

This Session is Dedicated to Willi von der Lieth

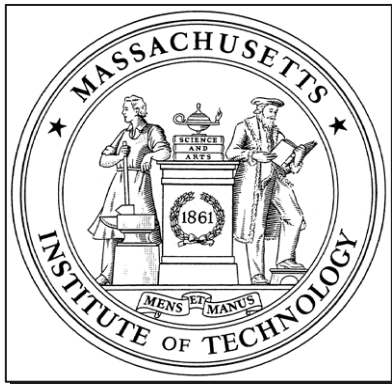


# CFG Glycan Structures Database

## *Current Status & Future Perspectives*



[www.functionalglycomics.org](http://www.functionalglycomics.org)



**Rahul Raman**  
*Bioinformatics Core (CFG)*  
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**Second Warren Workshop on Glycoconjugate Analysis**  
**July 10, 2008**

# Central Glycan Structures Database

## *Key Issues Moving Forward*

- **Clean-up of glycan structures in the current databases: Glycome-DB - a good starting point?**
- **Mechanisms for accepting new glycan structures - OGG proposal? Tie-in with journals?**
- **Automatic synchronization of new glycan structure information into the different glycan databases: Glycome-DB - a good starting point?**
- **How to get the community and large funding institutions to help sustain the development of this database**

Data collection:  
from EUROCarbDB  
to OpenGlycoGlobe

Alessio Ceroni

# OpenGlycoGlobe plans

- Provide access to existing glycomic resources from a single portal
- Collect published primary data not yet available from databases
- Create better automated tools using the newly available data
- Extend EUROCarbDB to functional glycomic

Alessio Ceroni

# Open problems / directions

- Curation / Quality control
  - Quality metrics are needed
  - Centralized vs Wiki style
- Robust network architecture
  - Will be further developed by OGG
- Convince publishers to require all data to be stored in a open-access database

Alessio Ceroni

# Glyco-Databases in Japan

Kiyoko F. Aoki-Kinoshita

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# What's needed?

- A “GenBank” (GlycoBank?) for a central world-wide resource for glyco-data
- The Integrated Database Project is mainly focused on Japanese databases, but the glyco-community may be more involved
  - KEGG
  - Glyco-epitope
  - Glycoconjugate Data Bank

Kiyoko Aoki-Kinoshita

# A possible alternative

- Web services and workflows:
  - Direct method for “integrating” databases that are customizable for individual researchers
  - Both KEGG and RINGS provide web services for their tools, although they are as of yet still limited in scope
  - Development of large libraries of web services may be a start

Kiyoko Aoki-Kinoshita

# **Carbohydrate databases and their integration**

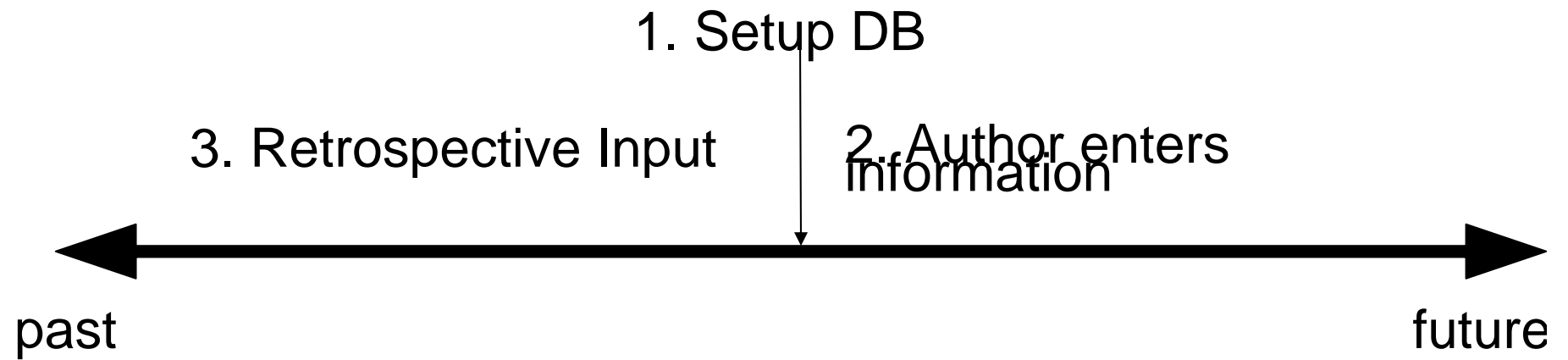
René Ranzinger



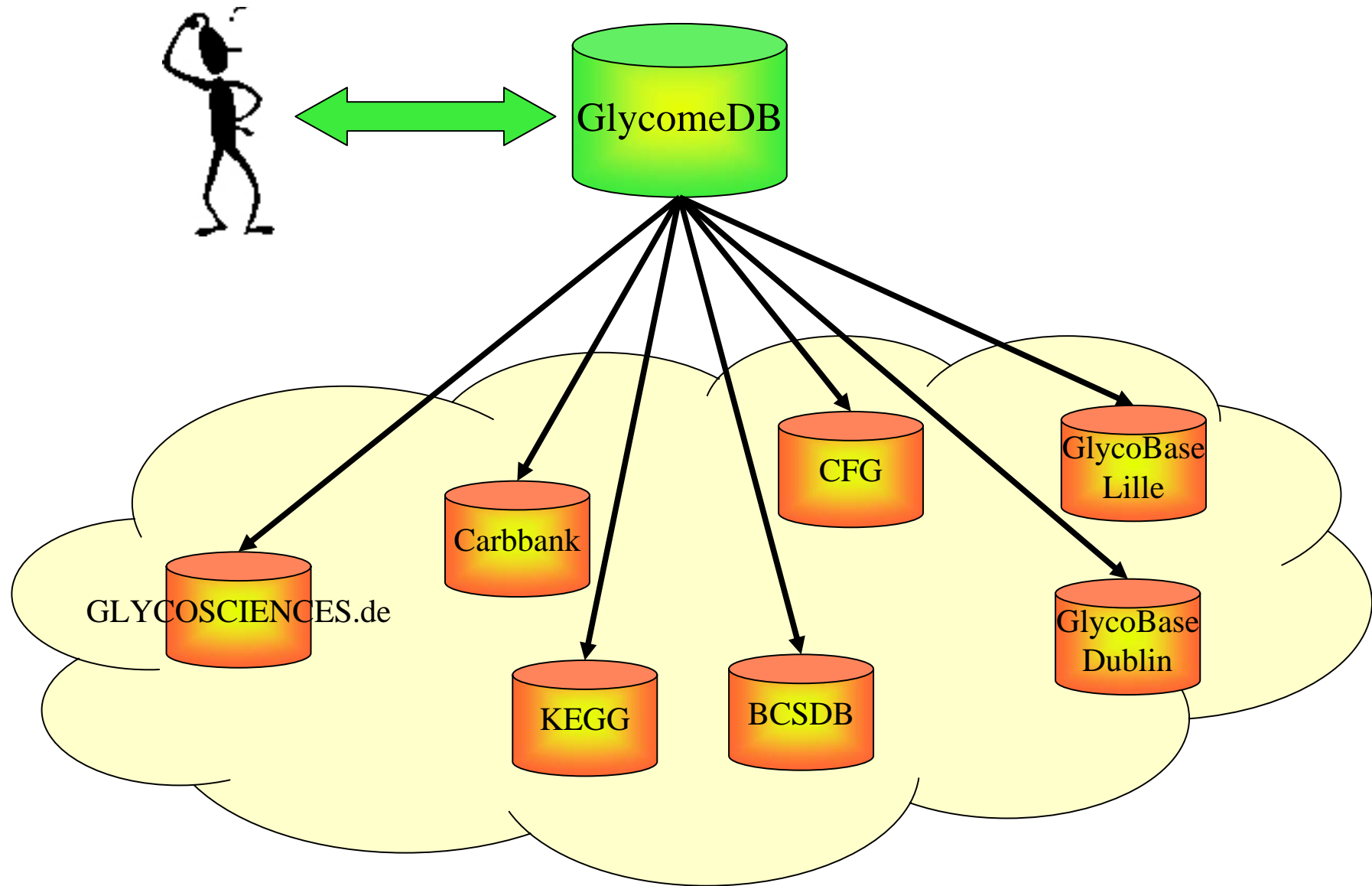
## CarbBank II

all structure information in literature

into a database



René Ranzinger



René Ranzinger

Are carbohydrate structure databases important?  
(for my work , the community)

What are the next steps to improve carbohydrate  
databases ?

Who will take care of this?  
(apply for money, hire persons)

René Ranzinger

# What can we do right now?

- Insitute a **community** resource to facilitate the development and dissemination of software **modules** for processing glycomics and glycoproteomics data
- The resource should provide technical guidelines for module development, including data formats and complete documentation for effective use of the modules
- Modules could then be combined in a flexible way to compose workflows that accommodate the current ways that we gather and process glycomics data (e.g. MS<sup>n</sup>)
- Modules would be implemented as Web Services, APIs and software libraries