Hosting offers

for

Marie Skłodowska-Curie Actions Postdoctoral Fellowships

Call 2025

Krzysztof Graczyk

krzysztof.graczyk@uwr.edu.pl

evaluation panel: PHY

keywords: machine learning, deep learning, neutrinos, lepton interactions, new physics

potential project topics:

I am interested in developing AI-driven tools for physics and am seeking potential collaborators for the following projects:

1. *AI-Driven Models for Electron and Neutrino Collisions with Atomic Nuclei*.

This project focuses on developing new AI tools for modeling and simulating lepton interactions with atomic nuclei.

2. *AI-Supported Searches for New Physics*.

This project aims to create AI tools that facilitate the discovery of new relationships and potential laws in physics.

3. *Understanding Physics Through Deep Learning Models*.

This research investigates the properties of deep learning systems in relation to methods of theoretical physics.

Helena Duffy

helena.duffy@uwr.edu.pl

evaluation panel: SOC

keywords: Holocaust, trauma, memory, animal turn, zoopoetics, zoocriticism, ecocriticism

potential project topics:

Literary and Cinematic Representations of Dispersed Holocaust/Holocaust by Bullets

Ecocritical /Zoocritical Readings of Holocaust Literature and Cinema

War Against Animals in French or British Fiction

Animal Trauma in Literature and Cinema

Intersections of Animality and Disability in Contemporary Literature and Cinema

Bernhard Kepplinger

+48 71 375 62 43
Bernhard.Kepplinger@uwr.edu.pl

evaluation panel: *LIF*

keywords: streptomyces, antibiotics, mode of action, microscopy, natural products, cell morphogenesis,

potential project topics:

Cell morphogenesis of *Streptomyces*

My group focusses on the fundamental details of how Streptomyces orchestrate the creation of the mycelium structure, in particular the organisation of the main proteins responsible for tip growth and branching. We will set out to discover new proteins and study their interaction with proteins known to be involved in tip growth.

Antibiotic discovery

We are interested in the discovery and purification of novel specialized metabolites from Actinobacteria. We have a range of whole cell reporters and assays for single cell microscopy to determine the mode of action of antibiotics.

Malgorzata Biczysko

malgorzata.biczysko@uwr.edu.pl

<u>OFFER NO. 1 proteins</u>

evaluation panel: CHE/LIF

keywords: protein structures, bio-macromolecules, quantum refinement, spectroscopy

potential project topics:

1. The development, validation and application of computational approaches supporting and complementing X-ray protein crystallography or electron cryo-microscopy (Cryo-EM) experiments. The main focus is on integrated computational model for protein structure, spectra and function within the Quantum Refinement project.

<u>OFFER NO. 2 spectroscopy</u>

evaluation panel: CHE

keywords: spectroscopy, astrochemistry, anharmonicity, vibrational properties

potential project topics:

1. Development and validation of computational spectroscopy methods necessary for the study of complex molecular systems, in particular theoretical and experimental vibrational spectra for model systems of increasing size and complexity, necessary for the validation of methods.

2. Application of spectroscopic methods in Astrochemistry, theoretical and experimental spectra in the MIR to NIR range allowing for the analysis of data from various astronomical systems.

a. Isolated molecules and model systems relevant for the analysis of interstellar ices, photochemistry as modeling of the formation and degradation of molecules under the influence of UV radiation.

b. Complex systems simulating mineral substances with organic admixtures allowing for the analysis of samples collected during Mars missions.

Wojciech Bury

wojciech.bury@uwr.edu.pl

evaluation panel: CHE

keywords: metal-organic frameworks, porous materials, catalysis, reticular chemistry

potential project topics:

Metal-Organic Frameworks for sorption, separations and catalysis

MOF-polymer hybrids – design and applications

Metal-Organic Polyhedra – design and applications