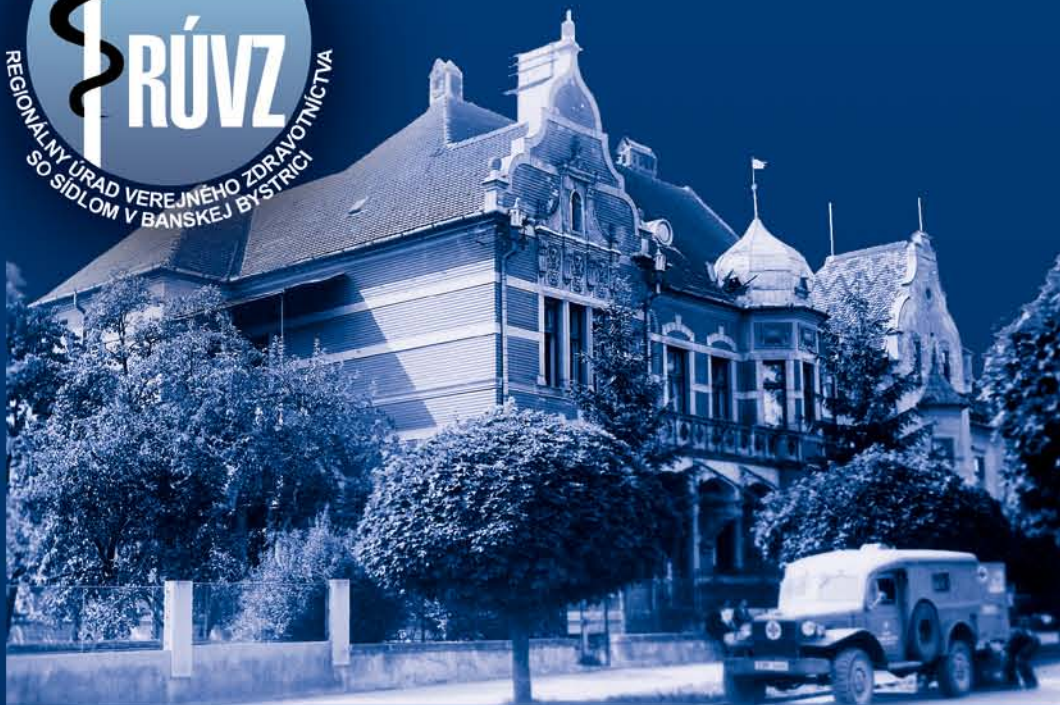


# ACTIVITIES OF THE REGIONAL AUTHORITY OF PUBLIC HEALTH in Banska Bystrica



Photograph on cover page:

Building of the Branch of the State Health-Social Institute, 1947, today Skuteckého ul. No. 16

Cyril Klement et al.

# ACTIVITIES OF THE REGIONAL AUTHORITY OF PUBLIC HEALTH in Banská Bystrica



## PREFACE

The purpose of this outline is to highlight the scientific and delivery expertise provided by the Regional Authority of Public Health in Banská Bystrica (RAPH BB). The report should enable a professional as well as a non-professional reader an insight into the capabilities and capacities of our agency and staff. These concern the basic, higher level and reference services arising from the requirements of partners across the public health system and the general public in the districts of Banská Bystrica and Brezno, as well as the specialised and high level services provided in the larger Banská Bystrica region (13 districts in the region) and recently and across Slovakia.

Regional Authority of Public Health in Banská Bystrica is serving the public and partners for 75 years in a row as a successor of the Public Social & Health Institute branch established in 1939.

Predecessors of the Regional Authority of Public Health in Banská Bystrica include:

- Public Social & Health Institute branch, 1939 – 1949
- Regional Public Health Institute branch Banská Bystrica, 1949 to March 31, 1952
- Regional Public Health & Epidemiology Office in Banská Bystrica with competences for the Central Slovakia Region (RPHEO), later re-named to
- Regional Public Health Office (RPHO), April 1, 1952 to June 30, 1991
- District Public Health & Epidemiology Office in Banská Bystrica. In the years 1952–1960 also in district Brezno.(DPHEO), later re-named to
- District Public Health Office (DPHO), January 1, 1952 to June 30, 1991, when it merged with RPHO
- Specialised Public Health & Epidemiology Institute in Banská Bystrica (SPHEI), July 1, 1991 to December 31, 1994 (Continuation of RPHO and DPHO)
- Specialised State Health Institute Banská Bystrica (SSHI), January 1, 1995 to February 28, 1998 (Continuation of SPHEI)
- State Health Institute Banská Bystrica (SHI), March 1, 1998 to December 31, 2003 (Continuation of SSHI)
- Regional Authority of Public Health in Banská Bystrica (RAPH), January 1, 2004 –
- (Continuation of SHI)

The above institutions were led by several hygienists (public health authorities), some of them have left us forever.

### **District Brezno:**

- **DPHEO, DPHO**
  - » Alexander Pestremenko, M.D. 1952 – 1957
  - » Jiřina Dudková, M.D. 1957 – 1960

### **District Banská Bystrica:**

- **Municipal Public Health Office Banská Bystrica**
  - » Oľga Gáliková, M.D. 1952 – 1960

- **DPHO**
  - » Vladimír Manica, M.D., 1952 – 1972
  - » Tomáš Geist, M.D., PhD., 1972 – 1980
  - » Ján Moravík, M.D., PhD., 1981 – 1990
  - » Ľubica Hettychová, M.D., 1990 – 1991; and district hygienist for district Banská Bystrica 1996 – 2003
  
- **Public Social & Health Institute branch, Regional Public Health Institute branch Banská Bystrica, RPHEO, RPHO, SPHEI, SSHI, SHI and RAPH Banská Bystrica**
  - » Dionýz Blaškovič, Prof., M.D., Dr.Sc., founder of the bacteriology diagnostic office during Slovak National Uprising in 1944
  - » Ján Karolček, Assoc. Prof., M.D., 1946 – 1949 state health commissioner and the head of the Public Social & Health Institute branch Banská Bystrica
  - » Pavol Greguška, M.D., 1949 – 1952, head of the Regional Public Health Institute branch B. Bystrica,
  - » Ján Bertan, M.D., 1954 – 1961 head of RPHO and regional hygienist
  - » Vojtech Cmarko, M.D., 1961 – 1979 head of RPHO and regional hygienist
  - » Tomáš Geist, M.D., PhD., 1980 – 1990 head of RPHO and regional hygienist
  - » Pavol Adámek, M.D., 1990 head of RPHO, district hygienist for district Brezno (1996 – 2003)
  - » Eleonóra Fabiánová, Assoc. Prof., M.D., PhD., 1991 – 2009, 2010 – 2012 head of the predecessors of RAPH and regional hygienist, district hygienist, head of the office
  - » Cyril Klement, Assoc. Prof., M.D., PhD., 2009 – 2010, 2012 – head of RAPH, regional hygienist, head of the office

Activities of the Regional Authority of Public Health in Banská Bystrica are based on the Act No. 355/2007 on Protection, support and promotion of public health. The past legislation included:

1. Act No. 218/1925 on Establishing, operation and organisation of State Health Institute of Czechoslovak republic
2. Act No. 10/1939 on Establishing Public Social & Health Institute with branch offices in Piestany, Banská Bystrica, Spisska Nova Ves, Presov and Nitra
3. Act No. 70/1949 on Establishing Public Health Institute a Regional Health Institute in Bratislava and branch offices in all district municipalities
4. Act No. 4/1952 on Public health and anti-epidemic care
5. Act No. 20/1966 on Public health care
6. Act No. 272/1994 on Public health protection
7. Act No. 126/2006 on Public health service

In addition to basic, specialised and higher-level expert services, the Regional Authority of Public Health in Banská Bystrica is co-operating with leading local and international institutions and participating in the international scientific research projects, resulting in extensive publications and lectures by our staff.

Experts working for RAPH, post-secondary and university graduates with a focus on public health service, have long experience of collecting and managing data. Our staff have been mainly physicians, public health professionals, chemists, physicists, biologists, lawyers, information scientists, economists and other vocations. At present the RAPH employs 15 experts with the third level academic degree (CSc., PhD.), two of them having academic degree of associate professor. In the meantime 10 colleagues with the third level academic degree have left the RAPH.

Further detailed information is available on the RAPH website: [www.vzbb.sk](http://www.vzbb.sk)

We trust this outline will add useful information to the public on the capabilities and capacities of the Regional Authority of Public Health in Banská Bystrica.

Banská Bystrica 2014

Cyril Klement, Assoc. Prof., M.D., PhD.  
regional hygienist, head of the office  
Regional Authority of Public Health in Banská Bystrica

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***Plague Column of the Virgin Mary Immaculata at the Slovak National Uprising Square in Banská Bystrica.***

*The plague column was erected in 1710, following the outbreak of plague that killed 1392 inhabitants, almost a half of the city population. Religious monuments were built in thanksgiving for the ending of plague.*

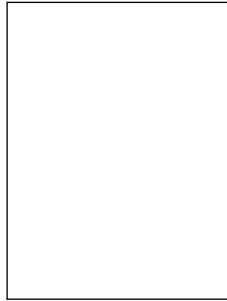


## EMINENT PERSONALITIES OF THE MEDICINE AND PUBLIC HEALTH SERVICE IN BANSKÁ BYSTRICA



**Oto Karol Moller**

\*10. 1. 1670 – †16. 4. 1747



**Gottfried Moller**

\*1710 – †14. 10. 1770



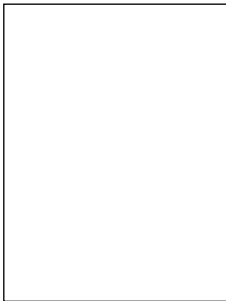
**Gustáv Kazimír**

**Zechenter-Laskomerský**

\*4. 3. 1824 – †20. 8. 1908

### DISTRICT PUBLIC HEALTH OFFICE BREZNO

---



**Alexander Pestremenko, M.D.**

district hygienist (1952 – July 31, 1957)



**Jiřina Dudková, M.D.**

\*1. 8. 1933

district hygienist (August 1, 1957 – June 30, 1960)

### MUNICIPAL PUBLIC HEALTH OFFICE BANSKÁ BYSTRICA

---



**Oľga Gáliková, M.D.**

\*1922 – †1993

municipal hygienist (1956 – 1960)

## DISTRICT PUBLIC HEALTH OFFICE BANSKÁ BYSTRICA

---



**Vladimír Manica, M.D.**

\*3. 6. 1905 – †1. 3. 1977

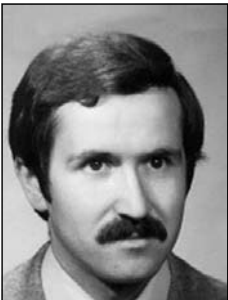
district hygienist (1952 – 1972)



**Tomáš Geist, M.D., PhD.**

\*7. 3. 1936

district hygienist (1972 – 1980)



**Ján Moravík, M.D., PhD.**

\*5. 5. 1950

district hygienist (1981 – 1990)



**Ľubica Hettychová, M.D.**

\*12. 2. 1948

district hygienist (1990 – 1991, 1997 – 2003)

## REGIONAL PUBLIC HEALTH OFFICE / REGIONAL AUTHORITY OF PUBLIC HEALTH IN BANSKÁ BYSTRICA

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**Dionýz Blaškovič, Prof., M.D., Dr.Sc.**

\*2. 8. 1913 – †17. 11. 1998

founder of the diagnostic office in Banská Bystrica  
during Slovak National Uprising in 1944



**Ján Karolček, Assoc. Prof. M.D., Dr.Sc.**

\*21. 10. 1912 – †13. 10. 1995

head of the Public Social & Health Institute  
branch in Banská Bystrica (1946 – 1949)



**Pavol Greguška, M.D.**

\*15. 7. 1912 – †16. 2. 1992

head of the Regional Public Health Institute  
branch Banská Bystrica 1949-1952 and  
regional hygienist (1952 – 1953)



**MUDr. Ján Bertan**

\*1911 – †1991

regional hygienist (1954 – 1961)



**Vojtech Cmarko, M.D.**

\*12. 8. 1914 – †19. 5. 1990

regional hygienist (1961 – 1979)



**Tomáš Geist, M.D., PhD.**

\*7. 3. 1936

regional hygienist (1980 – 1990)



**Pavol Adámek, M.D.**

\*11. 2. 1954

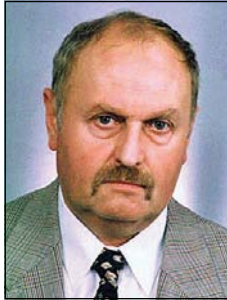
head of RPHO (1990) and county hygienist



**Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.**

\*29. 7. 1953

head of RAPH and its predecessors and regional  
hygienist (1991 – 2009, 2010 – 2012)



**Cyril Klement, Assoc. Prof., M.D., PhD.**

\*18. 3. 1948

head of RAPH and regional hygienist (2009 – 2010, 2012 –)



***RAPH Banská Bystrica Staff, 2012***

## RAPH BANSKÁ BYSTRICA STAFF, 2013

Abrahámová Iveta	Department of Medical Microbiology
Adamčáková Klócová Zora, M.D., PhD.	Department of Environmental Hygiene and Health
Adámek Pavol, M.D.	Department of Radiation Protection
Auxtová Ľudmila, Ing.	Department of Radiation Protection
Avdičová Mária, M.D., PhD.	Department of Epidemiology
Babjaková Mária	Department of Environmental Hygiene and Health
Balog Štefan	Department of Finance, Support Services and Health Informatics
Bartová Pavlína, PhD.	Department of Environmental Hygiene and Health
Beláková Jarmila, M.D.	Department of Occupational Health and Toxicology
Bilavská Marta	Department of Administration and Law
Bírešová Anna	Department of Radiation Protection
Blašková Anna	Department of Chemical Analyses
Blašková Magdaléna	Department of Medical Microbiology
Bobáľová Petra, Mgr.	Department of Environmental Hygiene and Health
Borošová Daniela, Ing., PhD.	Department of Chemical Analyses
Bottková Edit, RNDr.	Department of Medical Microbiology
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Čamajová Jana, RNDr., PhD.	Department of Medical Microbiology
Čechová Anna, Mgr.	Department of Radiation Protection
Čuloková Dana	Department of Finance, Support Services and Health Informatics
Donovalová Jana	Department of Chemical Analyses
Ďurec František, RNDr.	Department of Radiation Protection
Ďurecová Alžbeta, Ing., PhD.	Department of Radiation Protection
Ďurníková Božena	Department of Chemical Analyses
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Dzuráková Eva	Department of Administration and Law
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Hudáková Janka, Mgr.	Department of Occupational Health and Toxicology
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Krišková Ľubica	Department of Epidemiology
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Mikušová Mária	Department of Children and Youth Hygiene
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Musilová Monika, Mgr.	Department of Epidemiology
Námešná Jana, Ing.	Department of Epidemiology
Nováková Marta	Department of Chemical Analyses
Oravcová Valéria	Department of Medical Microbiology
Oravkinová Mária, Ing.	Department of Finance, Support Services and Health Informatics



Otero Daniel, Ing.	Department of Food and Nutrition Hygiene
Pásztorová Ivana	Department of Epidemiology
Patrášová Emília	Department of Medical Microbiology
Pavlíková Viera	Department of Epidemiology
Pavlovičová Jitka, Mgr.	Department of Radiation Protection
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Schwarz Miroslav	Department of Environmental Hygiene and Health
Slivková Ľubica	Department of Medical Microbiology
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Sršňová Marie, Mgr.	Department of Administration and Law
Strhářský Jozef, RNDr., PhD.	Department of Medical Microbiology
Szemrádová Emília	Department of Occupational Health and Toxicology
Šaligová Dagmar, Ing.	Department of Chemical Analyses
Ščepková Libuša	Department of Finance, Support Services and Health Informatics
Šinská Marketa, M.D.	Department of Children and Youth Hygiene
Šoučíková Martina	Department of Chemical Analyses
Špičková Mária	Department of Chemical Analyses
Šramková Lucia, M.D.	Department of Epidemiology
Šreinerová Alena	Department of Medical Microbiology
Šuchaňová Marcela	Department of Health Promotion
Švantnerová Andrea	Department of Finance, Support Services and Health Informatics
Žažká Katarína, Ing.	Department of Food and Nutrition Hygiene
Tolnayová Mária, PaedDr.	Department of Administration and Law
Tomek Miroslav, Mgr.	Department of Radiation Protection
Tóreová Kristína, Mgr.	Department of Food and Nutrition Hygiene



Trnková Katarína, Ing., PhD.	Department of Medical Microbiology
Turčanová Elena	Department of Medical Microbiology
Urbíliková Mária	Department of Chemical Analyses
Varjúová Alexandra, RNDr., PhD.	Department of Radiation Protection
Vassányi Zuzana, Ing.	Department of Chemical Analyses
Veljačiková Marta	Department of Medical Microbiology
Veveřková Janette	Department of Medical Microbiology
Vicianová Mariana	Department of Chemical Analyses
Villim Ján, Ing.	Department of Finance, Support Services and Health Informatics
Vojteková Silvia, Mgr.	Department of Finance, Support Services and Health Informatics
Volenská Dagmara	Department of Children and Youth Hygiene
Vrbanová Hana, M.D.	Department of Health Promotion
Zátrochová Mária	Department of Finance, Support Services and Health Informatics
Zázrivcová Ivana	Department of Epidemiology
Zvalová Tatiana, Mgr.	Department of Health Promotion
Žiarovská Andrea, RNDr.	Department of Occupational Health and Toxicology

## EXPERTS WITH THE THIRD-LEVEL ACADEMIC DEGREE WORKING AT THE RAPH IN THE PAST:

---

- Adela Palanová, M.D., PhD.
- Ján Moravík, M.D., PhD.
- Tomáš Geist, M.D., PhD.
- Eva Miháliková, Ing., PhD.
- Marek Drímal, Ing., PhD.
- Františka Hrubá, RNDr., PhD.
- Jana Rusková Dadová, RNDr., PhD.
- Zuzana Klöslová, RNDr., PhD.
- Soňa Feiková, RNDr., PhD.
- Katarína Trnková, Ing., PhD.

## EXPERTS WITH THE THIRD-LEVEL ACADEMIC DEGREE WORKING AT THE RAPH NOW (AS OF DECEMBER 31, 2013):

---

- Cyril Klement, Assoc. Prof., M.D., PhD.
- Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.
- Mária Avdičová, M.D., PhD.
- Kvetoslava Koppová, M.D., PhD.
- Katarína Slotová, M.D., PhD.
- Jozef Strhářsky, RNDr., PhD.
- Alžbeta Ďurecová, Ing., PhD.
- Daniela Borošová, Ing., PhD.
- Lucia Maďarová, RNDr., PhD.
- Jana Kerlík, M.D., PhD.
- Renáta Kissová, RNDr., PhD.
- Zora Adamčáková Klócová, M.D., PhD.
- Alexandra Varjuová, RNDr., PhD.
- Jana Čamajová, RNDr., PhD.
- Martin Frič, Ing., PhD.

## CHIEF ADVISORS OF THE MINISTRY OF HEALTH OF SR (MH SR) AND OF THE CHIEF HYGIENIST OF SR (CPHO)



**Valéria Skupeňová, Ing.**

\*25. 9. 1947

Chief advisor of MH SR for Public Health Examination Methods, 1984 – 1990



**Zlatica Sklenaříková, M.D.**

\*17. 1. 1948

Chief advisor of MH SR for Food and Consumer Goods Hygiene, 1984 – 1990



**Peter Miškovič, Ing.**

\*22. 12. 1955

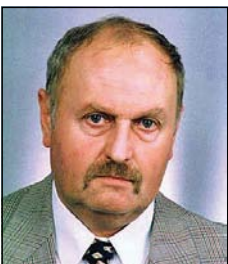
Chief advisor of the CPHO for the Department of Chemical Analyses, 1990 – 2004



**Kvetoslava Koppová, M.D., PhD.**

\*6. 12. 1951

Chief advisor of MH SR for Environmental Hygiene, 1993 – 2004  
Chief advisor of CPHO for Public Health and Environment, 2005 –



**Cyril Klement, Assoc. Prof., M.D., PhD.**

\*18. 3. 1948

Chief advisor of MH SR for Clinical Microbiology, 1994 – 1996  
Chief advisor of CPHO for Clinical Microbiology, 2003 –



**Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.**

\*29. 7. 1953

Chief advisor of MH SR for Preventive  
Occupational Medicine, 1996 – 2003

Chief advisor of CPHO for Preventive Occupational  
Medicine and Toxicology, 2004 –



**Mária Avdičová, M.D., PhD.**

\*9. 5. 1948

Chief advisor of MH SR for Epidemiology, 2000 – 2005



**Františka Hrubá, RNDr., PhD.**

\*14. 8. 1962

Chief advisor of CPHO for Health Informatics  
and Biostatistics, 1996 – 2003



**Pavol Adámek, M.D.**

\*11. 2. 1954

HlavnýChief advisor of CPHO for Department  
of Radiation Protection, 2011 – 2012

## PUBLICATIONS IN THE PERIOD 1963 – 2013

In 1972 Dr. Adela Palanová, working at the RPHO Banská Bystrica, obtained a degree „CSc.“ and this date has become a milestone marking the beginning of scientific and research work at this preventive public health care workplace, though first publications of the staff appeared already in 1963.

Laboratory results and field data were extensively published by the RAPH staff in the scientific journals.

The scope of these publications is extensive and serves as a proof that RAPH has close ties with science, research and innovations in the area of the public health service. This concerns hundreds of papers published in the local and international publications, indexed journals, including monographs.

RAPH is accredited by the Ministry of Education and Science to perform scientific research and together with the RAPH head office collaborates on various projects – local and international. The accreditation formally acknowledged the long-term focus of the current management of RAPH Banská Bystrica: proper field work combined with the scientific analysis and presentation of results.

### Code Category

AAB	Scientific monographs published by local publishers	7
ABB	Studies of monograph nature in journals and reviews published by local publishers	3
ABD	Chapters within scientific monographs published by local publishers	8
ACB	Academic textbooks published by local publishers	7
ACD	Chapters within academic textbooks published by local publishers	2
ADC	Scientific papers in foreign indexed journals	112
ADD	Scientific papers in local indexed journals	4
ADE	Scientific papers in foreign non-indexed journals	53
ADF	Scientific papers in local non-indexed journals	69
AEC	Scientific papers in foreign peer-reviewed proceedings, monographs	3
AED	Scientific papers in local peer-reviewed proceedings, monographs	68
AEE	Scientific papers in foreign non-peer-reviewed proceedings, monographs	1
AEF	Scientific papers in local non-peer-reviewed proceedings, monographs	12
AEG	Short notices and abstracts of scientific papers in foreign indexed journals	1
AFC	Published international scientific conference proceedings	10
AFD	Published local scientific conference proceedings	143
AFE	Abstracts of invited international conference proceedings	1
AFG	Abstracts of international conference proceedings	59
AFH	Abstracts of local conference proceedings	185
AFK	Posters at international conferences	9
AFL	Posters at local conferences	36
AGI	Notifications of concluded research projects	25
BAB	Expert monographs published by local publishers	10
BBB	Chapters within expert monographs published by local publishers	1
BCI	Textbooks	9
BCK	Chapters within textbooks	1

**Code Category**

BDE	Scientific papers in foreign non-indexed journals	3
BDF	Scientific papers in local non-indexed journals	91
BED	Scientific papers in local peer-reviewed proceedings (conference and non-conference)	28
BEE	Scientific papers in foreign non-peer-reviewed proceedings (conference and non-conference)	11
BEF	Scientific papers in local non-peer-reviewed proceedings (conference and non-conference)	67
BFB	Abstracts of scientific papers presented locally (conference...)	26
DAI	Dissertations and degree awarding papers	16
EAI	Reviews – books	6
EAJ	Expert translations – books	2
FAI	Editorial and compiler work (bibliographies, encyclopaedias, catalogues, dictionaries, proceedings...)	4
GAI	Research studies and position papers	1
GHG	Papers published on internet	3
GII	Other publications and documents not falling under any of above categories	75

**Total number of records****1172****SELECTED MONOGRAPHS**

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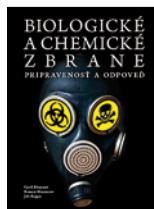


Eleonóra Fabiánová, Zora Adamčáková et al.:

ESNAP – Epidemiology Study of Pancreas Tumors in Slovakia

RAPH Banská Bystrica with support of Ministry of Health SR, 2013 108 p. –

ISBN 978-80-97109-61-5



Cyril Klement, Roman Mezencev, Jiří Bajgar et al.:

Biological and Chemical Weapons – preparedness and response

Banská Bystrica PRO, 2013 – 781 p. – ISBN 978-80-89057-43-6



M. Šulcová, I. Čížnár, E. Fabiánová et al.:  
Public Health Service  
Bratislava: VEDA, 2012 – 654 p. – ISBN 978-80-224-1283-4



Mária Avdičová et al.:  
Monitoring of Chronical Diseases Risk Factors in RAPH Banská Bystrica with support of WHO Regional Office in Copenhagen, 2012 134 p. – ISBN 978-80-97109-60-8



Klement, C. .. [et al.]:  
Emergency Situations in Public Health Service  
Banská Bystrica: PRO, 2011. – 663 p. – ISBN 978-80-89057-29-0



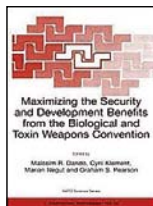
Rovný, I. .. [et al.]: Selected Chapters On Public Health 1: terminology – subject fields – legislation – state of health – health determinants – management  
V. Oleár, C. Klement, I. Bielik. – Banská Bystrica: PRO, 2011. – 591 p. – ISBN 978-80-89057-33-7



Eleonóra Fabiánová et al.:  
Labour Safety, Fire Prevention and Health Protection at Workplace Handbook for small- and middle-size employers and employees.  
Bratislava: Príroda, 2010. – 90 p. – ISBN 9788007018433



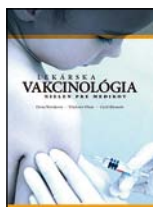
Klement, C. .. [et al.]:  
International Health Directives: theory – legislation – implementation – implications recommendations to foster national surveillance system of laboratory capacities for communicable diseases  
Banská Bystrica: PRO, 2009. – 438 p. – ISBN 978-80-89057-24-5



Malcolm R. Dando, Cyril Klement, Marian Negut, G. S. Pearson:  
Maximising the Security and Development Benefits from the Biological  
and Toxin Weapons Convention.  
Netherlands: Kluwer Academic Publishers, 2009 – 428 p. – ISBN-13:  
9781402009136



Klement, C. – Mezencev, R. et al.:  
Biological Weapons – Bratislava:  
BONUS, 2007. – 380 p. – ISBN 978-80-969733-2-3



Nováková, E. – Oleár, V. – Klement, C.:  
Medical Vaccinology Not Only For Medical Students  
Banská Bystrica: PRO, 2007. – 141 p. – ISBN 978-80-89057-18-4



Jana Buchancová et al. (E. Fabiánová):  
Occupational Medicine and Toxicology – Martin:  
Osveta, 2003. – 1132 p. – ISBN 8080631131



Ivan Rovný, Eleonóra Fabiánová, Peter Gaál, Jana Nováková, Ján Ondrejka,  
Miroslav Michalus:  
Hygiene 3. Preventive Occupational Medicine, Health Protection Against  
Ionising Radiation Volume 3. – Martin:  
Osveta, 1998. – 199 p. – ISBN 80-88824-42-7

## OVERVIEW OF THE INTERNATIONAL PROJECTS

An important part of diverse activities of our staff is the active participation in the international projects focused on the public health priority areas. Knowledge and experience gained from these projects is translated into prevention, protection and support of the public health as well as into the latest legislation of public health service in Slovakia. International collaboration opened new opportunities to work with the scientific, academic and governmental public health institutions of top quality, mainly in the European Union, USA and Russia. Thanks to our intensive work on these projects we gained access to the state-of-the-art scientific knowledge and implementation of modern methods of scientific and research work, either in the form of analytical and intervening epidemiological studies, toxicological observations, field and laboratory measurements, or new methods of health risks evaluation and overall impact on public health assessment. The research expertise of our staff, as well as the refurbishment of facilities, enabled further development of our competencies and increased our credibility. We successfully collaborate with local medical and third-party non commercial partners.

Top priority after 1989 was to assess the evidence-based status of public health considering the environment and workplace pollution by harmful factors. Our research has progressively covered all categories of determinants of health, including the way of life and lifestyle risk factors, environmental and occupational loads, genetic, social and psychological aspects. We have resumed the long tradition of our predecessors RPHO and DPHO in Banská Bystrica in studying and solving the health risks in the contaminated regions of central Slovakia. Special efforts were and are made regarding child welfare. Several studies focused on issues of preventing the most frequent non-infectious diseases in population, laying stress on heart disease, arteriosclerosis and lung cancer, oral cavity and laryngeal cancer, kidney, bladder and pancreas cancer. Toxicology concerns were reviewed in the epidemiology studies focused on the health risks of working age adults and individual groups of population. The scope of activities is growing in the area of intervening studies and is directly translated to individual and group counselling.

The following survey identifies projects by name, a grant provider in case the project has received any, collaborating institutions, duration and a project leader.

1. State of Public Health and of Environment Study (SIPEH/NIPEH – Slovak Integrated Programme on Environment and Health) – in the regions of Žiar nad Hronom and Ružomberok, compared to Banská Bystrica. The study was made in collaboration with the MH SR, WHO and Ministry of Health of the Netherlands.  
Project Duration: 1992 – 1994  
Project Leader: Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.
2. Arsenic Exposure and Biotransformation Assessment. Collaboration with EPRI (Electric Power Research Institute), Palo Alto, USA.  
Project Duration: 1991 – 2000  
Project Leader: Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.



3. RAPHRE – Study on Health Impact of Environmental Pollution – Novaky area, EC HEA 18/1991. Financed through an EU grant. Collaboration with TECNIMONT and Dept. Medicina del Lavoro, Milano University, Italy.  
Project Duration: 1993 – 1995  
Project Leader: Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.
4. Environmental Health Risk Assessment. Personal exposure to air pollutants. Project supported through “American-Slovak Science and Technology Programme”. Collaboration with the Harvard School of Public Health, Boston, USA.  
Project Duration: 1996 – 2000  
Project Leader: Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.
5. CINDI / Countrywide Integrated Noncommunicable Diseases Intervention Programme, WHO EURO / Intervention programme, which includes cross-sectional surveys on health risk factors and studies on process evaluation  
Project Duration: from 1993 continually  
Project Leader: Mária Avdičová, M.D., PhD
6. CESAR / Central European Study on Air Pollution and Respiratory Health  
Project Duration: 1994 – 1997  
Project Leader: Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.
7. GEENET – EURO / Global Environmental Epidemiology Network in EURO, Framework of EU COPERNICUS programme  
Project Duration: 01. 01. 1995 – 31. 12. 1997  
Project Leader: Kvetoslava Koppová, M.D., PhD.
8. The European School Survey Project on Alcohol and other Drugs – ESPAD  
Project Duration: 1995 – 2012  
Study leader at RAPH: Katarína Slotová, M.D., PhD.
9. Development of Environment Information Centre in Slovakia. Geographic information system implementation.  
Project Duration: 1. September 1997 – 30. September 1999  
Project Leader: Františka Hrubá, RNDr., PhD.
10. INCO / Epidemiological Study of Spatial and Temporal Variation in Outdoor Air Pollution and Children’s Respiratory Disease in Central Europe  
Project Duration: 1998 – 1999 (CESAR 2)  
Project Leader: Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.

11. IARC/WHO / Cancer Epidemiology Studies on Lung Cancer, Oral Cavity and Laryngeal Cancer – within the framework of INCO Copernicus EU programme. Continuing collaboration with IARC (International Agency for Research on Cancer) Lyon.  
Project Duration: 1998 – 2003  
Project Leader: Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.
12. Healthy Children in Healthy Families – Primary prevention of the atherosclerosis in childhood on the basis of the high mortality of the cardiovascular diseases in Slovak population with some variation in different regions of the Slovak Republic.  
Project Duration: 1999 – 2012  
Study leader in Slovak Republic: Magdaléna Ďateľová, M.D., MPH
13. REAP / The EU Phare Regional Environmental Assesion, Project Implementation of Directive on the Quality of Water for Human Consumption  
Project Duration: 2000 – 2001  
Project Leader: Kvetoslava Koppová, M.D., PhD.
14. PATY / Pollution and the Young (follow-up to CESAR I. and CESAR II.)  
Project Duration: 1.12.2002 – 31.11.2004  
Project Leader: Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.
15. ASHRAM / Arsenic Health Risk Assessment and Molecular Epidemiology  
Project Duration: 2002 – 2004  
Project Leader: Kvetoslava Koppová, M.D., PhD.
16. CRB / Cancer Risk Biomarkers – Cytogenetic Biomarkers and Human Cancer Risk  
Project Duration: 2002 – 2004  
Project Leader: Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.
17. Impact of Odoriferous Sulphurous Gases Resulting from the Pulp Production Process on the Health of Pulp Mill Employees and Inhabitants of Ružomberok and Environs.  
Project Duration: 2002 – 2006  
Project Leader: Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.
18. ESBIO / Expert team to Support BIO monitoring in Europe  
Project Duration: 2005 – 2006  
Project Leader: Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.
19. PHIME / Public Health Impact of long-term, low level Mixed element Exposure in susceptible population strata.  
Project Duration: 2006 – 2010  
Project Leader: Kvetoslava Koppová, M.D., PhD.

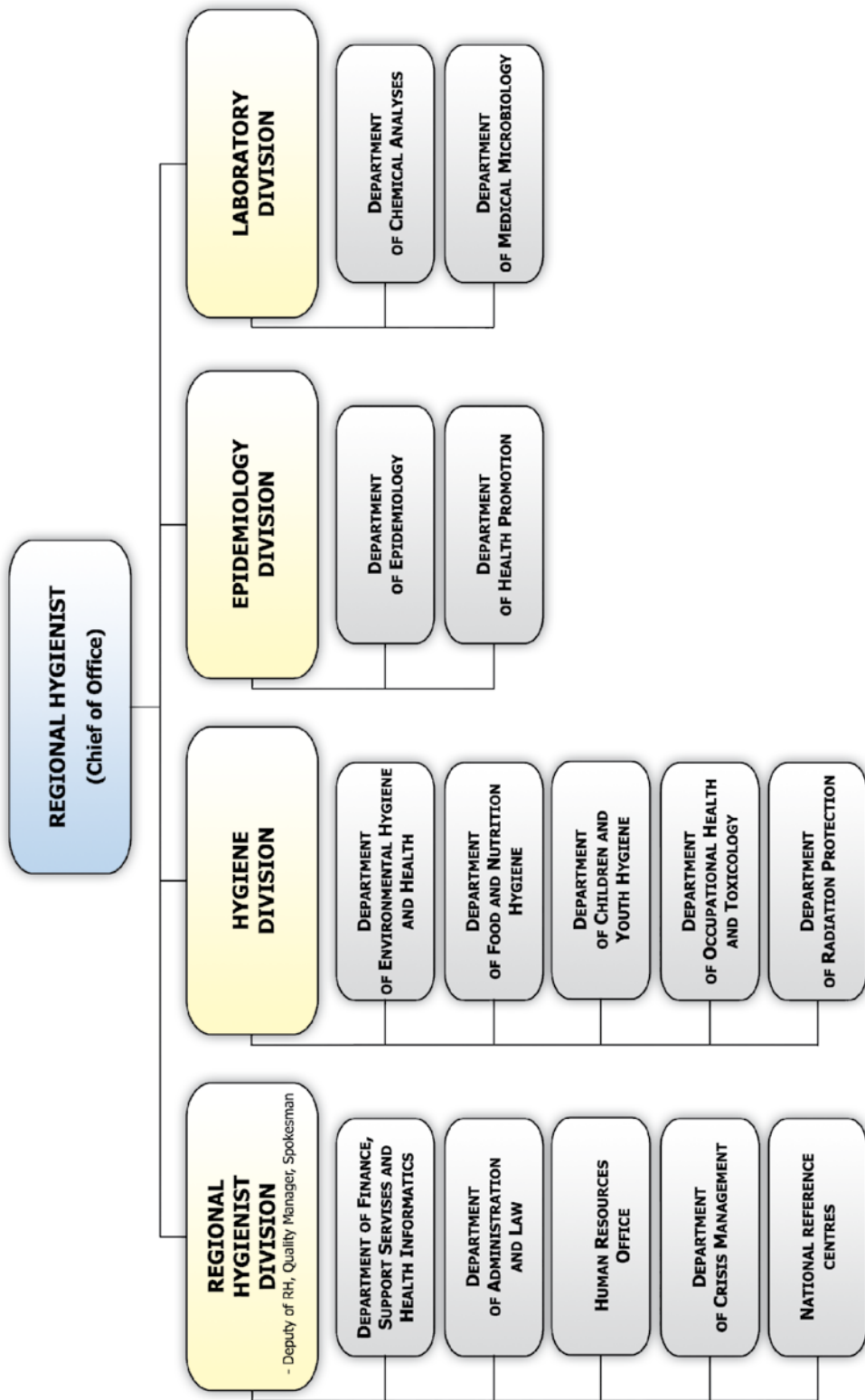
20. Working Conditions as Determinants of Gender-based Inequality. Project carried out within the framework of Community EQUAL Initiative and co-financed by EU.  
Project Duration: 2006 – 2009  
Project Leader: Ľubica Hettychová, M.D.
21. Name of the project: SEARCH – School Environment and Respiratory Health of Children  
Project Duration: 2007 – 2008  
Study leaders at RAPH: Katarína Slotová, M.D., PhD., Kvetoslava Koppová, M.D., PhD.
22. Healthy Workplaces  
Project Duration: 2008 – continues  
Project Leader: Ľubica Hettychová, M.D.
23. HEM – Closing the Health Gap in EU  
Project Duration: 2008 – 2009  
Project Leader: Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.
24. WHO-SVK BCA 2008 – 2009, outcome: International Health Directives – theory – legislation – implementation – implications, ISBN 978-80-89057-24-5  
Project Duration: 2008 – 2009  
Project Leader: Cyril Klement, Assoc. Prof., M.D., PhD.
25. ESNAP / Pancreas Cancer Epidemiology Study. Grant by the MH SR.  
Project Duration: 2008 – 2011  
Project Leader: Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.
26. GVRNA / Genetic Variability and RNA Viruses Virulence Relationship. Grant by the MH SR.  
Project Duration: 2008 – 2011  
Project Leader: Cyril Klement, Assoc. Prof., M.D., PhD.
27. Synergy – Pooled Analysis of Case-Control Studies on the Interaction of Occupational Carcinogens in the Development of Lung Cancer. The SYNERGY project is funded by the German Social Accident Insurance (DGUV), and is coordinated by IARC, the Institute for Prevention and Occupational Medicine of the DGUV, Institute of the Ruhr-University Bochum (IPA) and the Institute for Risk Assessment Sciences at Utrecht University (IRAS)  
Project Duration: 2009  
Project Leader: Eleonóra Fabiánová, Assoc. Prof., M.D., PhD., Zuzana Vassányi, Ing.
28. Follow-up Study on Lung Cancer, Oral Cavity and Laryngeal Cancer, Central Europe Multicentric Study of Case-Control Type.  
Project Duration: 1. July 2009 – 30. April 2010  
Project Leader: Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.

29. COPHES / DEMOCOPHES – Co-ordinate and perform human biomonitoring on a European Scale/ Demonstration of a study to co-ordinate and perform human biomonitoring on a European Scale. A harmonised approach to human biomonitoring in Europe/Measuring environmental exposure of children and their mothers in a European human biomonitoring survey – a feasibility study.  
Project Duration: 2009 – 2012  
SK study leaders for rural area: Eleonóra Fabiánová, Assoc. Prof., M.D., PhD., Katarína Slotová, M.D., PhD.
30. WHO-SVK BCA 2010 – 2011, outcome: Emergency Situations in Public Health Service, ISBN 978-978-89057-29-0  
Project Duration: 2010  
Project Leader: Cyril Klement, Assoc. Prof., M.D., PhD.
31. EHES – European Health Examination Survey  
Project Duration: 2010 – 2011  
Project Leader: Mária Avdičová, M.D., PhD.
32. WHO-SVK BCA 2012 – 2013, outcome: Biological and Chemical Weapons – preparedness and response, ISBN 978-80-89057-439-0  
Project Duration: 2012 – 2013  
Project Leader: Cyril Klement, Assoc. Prof., M.D., PhD.
33. Pilot study on bladder cancer in Central Europe. Collaboration with the MOUNT SINAI SCHOOL OF MEDICINE, New York, USA.  
Project Duration: 2012 – 2013
- Follow-up: Genetic Epidemiologic Study on Bladder Cancer (GERMM). Grant by the MH SR.  
Project Duration: 2013 – 2015  
Project Leader: Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.

# RAPH BANSKÁ BYSTRICA

## ORGANIZATIONAL STRUCTURE

- **Regional Hygienist / Head of Office**
  - » Deputy Regional Hygienist
  
- **Division of Regional Hygienist**
  - » Department of Finance, Support Services and Health Informatics
  - » Department of Administration and Law
  - » Human Resources Office
  - » Crisis Management Unit
  - » National Reference Centres
  
- **Public Health Division**
  - » Department of Environmental Hygiene and Health
  - » Department of Food and Nutrition Hygiene
  - » Department of Children and Youth Hygiene
  - » Department of Occupational Health and Toxicology
  - » Department of Radiation Protection
  
- **Epidemiology Division**
  - » Department of Epidemiology
  - » Department of Health Promotion
  
- **Laboratory Division**
  - » Department of Chemical Analyses
  - » Department of Medical Microbiology

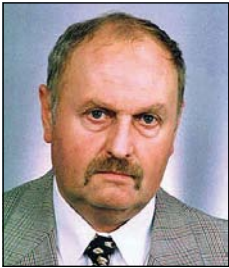


## DUTIES ASSIGNED TO THE DEPARTMENTS

RAPH with its expert departments – Department of Radiation Protection, Department of Chemical Analyses, Department of Medical Microbiology, Department of Food and Nutrition Hygiene, Department of Environmental Hygiene and Health, Department of Epidemiology, Department of Occupational Health and Toxicology, Department of Children and Youth Hygiene – is qualified to perform chemical, microbiological, biological and physicochemical testing of water, food, consumer goods, cosmetics, air and biological material. We can take air samples at workplaces, as well as potable water and food samples. Further, we are able to perform radiochemical water analysis, serological, virological, parasitological and molecular biology testing of biological materials, provide expert opinions and interpretations of test results, measure physical parameters of noise and lighting in normal and working environments. All these activities are focused on the exposure assessment and health risk assessment as support for the roles of regional public health authority. Eligibility to perform above activities is attested by a certificate of accreditation in accordance with a standard STN EN ISO/IEC 17 025:2005 *General requirements on the competency of testing and calibrating laboratories*. RAPH holds the certificate of accreditation issued by Slovak National Accreditation Service (SNAS) since May 17, 2004. SNAS is the accreditation body in accordance with the Article 4 of EU Directive No. 765/2008 setting the requirements of accreditation and surveillance with regard to introduction of products to market.

## REGIONAL HYGIENIST / HEAD OF OFFICE

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**Cyril Klement, Assoc. Prof., M.D., PhD.**

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cell: +421 907 825 606

e-mail: cyril.klement@vzbb.sk

The Head of the Office serves also as the Regional Hygienist and is appointed and dismissed by the Chief Hygienist of the Slovak Republic upon proposal of the Minister of Health of the Slovak Republic. Regional Hygienist is the Head of the Office for state employees and executive Head of the Office for other employees of the RAPH.

Regional Hygienist is authorised to act in all matters on behalf of the RAPH and is bound in decision making and managing the RAPH by general law and legislation.

### **Exclusive rights of the Head of the Office:**

- Making decisions effecting the RAPH organisational structure and competence of departments
- Use of the financial funds nad execution of specific expert tasks
- Exercising the rights related to damage claims, manner and extent of requisitions and account receivables
- Exercising the office duties related to civil and state defence, organisation and execution of internal audit
- Appointing and dismissing the heads of departments, a deputy director of the office and a deputy of the chief of office

## DEPUTY REGIONAL HYGIENIST

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**Viera Morihladková, M.D.**

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Stands in for the regional hygienist at times of his/her absence at the workplace.





**Zuzana Majláthová, Ing.**

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Under the scope of accreditation the Regional Authority of Public Health Banská Bystrica (Department of Environmental Hygiene and Health, Department of Food and Nutrition Hygiene, Department of Children and Adolescent Hygiene, Department of Occupational Health and Toxicology, Department of Radiation Protection, Department of Epidemiology, Department of Medical Microbiology, Department of Chemical Analyses) is competent to perform chemical, microbiological, biological, physico-chemicals tests of waters, foodstuffs, contact materials, cosmetic products, air and biological materials; air sampling; sampling of water and food-stuffs; radiochemical tests of water; serological, virological, parasitological and molecular-biological tests of biological materials; to express of opinions and interpretations of the test results; to measure of physical quantities noise in the working environment and environment and illumination in the working environment.

The competence to perform the tests impartially and trustworthily is demonstrated by accreditation certificate in accordance with the requirements of the Standard ISO/IEC 17025: 2005 General requirements for the competence of testing and calibration laboratories.

Since 17 May 2004, the Regional Authority of Public Health Banská Bystrica had has Certificate of Accreditation issued by Slovak National Accreditation Service (the Ministry of Economy of the SR has authorised SNAS as a sole accreditation body to execute accreditation in the SR on the basis of Act. No. 264/1999, §22. by its decision from January 7, 2000).

### **Quality manager is responsible for:**

- establishment, implementation, maintenance and improvement of management system by meeting the requirements of the Standard ISO/IEC 17025: 2005 General requirements for the competence of testing and calibration laboratories;
- establishment of Quality Manual of Regional Authority of Public Health Banská Bystrica;
- maintaining of the Quality Manual of Regional Authority of Public Health Banská Bystrica;
- communication with SNAS;
- establishment of all documents common to all Departments of the Regional Authority of Public Health Banská Bystrica;
- evidence, distribution and archiving of all documents common to all Departments of the Regional Authority of Public Health Banská Bystrica;
- planning and organization of internal audits within the frame of Unit of Quality (chapter 4, Standard ISO/IEC 17025: 2005 General requirements for the competence of testing and calibration laboratories);
- controlling and verifying of the implementation and effectiveness of the corrective measures taken by internal audits within the frame of the Unit of Quality.



**Mária Tolnayová, PaedDr.**

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e-mail: maria.tolnayova@vzbb.sk

**Scope of assignment:**

- communicate to the public through media to facilitate the creation of a positive image of RAPH Banská Bystrica
- contribute to a consensus in addressing public issues and themes
- implement activities aimed at raising the public confidence towards RAPH Banská Bystrica as well as towards public health, to maintain favourable publicity and building a „corporate image“
- communicate actively with regional and nation-wide media
- organise press conferences in line with the requirements of individual departments; publish press releases on the RAPH website
- regularly monitor the print / electronic media and publications, publish reviews on the RAPH website
- design, organise and co-ordinate the public presentations of RAPH staff



**Radovan Lapuník, Ing.**

Head of Department

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**Scope of assignment:**

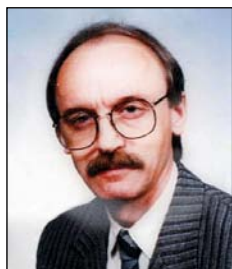
- financial operations and reporting
- technical and operational support for the expert departments of RAPH

**Financial and support services**

- Complex activities covering the RAPH Budget and Finance – budgeting, financial reports, internal operational and financial directives, implementation of budget measures from the Ministry of Health SR, financial and internal audit etc.
- Statistical reporting covering the RAPH Budget and Finance
- Complex activities covering the cost and payroll accounting management – financial accounting, monthly balance statements, approving, billing, invoicing of services made by the expert departments, invoice book keeping and settlement, employee attendance system management, processing of payrolls, processing of monthly changes of wages, payroll financial transfer clearing, reporting to social and health insurance bodies etc.
- Cash balance and bank transfer – responsibility for cash desk, transfer of finance from the cash desk to bank, clearing of employee business trip claims etc.
- Public procurement of goods and services – market analysis, public tendering, tender documents preparation, contracting, communication with the national procurement authority etc.
- Facility management and maintenance carried out by own personnel or through subcontracting – operation of power facilities and switchgear, negotiations with power contractors, health checks of technical equipment and devices, cost evaluation, communication with public authorities, gate keeping and security, maintenance of buildings and equipment, cleaning service and waste management etc.
- Labour safety and civil defence of the workplace
- Staff transportation and business trips – business trip planning, record keeping of gasoline consumption and other services
- Internal registry and postal services
- Asset and supplies management – purchasing consumables, material storage, warranty claims management, contractor search and service acquisition, inventory, equipment depreciation, asset disposal etc.
- Project or grant management, project budget preparation for grant call submissions, communication with grant providing authorities and stakeholders.

**Health Informatics**

- Network and web page administration, provision of e-mail accounts and other electronic services
- Administration of the information system of infectious diseases – EPIS
- Technical support by means of hardware and software solutions
- Graphic and technical document preparation, poster and presentation production
- Trainings on the information technology, equipment use and data support
- Preparation of Health reports and other publishing activities



**Peter Klajban, JUDr.**

Head of Department

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### **Scope of assignment:**

- Operations of secretariat of the Regional Hygienist
- Legal representation and co-ordination of legal activities
- Organisation and co-ordination of internal controlling
- Documents register and archive
- Registry – a central administration of petitions and samples
- Library and Information Services

### **Our activities cover three levels:**

1. Department of Administration and Law actively participates in the preparation of national legislation related to public health and the formulation of programs for the protection, promotion and development of public health in the Slovak Republic within the Ministry of Health and the Public Health Authority commissions, including professional processing and use of databases of library-bibliographic and factual information processed in the nation-wide network of the RAPH.
2. Department of Administration and Law is the executive authority of specific post-legal issues providing expert methodological advice and co-ordination of the decision making process of state regulation, the assessment, infringement, penalties and recovery relevant to the obligations laid down in Act No. 355/2007 on the Protection and Promotion of the Public Health, the public health supervision, control of food, keeping central records, contractual arrangements, evaluation and exploitation of the results of laboratory expertise of the RAPH as well as co-ordinating procedures with the Regional Authority regarding the public health.
3. Department of Administration and Law is responsible for legal aspects of public health supervision and control of food in the districts of Banská Bystrica and Brezno. The department is the legal representative of the RAPH in controversial issues overriding other government bodies, local, regional, judicial or control authorities. The Department of Administration and Law administrates, co-ordinates and directly performs tasks in the field of internal management and controlling, registration services, registry documentary and documentation of professional activities of the RAPH. The professional library maintains a database of bibliographic information finding use in a range of activities across all sectors of public health. Department of Administration and Law warrants a free public access to information regarding protection, promotion and development of public health.



**Anna Porubská, JUDr.**

Head of Office

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Human Resources Office is responsible for issues relevant to civil service and labour-law relations. The office acts in compliance with the Act No. 400/2009 on Civil Service and Labour Code and Act No. 552/2003 on Performance of work in public interest, as well as other related legislation.

**The office deals with the following agendas:**

- labour agreements
- establishment, amendment or termination of civil or employment relationship
- equity returns
- complaints of civil servants
- staff remuneration
- education of employees
- travel reimbursements
- personnel management statistical data processing



**Pavol Lokša, M.D**

Head of Unit

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**Scope of assignment:**

- Taking part in regular meetings, theoretical and practical training at the District Office Crisis HQ.
- Taking part in regular meetings, theoretical and practical training at the District Office Evacuation Commission.
- Preparation of reports on incidents of communicable diseases in Banská Bystrica region for the District Office Crisis HQ.
- Retraining of Fire Rescue and Emergency Medical Service of the current issue of communicable diseases and their response to highly contagious diseases.
- Ensuring preparedness of health care organisations and practical measures responding to emergency situations at major border crossings – the M. R. Štefánik airport Bratislava, railway station Čierna nad Tisou and road passage Vyšné Nemecké.
- Providing care for civil defence facilities, resources and equipment.
- Providing care for mobilisation resources allocated to the state official reserves.
- Providing care for intervention groups of PPE equipment.



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Department of Environmental Hygiene and Health is acting in the area of protection, support and development of environmental health as determined by living conditions and by the environment.

### **Our activities cover three levels:**

- *National Level* – preparing concept, legislation, expert and methodological fundamentals for the Ministry of Health and Chief Hygienist
- *Regional Level* – providing advanced services, expertise, assessment and consulting.
- *District Level* – providing public health supervision in the districts of Banská Bystrica and Brezno.

### **Scope of expert assignment:**

- Monitoring, evaluation and health impact assessment of drinking water quality within public water supplies systems.
- Monitoring, evaluation and health impact assessment of swimming water quality.
- Ground plan issues with focus on suggestion and approval of health and hygienic requirements in the process of planing and building permission.
- Human living conditions in living environment issues with focus on health aspects of living conditions and creation of healthy conditions in outdoor living areas, public places, neighbourhoods, rest places etc.
- Monitoring and evaluation of noise in living environment, traffic noise and stationery noise sources issues.
- Health and hygienic issues in human body care facilities, especially in the facilities with epidemiologically significant activities.
- Health and hygienic issues in accommodation facilities in tourism, spa areas, social care and health care facilities.
- Assessment of ambient air quality and health impact assessment of polluted ambient air.
- Indoor air quality issues and health impact assessment of indoor air.

### **Scope of ordinary assignment:**

- Assessment and evaluation of proposals for ground plans, land-use proceedings, final building approval of buildings, proposals for a change in the use of buildings, proposals for the use of water sources for drinking water supply.



- Assessment and evaluation of public water supplies systems operations, monitoring of drinking water quality used for public water supplies systems, state health supervision of public water supplies systems.
- Assessment and evaluation of swimming pools operations, operational instructions approval, monitoring of swimming water quality.
- Assessment and evaluation of proposals for putting the accommodation facilities into operation, including tourism facilities, operational instructions approval, state health supervision in these facilities.
- Assessment and evaluation of proposals for putting the human body care facilities (barber, hairdresser's, manicure, pedicure, tattoo and piercing studio, solarium, sauna, etc.) into operation, including the operational instructions approval, public health supervision in these facilities.
- Assessment and evaluation of proposals for commissioning the physical education and sport facilities, operational instructions approval, public health supervision in these facilities.
- Assessment and evaluation of proposals for commissioning the social care services facilities, operational instructions approval, public health supervision in these facilities.
- Health impact assessment of living environment and other indoor environments with long-term stay of people, with focus on air quality, noise, daylight and sunshine, including consultancy.
- Processing the applications for the professional competence certificates, for the performance of epidemiologically significant activities in human body care facilities, in water treatment and water supply facilities operations, the examination of knowledge by committee for the examination of professional competence and issuance of the professional competence certificates.
- Tasks due under the Act 131/2011 on Funeral services.
- Processing the applications for professional competence certificate on performance of funeral service, burial-place and crematorium, the examination of knowledge by committee for the examination of professional competence and issuance of the professional competence certificates.
- Monitoring of compliance with the Act No. 465/2005 on Protection of non-smokers in monitored facilities.
- Consultancy through web-based environmental health consulting centre.
- Maintaining the Register of persons with professional competence.
- Review of complaints and preparing materials for handling them.
- Delivering special expert activities.
- Participate in the international projects implemented at the RAPH.
- Providing expert consultations, professional and methodical management and co-ordination of the activities of the RAPH in the Banská Bystrica region.
- Taking part in the post-gradual education of expert staff of RAPH Banská Bystrica and at the Slovak Public Health University.
- Health risk assessment of population and groups exposed to risk factors from environment and living conditions.

- Ensuring preventive measures against the occurrence and spread of infectious diseases and other diseases with mass incidence or other damage of health with possible impact of the environment factors and lifestyle.
- Evaluation of environmental noise measurement results, proposing corrective measures, efficiency monitoring of implemented measures against noise.
- Monitoring and evaluation of health status of population and population groups with possible impact of the environment factors and lifestyle.
- Identification of the inequalities in environmental health, analysis of the inequality causes, proposals and enforcement of the programs for reducing inequalities in environmental health.
- Public health protection during special events in the environment (floodings, extreme temperature changes, torrential rains).



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Concept of food hygiene is defined by the Ministry of Health pursuant to § 45, section 1 a) of the Act No. 576/2004 on Healthcare and healthcare-related services. It was published on March 26, 2008 and become effective from April 1, 2008.

### **Scope of assignment:**

- Protection, support and development of public health in the context of healthy nutrition of the population. Promotion of main guidelines of healthy nutrition and nutrition policy for the protection, promotion and development of public health. Monitoring the impact of nutrition on public health and providing services in public health supervision focused on public catering and cosmetic products.
- Official control of foodstuffs according to specific regulations.

### **Our activities cover two levels:**

- *Regional level* – providing professional and methodological guidance and co-ordination of the activities in the region, performing verification of professional competency for the purchase, sale and treatment of mushrooms and preparing documents for issuance of the certificates, preparing concept, legislation, expert and methodological fundamentals for the Ministry of Health and Chief Hygienist.
- *District level* (districts Banská Bystrica and Brezno) – performing tasks under the Program of the Government of the Slovak Republic in the area of public health, under the Programs and Projects of Public Health authorities in the Slovak Republic, under Annual Multi National Control Plan of official food control and performance of public health supervision (including supervision of cosmetic products) and official control of foodstuffs. Experts verify professional competence for epidemiologically significant activities in the production, handling and placing of foodstuffs and meals to market and prepare documents for the certificate issuance.

### **Our activities cover following areas:**

1. nutrition, as part of human physiology dealing with fundamental life processes and a transfer of substances between the body and external environment. Department of Food and Nutrition Hygiene is monitoring relations between the environment and human, their mutual dependence and:

- » objectifies biopositive and bionegative nutritional factors in relation to the principles of protection, promotion and development of a healthy nutrition,
  - » monitors hygienic problems of all forms in public catering with focus on the nutrition and sensual values and health harmlessness of served meals,
  - » carries out education and consulting with regard to the influence of dietary habits and promoting the principles of good nutrition in the population,
  - » monitors the nutritional status of selected population groups, nutritional disorders and the incidence of non-infectious diseases related to nutrition,
  - » co-ordinates preparation and promotion of public programmes in the area of healthy nutrition;
2. production and food hygiene, examining conditions of food and meal production, but also food and meals as objects of human nutrition at different stages of their acquisition, processing and storage, sales and use, and:
- » monitoring hygiene, health safety and nutritive value of food raw materials, intermediate and finished products and meals
  - » monitoring alimentary infections and intoxications and preparing proposals for preventive activities,
  - » controlling critical control points of systems as part of Good Manufacturing Practice (HACCP) in food businesses and in public catering facilities,
  - » monitoring and evaluating the premises and conditions of food marketing and of public catering facilities with regard to health safety of foods and meals,
  - » controlling compliance with legislative requirements with regard to health and competence of personnel working in food marketing and public catering facilities,
  - » controlling the level of sanitation, disinfection, disinfestation and deratization in food businesses and public catering facilities,
  - » providing consultancy and expert services, with special regard to protect foods and meals from disruption of their hygiene and health safety,
  - » assessing technical and operational conditions of food facilities and public catering with regard to hygiene, with focus on their location, structure and technical equipment in order to minimise the risks that could lead to disruption of hygiene and health safety of food and meals,
  - » performing and keeping the registration of food establishments,
  - » executing health protection measures with regard to finding out unsafe food, meals or drinks and providing and receiving information related to unsafe foods within the rapid alert system;

3. hygiene of products of general use, which include materials and articles intended to come in contact with food and cosmetic products, and:
  - » controls materials and articles intended to come in contact with food and meals, with focus on monitoring and evaluation of their health safety in direct or indirect contact with food and meals,
  - » performs public health supervision of cosmetic products,
  - » performs health protection measures related to finding out unsafe materials and articles intended to come into contact with food and unsafe cosmetic products and provides and receives information in connection with the presence of such unsafe products,
  - » performs and keeps the registration of producers of materials and articles intended to come in contact with food and producers of cosmetic products.



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Department of Children and Youth Hygiene fulfils the role of the state covering public health promotion and protection of children and youth.

Our activities are focused on the prevention of diseases and another health disorders in the child and juvenile age groups by excluding or restricting the occurrence of risk factors. Our department monitors and evaluates the requirements for healthy living conditions and life style in relation to health and development of children and youth including college students. We define preventive measures against the occurrence and spread of diseases and other health disorders of children and youth as well as measures with positive influence on the health of young generation.

### **Our activities cover three levels:**

- At the district level of Banská Bystrica and Brezno – tasks resulting from the public health supervision, official control of food, consulting activities and professional and methodological guidance in health protection projects of children and youth.
- At the regional level – providing expertise processing.
- At the national level – preparing concept, legislation, expert and methodological fundamentals for the Ministry of Health and Chief Hygienist.

### **Our activities focus on the following professional areas:**

- Monitoring and evaluation of conditions for healthy development, education, psychological and physical development of children and youth.
- Monitoring the relationship of factors of living and working conditions and health of children and youth, to analyse causes of health changes and identify the actual risk factors.
- Implementing projects of children and youth health protection at regional, national and international levels.
- Health risk assessment within the primary prevention of the selected diseases.
- Issues of pre-school and school institutions of all types.
- Monitoring and evaluating the drinking and swimming water quality in the premises for children and youth, and swimming pools for toddlers.
- Issues of urban planning concerning possible consequences to health and for application of sanitary-hygiene requirements in the premises for children and youth.
- Monitoring and evaluating the noise levels, microclimatic conditions and the quality of indoor air in the facilities for children and youth.

- Evaluating educational learning process at school premises.
- Evaluating conditions of public catering of children and youth and supporting drinking habits of children.
- Issues related to the convalescence of children.
- Issues related to social service facilities and facilities for the protection of children and social guardianship.
- Monitoring the use of public sandboxes.
- Verification of the professional competence for performance of epidemiologically significant activities in the production, manipulation and marketing of food and the issuance of professional competency certificates.
- Supporting health protection of non-smokers.
- Health counselling for children and families.
- Health education activities for teachers, pupils and students.

**Scope of work:**

- Review proposals for urban planning documentation and final inspection of buildings, changes in use of spaces in buildings, use of drinking water sources supply in facilities for children and youth.
- Review proposals for commissioning the pre-school establishments of all types, approve the rules of operation and perform public health supervision in these facilities.
- Review proposals for commissioning the school premises – elementary and high schools, centres for professional training, universities of all types, approve the rules of operation and perform public health supervision in these facilities.
- Review proposals for commissioning of public catering in children and youth establishments, approve the rules of operation and perform public health supervision in these facilities.
- Perform official control of foodstuffs in the school catering, including dispensaries of meals and school canteen.
- Keep database and registry of school catering facilities and school canteens.
- Review proposals for commissioning of physical training and sport facilities for children and youth, approve the rules of operation and perform public health supervision in these facilities.
- Review proposals for commissioning of the facilities for protection of children and social guardianship, work in the field of specific problems of minority groups of children population – children with disabilities, Roma children, approve the rules of operation and perform public health supervision in these facilities.
- Review proposals for commissioning of youth homes, school dormitories, approve the rules of operation and perform public health supervision in these facilities.
- Review proposals for children and youth rehab events and perform public health supervision.
- Provide health counselling for children and families including internet counselling.
- Implement programmes of health education of children and youth.
- Implementation and proposal of programmes and projects at national and international level.

- Verification of professional competency for performance of epidemiologically significant work with food, testing and issuance of professional competency certificates.
- Keeping a register of professionally qualified persons working with food.
- Review of complaints and preparing materials to solve these.
- Provide special activities within the expertise.
- Participate in the international projects implemented at the RAPH.





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### **Our targets:**

promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations by preventing departures from health, controlling risks and the adaptation of work to people, and people to their jobs. (ILO / WHO 1950). The scope of our activities is given in the Act No. 355/ 2007 on Protection, promotion and development of public health and in other generally binding regulations. The conceptual document of the scientific role and tasks of the departments of occupational health and toxicology was issued by the Ministry of Health of the Slovak Republic on March 26, 2008).

### **Scope of assignment:**

- promote and maintain physical, mental and social well-being of workers of all professions,
- prevent adverse changes in workers health caused by working conditions,
- protect workers from the risks of harmful factors at work,
- place workers in the working environment adapted to physiological and mental abilities of people and keep them in this environment.

### **This means adaptation of work to humans (the International Labour Organisation, World Health Organisation). Department activities are carried out:**

- at the nation-wide level – by preparing materials of conceptual, legislative, professional and methodical nature; by preparing documents for decision-making of the Public Health Authority of the Slovak Republic – the Chief Hygienist; – by providing specialised activities and activities of the National Reference Centre for the Assessment of Personal Exposure and Health Risks; representation of the Slovak Republic in advisory committees of the European Commission for Safety and Health at Work (ACSHW), the European Agency for Safety and Health at Work (OSHA), the European Chemicals Agency (ECHA); co-operation with the Centre for Chemical Substances and Preparations in the provision of data in the health risk assessment of chemical substances and mixtures, if available;
- at regional level – in the form of basic and specialised laboratory activities and expertise activities; in the form of counselling; in the form of operations of the committee on examination of the professional competence to work with toxic and very toxic substances and preparations and certification of these competencies; methodological guidance and co-ordination of regional public health authorities in the Region of Banská Bystrica;

- at the district level – ensuring tasks arising from the legislative regulations by providing the state health supervision as the regional public health authority responsible for the districts of Banská Bystrica and Brezno

**Department activity is aimed at:**

- investigation of the causes of occupational diseases and other health impairments conditioned at work
- monitoring and evaluation of the relationship between work, working environment, working conditions and health of people at work
- guidance on the medical and whole society prevention of diseases and health impairments through implementation of the national health policy, priorities, programs on the protection, promotion and further improvement of health of employees and self-employed
- the role of the state authority in public health and state health supervision activities on compliance of employers in health protection of workers at work and control role of occupational health services activities

**THE MAIN TASKS OF THE DEPARTMENT**

**Health surveillance and physiology of work**

- assessment of physical workload mainly focused on risk assessment of local burden of upper limbs, hands and spine;
- evaluation of the heat load of workers and recommendation of optimal working regimen, drinking regimen – intake of fluids per shift; evaluation of mental workload and burden of sensory systems of employees;
- investigation and assessment of the working conditions and physical workload in cases of suspected professional diseases of musculo-skeletal system of the upper extremities or of the spine due to overload;
- implementation of programs and projects for health protection (healthy workplaces, prevention of work related diseases);
- state health supervision, particularly in the medical facilities and in workplaces with the risk of thermal and physical strain;
- preparation of documents for review by the public health authority for putting the premises into operation-sheltered employment for people with disabilities, work with display units, work with biological agents, work loads;
- preparation of materials and substantive comments on the new legislative changes in the field of occupational health;
- consultation and advice on the application of legislative regulations in the practice of consultations and advice of the occupational health services;
- co-ordination and co-operation of the activities of the health promotion teams of the health advisory rooms in the protection of health at work

**Health supervision and preventive toxicology**

- Preparation of exposure measurement strategies and preparation of measurements of noxious factors in the working environment as needed and required in the Banská Bystrica region and exposure assessment and health risk assessment;

- investigation of suspected professional diseases caused by chemical agents in the working settings;
- organisation and provision of proficiency testing for work with substances and preparations with very toxic and toxic properties within the Banská Bystrica region and the issuance of certificates of proficiency;
- preparation of decision documents for public health authority for approval of workplaces for work and approval of operating rules for the handling with chemical agents and the management of hazardous wastes;
- opinions for authorities in other fields as concern assessment of impact of the working environment on human health;
- state health supervision, issuing individual binding requirements, giving corrective instructions to reach compliance with legislative requirements for health protection at work;
- consulting and assessment activities for legal and natural persons to the problem of hazardous chemical agents – very toxic and toxic substances and preparations, carcinogens, including asbestos, hazardous work, health surveillance;
- co-operation with Labour Inspectorate in Banská Bystrica in the implementation of common inspections in Banská Bystrica region according to the agreed professional issues and working methods;
- co-operation with the other public health institutions and departments in fulfilling the tasks of programs and projects of public health authorities in Slovakia adopted by the Chief Hygienist

#### **Analyses of physical factors**

- preparation of measurements strategies, objectification and evaluation of exposure of workers and inhabitants to physical factors (noise, vibration, lighting) in the working and living environment for the Banská Bystrica Region;
- preparation of documents for decision making activity of public health authority in terms of protection against noise, vibration, electromagnetic fields in the working and living environment and lighting requirements at work and sources of optical radiation (lasers);
- state health supervision in workplaces with risks from exposure to physical agents (noise, vibration, lasers);
- investigation of suspected professional disease from exposure to noise and vibration;
- consultancy, advisory and lecturing tasks in the field of health protection at work with physical factors;
- participation in investigation of proposals, complaints and petitions related to the impact of physical factors on health of working population

#### **Health risks, chemical and biological agents and genetic toxicology**

- co-ordination and guidance role in specialised activities focused on human biological monitoring of persons exposed to toxic and genotoxic factors (carcinogenic, mutagenic and reproductive toxic substances) occurring in the living environment and working environment;
- preparation of background documents and sampling strategies of biological material for laboratory analyses of biological exposure tests and for exposure assessment;

- co-operation in international epidemiological and toxicological research studies focused on the impact of working and living conditions and of lifestyle on the cancer incidence in the population;
- collection, processing and storage of biological material (biological banking), providing transport to international scientific laboratories for further analyses and investigation;
- national co-ordination of epidemiological studies;
- risk assessment of hazardous chemical substances, especially carcinogenic and mutagenic factors in the working environment, as a basis for decisions and opinions of the public health authorities



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The department is assigned responsible for governmental administration and supervision in the field of uses of radiation sources and for radiation protection within the territory of Banská Bystrica region and Žilina region.

**The activities are focused on protection against ionising radiation and realised in two levels:**

- *at the national level by:*
  - » preparing conceptual materials,
  - » preparing methodical recommendations and documents for decision making of the Chief Hygienist,
  - » preparing legislation in the field of radiation protection,
  
- *at the regional level by:*
  - » regulating practices that involve or could involve radiation exposure
    - use of ionising radiation and radioactive substances in medicine, research, industry, agriculture and teaching
    - underground mining or practices, that may enhance exposure to naturally occurring radioactive substances (e. g. radon in caves),
  - » regulating existing situations in which exposure or its likelihood can be reduced or prevented by means of some intervention
    - chronic exposure to naturally occurring sources of radiation such as radon in dwellings,
    - chronic exposure to radioactive residues from past activities and events,
  - » preparing for decision making in emergency exposure situations such as might result from accidents or from deficiencies in existing practices
    - activity determination of both natural and artificial radionuclides in samples by use of different measurement methods (alpha spectrometry, gamma spectrometry, liquid scintillation counting...),
    - preparation and verification of new measuring methods,
    - implementing of quality assurance and quality control programs necessary for the department accreditation process,
    - emergency preparedness for incidents or accidents with possible radiological effects.

**In accordance with the Act No. 355/2007 on Public Health Protection, Support and Development the work is focused on the following areas:**

1. public health supervision of workplaces handling the ionising radiation sources
  - control of the introduction and use of sources of ionising radiation;
  - supervision of approx. 900 workplaces with sources of ionising radiation;
  - reviewing the licence applications for practices involving exposures to radiation, including transportation of radionuclides;
  - preparing licence documentation for the decision maker – hygienist;
  - revalidation of licenses and registration;
  - conducting inspections to assess radiation safety conditions and the status of compliance with the applicable norms and regulations;
  - initiate enforcement actions to correct improper radiation safety conditions and ensure compliance with the applicable norms and regulations;
  - performing regular surveillance of protection and safety measures for patients and quality assurance measures for equipment and techniques for medical use of radiation;
  - specifying conditions and requirements for radiation protection of the public and personnel handling the ionising radiation sources;
  - analysing overexposures and accidental exposures;
  - keeping registries and data, archiving documents on workplaces;
  - education of the public regarding health protection against ionising radiation and possible risks associated with ionising radiation effect on human body;
  
2. in the field of environmental radioactivity, radiochemistry and dosimetry
  - monitoring and regulating exposure to naturally occurring sources of radiation such as radon and its decay products in dwellings, water and soil;
  - exposure assessment from external irradiation and/or internal contamination by radionuclides;
  - assessing the status of exposure of the public and personnel handling ionising radiation sources;
  - application of radiochemical analytical procedures;
  - sample analyses, determination of radionuclides;
  
3. in the field of emergency preparedness
  - expert support in cases of incidents and accidents with lost and found or illegal transported or smuggled radioactive sources (mobile group);
  - monitoring activities in the area around the Nuclear Power Plant Mochovce;
  - monitoring activities in the framework of the Slovak Radiation Monitoring Network;
  - regular sample collecting from both living and working environment.



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### **SECTION OF EPIDEMIOLOGY**

Head of the Section: **Viera Morihladková, M.D.**

#### ***Epidemiology of Infectious Diseases***

Epidemiology of infectious diseases as a medical field to pursue the examination and the distribution of the occurrence of infectious diseases, which occur in the population, proposes measures to protect and improve the health and supervise their effectiveness. The aim of infectious epidemiology is to contribute to reducing morbidity from infectious diseases, slow or stop the spread of disease and reduce mortality from infectious diagnosis.

#### **The activities are organised into three levels:**

- at the nation-wide level to serve as a centre for collecting, sorting and analysing data on infectious diseases and conducting “National Registry of patients with communicable diseases“, as a focal point for communication with ECDC, including sending the data to the European Surveillance System (TESSy) based in Stockholm, further preparation of conceptual, legislative and professional-methodical materials for the MoH SR and the Chief Hygienist
- at the regional level implementation of the superstructure activities, review and advise management
- at the district level providing tasks under the concept of department, i.e. implementation of measures to prevent the spread of infection, including the arrangement and the supervision of vaccination, public health surveillance in health facilities at the district of Banská Bystrica and Brezno, methodological guidance to all healthcare professionals in the prevention of infectious diseases. Performing of assessment activities in the establishment of health facilities, assessing operational orders as well as their changes.

#### **Work of the epidemiology of infectious diseases is focused in the following professional areas:**

- monitoring of the occurrence of infectious diseases and analysis of epidemiological situation,
- analysis of the factors influencing the onset, course and consequences of infectious diseases,
- carrying out surveillance of selected diseases

- implementation of activities related to the elimination to eradication of selected diseases
- planning, development, organising, management and co-ordination of repressive anti-epidemic measures and participation in their performance in the focus of infection
- monitoring and control of the effectiveness of preventive and repressive anti-epidemic measures
- investigation of occupational diseases infectious etiology,
- implementation of transverse and longitudinal studies to assess the epidemiological situation,
- evaluation, control and participation on measures to interrupt transmission of the source of infection,
- planning, development, organising, management and co-ordination of the immunisation programme, including the organisation and management performance of specific prophylactic and participation in their performance,
- assessment of the immune status of the population under the control of vaccination, respect. immunological surveys,
- guidance counselling for AIDS prevention and counselling for travelling abroad, including the issuance of HIV international certificates and the international certificates of vaccination,
- consultancy in the field of vaccine-preventable diseases
- implementation of recommendations of the European Centre for Disease Prevention and Control – ECDC and WHO in the epidemiological surveillance and in the activities on disease control,
- Health education activities in the field of prevention of infectious diseases.

Execution Consulting Activities for health sector workers and to demands of the workers of other departments.

Co-operation with other regional authorities, with local authorities, the state health officers and other state administrators defined in the Public Health Act.

**Participating in the epidemiological research that:**

- examines the characteristics of the occurrence and distribution of infectious diseases and health in society,
- analyses the effect of infectious agents on the population according to some demographic characteristics, genetic factors, environmental influences,
- examines protective factors promoting health and the possibilities of their application to improve the health of the population,
- develops and proposes standard working methods,
- reviews the effectiveness of epidemiological measures and develops new preventive and repressive measures in the field of primary prevention, immunisation programs, surveillance and therapy,
- implementation of health education of the population on the prevention of infectious diseases,
- timely information to the public about the significant risks and possibilities of effective protection,
- Whole society participation in major projects and programs.



### ***Epidemiology of zoonotic diseases and diseases with natural focus***

The subjects of zoonotic diseases and diseases with natural focus are solved within the department of infectious disease epidemiology. The epidemiology of zoonotic diseases and diseases with natural focus as a medical field deals with examining, the incidence and the distribution of infectious diseases transmissible from animals to humans and vector-borne diseases. It proposes, measures to protect and improve the health and supervise their effectiveness. In collaboration with veterinary service also it proposes measures to prevent transmission of diseases from animals to humans. Its aim is to contribute to reducing morbidity from diseases transmitted from animals to humans, the progressive reduction of the incidence, slow down or even stop the spread of a disease and reduce mortality for these diagnoses.

#### **The work is focused on the following areas of expertise:**

- monitoring the occurrence of zoonoses and analysis of epidemiological situation,
- analysis of the factors influencing the occurrence, course and consequences of zoonoses,
- carrying out surveillance of selected diseases,
- planning, development, organising, management and co-ordination of repressive anti-epidemic measures and participation in their performance in the focus of infection,
- monitoring and control of the effectiveness of preventive and repressive anti-epidemic measures,
- implementation of transverse and longitudinal studies to assess the epidemiological situation,
- evaluation, control and participation on measures to interrupt transmission of the source of infection including veterinary measures,
- implementation of recommendations of the World Health Organisation in the epidemiological surveillance and in activities on disease control,
- health education activities in the field of zoonoses,
- participation and methodological guidance commissions for targeted spring and autumn rodent control municipal offices in Banská Bystrica and Brezno, consulting for such commissions in other regions

Execution Consulting Activities for health sector workers and to demands of the workers of other departments.

Co-operation with other regional authorities, with local authorities, the state health officers and other state administrators defined in the Public Health Act

#### **Participating in the epidemiological research that:**

- examines the characteristics of the occurrence and distribution of infectious diseases transmissible from animals to humans and health in society,
- analyses the effect of infectious agents on the population according to some demographic characteristics, genetic factors, environmental influences, and also the occurrence of selected diseases depending on disease in animals,
- examines protective factors promoting health and the possibilities of their application to improve the health of the population,
- develops and proposes standard working methods,

- reviews the effectiveness of epidemiological measures and develops new preventive and repressive measures in the field of primary prevention, surveillance and therapy,
- implementation of health education of the population on the prevention of infectious diseases transmissible from animals to humans,
- timely information to the public about significant risks and possibilities of effective protection.

### ***Epidemiology of hospital-acquired infections***

Problems of the epidemiology of hospital-acquired infections is solved within the department of prevention of nosocomial infections.

#### **Activities description:**

- surveillance of selected nosocomial infections,
- planning, development, organising, management and co-ordination of repressive anti-epidemic measures and execution of these activities in cases of severe nosocomial infections or wide outbreaks of nosocomial infections,
- investigation of occupational diseases infectious etiology among health professionals,
- evaluation, control and participation on measures to interrupt transmission of the source of infection,
- consulting and methodological activity in fight against nosocomial infections are endogenous and exogenous nature associated with the performance of hygienic supervision in health facilities,
- education of medical staff in the sterilisation and disinfection,
- educational base for activities DDD groups,
- organising conferences and seminars focused on the problematic of disinfection, sterilisation and nosocomial infections,
- implementation of recommendations of the World Health Organisation in the epidemiological surveillance and control activities on nosocomial infections/the occurrence of multi-drug resistant bacterial strains,
- whole society participation in major projects and programs

### ***Biostatistics***

#### **Activities description:**

- nation-wide management of the information system of infectious diseases EPIS (**E**pidemiological **I**nformation **S**ystem), weekly, monthly and yearly analysis of infectious diseases in Slovakia and the counties, superior data analysis, graphical and map outputs, publishing to the web, sending data to the EU networks,
- analysis of public health, the analysis of the relationship between public health status and its determinants
- design, management and statistical analysis of data for epidemiological studies
- preparation of electronic forms, questionnaire studies, data quality control and processing.



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### **The main objective of the Department of Health Promotion is:**

- to develop and strengthen the active participation of the inhabitants in the improvement of the health of population, to support and encourage them to care for their own health
- prevention of chronic diseases, detection of the risk factors in individuals and selected groups and elimination of risk through general and specialised counselling
- improvement of the population health status, especially improving the control of the most serious cardiovascular risk factors – e.g. hypertension, smoking and elevated levels of glycaemia, cholesterol and other blood lipids.
- Health promotion is carried out mainly in two basic forms
- health education
- health counselling

### **The work of this department consist of**

- specific interventions to promote the health of individuals and selected groups of the population, through lectures, discussions, experiential events, etc..
- organising and implementing intervention activities for the clients, in collaboration with other health care providers, government, municipalities and other stakeholders from public or private sector
- individual and group counselling, promoting a healthy lifestyle in order to eliminate risk

### **Health advisory centres provide:**

1. Examination and detection of the major risk and protective factors of chronic diseases, especially cardiovascular and oncological.
2. Specification of the health risks associated with the lifestyle and determination of the personal cardiovascular risk score
3. Consultation with a doctor or specialist nurse about health problems of the client. Professional personal counselling focuses to risk reduction by optimal lifestyle changes in these ways:
  - food and drinks
  - optimal physical activity
  - stress management

- smoking habits
- adjustment of body weight
- treatment of blood pressure
- monitor the effectiveness of lifestyle changes to the risk score – such as an adjustment of the blood pressure and blood lipids level, as well as decrease of other risk factors along with increase of protective factors.

There is a great importance attached to a scientific accuracy, reliability and trustworthiness of the standards and information provided.

Based on information provided, all the population groups affected by health education as well as the individual clients of health consulting centres have a chance to choose a healthy way of life, they also are able to critical consideration and sober, rational assessment of the information from other sources.

All the activities of workers in the department of health promotion are carried out in accordance with the latest scientific research on health promotion and evidence-based medicine.

The activity of the department is mainly characterised by fulfilling the four basic components: analysis (needs assessment), intervention planning, implementation and evaluation of intervention effect.

**Other activities and competence in the field of health promotion:**

- implementation of the projects based on the National Programme of Health Promotion, Action Plan for Environment and Health, nutrition and recovery program, as well as fulfilling other programs and plans for the Department of Health Promotion,
- responding to the challenges, implement projects of European Union, World Health Organisation and other international communities and organisations projects in the Slovak Republic
- design, preparation and implementation of laws, directives and international conventions related to health promotion,
- prospective evaluation and observation plans and legislation of all government departments, that may have an impact on health or on the determinants of health,
- advising.

**Within these activities, the Health Promotion Department provides:**

- specific interventions aimed at promoting the health of individuals and target populations
- organising and implementing interventions with clients and patients in collaboration with other health care providers, government, individuals and legal entities of public or private sector
- the co-ordination of health impact assessment as the main instrument for achieving health-enhancing public policy.



**Zuzana Vassányi, Ing.**

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Department of Chemical Analysis (DCA) provides a wide range of analytical services to support activities in the field of public health surveillance, food quality control, chemical risk assessment, evaluation of workplace exposure and environmental exposure to hazardous chemical substances.

**The main areas of testing are:**

- water quality
- food quality
- workplace air quality
- workplace exposure
- indoor air quality
- human biomonitoring

DCA has implemented a quality management system in accordance with the Standard EN ISO/IEC 17025 and is accredited by Slovak National Accreditation Service since 2004. Testing laboratory performs validated sampling procedures and analytical methods under an extended internal quality control. Moreover laboratory regularly participates on external proficiency testing schemes organised at national or international level e.g. G-EQUAS Erlangen (D), EC JRC IMEP Geel (B), CSLab Praha (CZ), ASLAB Praha (CZ), VÚVH Bratislava (SK).

**The testing laboratory utilises instrumental analytical techniques:**

- atomic absorption (FL AAS, ETA AAS, HG AAS, CV AAS for mercury determination)
- gas chromatography (GC FID, GC ECD, GC MS)
- high pressure liquid chromatography (HPLC DAD, HPLC FLD, HPLC ECD)
- ion chromatography
- spectrophotometry (UV VIS, Infrared)
- polarography, potentiometry, voltametry

**Specialisation of laboratory is focused on the following areas:**

- urinary metabolites of organic solvents and polycyclic aromatic hydrocarbons by HPLC DAD/FLD
- biomarkers of exposure to environmental tobacco smoke
- trace elements (Pb, Cd, As, Sb, Hg) in biological specimen
- inorganic acids in workplace air by AEX IC
- diisocyanates in workplace air by HPLC

- FTIR determination of silica in workplace air
- measurement of dust particles size fractions (PM10, PM5, PM2,5) in workplace and indoor air
- monitoring indoor microclimate parameters
- volatile organic compounds in drinking water
- chlorinated pesticides and their residues in breast milk
- halogenated anaesthetics in workplace air

Expert staff has many years experience with collaboration in projects at national and international level. The most recent international projects and research studies:

- DEMOCOPHES (Demonstration of a Study to Co-ordinate and Perform Human Biomonitoring on a European Scale)
- SEARCH (Indoor Air Quality in European Schools)
- SYNERGY (Exposure Assessment for a Pooled Analysis of Case-control Studies on Joint Effects of Occupational Carcinogens in the Development of Lung Cancer)
- ASHRAM (Arsenic Health Risk Assessment and Molecular Epidemiology)

Currently processed national projects and expert studies:

- Human biomonitoring – monitoring exposure of population to selected chemical agents in the environment and the working environment
- Monitoring salt iodination
- Monitoring consumption of selected food additives
- Monitoring eating habits and nutritional preferences in selected groups of children population in Slovakia and risk assessment associated with the consumption
- PAHs determination in workplace air and 1-hydroxypyrene determination in urine at workers selected professions
- Lead determination in the blood of exposed workers
- Water disinfection by-products and drinking water quality

The National Reference Centre for Laboratory Diagnostics in Human Biomonitoring has been established on the base DCA with the aim to perform basic and applied scientific research, to introduce efficient analytical methods for measuring amount of toxic environmental chemicals in human tissues and to collect relevant exposure data. Biomonitoring data will be used to confirm exposures to chemicals and validate public health policies.



**Jozef Strhársky, RNDr., PhD.**

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1. **SECTION OF SPECIAL MICROBIOLOGY**

Responsible for the Section: **Renáta Kissová, RNDr., PhD.**

2. **SECTION OF MICROBIOLOGY AND ENVIRONMENTAL BIOLOGY**

Responsible for the Section: **Janka Lafféřsová, RNDr.**

**Integral parts of the Department of Medical Microbiology are:**

- **National Reference Centre for Pertussis and Parapertussis**  
Head of the Centre: **Lucia Maďarová, RNDr., PhD.**
- **National Reference Centre for Toxoplasmosis**  
Head of the Centre: **Jozef Strhársky, RNDr., PhD.**
- **National Reference Centre for Pneumococcal Diseases**  
Head of the Centre: **Cyril Klement, Assoc. Prof., M.D., PhD.**
- **Information Centre for Bacteriological (Biological) and Toxin Weapons**  
Head of the Centre: **Cyril Klement, Assoc. Prof., M.D., PhD.**
- **Specialised Unit for Viral Hepatitis**  
Head of the Unit: **Jana Čamajová, RNDr., PhD.**

### **Activity of the department**

The Department of Medical Microbiology (DMM) of Regional Authority of Public Health in Banská Bystrica is a laboratory centre which performs microbiological examination of clinical samples as well as microbiological and biological examination of environmental components. The activity of the Department is focused on protecting public health and providing timely and accurate laboratory diagnostics. Since 2004, the Department has had accreditation certificate and applies a quality management system according to ISO/IEC 17 025:2005 in the test performance. Under the scope of accreditation presented in the annex to the certificate DMM is competent to perform microbiological and biological testing of clinical specimens and environmental samples as well as to interpret and evaluate the test results.

### **1. SECTION OF SPECIAL MICROBIOLOGY**

The Section of Special Microbiology solves specialised tasks of microbiological and epidemiological nature. The Section aims to testing samples of biological material and contributing to clarify the causes of the emergence and spread of selected diseases of bacterial, viral and parasitic etiology. It performs the basic diagnostics for catchment health care facilities and specialist diagnostics for the area of central Slovakia region. The Section uses direct and indirect methods

of proof. Further, it provides investigation of the samples suspected for the presence of hazardous agents regarding the emergency incidents which could threaten public health (bioterrorism). It collects and processes latest knowledge and information on the relevant issues. In the framework of the National Reference Centres and Specialised Unit for Viral Hepatitis the Section also provides highly specialist diagnostics for other laboratories established at the Regional Authorities of Public Health and clinical microbiology laboratories of Ministry of Health of the Slovak Republic. It closely co-operates with the Division of Epidemiology on monitoring of emergence and spread of communicable diseases. The Section provides consulting services for health care facilities and other laboratories, co-operates with research institutions, professional scientific societies and universities on issues of diagnosis and prevention of diseases of microbial etiology.

### Examination range:

1. Laboratory of Virology:
  - » Cell cultures virus isolation from stool, CSF and swabs focused on the presence of enteroviruses and adenoviruses
  - » Cell cultures virus isolation from biopsy and autopsy materials for the presence of enteroviruses and influenza viruses
  - » Isolation of influenza viruses from throat swabs on cell cultures and their subsequent identification by hemagglutination method
  - » Examination for the presence of influenza type A and B viruses in throat swabs by rapid test
  - » Cell cultures virus isolation from waste waters for the presence of Polio 1, 2, 3 viruses and enteroviruses
  - » Virus neutralisation test for the presence of antibodies to Polio 1, 2, 3 viruses and Coxsackie viruses B1-6, A7 and A9
  
2. Laboratory of Serology:
  - » HIV/AIDS: HIV Ag-Ab ELISA
  - » Influenza: influenza type A (subtypes A/H1, A/H3, A/H1N1 pandemic), type B hemagglutination method
  - » Rubella: IgM ELISA, IgG ELISA, IgG avidity ELISA
  - » Viral hepatitis: anti-HAV total ELISA, anti-HAV IgM ELISA, HBeAg ELISA, anti-HBe ELISA, anti-HBs ELISA, HBsAg ELISA, HBsAg confirmatory ELISA test, anti-HBc total ELISA, anti-HBc IgM ELISA, anti-HCV ELISA, anti-HCV IgG immunoblot, anti-HDV total ELISA, HDV Ag ELISA, anti-HDV IgM ELISA, anti-HEV IgG/IgM Immunoblot
  - » *B. pertussis* a *B. parapertussis*: IgG ELISA, IgA ELISA, agglutination
  - » Echinococcosis a trichinosis: IgG ELISA
  - » *Toxoplasma gondii*: total antibodies CFT; IgG, IgM, IgA, IgE ELISA; IgG avidity ELISA; IgG immunoblot
  - » Helminthological examination of sandpits
  - » Cultivation of *Bordetella pertussis* and *Bordetella parapertussis*



3. Laboratory of Molecular Biology:
  - » Adenovirus: PCR
  - » Influenza type A (subtypes A/H1, A/H3, A/H1N1 pandemical), type B: RT-PCR, real-time PCR
  - » RSV: RT-PCR
  - » Enteroviruses: RT-PCR
  - » *Bordetella pertussis*: real-time PCR (including the detection of *ptx* gene (responsible for PTX toxin production))
  - » *Bordetella parapertussis*: real-time PCR, PFGE
  - » *Streptococcus pneumoniae*: PCR, real-time PCR, serotyping (serological and molecular biological methods), PFGE
  - » *Francisella tularensis*: PCR, real-time PCR
  - » *Vibrio cholerae*: PCR
  - » *Campylobacter jejuni*: PCR, PFGE
  - » *Clostridium perfringens*: PCR
  - » *Toxoplasma gondii*: PCR, real-time PCR
  - » *Naegleria fowleri*: real-time PCR

## 2. SECTION OF MICROBIOLOGY AND ENVIRONMENTAL BIOLOGY

The Section of Microbiology and Environmental Biology performs the complex analyses of environment samples (water, food, commonly used objects, indoor and outdoor air). The objects of the research are microbiological and biological indicators which influence hygienic quality of the environment and have impact on health status of the population. The methods of the work are defined in valid Technical Standards (STN, STN ISO, STN EN), Food Code of the Slovak Republic, edicts, regulations and guidelines of Ministry of Health of the Slovak Republic. The analyses results serve as a base for control and decision activities of the field departments. The section laboratories also provide analyses to other clients through paid services. Within their specialised activity, they perform diagnostics of the mite allergens presence in dust, monitor occurrence of biological allergens in the air and ensure activity co-ordination of the monitoring stations of the RAPH pollen information service of in the Slovak Republic and nation-wide pollen news service.

### Examination range:

1. Laboratory of Microbiology of Food and Consumer Goods
  - » Total number of microorganisms
  - » coliform bacteria
  - » *Staphylococcus aureus* and coagulase-positive staphylococci
  - » *Escherichia coli*
  - » *Salmonella*
  - » mesophilic anaerobic spore forming microbes
  - » *Listeria monocytogenes*
  - » enterococci
  - » yeast and fungi
  - » potentially toxigenic fungi
  - » fungi other than *Geotrichum candidum*

- » *Bacillus cereus*
- » *Enterobacteriaceae*
- » determination of slime-forming bacteria of *Leuconostoc*
- » *Pseudomonas aeruginosa*
- » genus *Vibrio parahaemolyticus*
- » other pathogenic and facultative pathogenic microorganisms

2. Laboratory of Water Microbiology:

- » coliform bacteria
- » *Escherichia coli*
- » enterococci
- » microorganisms culturable at 22 and 36 °C
- » *Pseudomonas aeruginosa*
- » Sulphite reducing intestinal spore forming anaerobic bacteria
- » *Staphylococcus aureus*
- » *Salmonella*
- » other pathogenic and facultative pathogenic microorganisms

3. Laboratory of Sterility, Disinfection and Infection Prevention Control:

- » sterility of objects and sterile materials
- » microbiological contamination of indoor air
- » sterilising equipment effectivity by using bioindicators
- » disinfection solutions effectivity
- » disinfection processes effectivity
- » searching for infection transmission factors

4. Laboratory of Biology:

- » abioseston
- » living organisms
- » dead organisms
- » colourless flagellates
- » iron and manganese bacteria
- » microscopically detectable micromycetes
- » filamentous bacteria
- » producers
- » consumers
- » cyanobacteria (cyanophytes)
- » algae – identification of taxonomic groups or taxons
- » macrophytes determination
- » culture determination of amoebas in water or swabs
- » determination of pests in food
- » determination of parasitic or annoying insects in internal environment of buildings
- » presence of mite allergens in the dust
- » monitoring and diagnostics of biological allergens in the air
- » pollen news service in the Slovak Republic

# NATIONAL REFERENCE CENTRES

## NATIONAL REFERENCE CENTRE FOR INDOOR AIR QUALITY IN NON INDUSTRIAL INDOOR ENVIRONMENT AND THEIR IMPACT ON HEALTH

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Head of the Centre: **Katarína Slotová, M.D., PhD.**

Members: Milota Fatkulínová, RNDr., Janka Lafférssová, RNDr.,  
Dagmar Šaligová, Ing., Pavlína Bartová, PhD., Oľga Kútiková,  
Anna Koreňová

### The main aim of the activity:

- Methodology of the exposure measurement and of the evaluation
- Methodology of the epidemiological studies
- Methodology of the risk assessment
- Systematization of the data base of relevant data in these areas
- Solution tasks at the national and international level
- Preparation of the expert analyses as a basis for legislative purposes

### Contents of activity:

1. Collection, processing and transmission of information:
  - » Monitoring and information gathering in the evaluation of the impact of outdoor air and Indoor air in non-industrial places on population health, in the methodology of the measurement and exposure assessment, in the methodology of the epidemiological studies (including mathematical modelling), in the methodology of the risk assessment, creating databases of relevant data,
  - » Collecting and processing information about situation in the health impact assessment of outdoor air and indoor air in non-industrial places by form of reports, reviews of ongoing studies and outcomes of solved tasks.
2. Professional and methodological activities:
  - » Capacity building assistance at Regional Authorities of Public Health (RAPH) in Slovak republic in the evaluation of the impact of outdoor air and indoor air in non-industrial places on public health, coordination of their activities,
  - » Development and validation of new methods and progresses of work in the evaluation of the impact of outdoor air and indoor air in non-industrial places on public health specifically in the area of measurement and exposure assessment, conducting of epidemiological studies (including mathematical modelling), in the risk assessment and assistance in their implementation,
  - » Professional guidance of departments at RAPH working in the field of evaluation of the impact of outdoor air and indoor air in non-industrial places on public health (arrangement consultation days, individual consultations, staff training).

3. Professional and organizational activities:
  - » Preparation of the professional documents for legislative and normative purposes for Chief Hygienist of Slovak Republic and chief experts,
  - » Under the authority of Ministry of Health representation of health resort in addressing professional issues beyond the competence of Ministry of Health, solution of contentious issues within the health resort, out of the health resort and with foreign countries and institutions,
  - » Proposals of priority tasks and responsibility for their performance
  - » Active participation in research tasks
  - » Assessment, consulting and coordination activities when dealing with serious environment health cases.
  
4. Teaching activities:
  - » Cooperation with faculties of universities and with another institutions through the provision of national programmes of courses, seminars, scientific conferences
  - » Cooperation in postgradual training of inland and international environmental health experts
  - » Processing of professional materials (reports, issues, evaluations of tasks) which can be used for pedagogical purposes.
  
5. Laboratory activities:
 

*Department of chemical analysis – examples of analyses of air samples*

  - » Inhalable and respiratory fraction of dust (particulate matter PM10 and PM2,5), formaldehyde, polycyclic aromatic hydrocarbons, volatile organic compounds, isocyanides, phenol, carbon monoxide, acetaldehyde, organic solvents
  - » Measurement of microclimatic conditions – indoor air temperature, relative humidity of indoor air, indoor air speed, temperature of surfaces

*Department of medical microbiology*

  - » Special place of work for measurement of pollen allergens concentration in outdoor air.

Pollen monitoring station of the Authority of Public Health in Banská Bystrica provides with information about occurrence of selected allergens in outdoor air in to the European network of pollen allergen stations (EAN) from 2004. Special place of work of the department of medical microbiology – part of biology of environment of the Authority of Public Health in Banská Bystrica has participated on the restoration of pollen information services (PIS) in Slovak Republic under management of public health and is established as coordinator of the PIS for Authorities of Public Health in Slovak Republic.

Public is informed by form of pollen messages at: [www.alergia.sk](http://www.alergia.sk) and [www.zdravie.sk](http://www.zdravie.sk) and by form of press message at: [www.vzbb.sk](http://www.vzbb.sk). Prepared is actual news about pollen situation in Slovak republic for press once a week and in accordance with requirements also for radio and TV.

- » Special place of work for dust mites  
Methods of monitoring of dust mites allergens are accredited as the first and only in the Authority of Public Health in Banská Bystrica in Slovak Republic.
  
- » Microbiology of environment  
Department provides the qualitative and quantitative measurement of the selected indicators of quality of indoor air by methods accredited by SNAS.

## NATIONAL REFERENCE CENTRE FOR PERSONAL EXPOSURE ASSESSMENT AND HEALTH RISK ASSESSMENT

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Head of the Centre: **Eleonóra Fabiánová, Assoc. Prof., M.D., PhD.**

Members: Kvetoslava Koppová, M.D., PhD., Andrea Žiarovská, RNDr., Janka Hudáková, Mgr., Zora Adamčáková Klócová, M.D., PhD., Zuzana Vassányi, Ing., Dagmar Knoppová

National reference Centre (NRC) – was established by decision of the Ministry of Health of the Slovak Republic No. 566/97-1, issued 3.3.1997 in the State Health Institute, what is recently Regional Authority of Public Health located in Banská Bystrica in force since 15.3.1997.

### **The main tasks of the NRC since its establishment have been:**

- Identification of the hazardous chemical factors especially carcinogens, mutagens, toxic substances for reproduction in the work environment, in the components of the environment (particularly pollution of outdoor air – imissions, of indoor air or of drinking water) and in biological material of exposed persons;
- evaluation of the real extent of exposure to harmful factors and of level of risk from exposure to these factors as a basis for guidance on adaptation of preventive measures in accordance with the act No. 355/2007 Coll. on protection, promotion and development of public health, as amended, with the regulation No. 355/2006 Coll. on protection of workers from risks related to exposure to carcinogenic and mutagenic factors at work in the wording of the regulation No. 301/ 2007 Coll.
- co-operation with Centre for chemical substances and preparations (Centre) in the assessment of health risks of chemical substances for life and health of people according to the act No. 67/2010 Coll. on requirements for placing chemical substances and preparations on the market (Chemical law)
- expertise, information and statements, when available, for Centre
- professional statements on authorisation and registration of biocidal products (act No. 217/ 2003 Coll. on placing of biocidal products on market) for Centre;
- preparing conceptual materials for transposition and implementation of EU legislation into legal system of the Slovak Republic including limits of exposure and methods of evaluation and control of health risks from chemical factors in working environment and in biological material;
- introduction of the new methods for sampling and analysis of samples of air in working environment and of biological material into practical implementation in accordance with the new legislation and norms;
- co-operation in international epidemiological and toxicological studies, in impact assessments and working environment and of lifestyle on the incidence of cancer of the respiratory and digestive system;

- preparation of the technical documents on health protection for decision making of the Chief Hygienist to reach equal application of the state policy in the field of public health;
- collaboration and professional guidance of the regional authorities of public health in Slovakia, co-operation with appropriate institutions in country and abroad, participation in educational activities, trainings, workshops;
- education and training of students, employers and workers' representatives in the business community, state and public administration and trade unions on the issue of assessment of exposure and health risks.



Head of the Centre: **Lucia Maďarová, RNDr., PhD.**

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Members: Cyril Klement, Assoc. Prof., M.D., PhD.,  
Viera Morihladková, M.D., Daniela Hašková,  
Valéria Oravcová, Renata Hricová

### Scope of NRC Activities:

1. diagnostic activities
  - » basic and specialist diagnostics of pertussis in accordance with the Guideline of the Ministry of Health of the Slovak Republic on surveillance pertussis in Slovak Republic (OE/196/2013)
  - » confirmatory testing in order to achieve a definitive diagnosis
  - » molecular biology based diagnostics of clinical material samples to detect nucleic acid of *Bordetella* sp., *Bordetella pertussis* and *Bordetella parapertussis*
  - » evaluation of new diagnostic tests and their introduction to the laboratory practice
  - » regular participation in the international external quality assessment schemes
2. surveillance of pertussis
  - » monitoring of the epidemiological situation regarding to the incidence of pertussis in the Slovak Republic in collaboration with the Epidemiology Division,
  - » processing, analysis, publication, presentation and archivation of statistic data
3. methodological and expertise activities
  - » consultation services to clients and health care providers (medical facilities and laboratories),
  - » training of health workers,
  - » organisation of specialised meetings and courses in this issue,
  - » co-operation with scientific and professional institutions,
  - » participation in specialised projects (Slovak and international),
  - » providing information to general and professional public via website.



## Range of Examinations Carried out by NRC for Pertussis and Parapertussis:

- *Culture*
  - » *Bordetella pertussis*
  - » *Bordetella parapertussis*
  - » other *Bordetella* spp.
  
- *Serology*
  - » *Bordetella pertussis*
    - ELISA IgG anti-PT
    - ELISA IgA anti-PT
  
  - » *Bordetella parapertussis*
    - microagglutination
  
- *Molecular biology based methods:*
  - » real-time PCR *Bordetella* species (including *B. pertussis*), *Bordetella parapertussis*
  - » real-time PCR *ptxA-Pr Bordetella pertussis* (target – pertussis toxin gene)
  
- *Genotyping:*
  - » Pulse Field Gel Electrophoresis (PFGE)

Since 2005, all assays provided by NRC for pertussis and parapertussis are accredited in accordance with the requirements of STN EN ISO/IEC 17025:2005. The accreditation certificate and scope of accreditation is available at <http://www.vzbb.sk/sk/akreditacia/index.php>



Head of the Centre: **Jozef Strhársky, RNDr., PhD.**

Members: Lucia Maďarová, RNDr., PhD., Renata Hricová,  
Miriam Laštiaková

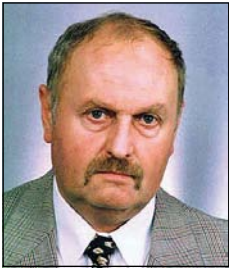
### Scope of NRC activities

1. diagnostic activities
  - » basic and specialist diagnostics of toxoplasmosis in accordance with the Guideline of the Ministry of Health of the Slovak Republic on toxoplasmosis diagnostics No. 19501-10/2006-OZS
  - » confirmatory testing in order to achieve a definitive diagnosis
  - » laboratory investigations of immunocompromised patients (HIV-positive, organ transplanted patients etc.)
  - » screening of pregnant women and newborns in order to prevent congenital toxoplasmosis
  - » molecular biology investigations of biological specimens to detect nucleic acid of *Toxoplasma gondii* (amniotic fluid, aqueous/vitreous fluid, cerebrospinal fluid, section material, placenta, foetus tissues after abortion)
  - » evaluation of new diagnostic tests and their introduction to the laboratory practice
  - » regular participation in the international external quality assessment schemes.
2. surveillance of toxoplasmosis
  - » monitoring of the epidemiological situation of toxoplasmosis in the Slovak Republic in collaboration with the Epidemiology Division,
  - » processing, analysis and archivation of statistic data.
3. methodological and expertise activities
  - » consultation services to clients and health care providers (medical facilities and laboratories),
  - » training of health workers,
  - » organisation of specialised meetings and courses in this issue,
  - » co-operation with scientific and professional institutions,
  - » participation in specialised projects (Slovak and international),
  - » providing information to general and professional public via website.

## List of Examinations Provided by NRCT

1. Serological assays (antibody assays):
  - » *Toxoplasma gondii* total antibodies by complement fixation test (CFT)
  - » *Toxoplasma gondii* IgG ELISA
  - » *Toxoplasma gondii* IgG avidity ELISA
  - » *Toxoplasma gondii* IgA ELISA
  - » *Toxoplasma gondii* IgM ELISA
  - » *Toxoplasma gondii* IgE ELISA
  - » *Toxoplasma gondii* IgG, IgM and IgA Immunoblot
  
2. Molecular biology assays:
  - » Conventional PCR
  - » Real-time PCR

Since 2005, all assays provided by NRCT are accredited in accordance with the requirements of STN EN ISO/IEC 17025:2005. The accreditation certificate and scope of accreditation is available at <http://www.vzbb.sk/sk/akreditacia/index.php>



Head of the Centre: **Cyril Klement, Assoc. Prof., M.D., PhD.**

Members: Mária Avdičová, M.D., PhD., Lucia Maďarová, RNDr., PhD.,  
Edita Bottková RNDr., Jana Čamajová, RNDr., PhD., Renata Hricová

NRC was established in the Regional Authority of Public Health by the Ministry of Health of Slovak Republic on January 1, 2011.

### Scope of NRC Activities

1. diagnostic activities
  - » specialist and confirmation diagnostics of *Streptococcus pneumoniae* in accordance with the Guideline of the Ministry of Health of the Slovak Republic on surveillance of Invasive Pneumococcal Diseases (IPD) in Slovak Republic (OE/676/2011)
  - » molecular biology based diagnostics of clinical material samples
  - » evaluation of new diagnostic tests and their introduction to the laboratory practice
  - » regular participation in the international external quality assessment schemes
2. surveillance of IPD
  - » serotyping and genotyping of the *S. pneumoniae* strains isolated from IPD
  - » monitoring of the epidemiological situation regarding to the incidence IPD in the Slovak Republic in collaboration with the Epidemiology Division,
  - » processing, analysis, publication, presentation and archivation of statistic data
3. methodological and expertise activities
  - » consultation services to clients and health care providers (medical facilities and laboratories),
  - » training of health workers,
  - » organisation of specialised meetings and courses in this issue,
  - » co-operation with scientific and professional institutions,
  - » participation in specialised projects (Slovak and international),
  - » providing information to general and professional public via website.

### Range of Examinations Carried Out by NRC for Pneumococcal Diseases

- Culture
- Molecular biology based methods (PCR, real-time PCR)
- Serotyping (Latex agglutination, Quellung reaction, Multiplex PCR)
- Genotyping (Pulse Field Gel Electrophoresis)

Since 2014, all assays provided by NRC are accredited in accordance with the requirements of STN EN ISO/IEC 17025:2005. The accreditation certificate and scope of accreditation is available at <http://www.vzbb.sk/sk/akreditacia/index.php>

## INFORMATION CENTRE FOR BACTERIOLOGICAL (BIOLOGICAL) AND TOXIN WEAPONS

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Head of the Centre: **Cyril Klement, Assoc. Prof., M.D., PhD.**

Regional Authority of Public Health in Banská Bystrica provides the functions of the Information Centre for Bacteriological (Biological) and Toxin Weapons.

### **In fulfilling the tasks of the Information Centre:**

- prepares information and documents to the authorities of the Ministry of Health of the Slovak Republic, concerning the issue of bacteriological (biological) and toxin weapons convention following the situation in the Slovak Republic and abroad,
- provides basic diagnostic procedures for the diagnosis of selected infectious diseases under consideration as bacteriological (biological) and toxin weapons,
- co-operates with state authorities, local governments and relevant institutions abroad in addressing the issues,
- works with the media.

## NATIONAL REFERENCE CENTRE FOR LABORATORY DIAGNOSTIC IN HUMAN BIOMONITORING

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Biomonitoring is a scientific technique for assessing human exposures to natural and synthetic compounds in the environment. It is based on analysis of human tissues and fluids and provides the direct method of determining if people have been exposed to particular substances, what the magnitudes of their exposures are, and how these may be changing over time.

### **The main areas of NRC activities are:**

- laboratory diagnostic of hazardous chemical substances and their metabolites in human biological specimen (blood, urine, hair, nails)
- introduction of new laboratory test methods and diagnostic procedures
- participation in international proficiency testing
- collaboration in national and international projects, research studies
- establishment of biobank for long term storage of biological samples
- establishment and administration the databank of collected biomonitoring data
- methodological consultations
- organising meetings, workshops, training courses
- publication of results

Human biomonitoring (HBM) involves collecting samples from human volunteers – urine, blood, hair, saliva, nails or other human tissue – and measuring in those indicators of chemical uptake and effect, known as biomarkers.

NRC provides specialised laboratory diagnostic assessment of exposure of the population to environmental factors, which follows the methodology used in toxicology and in measuring of occupational exposure (biological exposure tests).

### **Determination of elements:**

- toxic and essential elements
- arsenic (hair, nails), antimony by ETA AAS and HG AAS
- lead in blood and urine by ETA AAS
- lead, cadmium, chromium, nickel in hair by ETA AAS
- mercury in hair by CV AAS
- calcium in breast milk by AES

**Determination of hazardous organic substances and their metabolites:**

- nicotine in hair by HPLC-DAD
- cotinine (nicotine metabolite) in urine by HPLC-DAD
- t,t-muconic acid (benzene metabolite) in urine by HPLC-DAD
- phenol in urine (benzene metabolite) in urine by spectrophotometry and HPLC-FLD
- 1-hydroxypyrene (marker of PAHs exposure) in urine by HPLC-FLD
- acetone in urine by GC-FID
- hippuric acid (toluene metabolite) in urine by HPLC-DAD
- o-kresol (toluene metabolite) in urine by HPLC-DAD
- (2-,3-,4-)-methylhippuric acids (xylene metabolites) in urine by HPLC-DAD
- mandelic acid (styrene, ethylbenzene metabolite) in urine by HPLC-DAD
- phenylglyoxylic acid (styrene, ethylbenzene metabolite) in urine by HPLC-DAD
- $\delta$ -aminolevulinic acid (lead exposure marker) in urine by spectrophotometry

**Determination of persistent organic pollutants:**

- chlorinated insecticides (DDT and degradation products DDE, DDD) in breast milk by GC-ECD
- PCB congeners (PCB 28, 52, 101, 138, 153, 180) in breast milk by GC-ECD

Most of the laboratory tests is carried out by accredited procedures in accordance with the requirements of EN ISO/IEC 17025:2005. Quality of laboratory analysis is regularly verified by participation in international and national proficiency testing schemes (PTS). The recent PTS for biological specimen analysis are: G-EQUAS Erlangen, ICI DEMOCOPHES, NRC for the exposure tests at the Authority of Public Health of Slovak Republic.

## NATIONAL REFERENCE CENTRE FOR RICKETTSIOSES

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Head of the Centre:

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Members: Monika Musilová, Mgr., Ľudovít Škultéty Ing., PhD., Eva Špitalská Mgr., PhD., Zuzana Sekeyová, RNDr., PhD.

NRC was established in the Regional Authority of Public Health by the Ministry of Health of Slovak Republic on March 1, 2009 in close co-operation with Slovak Academy of Science – Institute of Virology, Bratislava, Dúbravská cesta 9.

NRC for Rickettsioses was established in order to support surveillance of rickettsioses in Slovakia and joint laboratory and epidemiological surveillance. Occurrence of rickettsioses is properly described in the south and west of Slovakia among reservoir animals and vectors. Human outbreak was not reported to the EPIS (Epidemiological Information System). Some cases were described during studies.

### **Range of examinations carried out by NRC for Rickettsioses:**

- *Molecular biology based methods (PCR, real-time PCR, PCR-RFLP)*
- *Serology (MIF, ELISA)*





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Specialised Unit for Viral Hepatitis (SUVH) was established in 2000 by the Ministry of Health of the Slovak Republic under the Guidance on standardisation of etiological diagnostics and monitoring of viral hepatitis (VH) A – G from June 6, 2000, No. OPLS – 247/2000/SlA and operates within the Regional Authority of Public Health Banská Bystrica.

### **Professional Activities and Diagnostics**

The Specialised Unit for Viral Hepatitis aims to implement a comprehensive expert activity in laboratory diagnosis of viral hepatitis.

#### **The Unit provides:**

- basic as well as highly specialised diagnosis of viral hepatitis A – E in accordance with the Guideline of the Ministry of Health of the Slovak Republic on standardisation of laboratory diagnosis of viral hepatitis (VH) A, B, C, D and E (A-E) and standardisation of diagnostics, treatments and follow-up of patients with chronic hepatitis B and C, No. 04533-105/2007-OZSO from December 4, 2007
- confirmatory testing in order to achieve a definitive diagnosis
- collection and processing of the latest knowledge and information on laboratory diagnostics, updating the used methods and thus provision of increased sensitivity and specificity of testing
- co-operation with professional bodies related to its specialised area in Slovakia and abroad (epidemiological and clinical departments, professional societies, commissions, etc.)
- consultation services to health care facilities, laboratories and clinicians about the possibilities of diagnosis
- participation in international external quality assessment schemes
- participation in surveillance of viral hepatitis in the Slovak Republic
- processing, archivation and presentation of statistic data
- informing the general and professional public through our website ([www.vzbb.sk](http://www.vzbb.sk))

## List of Examinations Provided by SUVH

Since 2005, all assays provided by SUVH are accredited in accordance with the requirements of STN EN ISO/IEC 17025:2005. The accreditation certificate and scope of accreditation is available at <http://www.vzbb.sk/sk/akreditacia/index.php>

### Examination range:

- HAV
  - » anti-HAV total ELISA
  - » anti-HAV IgM ELISA
  
- HBV
  - » HBsAg ELISA
  - » anti-HBs ELISA
  - » anti-HBc total ELISA
  - » anti-HBc IgM ELISA
  - » HBsAg confirmatory ELISA test
  - » HBeAg ELISA
  - » anti-HBe ELISA
  
- HCV
  - » anti-HCV ELISA
  - » anti-HCV IgG Immunoblot
  
- HDV
  - » anti-HDV total ELISA
  - » anti-HDV IgM ELISA
  - » HDV Ag ELISA
  
- HEV
  - » anti-HEV IgM Immunoblot
  - » anti-HEV IgG Immunoblot



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