

# Visit to TU Dresden

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INVESTMENTS IN EDUCATION DEVELOPMENT

## Basic Information

- institution: Institute of Algebra, Technische Universität Dresden
- location: Dresden, Germany
- date: January 1st - January 31st, 2013
- guarantee: prof. Bernhard Ganter

## Research

- Algebraic Structure Theory (formal concept analysis)
- Discrete Structures
- Methods of Applied Algebra
- Universal Algebra

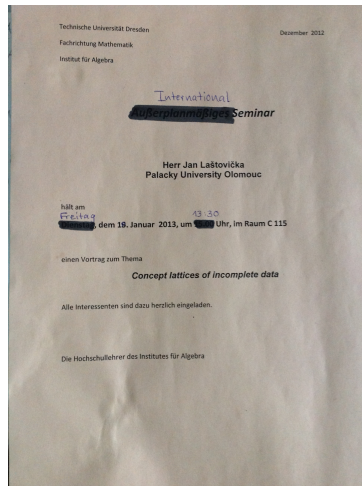
## Members

- 4 professors (Bernhard Ganter)
- 9 research and teaching assistants (Cynthia Glodeanu)
- 6 PhD students (Artem Revenko)

# Study

- Bernhard Ganter, Cynthia Vera Glodeanu: Ordinal Factor Analysis (2012)
- Cynthia Vera Glodeanu: Tri-ordinal Factor Analysis (2013)
- Cynthia Vera Glodeanu: Conceptual Factors and Fuzzy Data (2012)
- Sergei Obiedkov: Modal Logic for Evaluating Formulas in Incomplete Contexts (2002)
- Artem Revenko, Sergei O. Kuznetsov: Finding Errors in New Object Intents (2012)

# International seminar



Presentation about concept lattices of incomplete data.



A repository of remarks of Ganter and Wille in a department's library.

Begin to work on a paper with Cynthia Vera Glodeanu about concept lattices of incomplete triadic contexts.

Let

- $h : \mathbf{L} \rightarrow \mathbf{L}'$  be a complete homomorphism of complete residuated lattices and
- $\langle K_1, K_2, K_3, Y \rangle$  be an  $\mathbf{L}$ -tricontext.

## Theorem

*For each  $\mathbf{L}$ -triconcept  $\langle A_1, A_2, A_3 \rangle \in \mathcal{T}(K_1, K_2, K_3, Y)$  it holds that  $\langle h \circ A_1, h \circ A_2, h \circ A_3 \rangle \in \mathcal{T}(K_1, K_2, K_3, h \circ Y)$  and the induced mapping  $h^{\mathcal{T}} : \mathcal{T}(K_1, K_2, K_3, Y) \rightarrow \mathcal{T}(K_1, K_2, K_3, h \circ Y)$  preserves arbitrary  $ik$ -joins and it holds  $h^{\mathcal{T}}(\langle A_1, A_2, A_3 \rangle) \preceq_i h^{\mathcal{T}}(\langle B_1, B_2, B_3 \rangle) = h(\langle A_1, A_2, A_3 \rangle) \preceq_i h(\langle B_1, B_2, B_3 \rangle)$ .*

*If  $h$  is injective, then so is  $h^{\mathcal{T}}$ .*

*If  $h$  is surjective, then so is  $h^{\mathcal{T}}$ .*



Entrance to the institute of algebra.