INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

Scientific stay

Universidad de Málaga

Petr Osička

12. 7 - 26. 9. 2011

Place

Málaga

- fifth largest city in Spain
- one of oldest cities in the world
- southernmost large city in Europe
- Pablo Picasso

Place

Universidad de Málaga
- established 1972, almost 40000 student, 2000 researchers,
- new campus 1000 m^2
- 23 schools (50 departments)

Matemátika Aplicada
- 30 researchers
- various topics
- multiadjoint framework, functional dependencies

Activities during the stay

Nonformal seminars

- about recent works of all participants
- PO: Analysis of three-way ordinal data
- A. Mora, P. Cordero: Functional dependecies
- M. Ojeda-Aciego: Multiadjoint framework

Discussions about topics of joint research

- Allowing attributes to have different scales of truth degrees
- Dependencies between properties of scales of truth degrees and properties of concept lattices.

I have started my thesis

A picture

Multiadjoint framework

Adjoint tripple

Let $(P_1, \leq_1)$, $(P_2, \leq_2)$, $(P_3, \leq_3)$, be posets and $\& : P_1 \times P_2 \to P_3$, $\swarrow : P_3 \times P_2 \to P_1$, $\nwarrow : P_3 \times P_1 \to P_2$. Then $(\&, \swarrow, \nwarrow)$ is adjoint tripple iff

$$x \leq_1 z \swarrow y \text{ iff } x \& y \leq_3 z \text{ iff } y \leq_2 z \nwarrow x$$

Multiadjoint frame

$(L_1, L_2, P, \leq_1, \leq_2, \leq, \&_1, \swarrow_1, \nwarrow_1 \ldots, \&_n, \swarrow_n, \nwarrow_n)$

Context for a given frame

(A, B, R, σ), R is P-relation, σ assigns adjoint tripples to objects (or attributes)

Concept forming operators

$\uparrow_\sigma : L_2^B \to L_1^A$, $\downarrow_\sigma : L_1^A \to L_2^B$.

$$g^{\uparrow_\sigma} = \wedge \{ R(a, b) \swarrow^{\sigma(b)} g(b) \mid b \in B \}$$