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ELECTRICAL ENGINEERING & COMPUTER SCIENCE, UNIVERSITY OF KASSEL

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odis

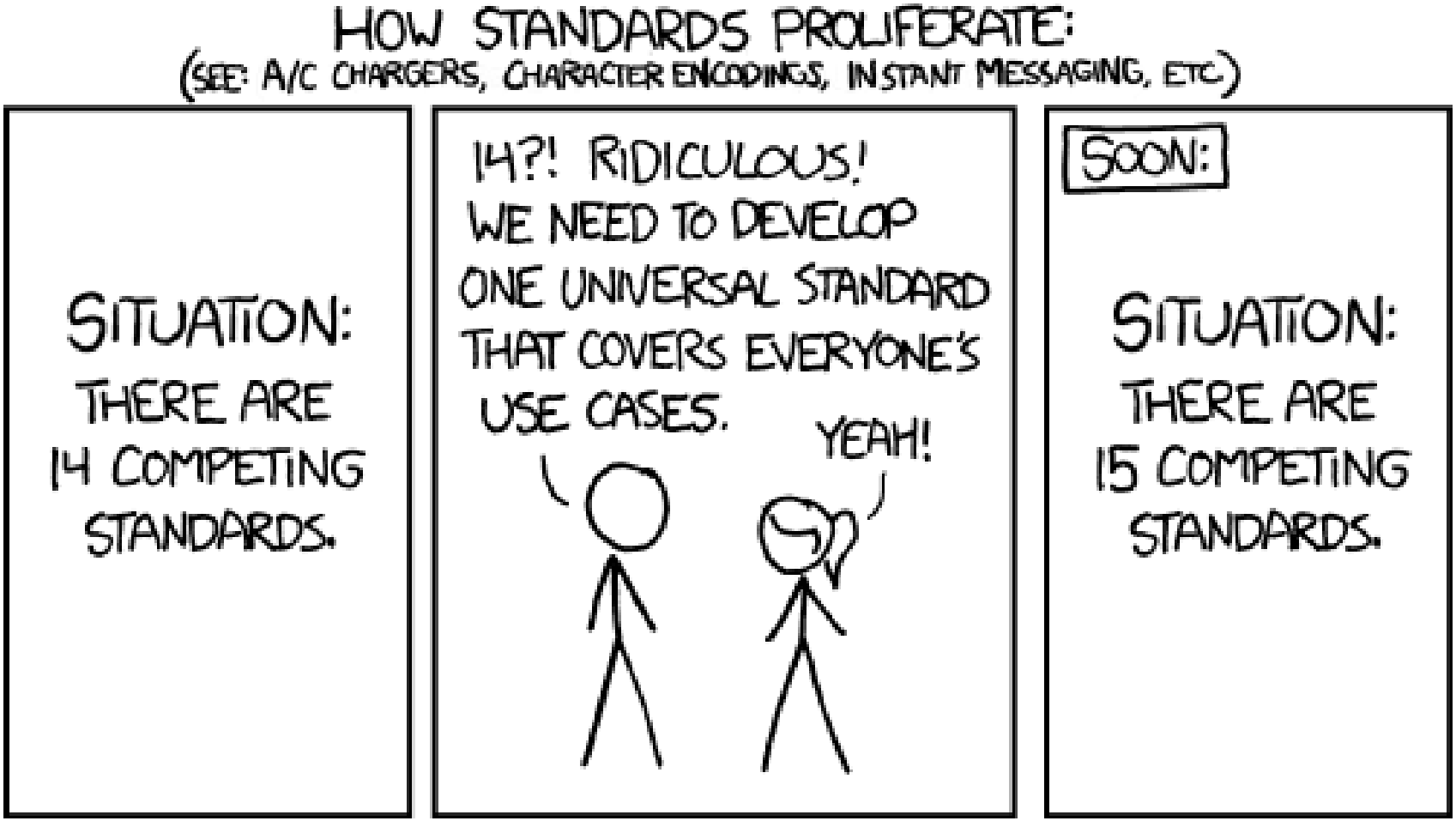
A Rust Library and Web GUI for FCA

Dominik Dürrschnabel

September 11, 2025

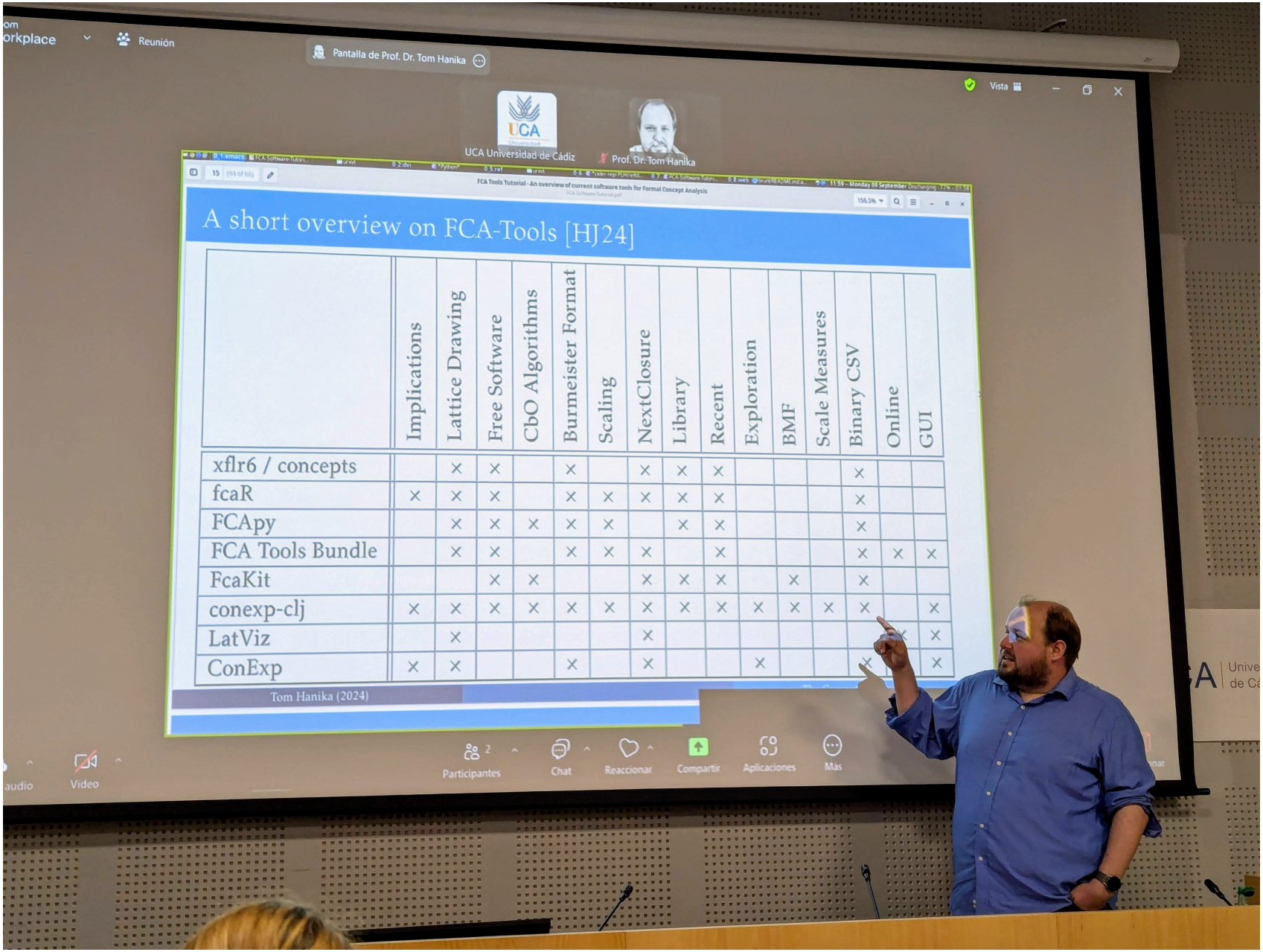
ConSoft 2025: Conceptual Knowledge Software: Recent Advancements and Examples Workshop at the 2nd International Joint Conference on Conceptual Knowledge Structures

Yet Another Tool?



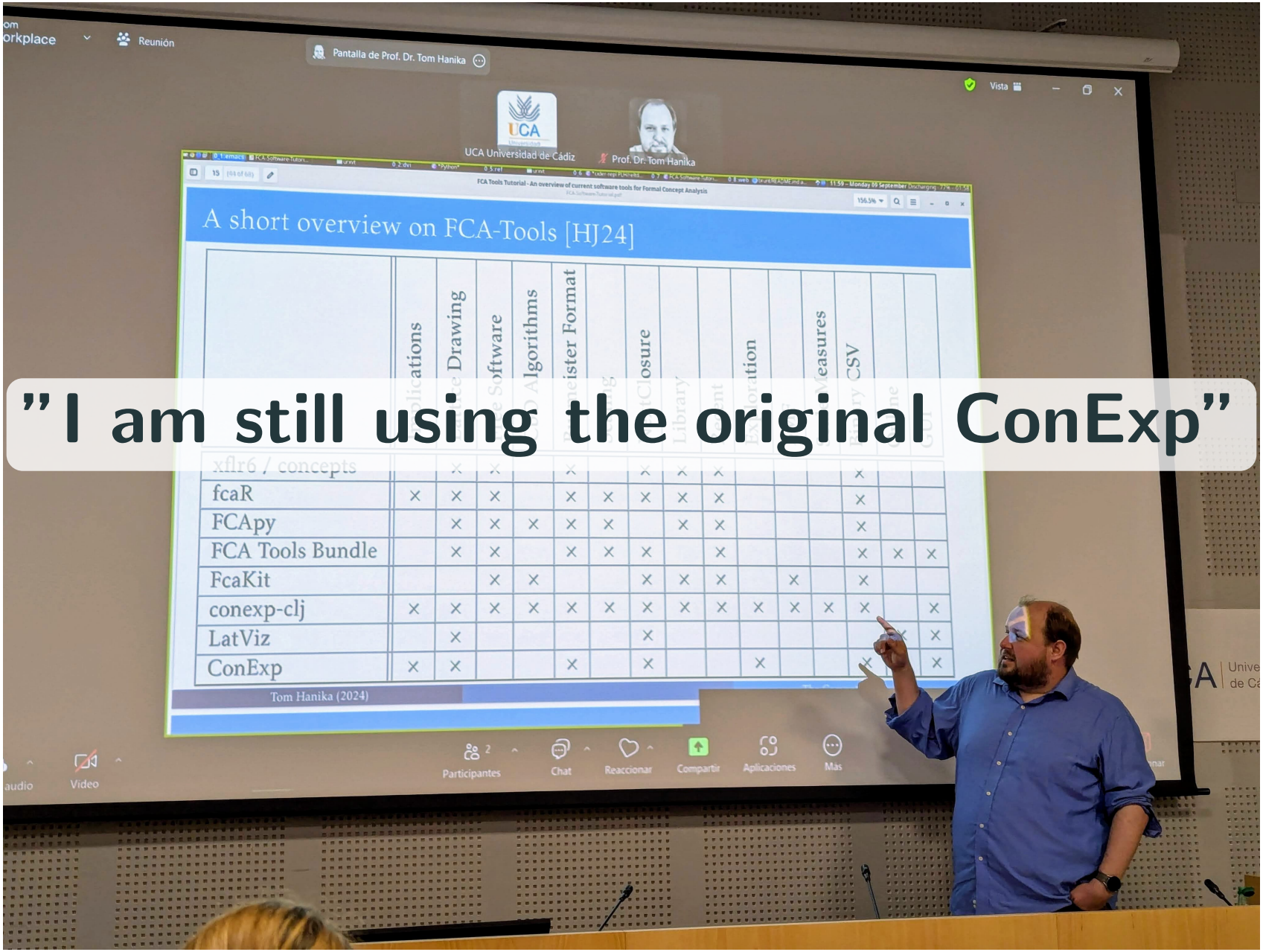
https://xkcd.com/927/

The Situation (Concepts 2024)



	Implications	Lattice Drawing	Free Software	CbO Algorithms	Burmeister Format	Scaling	NextClosure	Library	Recent	Exploration	BMF	Scale Measures	Binary CSV	Online	GUI
xflr6 / concepts		×	×		×		×	×	×				×		
fcaR	×	×	×		×	×	×	×	×				×		
FCApy		×	×	×	×	×		×	×				×		
FCA Tools Bundle		×	×		×	×	×		×				×	×	×
FcaKit			×	×			×	×	×		×		×		
conexp-clj	×	×	×	×	×	×	×	×	×	×	×	×	×		×
LatViz		×					×							×	×
ConExp	×	×			×		×			×			×		×

The Situation (Concepts 2024)



”I am still using the original ConExp”

Goal: A Frictionless Tool

- Modern
- Runs in the browser
- Core features of FCA
- Fast

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Armin Strupp

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The Frontend

Live Demo: `https://odis-web.github.io`

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- Replicates the core features of the original ConExp
- Runs fully locally in the browser
- Supports attribute exploration
- DimDraw as drawing algorithm

The Backend: odis

- Implemented in Rust
- Licensed under AGPL-3.0
- Can be compiled to WebAssembly
- Optimized for performance

Current Features

- Concept algorithms:
  - NextClosure
  - FCbO
- Canonical Base
- Attribute Exploration
- Drawing algorithms:
  - DimDraw (exact and heuristic)
  - Sugiyama

The Future

Missing Features:

- Scaling
- Binary matrix factorization
- Documentation
- ...

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Increase ease of use:

- Python interface
- Better design for the web interface

Links

Join the development:

https://github.com/domduerr/odis

https://github.com/domduerr/odis-web

Links

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Try it out:

https://odis-web.github.io