

Poster presentation

Open Access

## Creating chemo- and bioinformatics workflows, further developments within the CDK-Taverna Project

T Kuhn<sup>\*1,2</sup>, A Zielesny<sup>2</sup> and C Steinbeck<sup>3</sup>

Address: <sup>1</sup>Cologne University Bioinformatics Center (CUBIC), Cologne, Germany, <sup>2</sup>University of Applied Sciences of Gelsenkirchen, Institute for Bioinformatics and Chemoinformatics, Recklinghausen, Germany and <sup>3</sup>European Bioinformatics Institute (EBI), Cambridge, UK

\* Corresponding author

from 4th German Conference on Chemoinformatics  
Goslar, Germany. 9–11 November 2008

Published: 5 June 2009

Chemistry Central Journal 2009, 3(Suppl 1):P42 doi:10.1186/1752-153X-3-S1-P42

This abstract is available from: <http://www.journal.chemistrycentral.com/content/3/S1/P42>

© 2009 Kuhn et al; licensee BioMed Central Ltd.

The CDK-Taverna project aims at building an open-source pipelining solution through combination of different open-source projects such as Taverna [1] the Chemistry Development Kit (CDK) [2] and Bioclipse [3].

Pipelining or workflow tools allow for the Lego™-like, graphical assembly of I/O modules and algorithms into a complex workflow which can be easily deployed, modified and tested without the hassle of implementing it into a monolithic application. Current developments in CDK-Taverna focus on a soft computing framework which allows a flexible use of different methods from, for example, the WEKA [4] library. Additionally an implementation of the ART2a [5] algorithm is added as worker and could be used for cluster purposes. Worker which analyse and compare the cluster results are also implemented. Pgchem::Tigress [6] a chemoinformatic cartridge for a PostgreSQL database is used to allow the handling of large datasets. Therefore a number of worker for adding, selection and searching molecules from and on the database are added.

### References

1. Oinn T, Addis M, Ferris M, Marvin D, Senger M, Greenwood M, Carver T, Glover K, Pocock M, Wipat A, Li P: **Taverna: A tool for the composition and enactment of bioinformatics workflows.** *Bioinformatics* 2004, **20(17)**:3045-3054.
2. Steinbeck C, Han YQ, Kuhn S, Horlacher O, Luttmann E, Willighagen E: **The Chemistry Development Kit (CDK): An open-source Java library for chemo- and bioinformatics.** *J Chem Inf Comput Sci* 2003, **43**:493-500.
3. Spjuth O, Helmus T, Willighagen EL, Kuhn S, Eklund M, et al.: *Bioclipse: An open rich client workbench for chemo-and bioinformatics* in press.

4. Witten IH, Frank E: **Data Mining: Practical machine learning tools and techniques.** 2nd edition. *Morgan Kaufmann, San Francisco*; 2005.
5. Carpenter GA, Grossberg S, Rosen DB: *Neural Networks* 1991, **4**:493.
6. Schmid EG: [<http://pgfoundry.org/projects/pgchem/>].