SPECIALIZACE PANELU GA ČR OK3 - Lékařské a biologické vědy

(od 1. dubna 2025)

Biochemie, molekulární a strukturní biologie, genetika, genomika a bioinformatika (Biochemistry, Molecular and Structural Biology, Genetics, Genomics and Bioinformatics) - P301

Biochemistry and cell biology:

- Analytical biochemistry
- Enzymes
- Glycobiology
- Proteomics and intermolecular interactions
- Structural biology (incl. Macromolecular modelling)
- Synthetic biology
- Biochemistry and cell biology not elsewhere classified (lipid biology, protein biology, DNA and RNA biology)

Medical biochemistry and metabolomics:

- Medical biochemistry – amino acids and metabolites
- Medical biochemistry – carbohydrates
- Medical biochemistry – inorganic elements and compounds
- Medical biochemistry – lipids
- Medical biochemistry – nucleic acids
- Medical biochemistry – proteins and peptides (incl. medical proteomics)
- Metabolic medicine

Genetics:

- Anthropological genetics
- Cell and nuclear division
- Developmental genetics (incl. sex determination)
- Epigenetics (incl. genome methylation and epigenomics)
- Gene expression (incl. microarray and other genome-wide approaches)
- Gene mapping
- Genome structure and regulation
- Genomics

Clinical sciences:

- Medical genetics (excl. cancer genetics and neurogenetics)

Medical biotechnology:

- Gene and molecular therapy
- Medical molecular engineering of nucleic acids and proteins

Bioinformatics and computational biology:

- Bioinformatic methods development
- Biological network analysis
- Computational ecology and phylogenetics
- Genomics and transcriptomics
- Proteomics and metabolomics
- Sequence analysis
- Statistical and quantitative genetic
- Translational and applied bioinformatics

Mikrobiologie, parazitologie, imunologie a biotechnologie (Microbiology, Parasitology, Immunology and Biotechnology) - P302

Microbiology:

- Bacteriology
- Infectious agents
- Microbial genetics
- Virology

Medical microbiology:

- Medical bacteriology
- Medical infection agents (incl. prions)
- Medical mycology
- Medical parasitology
- Medical virology

Evolutionary biology:

- Host-parasite interactions
- Microbial taxonomy

Clinical sciences:

- Clinical microbiology
- Infectious diseases

Immunology:

- Allergy
- Applied immunology (incl. antibody engineering, xenotransplantation and t-cell therapies)
- Autoimmunity
- Cellular imunology
- Humoural immunology and immunochemistry
- Immunogenetics (incl. genetic immunology)
- Innate immunity
- Transplantation imunology
- Tumour imunology

Industrial biotechnology:

- Biocatalysis and enzyme technology
- Bioprocessing, bioproduction and bioproducts
- Fermentation
- Industrial microbiology (incl. biofeedstocks)
- Industrial molecular engineering of nucleic acids and proteins

Buněčná, vývojová a evoluční biologie, regenerace a reprodukce (Cell, Developmental and Evolutionary Biology, Regeneration and Reproductiony) - P303

Biochemistry and cell biology:

- Cell development, proliferation and death
- Cell metabolism
- Cellular interactions (incl. adhesion, matrix, cell wall)
- Protein trafficking
- Receptors and membrane biology
- Signal transduction
- Systems biology

Medical physiology:

- Cell physiology

Evolutionary biology:

- Biological adaptation
- Evolution of developmental systems
- Life histories
- Phylogeny and comparative analysis
- Speciation and extinction
- Evolutionary biology not elsewhere classified

Genetics:

- Molecular evolution

Medical biotechnology:

- Regenerative medicine (incl. stem cells)

Reproductive medicine:

- Foetal development and medicine
- Reproduction

Nádorová biologie, experimentální onkologie (Tumor Biology, Experimental Oncology) - P304

Oncology and carcinogenesis:

- Cancer cell biology
- Cancer diagnosis
- Cancer genetics

- Cancer therapy (excl. chemotherapy and radiation therapy)
- Chemotherapy
- Haematological tumours
- Liquid biopsies
- Molecular targets
- Predictive and prognostic markers
- Radiation therapy
- Solid tumours
- Oncology and carcinogenesis not elsewhere classified

Neurovědy (Neurosciences) - P305

Neurosciences:

- Autonomic nervous system
- Cellular nervous system (cellular and molecular neurobiology)
- Central nervous system
- Computational neuroscience
- Neurology and neuromuscular diseases
- Peripheral nervous system
- Sensory systems
- Neurosciences not otherwise specified (incl. neurobiology, neurophysiology, neuropharmacology, cognitive and behavioral neurosciences)

Biochemistry and cell biology:

- Cell neurochemistry

Genetics:

- Neurogenetics

Clinical sciences:

- Pain
- Psychiatry

Ophthalmology and optometry:

- Ophthalmology
- Vision science

Lékařské vědy - fyziologie a biofyzika, patologie a patofyziologie, diagnostika a terapie, farmakologie a toxikologie (Medical Sciences - Physiology and Biophysics, Pathology and Pathophysiology, Diagnostics and Therapy, Pharmacology and Toxicology) - P306

Medical physiology:

- Human biophysics
- Systems physiology

Cardiovascular medicine and haematology:

- Cardiology (incl. cardiovascular diseases)

- Haematology
- Respiratory diseases

Clinical sciences:

- Anaesthesiology
- Clinical chemistry (incl. diagnostics)
- Clinimetrics
- Dermatology
- Diagnostic radiography
- Emergency medicine
- Endocrinology
- Gastroenterology and hepatology
- Nephrology and urology
- Nuclear medicine
- Orthopaedics
- Otorhinolaryngology (excl. hearing research)
- Pathology (excl. oral pathology)
- Radiology and organ imaging
- Rheumatology and arthritis
- Rural clinical health
- Sports medicine
- Surgery
- Venereology

Reproductive medicine:

- Obstetrics and gynaecology

Dentistry:

- Craniofacial biology
- Dental therapeutics, pharmacology and toxikology

Pharmacology and pharmaceutical sciences:

- Basic pharmacology
- Clinical pharmacology and therapeutics
- Pharmaceutical delivery technologies
- Pharmaceutical sciences
- Pharmacogenomics
- Toxicology (incl. clinical toxicology)

Medical biotechnology:

- Medical biotechnology diagnostics (incl. biosensors)
- Nanomedicine
- Nanotoxicology, health and safety