

# 2nd Tameus Workshop

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# Tameus

- Tameus: Time-Varying Measurement Sets in Databases
- SNF financed research project
- Applicants: Michael Böhlen and Giuseppe Bee
- SNF support for one PhD students (Francesco Cafagna) und half a postdoc (Andrej Taliun)
- Additional support by Agroscope, ETH Zürich, University of Zürich.
- Start: September 2011
- End: August 2014

# Tameus

- Tameus is a collaboration between Agroscope and the University of Zürich.
  - Agroscope belongs to the Swiss Federal Office for Agriculture and does research in agriculture, nutrition and the environment.
  - The Database Group from the University of Zürich is responsible for the data modeling and data management part.
- We have been and are building a Data Warehouse for historical feed information.
  - Transition from summary data to detailed data that permits data analyzes across time, location, etc.

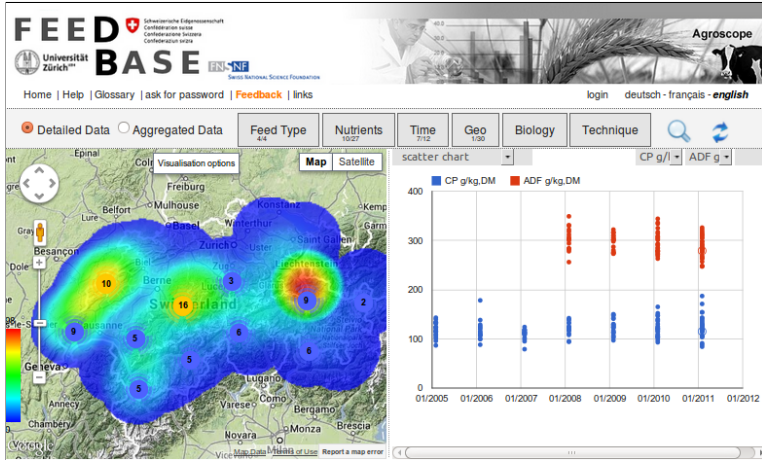
# Tameus

- In terms of research we have been focusing on the computation of **derived nutrients** from other nutrients determined through chemical analyzes.
- The computation of derived nutrients is an interesting and challenging research problem for sparse data.
- **Similarity** and **nearest neighbor** in time, location, altitude, etc. are the key ingredients.

# Publications

- C. Ammendola, M. H. Böhlen, J. Gamper, *Efficient Evaluation of Ad-hoc Range Aggregates*, 15th International Conference on Data Warehousing and Knowledge Discovery, **DaWaK 2013**, 14 pages, Prague, 2013.
- A. Dignös, M. Böhlen, J. Gamper, *Query time scaling of attribute values in interval timestamped databases*, demonstration, 29th IEEE International Conference on Data Engineering, **ICDE 2013**, 4 pages, Brisbane, 2013.
- M. Böhlen and M. Boltshauser, *Feeding Time!*, **International Innovation**, 3 pages, 2012.
- A. Taliun, M. Böhlen, A. Bracher and F. Cafagna, *A GIS-based Data Analysis Platform for Analyzing the Time-Varying Quality of Animal Feed and its Impact on the Environment*, International Congress on Environmental Modelling and Software, **iEMSS**, 8 pages, Leipzig, 2012.
- J. Gordevicius, J. Gamper, M. Böhlen, *Parsimonious Temporal Aggregation*, **The VLDB Journal**, 23 pages, 2012.
- M. Boltshauser, A. Bracher, M. Böhlen, F. Cafagna, A. Taliun, *Die Schweizerische Futtermitteldatenbank*, **Agrarforschung Schweiz**, 3 pages, 2012.
- I. Timko, M. Böhlen, J. Gamper, *Spatiotemporal Aggregation in Road Networks for Coarse Granularity*, **The VLDB Journal**, Volume 20, Issue 5, 21 pages, 2011.

## Software



## Teaching and Projects

- During the last two years a significant number of students from the University of Zürich completed their projects and theses in the context of Tameus.
  - Lukas Scheuner, Zafer Adigüzel, Yannick Widmer, **Samuele Zoppi**, **Kristin Kruse**, Markus Tresch, Andras Hee, Basil Philipp, Christian Bosshard, Michael Enz, Martin Leimer, Andrin Betschart, **Francesco Luminati**, Louis-Marie Loe, Mirjam Müller
- Today we will see five demonstrations where the outcomes of some of these works are presented.
- Thanks for making time today to participate.

## About Today

- Today we focus on the research on nearest neighbor and similarity.
- We are a heterogeneous group with different backgrounds.
- The interdisciplinary nature is a great benefit in terms of relevance and inspiration.
- Be patient and precise with explanations, questions, etc.
- Goal is to make others understand and provide feedback from different points of view.



- SESSION 1

Session chair: Michael Böhlen

10:00 - 10:15: Welcome

10:15 - 11:00: **Similarity Queries**

Yasin Silva, Arizona State University

- 11:00 - 11:30 Coffee Break (30min)

- SESSION 2

Session chair: Andrej Taliun

11:30-12:00    **Experimental Evaluation of NNJ**

Francesco Cafagna

11:30 - 12:00    Demos

**Google Maps for Visualization and Analyses**

Kristin Kruse

**Impact of Aggregation in Derived Facts**

Samuele Zoppi

**Region Comparison**

Annelies Bracher

- 12:30-14:00 LUNCH (Santa Lucia, Oerlikon)
- SESSION 3  
Session chair: Annelies Bracher
  - 14:00 - 14:30 **Business Model and Future of the Swiss FDB**  
Monika Boltshauser
  - 14:30 - 15:00 **Embedding Spatial Information into NNJ**  
Andrej Taliun
- 15:00 - 15:30 Coffee Break

- SESSION 4

Session chair: Hans Hinterberger

15:30 - 15:50 Demos

**Scalability of Derived Facts**

Francesco Luminati

**Graphical Regressions of Nutritive Values**

Andrej Taliun

15:50 - 16:20 **Quality of Computed Derived Nutrients**

Annelies Bracher

16:20 - 16:30 Closing