

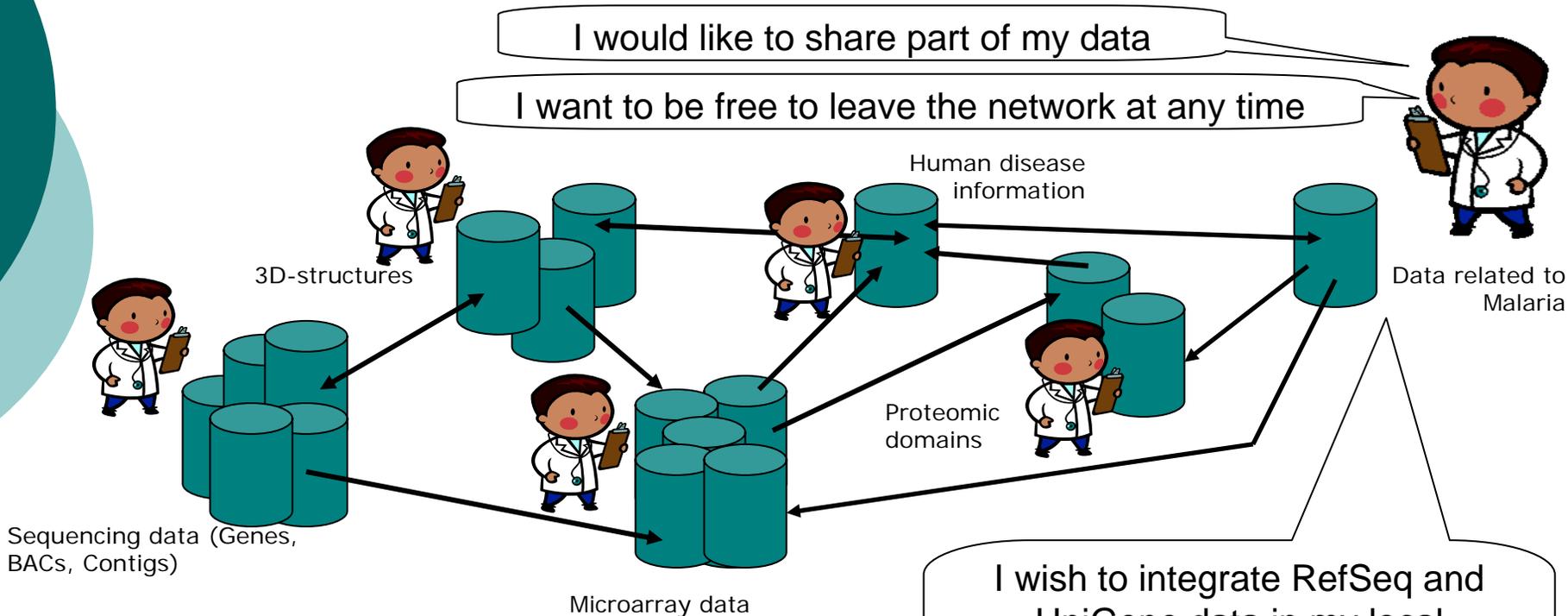
SHARQ Guide:

Finding relevant biological data and queries in a Peer Data Management System

Sarah Cohen-Boulakia, Olivier Biton,
Shirley Cohen, Zachary Ives, Val Tannen,
Susan Davidson

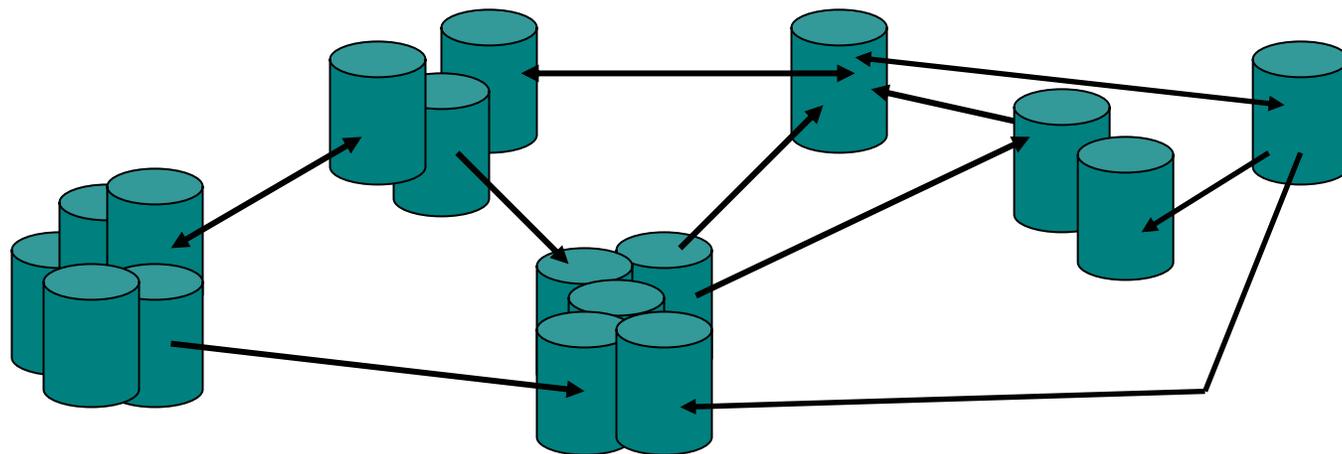
Database Group, University of Pennsylvania

Biological peer data sharing



- **Collaboration: Peer** network
- Mappings between data sources
 - **Intermittent** participation is possible
 - Peers may **disagree**

Biological queries



SwissProt and PFAM are my preferred resources!

Which proteins contain an *erythrocyte* domain? Give me the name of these proteins, any annotations, and, *if available*, their sequence.

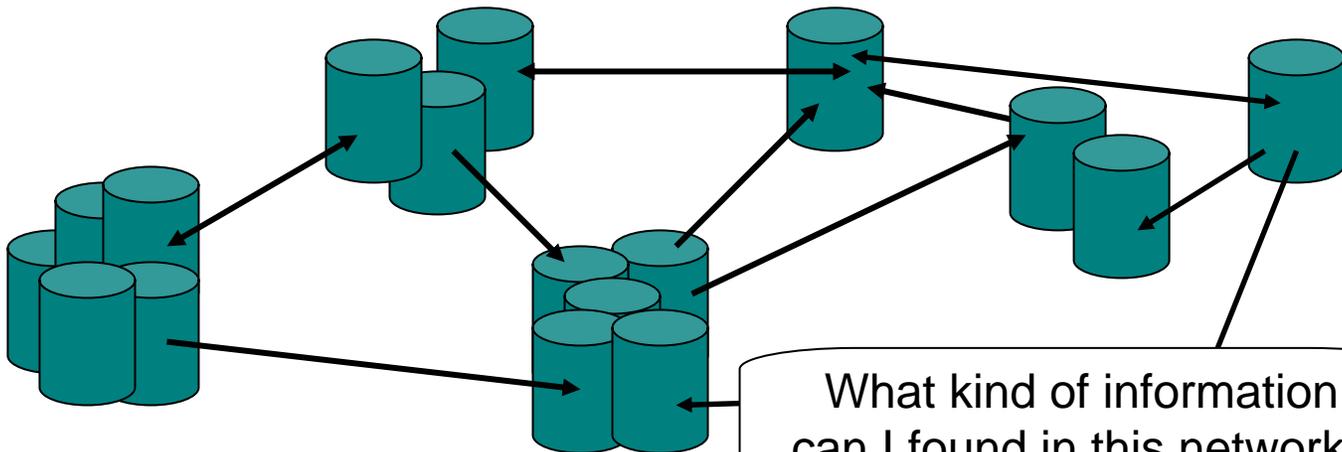
○ Explorative

- Composed of biological entities, keywords
- Unspecified schema
- Posed over a **network** of resources
 - Intricate and highly complementary

Solutions for Peer networks

- Querying with **Piazza** [Halevy et al, 04]
 - Queries asked to a given peer and **rewritten** over the schema of other peers
 - *Certain answers* are provided
- Querying and Updating with **Orchestra** [Ives et al, 06]
 - Builds upon concepts from **Piazza**
 - Allows data **exchange** / updates propagation among peers
 - Uses policies to quickly and automatically **manage disagreement** (conflicting data)

Remaining Problems...



What kind of information can I find in this network?

How to express my queries?

Had anybody ever asked a similar query?

I want to join the peer network: What should I do?

How do I specify links between my data and the data of other peers? How can my data be found by users?



Need for a Guide!

SHARQ - Overview

- **S**haring **H**eterogeneous and **A**utonomous **R**esources and **Q**ueries
- **C**ollaborative project
 - Database group at the University of Pennsylvania
 - Penn Center for Bioinformatics
 - Children's Hospital of Philadelphia
- **G**oal
 - Develop **g**eneric tools and technologies
 - creating / maintaining **c**onfederations of **p**eers
- SHARQ is composed of two main modules
 - **O**rchestra: Core engine
 - **S**HARQ **G**uide: Help in querying and administrating the biological peer network

More about SHARQ Guide?

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