

# BOOK OF ABSTRACTS



**8<sup>th</sup> Central European Congress on Food**

***Food Science for Well-being***

***23-26 May 2016, Kyiv, Ukraine***



8<sup>th</sup> Central European Congress on Food

*Food Science for Well-being*  
23-26 May 2016, Kyiv, Ukraine



UNDER THE AUSPICES OF:



# BOOK OF ABSTRACTS

SPONSORED BY:



НАЦІОНАЛЬНА АСОЦІАЦІЯ  
ВИРОБНИКІВ ДИТЯЧОГО ХАРЧУВАННЯ,  
МОЛОЧНОКОНСЕРВНОЇ ТА СОКОВОЇ ПРОДУКЦІЇ  
"УКРКОНСЕРВМОЛОКО"



INTERNATIONAL  
FOUNDATION FOR  
SCIENCE

Kyiv, 2016

**Yevhen PROSKURKA**

mjevgen@meta.ua

National University of Food Technologies, Kyiv  
**UKRAINE**

**USING SUPPORT AND CASE-TYPE DECISION — MAKING  
SYSTEM BASED ON EXPERT SYSTEM FOR OPTIMAL  
CONTROL OF SUGAR REFINERY TECHNOLOGICAL COMPLEXES**

In order to provide optimal control of sugar refinery technological complexes it is proposed to use support and case-type decision — making system based on expert system.

The work of the system is based on the use of management experience that was accumulated in the past sugar refinery technological complexes management.

Experience is stored in the system as a precedent in the base of precedents. Precedents in the system are filled through typological analysis of time series of technological variables that were received in the management of sugar refinery technological complexes in the past and also during the system use at sugar refinery complexes.

Search and forming precedents occur as follows. Initially, filtering with the use of discrete wavelet analysis in the time series of process variables takes place.

Segmentation in the treated time series from the noise is carried. Then segments are encoded with typological analysis, and topological codes are received. After analysis of the topological codes, precedents that are stored in the base of precedents are formed.

In the base of precedents, the precedents are divided according to certain features through a process of classification. In each class there are precedents that are similar to each other and represent an event that took place in the technological complexes management.

Expert system forms solutions for technological complexes control using the machine of the logical inference, when different events during the control occur, relying on precedents in the base of precedents.

Development and implementation of support and case-type decision-making system based on expert system for sugar refinery will make it possible to provide optimal technological systems of control in case of various events during the process of control.

**KEY WORDS:** *precedent, typological analysis, wavelet*