INVESTMENTS IN EDUCATION DEVELOPMENT

Scientific stay

TU Dresden, Germany

Michal Krupka

Feb 4, 2014 - May 11, 2014

Place

- Technical University Dresden, Germany – 1828, "excellence university", 36 500 students, 15 faculties, 5 schools, largest in Saxony
- Institute of Algebra, Department of Mathematics, Faculty of Science, School of Mathematics and Natural Sciences

Obrázek: Side entrance to the building of Institute of Algebra at TU Dresden

Place

- Technical University Dresden, Germany – 1828, "excellence university", 36 500 students, 15 faculties, 5 schools, largest in Saxony
- Institute of Algebra, Department of Mathematics, Faculty of Science, School of Mathematics and Natural Sciences
- research areas: foundations and applications of algebra, in particular general algebra, theory of ordered sets and lattices and graph theory

→ function and relation systems and formal concept analysis (FCA): FCA basics (main theorem, Ganter's NextClosure algorithm, book Ganter B., Wille R.: Formal Concept Analysis. Mathematical Foundations. Springer, Berlin, 1999), application of FCA in data analysis and (conceptual) knowledge processing

- at present 11 people (from that 4 professors) and 5 PhD students (1 under supervision also from other university)

prof. Bernhard Ganter

+ colleagues (S. E. Schmidt, Ch. Zschalig) and PhD students (D. Borchmann, C. Glodeanu, A. Revenko, T. Schlemmer) at the institute
- research: application of FCA (besides further development of FCA theory), utilization of FCA with fuzzy attributes, drawing concept lattices, development of attribute exploration method, interconnection between FCA and rough sets etc.
- collaboration with people at UP in Olomouc, NRU HSE, Moscow (S. O. Kuznetsov), UBP Clermont-Ferrand (L. Nourine), TU Darmstadt (R. Wille) and other

Stay run

- consultations with B. Ganter, R. Poschel, C.-V. Glodeanu, M. Schneider. Topics: Formal Concept Analysis, Knowledge/learning spaces, Topological dualities, Power algebras.

Talks

A topology on residuated lattices
Feb 6, 2014

What is the best version of the Basic Theorem of fuzzy concept lattices
May 8, 2014

Contacts

- establishing new contacts and discussions of possibilities of scientific collaboration with group of Prof. Ganter
- discussion of current research and establishment and deepening of collaboration (fuzzy FCA), topics for further research (Knowledge/learning spaces)

Conclusion

- the stay highly fulfilled its purpose
- possibilities of new scientific collaboration with one of the main centers in the area of formal concept analysis (FCA)
- given two talks on scientific seminar

Obrázek: Photos from my lectures on scientific seminar (left: Feb 6, right: May 8)

Erlebnisland Mathematik Dresden

Math Adventure Land Dresden, `http://www.erlebnisland-mathematik.de`

- trval interaktivn vstava
- matematika zbavnou formou
- pes 100 experiment
- Katedra matematiky TU + muzeum Technische Sammlungen Dresden