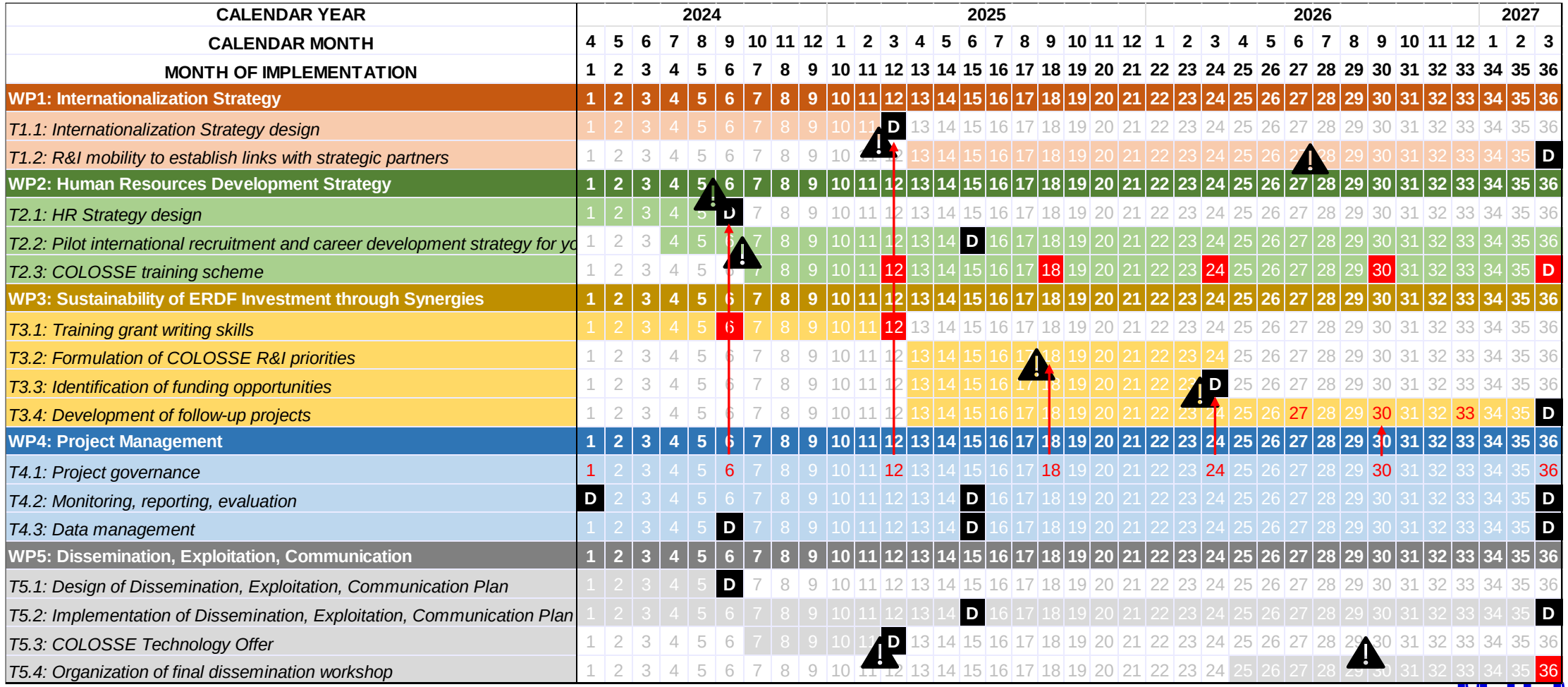
MUNI

T5.4 Organization of final dissemination workshop

- **M24**: start planning the programme
- **M30**: venue, detailed programme, social and accompanying programme, registration open → **MS7**
- **M36** at **MUNI**
- **3,600 €**: 25-50 people; 2-3 days; premises, catering, speakers

MUNI

Gantt chart


CALENDAR YEAR
2024
2025
2026
2027
CALENDAR MONTH
4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3
MONTH OF IMPLEMENTATION
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
WP1: Internationalization Strategy
T1.1: Internationalization Strategy design
T1.2: R&I mobility to establish links with strategic partners
WP2: Human Resources Development Strategy
T2.1: HR Strategy design
T2.2: Pilot international recruitment and career development strategy for yo
T2.3: COLOSSE training scheme
WP3: Sustainability of ERDF Investment through Synergies
T3.1: Training grant writing skills
T3.2: Formulation of COLOSSE R&I priorities
T3.3: Identification of funding opportunities
T3.4: Development of follow-up projects
WP4: Project Management
T4.1: Project governance
T4.2: Monitoring, reporting, evaluation
T4.3: Data management
WP5: Dissemination, Exploitation, Communication
T5.1: Design of Dissemination, Exploitation, Communication Plan
T5.2: Implementation of Dissemination, Exploitation, Communication Plan
T5.3: COLOSSE Technology Offer
T5.4: Organization of final dissemination workshop

Management meetings and events

- **M1**: MUNI / Brno
- **M6**: CU / Bratislava + T3.1 (grant writing)
- **M12**: UWB / Plzeň + T3.1 (grant writing) + T2.3 (soft skills)
- **M18**: CU / Bratislava + T2.3 (PhD retreat)
- M19-M33: MUNI/CU/UWB T3.4 (project development workshop)
- **M24**: UWB / Plzeň + T2.3 (soft skills)
- **M30**: MUNI / Brno + T2.3 (PhD retreat)
- **M36**: CU / Bratislava + T2.3 (soft skills) + T5.2 (final workshop)

MUNI

Financial management

- **Changes are possible** – between items, WPs, and partners.
- Listed amounts are indicative.
- Reporting spending every 6 months (general categories + personmonths).

Sensitive issues:

- Subcontracting.
- Transfers to third parties.
- Overspending (in total).

MUNI

MUNI SCI

HR EXCELLENCE IN RESEARCH

Colosse W2 Kick Off: HR Strategy SCI MUNI

April 4 - 5, 2024

Barbora Wahlová, Zuzana Hrabovská, HR Award Office SCI MUNI

Agenda

1. Introduction of the Faculty of Science, Masaryk University (SCI MUNI)
2. What is current % of international research Staff at the SCI MUNI?
3. How do SCI MUNI internal guidelines and regulations embed OTM-R principles specified in the Charter and Code for Researchers?
   a. General summary of SCI MUNI recruitment process and practice
   b. OTM-R (Recruitment) Policy SCI MUNI link
   c. Recruitment channels used by SCI MUNI for advertising research vacancies
   d. Link to SCI MUNI Euraxess profile
   e. Link to SCI MUNI career website
4. What is SCI MUNI process for onboarding of new employees?
5. How does SCI MUNI evaluate performance and work behaviour of employees? Do we use career development plans?
6. What is SCI MUNI process for training and development of employees?
7. How does SCI MUNI determine training needs of its researchers?

MUNI SCI | HR EXCELLENCE IN RESEARCH

1.+ 2. Introduction of SCI MUNI

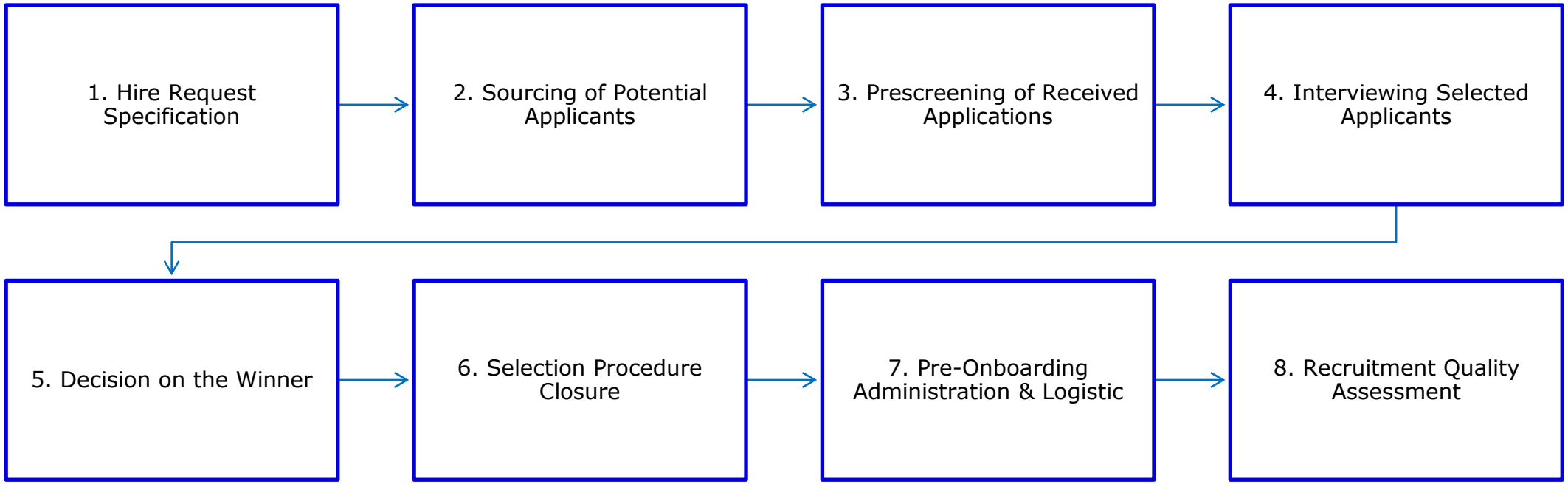
- **Reseach oriented faculty of MU,** provides almost 50% of the university research volume and 60 % from the applied research volume perspective
- **More than 3 000** students in all study programs, 20+ study programs in English
- **Circa 800 PhD students**
- **More than 1 300** employees, **11 % international employees, 25 % international PhD students**
- **13 departments + 3 specific workplaces**
- **Established in 1919**
- **2 locations: historic premises in B**rno city Center + modern University Campus
- **Department of Plasma Physics and Technology SCI MUNI:**
  - **26 PhD students / 6 international PhD students (23%)**
  - **66 Employees / 4 international employees (6%)**

MUNI SCI | HR EXCELLENCE IN RESEARCH

3. How do SCI MUNI guidelines and regulations embed OTM-R principles of the EU Charter and Code

a. General summary of SCI MUNI recruitment process and practice

Selection process is obligatory for all job positions, i.e. academic, non-academic research and support.
Exceptions are specified in the SCI MUNI Recruitment Policy (https://is.muni.cz/do/sci/normy/SM/SM19-03/)



MUNI SCI | HR EXCELLENCE IN RESEARCH

3. How do internal guidelines and regulations embed OTM-R principles

b. **OTM-R (Recruitment) Policy SCI MUNI:** https://is.muni.cz/do/sci/normy/SM/SM19-03/, https://www.sci.muni.cz/en/careers-at-the-sci-muni/recruitment-process-at-the-sci-mu

c. Recruitment channels used for advertising research vacancies SCI MUNI – see slide 6

d. Euraxess profile SCI MUNI: https://euraxess.ec.europa.eu/partnering/organisations/profile/masaryk-university-faculty-science

e. Careers SCI MUNI: https://www.sci.muni.cz/en/careers-at-the-sci-muni

Recruitment process SCI MUNI - Sourcing (Recruitment Channels)

HR Generalist – Dean´s Office provides advertising on these portals: MU official noticeboard, Faculty website Careers at SCI MUNI, Jobs.cz, Facebook profiles SCI MUNI and Careers at MUNI, Masaryk University LinkedIn profile.

We recommend to advertise academic and research positions on euraxess.com (must be EN version of the advert) and researchjobs.cz. Advertising is provided by HR Award specialist, by arrangement with HR Generalist-Dean's Office.

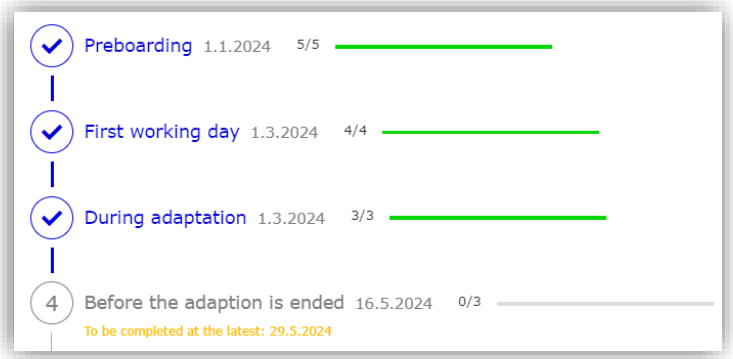
Job posting on professional/scientific portals is ensured by each department individually. The department also covers the costs in case the job posting service is paid. An overview of mostly used channels on which career opportunities can be posted, is specified in Template 6: Recruitment Channels.

Applicants are directed from the job advertisement, regardless of where the advertisement is published, to the **e-application form** of the internal Jobs.MU system, where applicants upload all their required documents, otherwise they are not included in the selection procedure.

Pracovní portál / Sociální síť / Jiný kanál inzerce (k 12 2019) Job Portal / Social Network / Other Channel (as of 12 2019)	Typ Type	Kdo spravuje Owner	Kdo platí Who Pays	Způsob zadání: (Automaticky / Na vyžádání) Posting mode:(Automatic / Upon request)	Stahuje Euraxess Euraxess Platforms for Collaboration
Externí zobrazení/External publication: www.muni.cz/o-univerzite/kariera-na-mu/volna-mista **Interní správa výběrových řízení/Internal eRecruitment tool:** https://inet.muni.cz/app/jobs/rizeni	1 Pracovní portál MU 1 Job Portal MU	Personalista děkanátu HR Generalist–Dean´s Office	Zdarma Free of Charge	Automaticky/Automatic	
Web Přf: O nás - Kariéra na PřF MU	1 Pracovní portál MU - fakultní 1 Job Portal MU - Faculty Career Page	Personalista HR Award HR Award Specialist	Zdarma Free of Charge	Automaticky/Automatic	
https://www.timeshighereducation.com/unijobs/ https://www.timeshighereducation.com/unijobs/minisites/masaryk-university/faculty-of-science/	2 Pracovní portál externí 1 Pracovní portál MU 2 External Job Portal 1 Job Portal MU	Personalista děkanátu HR Generalist–Dean´s Office	Zdarma (Transfer z Jobs.MU) Free of Charge	Automaticky/Automatic	
www.jobs.cz	2 Pracovní portál externí 2 External Job Portal	Personalista děkanátu HR Generalist–Dean´s Office	Ústav/pracoviště Department/Workplace	Na vyžádání	
www.researchjobs.cz	2 Pracovní portál externí 2 External Job Portal	Personalista HR Award HR Award Specialist	Zdarma Free of Charge	Na vyžádání/Upon request	
https://www.nature.com/naturecareers	2 Pracovní portál externí 2 External Job Portal	Ústav/pracoviště Department/Other workplace	Ústav/pracoviště Department/Workplace	Na vyžádání/Upon request	Euraxess stahuje Transfer to Euraxess
www.eurosciencejobs.com/post_job	2 Pracovní portál externí 2 External Job Portal	Ústav/pracoviště Department/Other workplace	Basic: Zdarma Standard: Ústav/pracoviště Basic: Free of Charge Standard:Department/Workplace	Na vyžádání/Upon request	Euraxess stahuje Transfer to Euraxess
www.researchgate.net/ www.researchgate.net/jobs/manage	2 Pracovní portál externí 2 External Job Portal	Ústav/pracoviště Department/Other workplace	Ústav/pracoviště Department/Workplace	Na vyžádání/Upon request	
www.postdocjobs.com/employers	2 Pracovní portál externí 2 External Job Portal	Ústav/pracoviště Department/Other workplace	Ústav/pracoviště Department/Workplace	Na vyžádání/Upon request	
http://jobs.sciencecareers.org/jobs/postdoc/	2 Pracovní portál externí 2 External Job Portal	Ústav/pracoviště Department/Other workplace	Ústav/pracoviště Department/Workplace	Na vyžádání/Upon request	
www.findapostdoc.com www.findapostdoc.com/providers/advertise-postdocs.aspx	2 Pracovní portál externí 2 External Job Portal	Ústav/pracoviště Department/Other workplace	Ústav/pracoviště Department/Workplace	Na vyžádání/Upon request	
https://euraxess.ec.europa.eu/jobs https://euraxess.ec.europa.eu/my/offer-postings	2 Pracovní portál externí 2 External Job Portal	Personalista HR Award HR Award Specialist	Zdarma Free of Charge	Automaticky/Automatic	

4. What is SCI MUNI process for onboarding of new employees?

- According to the Dean's Directive 5/2020 Onboarding Process of SCI MU (https://is.muni.cz/do/sci/normy/SM/SM20-05/)
- Since 2022, we have been digitizing the process using MU Onboarding application



The process of onboarding using MU application

PREBOARDING
Preparing the workplace for onboarding

FIRST DAY AT WORK
Sending a welcome email to the new employee
Familiarization with job description and workplace
General workplace safety training

DURING ADAPTATION
Orientation in work tasks, training
Familiarization with the Handbook for Employees
Familiarization with internal regulations

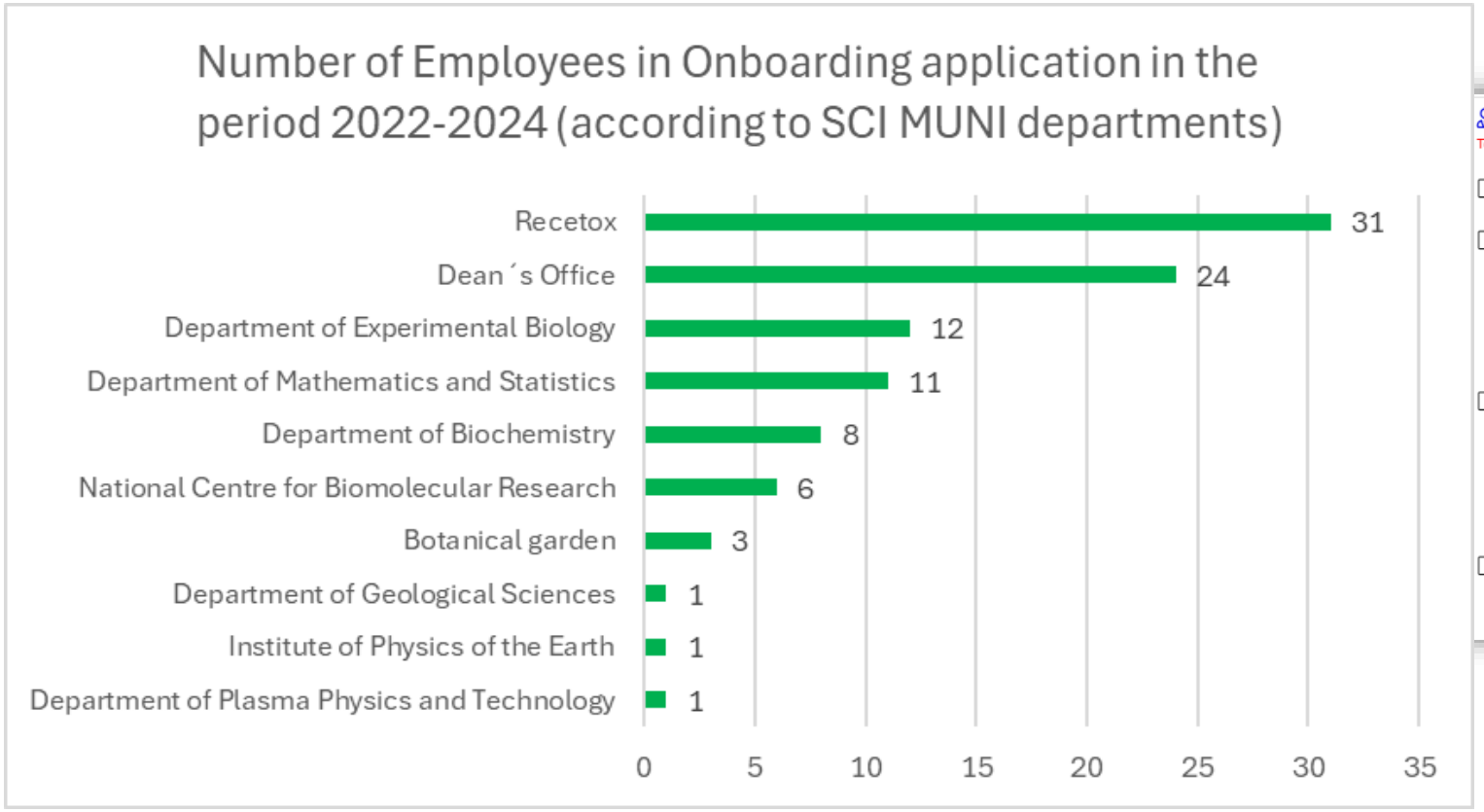
BEFORE ONBOARDING IS ENDED
Evaluation of adaptation
Interview with the employee
Employee´s overall onboarding experience (email sent by HR generalist)

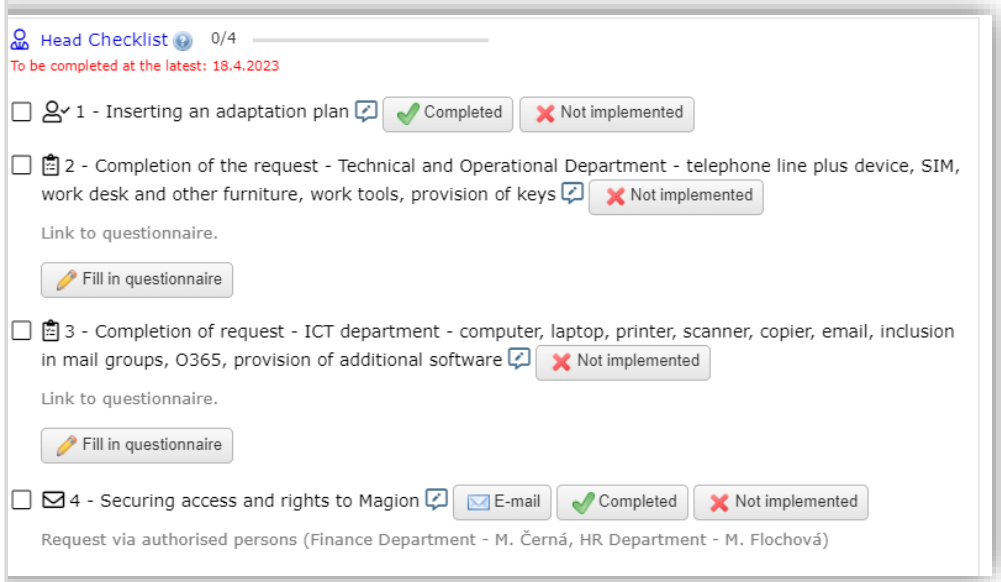
INDEPENDENT WORK PERFORMANCE
The employee is properly oriented in the work tasks
Has the necessary work equipment

MUNI SCI | HR EXCELLENCE IN RESEARCH

4. What is SCI MUNI process for onboarding of new employees?

- The application serves as a basic checklist for key persons responsible for the onboarding process – supervisors and designated employees of the departments. The Faculty´s support departments are also involved in the process
- Application is also used for returns from parental leave and transitions from other MUNI departments





MUNI SCI

HR EXCELLENCE IN RESEARCH

5. How does SCI MUNI institution evaluate performance and work behaviour of employees? Do we use career development plans?

- Evaluation is obligatory for all job positions, i.e. academic, non-academic research and support, exceptions for non-academic employees employed to carry out project activities of the workplace, specified in the SCI MUNI Employee Evaluation Directive (https://is.muni.cz/do/sci/normy/SM/SM19-05/)
- Evaluations take place **annually** in the EVAK application - a tool for recording the evaluation process (removing paperwork + possibility to store outputs and generate reports)

The process of evaluation using EVAK application

1. Employee
fills in his/her record and finally closes it

2. Supervisor
conducts interview with employee, completes his/her comments and sends the record back to the employee

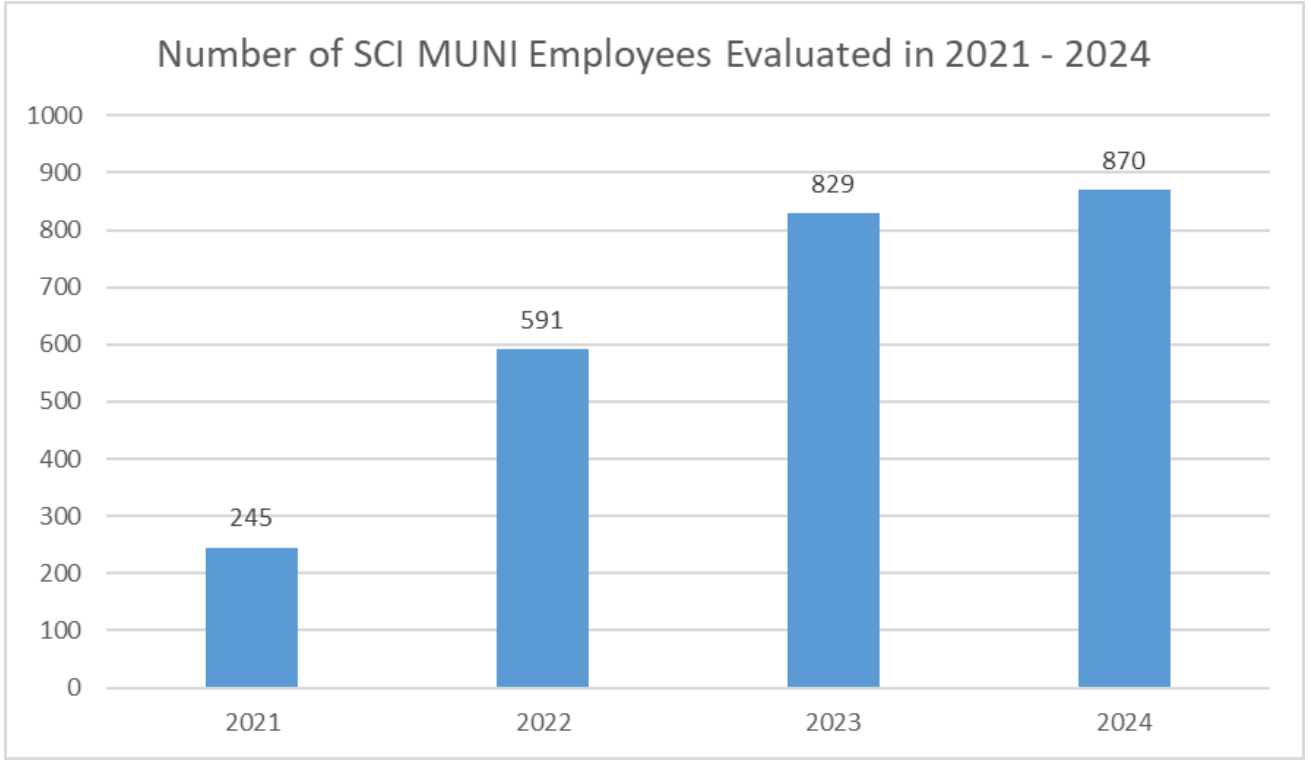
3. Employee
approves/disapproves evaluation record

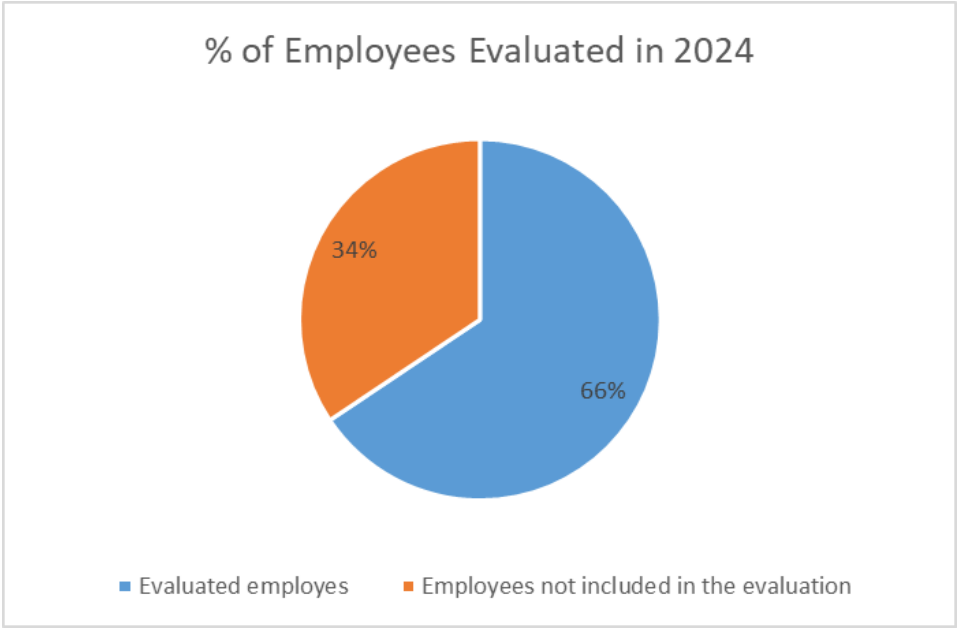
4. Head of the department + HR Department
process evaluation outputs (link to variable pay, development activities)

MUNI SCI | HR EXCELLENCE IN RESEARCH

5. How does SCI MUNI institution evaluate performance and work behaviour of employees? Do we use career development plans?

- The directive recommends criteria for evaluation according to type of position (academic and research, support), final set of evaluation criteria is decided by the head of the department
- Evaluation also includes a review of achievements and **career development plans** (mandatory part of every evaluation record)



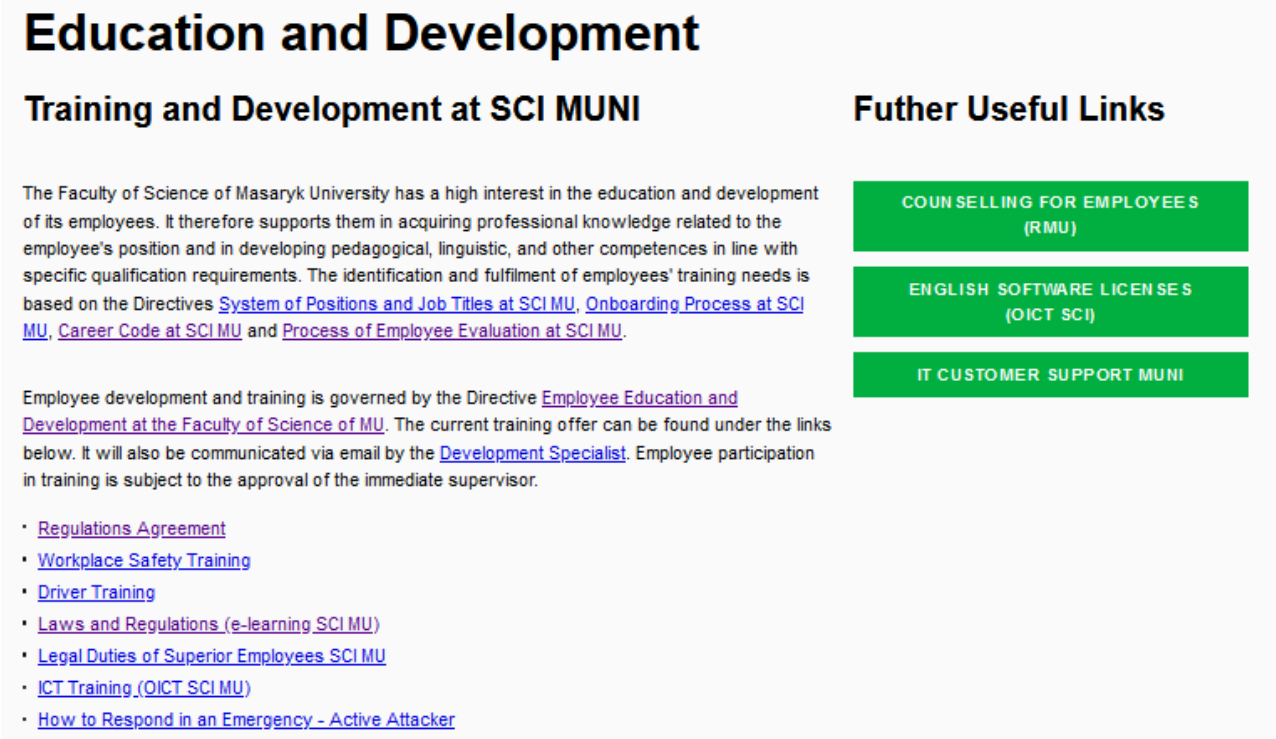


MUNI SCI

HR EXCELLENCE IN RESEARCH

6. What is SCI MUNI process for training and development of employees?

- According to the Dean's Directive 2/2023 Education and Development of SCI MUNI Employees
- Employee Portal (Intranet)



Education and Development

Training and Development at SCI MUNI

The Faculty of Science of Masaryk University has a high interest in the education and development of its employees. It therefore supports them in acquiring professional knowledge related to the employee's position and in developing pedagogical, linguistic, and other competences in line with specific qualification requirements. The identification and fulfilment of employees' training needs is based on the Directives System of Positions and Job Titles at SCI MU, Onboarding Process at SCI MU, Career Code at SCI MU and Process of Employee Evaluation at SCI MU.

Employee development and training is governed by the Directive Employee Education and Development at the Faculty of Science of MU. The current training offer can be found under the links below. It will also be communicated via email by the Development Specialist. Employee participation in training is subject to the approval of the immediate supervisor.

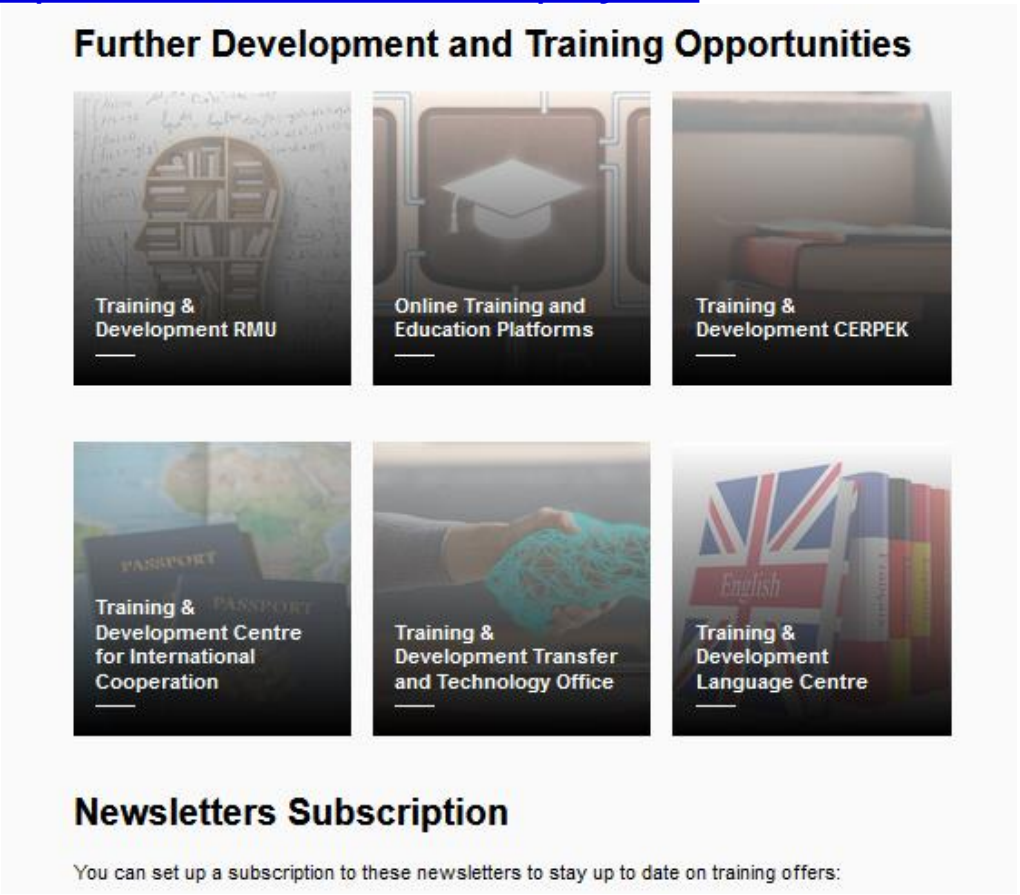
- Regulations Agreement
- Workplace Safety Training
- Driver Training
- Laws and Regulations (e-learning SCI MU)
- Legal Duties of Superior Employees SCI MU
- ICT Training (OICT SCI MU)
- How to Respond in an Emergency - Active Attacker

Futher Useful Links

COUNSELLING FOR EMPLOYEES (RMU)

ENGLISH SOFTWARE LICENSES (OICT SCI)

IT CUSTOMER SUPPORT MUNI



Further Development and Training Opportunities

Training & Development RMU

Online Training and Education Platforms

Training & Development CERPEK

Training & Development Centre for International Cooperation

Training & Development Transfer and Technology Office

Training & Development Language Centre

Newsletters Subscription

You can set up a subscription to these newsletters to stay up to date on training offers:

https://www.sci.muni.cz/en/about-us/hrs4r/news/rules-for-education-and-development-of-employees-and-training-offer-in-the-new-section-of-the-faculty-portal

MUNI SCI | HR EXCELLENCE IN RESEARCH

How does SCI MUNI determine training needs of its researchers?

(2) The employees' training needs are identified primarily in the following ways:

a) A general analysis of the Faculty's training needs, which is one of the key sources for finding a suitable faculty/university education offer. The analysis is performed by the Development Specialist (Personnel Office of the Faculty of Science MU) or some other authorised person.

b) Identification of needs by superior employees who are also required to create preconditions for increasing the employees' professional qualifications in accordance with the Labour Code.

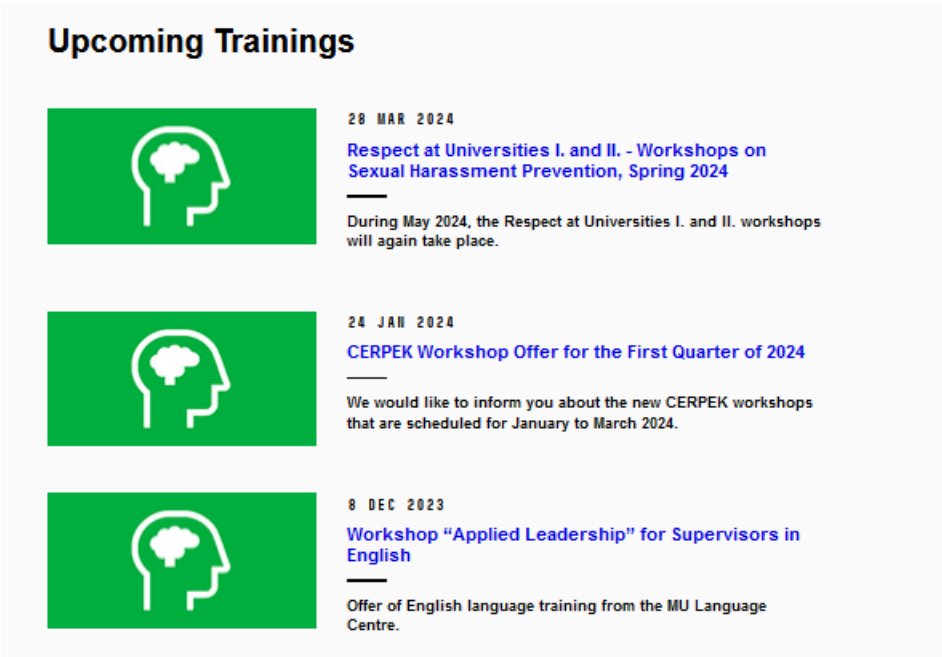
   i. Onboarding process for new employees, which takes place in the Inet MU application, and includes supplementation of activities and training in the onboarding plan as well as specification of further necessary areas of training within the evaluation of the onboarding process (final questionnaire).

   ii. Regular assessment made by a superior employee with regard to the supplementation of qualifications in the necessary working area (areas).

   iii. Within the regular evaluation of employees, which is an instrument of management and HR work. The evaluation is usually carried out in the 2nd quarter of the following year, with the aim of continuous evaluation of the employees' performance, including the evaluation of their development needs, and setting up the employee's career plan and specification of work activities/tasks for the next period, as appropriate.

c) Based on identification of their training needs, the employees may suggest to their superior employees that they should continue with education; their participation in specific training is subject to approval by a superior employee.

d) For employees in the Early-Stage Researchers category, (ESR), training needs are regularly monitored in accordance with the Faculty Strategy for the Training and Support of Early-Stage Researchers by the HR Award team of the Faculty of Science in co-operation with the Development Specialist for Early-Stage Researchers (Office for Doctoral Studies, Quality, Academic Affairs and Internationalization), who also actively promotes the available Faculty/university/external education offer.



MUNI SCI | HR EXCELLENCE IN RESEARCH

MUNI SCI

HR EXCELLENCE IN RESEARCH

COMENIUS
UNIVERSITY
BRATISLAVA

HR Strategy @Comenius

Prepared for COLOSSE

April 2024

Comenius University Bratislava

- Established on 27 June 1919

- Total researchers – 5818

-women – 2347
-foreign – 289 – 5%
-**foreign FMPH CU – 21(7,27 %)**

- Total number of students 22890

Our Researchers include:

- Staff
- Fellowship holders
- Bursary holders
- PhD. students

Faculties

- Faculty of Medicine
- Faculty of Law
- Faculty of Arts
- Faculty of Natural Sciences
- Faculty of Education
- Faculty of Pharmacy
- Faculty of Physical Education and Sport
- Science Park
- Jessenius Faculty of Medicine
- Faculty of Mathematics, Physics and Informatics
- Faculty of Roman-Catholic Theology
- Evangelical Lutheran Theological Faculty
- Faculty of Management
- Faculty of Social and Economic Sciences

How do your internal guidelines and regulations embed OTM-R principles specified in the Charter and Code for Researchers?

- Do we have an internal guide setting out clear OTM-R procedures and practices for all types of positions? **– No**
- Is everyone involved in the process sufficiently trained in the area of OTM-R? **– No**
- Do we have a quality control system for OTM-R in place? – **Yes partially**

- The process of advertising of vacant positions is specified in detail (by law on Universities, law on work in public service, antidiscrimination law and various internal documents)

- Internal regulation no. 19/2022 Principles of the selection procedure for filling the positions of university teachers, the positions of researchers, the positions of professors and associate professors, and the managing positions at the Comenius University in Bratislava

https://uniba.sk/fileadmin/ruk/legislativa/2022/Vp_2022_19.pdf

- Internal regulation no. 14/2023 Internal system of ensuring the quality of higher education of the Comenius University in Bratislava

https://uniba.sk/fileadmin/ruk/legislativa/2023/Vp_2023_14.pdf

- Internal directives of the dean and other generally binding faculty (FMFI) documents

https://fmph.uniba.sk/o-fakulte/dokumenty-a-legislativa/fakultne-predpisy/

Advertising research vacancies

- Uniba

https://uniba.sk/o-univerzite/uradna-vyveska/pracovne-ponuky/

- minedu.sk

- Profesia.sk
  https://www.profesia.sk/praca/univerzita-komenskeho-v-bratislave/C220177

- International websites/portals dedicated to researchers - EURAXESS, Research Gate, LinkedIn etc.

https://www.linkedin.com/school/comeniusuniversity/jobs/

Please provide a link to your institution's Euraxess profile & career website

- https://euraxess.ec.europa.eu/jobs/212928#work-locations
- https://euraxess.ec.europa.eu/partnering/organisations/profile/comenius-university-bratislava-0
- https://uniba.sk/o-univerzite/uradna-vyveska/vyberove-konania-na-miesta-akademickych-pracovnikov/
- https://zona.fmph.uniba.sk/detail-novinky/back_to_page/novinky-4/article/odborny-asistent-na-ki-vyberove-konanie-5/

Selection and evaluation phase

- Do we have clear rules governing the appointment of selection committees? – Yes, partially

- Do we have clear rules concerning the composition of selection committees? – No

- Are the committees sufficiently gender-balanced? – No

- Do we have an appropriate complaints mechanism in place? - Yes partially

https://uniba.sk/fileadmin/ruk/legislativa/2022/Vp_2022_23.pdf

Questions

- Thank you!

HR EXCELLENCE IN RESEARCH

Mgr. Silvester Krčméry, PhD.
silvester.krcmery@uniba.sk
hrs4r@uniba.sk
https://uniba.sk/veda/hrs4r/

RODOVÁ ROVNOSŤ NA UK

ZÁPADOČESKÁ
UNIVERZITA
V PLZNI

COLOSSE project HR strategy

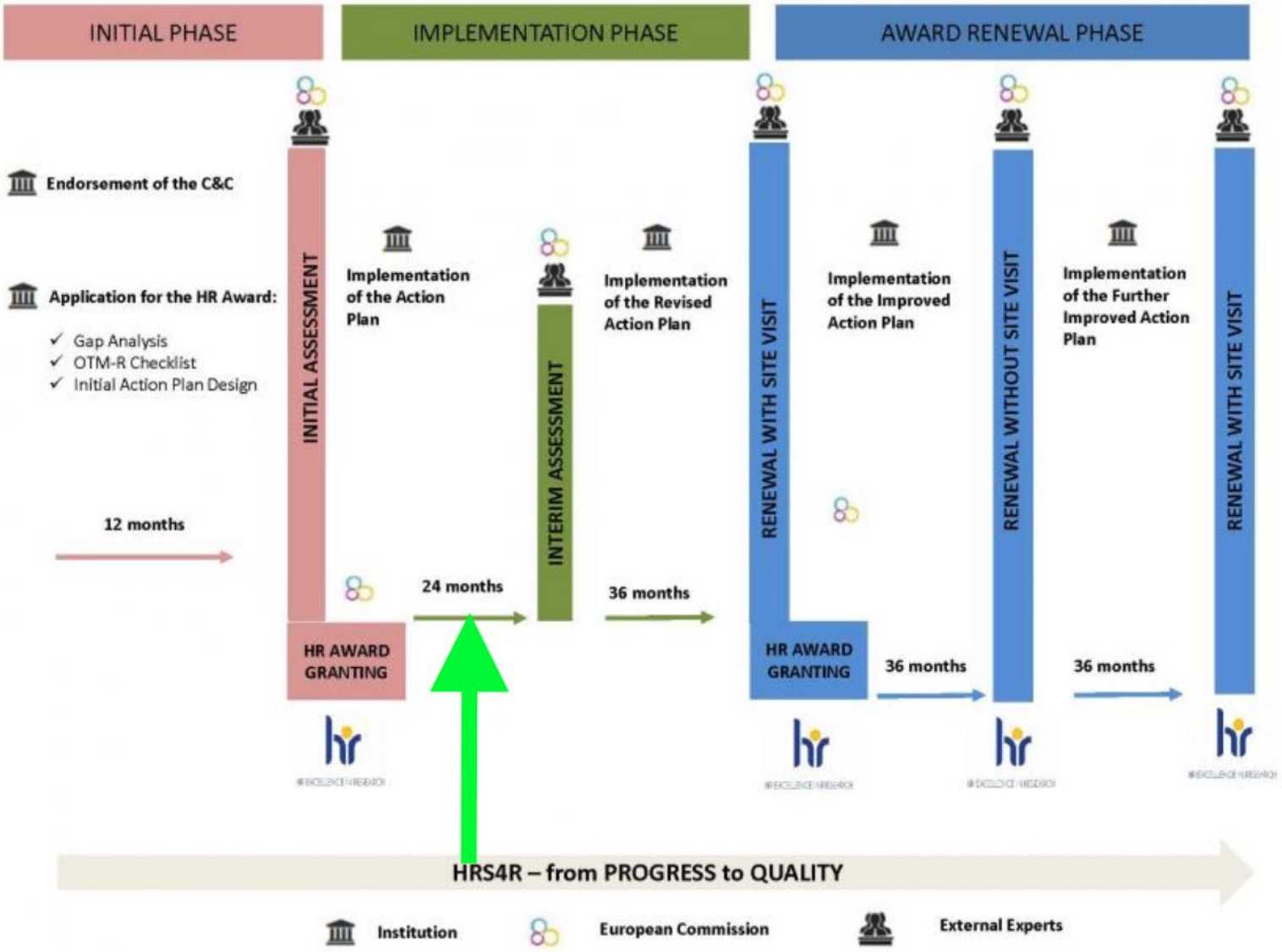
Kick-off meeting

doc. Ing. Pavel Baroch, Ph.D.
Mgr. Petr Šimon
4. 4. 2024

HR Award at UWB

- Between 2018 and 2021, eight parts of UWB successfully received and renewed the HR Award title.
- **FAS was awarded the title in 2019 and renewed it in 2021**
- Nevertheless, ue to the different timetable for the implementation of eight different action plans, the management of UWB decided to apply for the HR Award as an institution.
- In February 2022, a letter committing to the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers was signed by the Rector.
- The "HR Award and Equal Opportunities Plan" Working Group was appointed to prepare all necessary documents. All steps have been regularly consulted with the management of the UWB, which also approved the whole HRS4R in March 2023.
- The documents were submitted to the European Commission on 12 April 2023.
- UWB received the prestigious HR Award quality certificate at the university level on 12 June, 2023.

HR Award at UWB



HR at FAS

- **1. What is your current % of international research staff?**
  - At the faculty level it is ~ 5% (2022)
  - At our department the numbers are following: 15 academic staff, 6 researchers/postdocs (4 international), 8 Ph.D. students (7 international). That is 11 international staff out of 29 … 38% (2024).

- **2. How do your internal guidelines and regulations embed OTM-R principles specified in the Charter and Code for Researchers?**

  a. Please provide general summary of your recruitment process a practice.

  - Our recruitment process follows our OTM-R policy, mainly:
    - Openly disseminated advertising (Euraxess, Researchgate, internal web,…)
    - Gender balanced committee
    - Online interview with selected candidates in a first-round
    - Unsuccessful candidates are informed about their strengths and weaknesses for the given position

HR at FAS

b. Does your institution have OTM-R (Recruitment) Policy? Please provide a link to the document if yes.

- https://dumbledore.zcu.cz/document/data/document/workspace://SpacesStore/6107c2fb-592a-475a-be1e-de5b6b441a23;1.1/content

c. Which recruitment channels does your institution use for advertising research vacancies?

- Euraxess, Researchgate, University web, Email to professional groups relevant for the position, Individual contacts

d. Please provide a link to your institution's Euraxess profile.

- https://www.euraxess.cz/partnering/organisations/profile/faculty-applied-sciences-university-west-bohemia

e. Please provide a link to your institution's career website.

- https://akreditace.zcu.cz/doc/rektor/24R-2019-Karierni_rad_ZCU.pdf
- https://www.fav.zcu.cz/cs/Faculty/Important-documents/internal-decres.html

HR at FAS

- **3. What is your institutional process for onboarding of new employees?**
  - We have a Manual on the agenda for foreign employees, which is divided into Before Arrival and After Arrival sections.
  - From the beginning, we cooperate with our HR department and the Welcome Centre, which takes care of foreign employees (they accompany them to the Pre-employment medical health check-up and as well to Department of Foreign Police, secure the identification card of the UWB, help them to open a bank account).
  - From our side the first step is to send an email with the pre-arrival information/instructions (information about the visa procedure and the useful links, the health insurance, the list of documents we will send by courier, an offer to make a reservation of accommodation at the dormitory).
  - We offer the translation of the criminal record extract to the Czech language (this document has to be submitted at the embassy)
  - In case, there is any problem with the visa application, we contact the relevant embassy with a question/request for the exact procedure.
  - We provide transport upon arrival from the airport to Pilsen.
  - Upon arrival, we help researchers with finding accommodation, communication and translation of documents/contracts - mostly they are only in the Czech version.

HR at FAS

- **4. How does your institution evaluate performance and work behaviour of employees? Do you use career development plans?**
  - We are performing regular (yearly) evaluations of all employees. It is composed of a self-evaluation form followed by a personal interview. An individual career plan is a part of this interview.

  - University career development plan (https://akreditace.zcu.cz/doc/rektor/24R-2019-Karierni_rad_ZCU.pdf / https://www.zcu.cz/rest/cmis/document/workspace://SpacesStore/dcc74e6c-8a5b-42fc-9e49-a60aa2a42477;1.0/content)

HR at FAS

- **5. What is your institutional process for training and development of employees?**
  - Occupational safety and fire protection training
  - Courses upon request (paper writing, AI in science,..)
  - Lifelong learning courses
  - Language courses (Czech, English)

- **6. How do you determine training needs of your researchers?**
  - Externally – coming from the requirements and needs defined by programmes such as Horizon Europe
  - Internally – coming from demands and needs based on surveys and focus groups

ZÁPADOČESKÁ
UNIVERZITA
V PLZNI

Thank you for your attention