



## List of doctoral theses of PhD students

Field of study: *General Medicine*

Study program: *Clinical Biochemistry*

### *Content*

|                                                                                           |   |
|-------------------------------------------------------------------------------------------|---|
| List of doctoral theses of PhD students .....                                             | 1 |
| Doctoral theses started in academic year 2026/2027 .....                                  | 2 |
| Doctoral theses started in academic year 2025/2026 .....                                  | 2 |
| Doctoral theses started in academic year 2024/2025 .....                                  | 2 |
| Doctoral theses started in academic year 2023/2024 .....                                  | 3 |
| Doctoral theses started in academic year 2022/2023 .....                                  | 4 |
| Doctoral theses started in academic year 2021/2022 .....                                  | 4 |
| Doctoral theses started in academic year 2020/2021 .....                                  | 4 |
| Doctoral theses started in academic year 2019/2020 .....                                  | 5 |
| Doctoral theses started in academic year 2018/2019 .....                                  | 5 |
| Doctoral theses started in academic year 2017/2018 .....                                  | 6 |
| Doctoral theses started in academic year 2016/2017 .....                                  | 6 |
| Doctoral theses started in academic year 2015/2016 .....                                  | 7 |
| Doctoral theses started in academic year 2014/2015 .....                                  | 7 |
| Doctoral theses started in academic year 2013/2014 .....                                  | 7 |
| Doctoral theses started in academic year 2012/2013 .....                                  | 7 |
| List of defended doctoral theses solved between academic years 2005/2006 and 2011/12..... | 9 |



## Doctoral theses

### Department of Medical and Clinical Biochemistry



#### Doctoral theses started in academic year 2026/2027

| Dissertations – PhD theses                                                                                                |      |           |          |                                       |                           |      |
|---------------------------------------------------------------------------------------------------------------------------|------|-----------|----------|---------------------------------------|---------------------------|------|
| Topic                                                                                                                     | Type | A. year   | Language | Supervisor                            | Student                   | SP   |
| Possibilities of laboratory detection of increased cardiometabolic risk in the pediatric population                       | DST  | 2026/2027 | SK       | doc. Ing. Katarína Dubayová, PhD.     | Mgr. Michaela Vataščinová | KBde |
| Characterization of the tumor environment in pancreatic ductal adenocarcinoma                                             | DST  | 2026/2027 | SK       | prof. Ing. Mária Mareková, CSc.       | MUDr. Barbara Benedek     | KBde |
| Study and analysis of methods for determining LDL-cholesterol using the latest methods in patients with selected diseases | DST  | 2026/2027 | SK       | prof. Ing. Mária Mareková, CSc.       | RNDr. Ľubomír Gálik, MSc. | KBde |
| Use of multimodal approaches in profiling endometrial receptivity                                                         | DST  | 2026/2027 | SK       | prof. RNDr. Miroslava Rabajdová, PhD. | Mgr. Emília Kipikašová    | KBd  |

#### Doctoral theses started in academic year 2025/2026

| Dissertations – PhD theses                                                                           |      |           |          |                                       |                             |      |
|------------------------------------------------------------------------------------------------------|------|-----------|----------|---------------------------------------|-----------------------------|------|
| Topic                                                                                                | Type | A. year   | Language | Supervisor                            | Student                     | SP   |
| Urinary metabolome in girls with puberty onset disorders                                             | DST  | 2025/2026 | SK       | doc. RNDr. Beáta Čižmarová, PhD.      | MUDr. Miroslava Majerníková | KBde |
| Studying the role of TGF- $\beta$ signalling pathway proteins in gastrointestinal tract tumors       | DST  | 2025/2026 | SK       | prof. Ing. Mária Mareková, CSc.       | Mgr. Ladislav Görög         | KBd  |
| Biomarkers of inflammation in tear fluid as predictors of neurodegenerative diseases                 | DST  | 2025/2026 | SK       | prof. RNDr. Vladimíra Tomečková, PhD. | MUDr. Adriána Rašiová       | KBde |
| New possibilities for non-invasive diagnosis of embryo quality in the in vitro fertilization process | DST  | 2025/2026 | SK       | doc. MUDr. Silvia Toporczerová, PhD.  | RNDr. Martina Martonová     | KBde |

#### Doctoral theses started in academic year 2024/2025

| Dissertations – PhD theses |      |         |          |            |         |    |
|----------------------------|------|---------|----------|------------|---------|----|
| Topic                      | Type | A. year | Language | Supervisor | Student | SP |



## Doctoral theses

### Department of Medical and Clinical Biochemistry



|                                                                                      |     |           |    |                                                              |                            |      |
|--------------------------------------------------------------------------------------|-----|-----------|----|--------------------------------------------------------------|----------------------------|------|
| Study of selected clinical-biochemical parameters in severe infections in children   | DST | 2024/2025 | SK | doc. Ing. Katarína Dubayová, PhD.                            | MUDr. Milan Kurák          | KBde |
| Use of laboratory methods in embryo profiling in the IVF process                     | DST | 2024/2025 | SK | doc. MUDr. Silvia Toporcerová, PhD., MBA                     | RNDr. Dominika Šeršeň      | KBde |
| Profiling of endometrial receptivity in the process of assisted reproduction         | DST | 2024/2025 | SK | doc. RNDr. Miroslava Rabajdová, PhD., univerzitná profesorka | Mgr. Nicole Fabianová, MHA | KBd  |
| Clinical-biochemical markers of eye diseases                                         | DST | 2024/2025 | SK | doc. RNDr. Vladimíra Tomečková, PhD., univerzitná profesorka | MUDr. Simona Knížová       | KBde |
| New approaches in the diagnosis of the ocular surface and tear fluid                 | DST | 2024/2025 | SK | doc. RNDr. Vladimíra Tomečková, PhD., univerzitná profesorka | MUDr. Tereza Ilavská       | KBde |
| Analysis of selected subfractions of lipoprotein particles in ischemic heart disease | DST | 2024/2025 | SK | prof. Ing. Mária Mareková, CSc.                              | Jana Lukáčová, M.Sc.       | KBd  |
| Use of clinical-biochemical methods in the study of erysipelas and cellulitis        | DST | 2024/2025 | SK | prof. Ing. Mária Mareková, CSc.                              | MUDr. Vladimíra Nagyová    | KBde |
| Endometrial redox status and its effect on IVF receptivity                           | DST | 2024/2025 | SK | prof. RNDr. Janka Vašková, PhD.                              | Mgr. Jakub Pudelský        | KBd  |

### Doctoral theses started in academic year 2023/2024

| Dissertations – PhD theses                                                                                                               |      |           |          |                                    |                           |      |
|------------------------------------------------------------------------------------------------------------------------------------------|------|-----------|----------|------------------------------------|---------------------------|------|
| Topic                                                                                                                                    | Type | A. year   | Language | Supervisor                         | Student                   | SP   |
| Association of markers of inflammation and oxidative stress with the development of postoperative cognitive dysfunction                  | DST  | 2023/2024 | SK       | doc. RNDr. Janka Vašková, PhD.     | Mgr. Gabriela Sabolová    | KBd  |
| Study of the presence of sexually transmitted pathogens in seminal plasma on male fertility using methods at the molecular level         | DST  | 2023/2024 | SK       | prof. Ing. Mária Mareková, CSc.    | RNDr. Zuzana Váczy        | KBde |
| Application of fluorescence techniques for the analysis of body fluids for early and non-invasive diagnosis of selected serious diseases | DST  | 2023/2024 | SK       | prof. Ing. Katarína Dubayová, PhD. | RNDr. Katarína Fiedlerová | KBde |
| Study of the relationship between the frequency of examination of selected biochemical parameters and the health status of patients      | DST  | 2023/2024 | SK       | prof. MUDr. Ivan Tkáč, PhD.        | Mgr. Martin Selvek        | KBde |



## Doctoral theses

### Department of Medical and Clinical Biochemistry



#### Doctoral theses started in academic year 2022/2023

| Dissertations – PhD theses                                                                                          |      |          |                                      |                       |      |
|---------------------------------------------------------------------------------------------------------------------|------|----------|--------------------------------------|-----------------------|------|
| Topic                                                                                                               | Type | Language | Supervisor                           | Student               | SP   |
| Diagnostic and predictive-prognostic use of molecular-biochemical methods in the pathology of neoplastic conditions | DST  | SK       | prof. Ing. Mária Mareková, CSc.      | MUDr. Peter Bohuš     | KBde |
| Characterization of the inflammation-induced microenvironment in polytrauma                                         | DST  | SK       | doc. RNDr. Miroslava Rabajdová, PhD. | Mgr. Eva Kriváková    | KBd  |
| Study of clinical-biochemical biomarkers in diseases of the cardiovascular system                                   | DST  | SK       | prof. Ing. Mária Mareková, CSc.      | Mgr. Peter Artimovič  | KBd  |
| Study of specific biomarkers in acute and chronic damage to the body                                                | DST  | SK       | doc. MUDr. Jozef Firment, PhD.       | MUDr. Ester Tomajková | KBd  |

#### Doctoral theses started in academic year 2021/2022

| Dissertations – PhD theses                                          |      |          |                                      |                     |      |
|---------------------------------------------------------------------|------|----------|--------------------------------------|---------------------|------|
| Topic                                                               | Type | Language | Supervisor                           | Student             | SP   |
| Study of the metabolomics profile of breast cancer                  | DST  | SK       | doc. RNDr. Miroslava Rabajdová, PhD. | Mgr. Anna Hurajtová | KBd  |
| Study and analysis of miRNAs in the process of embryogenesis in IVF | DST  | SK       | doc. MUDr. Silvia Toporcerová, PhD.  | Mgr. Lucia Peterová | KBde |

#### Doctoral theses started in academic year 2020/2021

| Dissertations – PhD theses                                                                                                |      |          |                                      |                            |     |
|---------------------------------------------------------------------------------------------------------------------------|------|----------|--------------------------------------|----------------------------|-----|
| Topic                                                                                                                     | Type | Language | Supervisor                           | Student                    | SP  |
| Study of selected biomarkers in reproductive disorders                                                                    | DST  | SK       | doc. RNDr. Miroslava Rabajdová, PhD. | Mgr. Michaela Abrahamovská | KBd |
| Molecular and cellular factors of the origin and development of synovitis and osteoarthritis of the weight-bearing joints | DST  | SK       | MVDr. Ján Rosocha, CSc.              | Mgr. Marko Morávek         | KBd |



## Doctoral theses

### Department of Medical and Clinical Biochemistry



|                                                                                         |     |    |                                   |                              |      |
|-----------------------------------------------------------------------------------------|-----|----|-----------------------------------|------------------------------|------|
| Fluorescence profile analysis of body fluids as a diagnostic tool for monitoring cancer | DST | SK | doc. Ing. Katarína Dubayová, PhD. | PharmDr. Valentína Pribulová | KBde |
| Study of molecular-biochemical diagnostically important biomarkers in cancer            | DST | SK | prof. Ing. Mária Mareková, CSc.   | Mgr. Monika Švecová          | KBd  |
| Diagnostic potential of saliva in periodontal diseases                                  | DST | SK | doc. RNDr. Marek Stupák, PhD.     | Mgr. Ivana Večurková         | KBd  |

### Doctoral theses started in academic year 2019/2020

| Dissertations – PhD theses                                                   |      |          |                                      |                        |     |
|------------------------------------------------------------------------------|------|----------|--------------------------------------|------------------------|-----|
| Topic                                                                        | Type | Language | Supervisor                           | Student                | SP  |
| Non-coding RNAs as biomarkers of gynaecological malignancies                 | DST  | SK       | doc. RNDr. Miroslava Rabajdová, PhD. | Mgr. Zuzana Klepcová   | KBd |
| Use of non-coding RNAs in an infertility study                               | DST  | SK       | doc. RNDr. Miroslava Rabajdová, PhD. | Mgr. Katarína Kalinová | KBd |
| Study of surface and secreted proteins of new isolates of probiotic bacteria | DST  | SK       | Doc. Ing. Katarína Dubayová, PhD.    | MUDr. Ivana Lukáčová   | KBd |

### Doctoral theses started in academic year 2018/2019

| Dissertations – PhD theses                                                                         |      |          |                                      |                           |      |
|----------------------------------------------------------------------------------------------------|------|----------|--------------------------------------|---------------------------|------|
| Topic                                                                                              | Type | Language | Supervisor                           | Student                   | SP   |
| Analysis of molecular biochemical changes in chronically dialysis patients                         | DST  | SK       | doc. RNDr. Miroslava Rabajdová, PhD. | Mgr. Andrea Obušeková     | KBd  |
| A comprehensive approach to detect the progression of Alzheimer's disease                          | DST  | SK       | doc. Mgr. Peter Urban, PhD.          | Mgr. Petra Lamancová      | KBd  |
| Fluorescence analysis of saliva as a diagnostic marker of oral disease                             | DST  | SK       | doc. Ing. Katarína Dubayová, PhD.    | MDDr. Petra Bejdová       | KBde |
| Use of molecular biochemical methods in the study of <i>in vitro</i> fertilization                 | DST  | SK       | doc. RNDr. Miroslava Rabajdová, PhD. | Mgr. Dominika Veselinyová | KBde |
| Study of hard dental tissue diseases and periodontium using laser and clinical-biochemical methods | DST  | SK       | doc. RNDr. Vladimíra Tomečková, PhD. | MDDr. Jana Ohlasová       | KBde |



## Doctoral theses

### Department of Medical and Clinical Biochemistry



|                                                                                  |     |    |                                |                       |      |
|----------------------------------------------------------------------------------|-----|----|--------------------------------|-----------------------|------|
| Association of markers of oxidative stress with the progression of periodontitis | DST | SK | doc. RNDr. Janka Vašková, PhD. | MDDr. Jana Kluknavská | KBde |
|----------------------------------------------------------------------------------|-----|----|--------------------------------|-----------------------|------|

### Doctoral theses started in academic year 2017/2018

| Dissertations – PhD theses                                                                                          |      |          |                                     |                        |      |
|---------------------------------------------------------------------------------------------------------------------|------|----------|-------------------------------------|------------------------|------|
| Topic                                                                                                               | Type | Language | Supervisor                          | Student                | SP   |
| Use of molecular biochemical analyzes in the study of endometrial cancer                                            | DST  | SK       | prof. Ing. Mária Mareková, CSc.     | Mgr. Zuzana Biščáková  | KBd  |
| Biomarkers of developmental competence of human embryos <i>in vitro</i>                                             | DST  | SK       | doc. MUDr. Silvia Toporcurová, PhD. | RNDr. Petra Bojčíková. | KBd  |
| Acetylcholinesterase polymorphisms in relation to its efficacy in patients with postoperative residual curarization | DST  | SK       | Doc. RNDr. Janka Vašková, PhD.      | MUDr. Lukáš Čuchráč    | KBde |

### Doctoral theses started in academic year 2016/2017

| Dissertations – PhD theses                                                                      |      |          |                                      |                          |      |
|-------------------------------------------------------------------------------------------------|------|----------|--------------------------------------|--------------------------|------|
| Topic                                                                                           | Type | Language | Supervisor                           | Student                  | SP   |
| Study and monitoring of omega-3 polyunsaturated fatty acids in cardiovascular diseases          | DST  | SK       | doc. RNDr. Vladimíra Tomečková, PhD. | Mgr. Monika Široká       | KBd  |
| Study of endogenous sirtuins and possibilities of their use in clinical-biochemical diagnostics | DST  | SK       | doc. RNDr. Vladimíra Tomečková, PhD. | Mgr. Kristína Krajčíková | KBd  |
| The effect of long - term opiate treatment on the redox state of patients                       | DST  | SK       | doc. MVDr. Ladislav Vaško, CSc.      | MUDr. Daniela Ogurčáková | KBde |
| Metabolic factors influencing the progression of chronic viral hepatitis C                      | DST  | SK       | prof. Ing. Mária Mareková, CSc.      | MUDr. Lenka Oravcová     | KBde |
| Clinical-biochemical markers of benign ovarian tumors                                           | DST  | SK       | doc. RNDr. Marek Stupák, PhD.        | MUDr. Lenka Kraus        | KBde |
| Clinical-biochemical markers of malignant ovarian tumors                                        | DST  | SK       | prof. Ing. Mária Mareková, CSc.      | MUDr. Vladimír Kraus     | KBde |



## Doctoral theses

### Department of Medical and Clinical Biochemistry



#### Doctoral theses started in academic year 2015/2016

| Dissertations – PhD theses                                                                     |      |          |                                 |                           |     |
|------------------------------------------------------------------------------------------------|------|----------|---------------------------------|---------------------------|-----|
| Topic                                                                                          | Type | Language | Supervisor                      | Student                   | SP  |
| Profile fluorescence analysis and molecular markers in the diagnosis of breast cancer          | DST  | SK       | prof. Ing. Mária Mareková, CSc. | Mgr. Michaela Ferenčáková | KBd |
| Influence of selected natural substances of plant origin on the parameters of oxidative stress | DST  | SK       | doc. MVDr. Ladislav Vaško, CSc. | MVDr. Martin Haus         | KBd |

#### Doctoral theses started in academic year 2014/2015

| Dissertations – PhD theses                      |      |          |                                 |                        |      |
|-------------------------------------------------|------|----------|---------------------------------|------------------------|------|
| Topic                                           | Type | Language | Supervisor                      | Student                | SP   |
| Use of POCT in clinical-biochemical diagnostics | DST  | SK       | prof. Ing. Mária Mareková, CSc. | RNDr. Klára Lakatošová | KBde |

#### Doctoral theses started in academic year 2013/2014

| Dissertations – PhD theses                                                                                          |      |          |                                      |                           |      |
|---------------------------------------------------------------------------------------------------------------------|------|----------|--------------------------------------|---------------------------|------|
| Topic                                                                                                               | Type | Language | Supervisor                           | Student                   | SP   |
| Vitamin D as a clinical-biochemical marker                                                                          | DST  | SK       | prof. Ing. Mária Mareková, CSc.      | Mgr. Ivana Špaková        | KBd  |
| Influence of antioxidant status and selected lipid parameters by natural substances of plant origin                 | DST  | SK       | doc. MVDr. Ladislav Vaško, CSc.      | Mgr. Radka Džurinová      | KBd  |
| Diagnostic potential of tears in ophthalmology                                                                      | DST  | SK       | doc. RNDr. Vladimíra Tomečková, PhD. | MUDr. Gabriela Švehlíková | KBd  |
| Phosphorylation of protein markers of lymphocytes in multiple sclerosis                                             | DST  | SK       | doc. MUDr. Jarmila Szillasiová, PhD. | RNDr. Marina Maďarová     | KBde |
| Influence of humic acids on the activity of antioxidant enzymes and selected metabolites in the blood and in organs | DST  | SK       | doc. MVDr. Ladislav Vaško, CSc.      | Mgr. Daniel Žatko         | KBd  |

#### Doctoral theses started in academic year 2012/2013

| Dissertations – PhD theses |  |  |  |  |  |
|----------------------------|--|--|--|--|--|
|----------------------------|--|--|--|--|--|



## Doctoral theses

### Department of Medical and Clinical Biochemistry



| Topic                                                                                                            | Type | Language | Supervisor                      | Student                | SP  |
|------------------------------------------------------------------------------------------------------------------|------|----------|---------------------------------|------------------------|-----|
| Monitoring of selected clinical and biochemical parameters in assessing the health status of marginalized groups | DST  | SK       | prof. Ing. Juraj Guzy, CSc.     | Mgr. Gabriel Bódy      | KBd |
| Study of clinical-biochemical changes at the molecular level in cardiovascular diseases                          | DST  | SK       | prof. Ing. Mária Mareková, CSc. | Mgr. Zuzana Gulášová   | KBd |
| Laboratory diagnosis of periodontitis                                                                            | DST  | SK       | prof. Ing. Mária Mareková, CSc. | MUDr. Beáta Bolerázska | KBd |
| Influence of humic substances on the resorption of some heavy metals and pesticides from GIT                     | DST  | SK       | doc. MVDr. Ladislav Vaško, CSc. | MVDr. Klára Krempaská  | KBd |

*DST – Dissertation Thesis*

*SP – Study Programme*



**List of defended doctoral theses solved between academic years 2005/2006 and 2011/12**

| <b>Dissertations – PhD theses</b>                                                                                                                                                                                         |             |                 |                                 |                                 |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------------|---------------------------------|---------------------------------|-----------|
| <b>Topic</b>                                                                                                                                                                                                              | <b>Type</b> | <b>Language</b> | <b>Supervisor</b>               | <b>Student</b>                  | <b>SP</b> |
| Influence of osteoporosis treatment on osteomarkers and local bone factors                                                                                                                                                | DST         | SK              | prof. Ing. Juraj Guzy, CSc.     | Mgr. Anton Vaňuga               | KBde      |
| Determination of selected metabolites in the urine of marginalized and immunocompromised population groups                                                                                                                | DST         | SK              | prof. Ing. Juraj Guzy, CSc.     | Ing. Beáta Hubková              | KBd       |
| Humic substances and oxidative status of the organism                                                                                                                                                                     | DST         | SK              | doc. MVDr. Ladislav Vaško, CSc. | MVDr. Andrea Fejerčáková        | KBd       |
| Influence of PUFA on gastrointestinal colonization                                                                                                                                                                        | DST         | SK              | doc. MVDr. Ladislav Vaško, CSc. | MVDr. Anna Supuková             | KBd       |
| Content and ratio of FA with a focus on $\omega$ -6 and $\omega$ -3 in vegetable oils, nutritional supplements and blood serum and the effect of $\omega$ -3 FA intake on selected lipid and atherogenic blood parameters | DST         | SK              | doc. MVDr. Ladislav Vaško, CSc. | RNDr. Zdenka Hertelyová         | KBd       |
| Use of selected protein markers in clinical-biochemical diagnostics                                                                                                                                                       | DST         | SK              | prof. Ing. Juraj Guzy, CSc.     | MUDr. Renáta Lenártová          | KBde      |
| Pathobiochemical changes on mucosal and tissue surfaces - monitoring using 3-D fluorescence spectra                                                                                                                       | DST         | SK              | prof. Ing. Mária Mareková, CSc. | RNDr. Marcela Valko-Rokytkovská | KBd       |
| The main fluorescent components of urine (urinary metabolome) and their diagnostic use                                                                                                                                    | DST         | SK              | prof. Ing. Mária Mareková, CSc. | RNDr. Lucia Lichardusová,       | KBd       |
| Influence of low molecular weight ligands on mitochondria and their interactions with DNA                                                                                                                                 | DST         | SK              | prof. Ing. Mária Mareková, CSc. | RNDr. Miroslava Revická         | KBd       |
| Early diagnosis of cancer in women by profile fluorescence analysis                                                                                                                                                       | DST         | SK              | prof. Ing. Mária Mareková, CSc. | MVDr. Zuzana Štefeková          | KBd       |
| Current possibilities of laboratory diagnostics and monitoring of monoclonal gammopathy                                                                                                                                   | DST         | SK              | prof. Ing. Juraj Guzy, CSc.     | MUDr. Eva Ďurovcová             | KBde      |
| Use of new biochemical and molecular markers in clinical-biochemical diagnostics                                                                                                                                          | DST         | SK              | prof. Ing. Mária Mareková, CSc. | RNDr. Miroslava Rabajdová       | KBde      |
| Metabolic profiling and its diagnostic possibilities                                                                                                                                                                      | DST         | SK              | doc. Ing. Mária Mareková, CSc.  | MUDr. Anna Birková              | KBde      |
| Antioxidant systems and their participation in pathological conditions                                                                                                                                                    | DST         | SK              | prof. Ing. Juraj Guzy, CSc.     | MUDr. Pavel Kočan               | KBde      |



## *Doctoral theses*

### *Department of Medical and Clinical Biochemistry*



|                                                                                                              |     |    |                             |                          |      |
|--------------------------------------------------------------------------------------------------------------|-----|----|-----------------------------|--------------------------|------|
| Study of biochemical aspects of the influence of natural and synthetic antioxidants at the subcellular level | DST | SK | prof. Ing. Juraj Guzy, CSc. | RNDr. Martina Poškrobová | KBde |
| Relationship between lipid and humoral-immunological profile in cardiovascular diseases                      | DST | SK | doc. Ing. Ivan Kron, CSc.   | RNDr. Judita Koprovičová | KBde |
| Amino acid metabolites as potential markers of renal cell carcinoma                                          | DST | SK | doc. Ing. Ivan Kron, CSc.   | RNDr. Patrik Jalč.,      | KBd  |