

## DEPARTMENT OF NUTRITION AND FOOD ASSESSMENT

**Head of Department:**

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**Full Professors:****Associate Professors:**

Vladimír Frank, PhD.; Mária Takácsová, PhD.; Ľubomír Valík, PhD.

**Assistant Professors :**

Eva Hybenová, PhD; Mária Kováčová, PhD; Vlasta Kuklišová, MSc.; Soňa Škrovánková, MSc.;

**Research Fellows:**

Bernadette Hozová, PhD; Viola Buchtová; Anna Mikulajová, MSc.

**PhD Students:**

Silvia Vojteková, MSc.; Iveta Kukurová, MSc; Kitty Németh, MSc.; Denisa Lauková, MSc.; Iveta Együdová, MSc.; Alena Gajdošová, Mgr.

**Technical staff:**

Žofia Fórová; Edita Kovačičová; Eva Vosátková;

## II.\_TEACHING AND RESEARCH LABORATORIES

**A. Teaching laboratories:**

Laboratory of Food Microbiology and Hygiene  
Laboratory of Food Analysis and Assessment

**B. Research laboratories:**

Laboratory of Food Microbiology and Hygiene  
Laboratory of Food Analysis and Assessment  
Laboratory of Food Chemistry

### III. TEACHING

#### A. Undergraduate Study:

<b>5. semester (Bc)</b>	Food Chemistry I.	(2 h)	Takácsová
<b>6. semester (Bc)</b>	Food Analysis	(2 h)	Kováčová
	Laboratory of Food Analysis	(4 h)	Kováčová
	Semestral Project	(0-4 h)	All Department Staff
<b>1. semester (MSc)</b>	Food Microbiology	(2 h)	Valík
	Laboratory of Food Microbiology	(3 h)	Valík, Frank, Hozová, Kuklišová
	Food Additives and Contaminants	(2-0 h)	Hybenová
	Laboratory Practice Food Additives and Contaminants	(0-2 h)	Hybenová
<b>1. semester (MSc)</b>	Physiology and Pathophysiology of Human Nutrition	(2-2 h)	Bukovský
	Semestral Project I.	(0-5 h)	All Department Staff
<b>2. semester (MSc)</b>	Food Hygiene	(2-1 h)	Valík
	Food Chemistry II.	(2 h)	Takácsová
	Diethology	(2 h)	Kajaba
	Semestral Project II.	(0-5 h)	All Department Staff
<b>2. semester (MSc)</b>	Laboratory of Food Chemistry	(1 h)	Takácsová
	Food Analysis II.	(2 h)	Prachár
	Laboratory of Food Analysis II	(4 h)	Prachár
	Food Toxicology	(2 h)	Piecková
<b>2. semester (Bc)</b>	Laboratory Practices	(0-4 h)	All Department Staff
<b>3. semester (MSc)</b>	Food Additives and Contaminants	(0-2 h)	Hybenová
	Food Evaluation	(2 h)	Škrovánková
	Laboratory of Food Evaluation	(0-2 h)	Škrovánková
	Laboratory Practice Food Additives and Contaminants	(0-2 h)	Hybenová
<b>3. semester (MSc)</b>	Food Ecohygiene	(2-0 h)	Frank
	Semestral Project III.	(0-5 h)	All Department Staff
<b>4. semester (MSc)</b>	Diploma Project	(0-27 h)	All Department staff
<b>1. semester (Bc)</b>			

#### **IV.\_CURRENT RESEARCH PROJECTS**

##### **A. Governmental project 2003 SP 27/028 0E 02/028 0E 02 Quality, safety and functionality of primary food resources“**

The project is coordinated by Research Institute of Plant Production where some tasks of the project are carried out in our Faculty. Objectives of these tasks are focused on a) Enhancement of nutritional value of various types of cereals by polyunsaturated fatty acids, b) Evaluation and selection of primary food resources and preparation of functional foods with preventive-medical properties, c) Study of genotype dependence on lipid profile in oil seeds, d) Identification of essential fatty acids donors in cereals.

**Project duration:** from 2003 to 2005

##### **B. COMmon dataBASE on microbial responses to food environments generated in EU (in cooperation with IFR; contact person of STU Bratislava - Ľ. Valík)**

Important advances to develop such a database structure were made by the Institute of Food Research (IFR, Norwich, UK) in the 90's. The IFR database format is utilised in a project, called ComBase, being jointly run by the U.S. Department of Agriculture - Agricultural Research Service (USDA/ARS), Institute of Food Research (IFR) and Food Standard Agency of the UK (FSA). ComBase will store the raw data of the USDA Pathogen Modeling Programme, which is one of the largest databases of its kind. FSA is supporting ComBase by releasing data and computer programs developed at IFR and funded by the FSA. The project has attracted the interest of many universities and industrial partners. Some of them (first of all University of Complutense Madrid, UCM) has already submitted large amount of suitable data to ComBase.

**Project duration:** from 2002 to 2004

##### **C. Development, optimising and control of new food products with the aim to increase the food quality using biological active substances and modern technologies (Alexander Dandár)**

**D. Research activity was focused on selection, analysis and utilization of antioxidants of natural sources namely of plant origin, applied in edible plant oil. Antioxidative activity of ethanol extracts from oil seeds /corn, amaranth, soy, rapeseed, and cultivated flax/ as well as from legumes /pea, lens, bean, chickpea, French bean/ was studied. Positive antioxidant effects on lipid stability were established e.g. in the samples of heat-treated pork with lens. Antioxidative activity of ethanol extracts of some spices as green and black tee and coffee drinks. Volatile compounds of silica and the extracts from selected herbs and tees as well as its sensory properties were analysed too. Chemical parameters of sensory properties of fermented natural juices /cabbage, celery and beetroot/ were evaluated. Effect of NaCl content and an initial pH value as well as the effect of bacteria on biogenic amines and organic acids production were observed in evaluated juice samples. Decrease of vitamins B in heat-treated confectionery samples within an optimazing of technology was studied. Soy flavonoids / genistein, daidzein and their glukozides / in term of their antioxidative properties were studied. The influence of polyphosphate content on sensory and physico-chemical properties in selected meat products was observed. Nutritive parameters as well as the additives, mainly amino acids composition were analysed. An effect of lactic acid addition applied on the surface of butcher`s meat with the aim to extend its shelf life was evaluated.**

**Project duration:** from 2002 to 2004

##### **E. Development of Good Hygiene Practices in the Slovak Food Industry; Development of the standard approach for codes to hygiene practice (in cooperation with STOAS Netherlands and Ministry of Agriculture of the SR; national expert - Valík)**

The Netherlands and Slovak task force will develop a standard approach for the development, implementation and verification of codes to hygiene practice. The standard approach must be based on best practices from the Netherlands and/or from other EU sources. The standard approach must include all principles of HACCP according to Codex Alimentarius, the documentation on the hazard and risk analyses for future reference and a general structure according which to develop common codes to hygiene practice. The standard approach must be

approved by the official inspection institutes (task international consultants (I.C.): initially a workshop should be held to train task force members and to develop a common understanding of (content and budget is task of I.C., organisation is task of T.L.); the background of food safety including legislation, hygiene, food safety hazards, historical and future food safety developments in the international food market; the principles of HACCP and the approach to risk analyses; the development, implementation and verification of HACCP-systems and hygiene codes; the programs, methods and material to train the workforce on good hygiene practice in relation to HACCP systems and hygiene codes. A course was be made on the developed approach, methods and techniques to be able to train project teams, which undertake to develop specific codes. This course will include the development-, the implementation- and the verification phase. Subjects were:- legislation; food safety hazards determination; risk assessment; control measures; documentation; validation; verification and registration (task of I.C.).

**Project duration:** from 2003 to 2004

**F. Study of the influence environmental factors on behaviour of technological and health relevant microflora in foods and food production areas (in cooperation with Institute of Food research Bratislava - L. Valík).**

Principles of predictive microbiology in the evaluation of hygienic safety of food were used. Mathematical modelling of growth of hygienically relevant microorganisms in model systems, in food and in emulsion systems was worked out. Prediction of shelf-life and dynamics of microbial deterioration of foods was studied. Influence of external and internal environmental determinants on food micro flora.

**Project duration:** from 2003 to 2004

**G.**

**Project duration:** from to

**H.**

**Project duration:** from to

**I.**

**Project duration:** from to

**J.**

**Project duration:** from to

**K.**

**Project duration:** from to

**L.**

**Project duration:** from to

**M.**

**Project duration:** from            to

## **V.\_CURRENT EDUCATION PROJECTS**

### **A.        Nutrition and health in training and education - V. Frank; M. Takácsová**

**Preparation** of variable training and educational moduls for various groups. Preparation of conceptual framework and subjects for whole-life education in nutrition, health and food safety in cooperation with the EAEA - European Association for the Education of Adults (<http://www.eaea.org/slovak/eaea.html>) and Institute of whole-life education at Slovak University of Technology (<http://www.stuba.sk/svk1/icv/slovak.html>). Establishing of the Educational centre STU in co-operation with College of Education of the Trnava university. Development of programmes for pre-sschool and school nutrition recommendations.

**Project duration:** from 2003 to 2005

### **B.        Implementation of the BSP Food Safety Action (FSA) in cooperation with CIAA as a national expert - Ľ. Valík**

The experts have been provided with a well crafted methodology to carry out their job and have been provided with specific tools to achieve the expected results. Monitoring of the activities and evaluation of the results - by CIAA and the E. Commission - will be done according to the scheme provided: there is no place for “creative” interpretation or reporting.

**Project duration:** from 2003 to 2004

### **C.**

**Project duration:** from            to

### **D.**

1.

**Project duration:** from 2003 to 2004

### **E.**

**Project duration:** from            to

### **F.**

**Project duration:** from            to

### **G.**

**Project duration:** from            to

### **H.**

**Project duration:** from            to

## VI. COOPERATION

### A. Cooperation in Slovakia

[illegible]

## B. International Cooperation

[illegible]





[illegible]

[illegible][illegible]







## VYSVETLIVKY K FORMULÁRU

### **V bode IV. CURRENT RESEARCH PROJECTS**

uviesť vedecké projekty napr.: VEGA, APVT, VTP, štátne objednávky, 5. a 6. RP, NATO, Bilateral cooperation – Slovakia – Austria, Slovakia – Czech Republic a pod. Je potrebné, aby na referáte pre vedu a výskum boli odovzdané kópie návrhov projektov, doklad o ich schválení (napr. zmluva o riešení a financovaní). Pokiaľ tak nie je, je potrebné chýbajúce podklady doplniť.

### **V bode V. CURRENT EDUCATION PROJECTS**

Uviesť edukačné projekty napr.: KEGA, CEEPUS, Leonardo, TEMPUS, SOCRATES ERASMUS a i. Je potrebné, aby na referáte pre vedu a výskum boli odovzdané kópie návrhov projektov, doklad o ich schválení (napr. zmluva o riešení a financovaní). Pokiaľ tak nie je, je potrebné chýbajúce podklady doplniť.

### **V bode VI. COOPERATION**

Uviesť iba skutočné a "živé" spolupráce, ktoré možno dokladovať konkrétnymi výsledkami (spoločné publikácie, HZ, členstvo v orgánoch firmy a pod.) Pokiaľ bola s partnerskou organizáciou na Slovensku, či v zahraničí uzavretá rámcová dohoda, zmluva, memorandum a pod. o spolupráci, je potrebné ju doložiť, príp. jej kópiu na referát pre vedu a výskum.

### **V bode VI C . Membership in Domestic Organizations and Societies**

Uviesť členstvo v domácich celoštátnych organizáciách, vedeckých spoločnostiach, redakčných radách, akreditačných, grantových technických normalizačných a iných odborných komisiách a radách a pod. je potrebné dokladovať, napr. menovacím dekrétom, pokiaľ už nebol odovzdaný v minulých rokoch, resp. ak ide o nové členstvo, kópiou oficiálneho bulletinu vedeckej spoločnosti z roku 2003, kópiou strany z vedeckého alebo odborného časopisu z r. 2003, kde je uvedená redakčná rada, kópiou zápisnice z r. 2003, z ktorej je zrejmé členstvo vo výbore alebo komisii vedeckej spoločnosti a pod.)

### **V bode VI D . Membership in International Organisations and Societies**

Uviesť členstvo v medzinárodných vedeckých spoločnostiach a inštitúciách, redakčných radách zahraničných časopisov, v medzinárodných vedeckých výboroch, komisiách a porotách a pod. je potrebné dokladovať, napr. menovacím dekrétom, pokiaľ už nebol odovzdaný v minulých rokoch, resp. ak ide o nové členstvo, kópiou oficiálneho bulletinu vedeckej spoločnosti z roku 2003, kópiou strany z vedeckého alebo odborného časopisu z r. 2003, kde je uvedená redakčná rada, v prípade radového členstva to môže byť napr. kópia preukazu člena, či kópia dokladu o zaplatení členského v r. 2003 a pod.)