

IE Courses and Options



Presenters

- **Professor Michael Gruninger**
 - *Information Engineering*
- **Professor Daniel Frances**
 - *Operations Research*
- **Professor Paul Milgram**
 - *Human Factors*



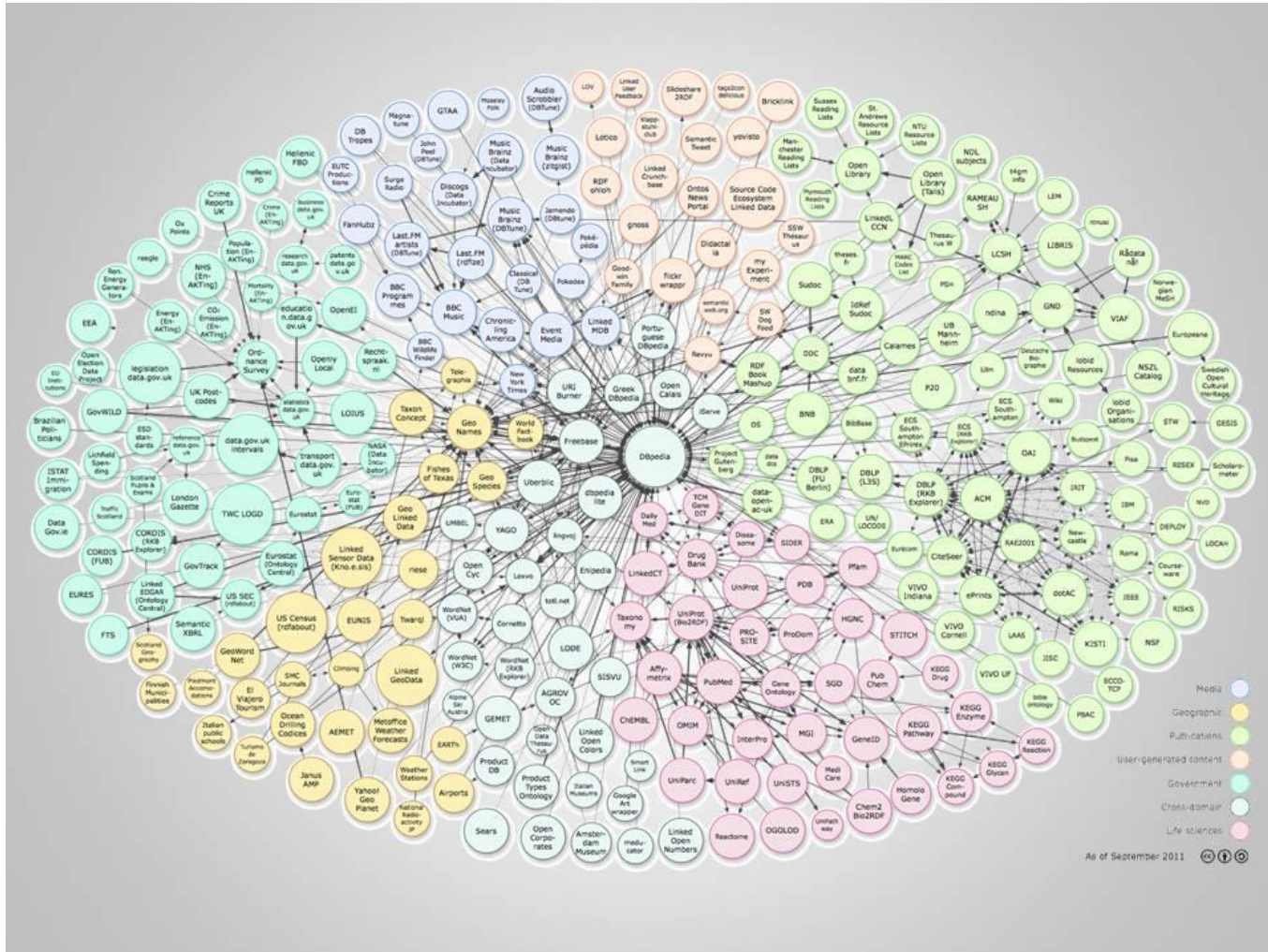
Information Engineering

Professor Michael Gruninger

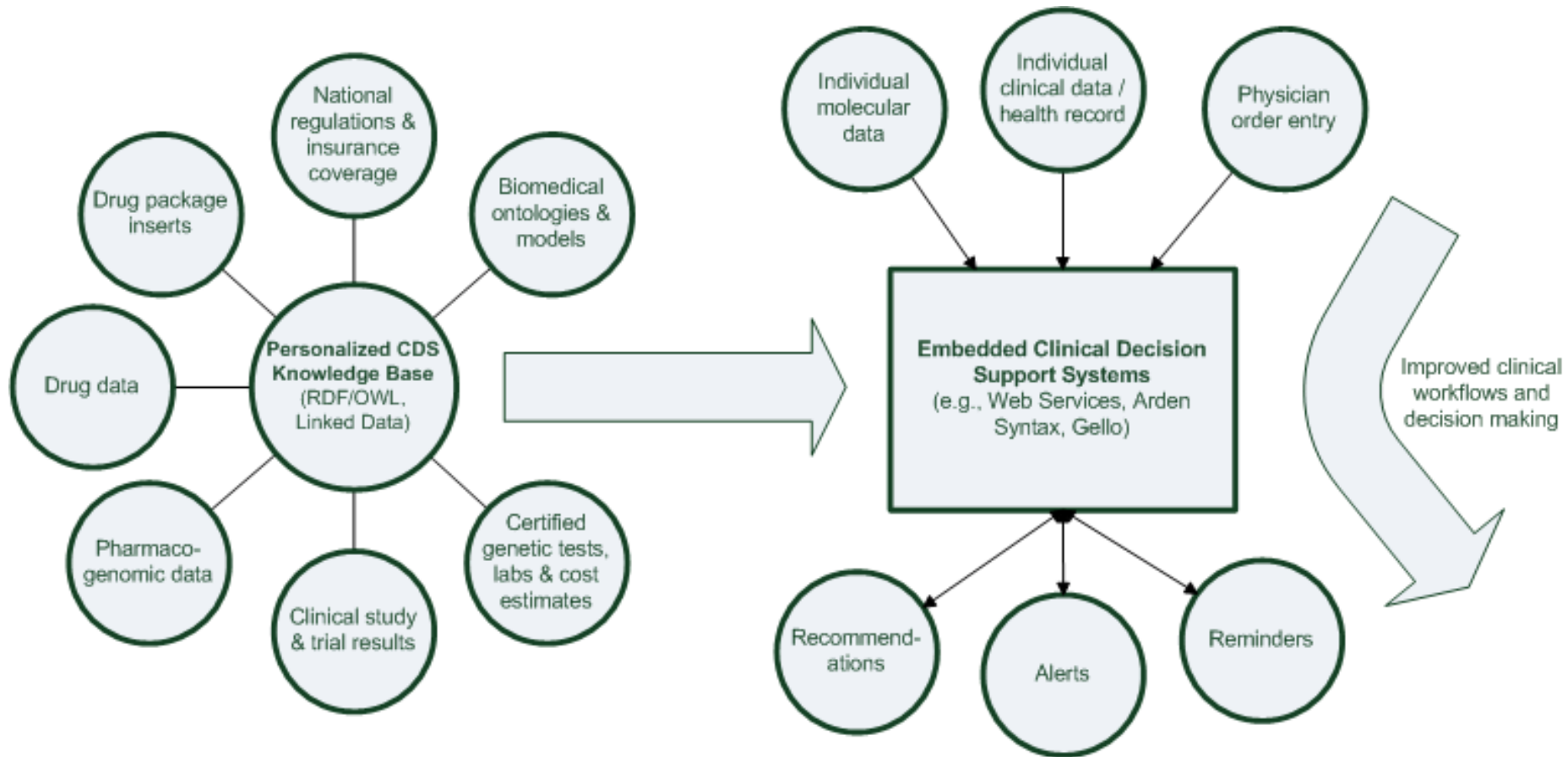
<http://stl.mie.utoronto.ca/gruninger.html>



Connecting Information Across the World



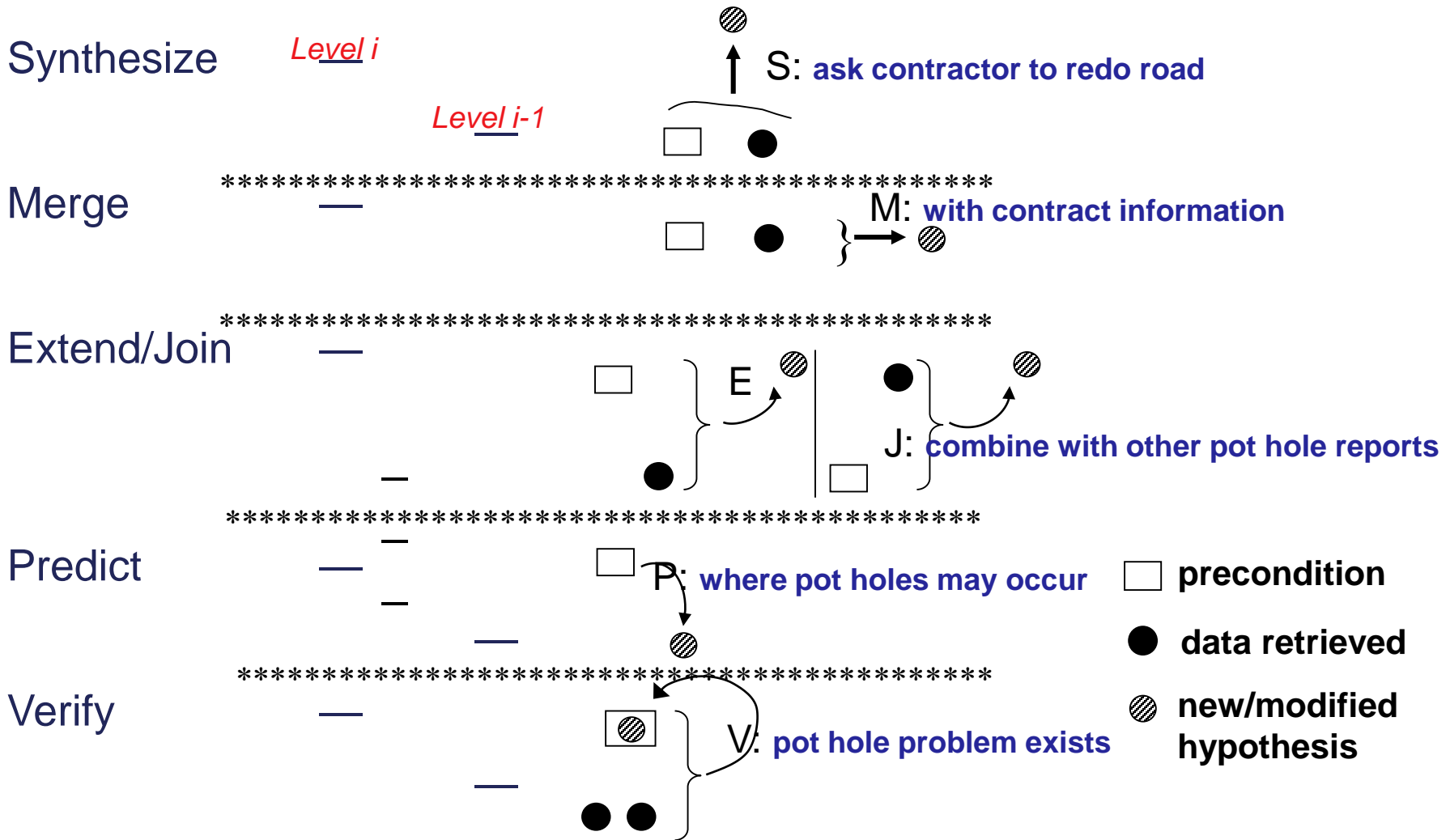
Integrated Proactive Medicine



Information

Reasoning

From Information to Knowledge to Action: Toronto 311



Supply Chain

Integrating Materiel, Manufacturing and Retail



Information Engineering

- Information Engineering is the engineering of
 - Information, knowledge, and decision support, and
the systems with which they are deliveredto support the achievement of organizational goals through the efficient and flexible operation of business processes.



Information Engineers...

- ...form a bridge between the technical side (software engineers, data modelers) and the business side (business analysts, process planners, managers)
- Focus on the strategic role of information systems in achieving business goals
 - not only **how** to build an information system but also **why**



Information Engineers...

Third Year Fall

- **MIE350:** Design and Analysis of Information Systems

Technical Electives:

- **MIE354:** Business Process Engineering

Third Year Winter

- **MIE335:** Algorithms & Numerical Methods

Technical Electives:

- **MIE344:** Ergonomic Design of Information Systems



Information Engineers...

Fourth Year Fall

- **MIE463:** Integrated System Design

Technical Electives:

- **MIE354:** Business Process Engineering
- **MIE451:** Decision Support Systems
- **MIE498H/Y:** Research Thesis

Fourth Year Winter

- **MIE459:** Organization Design

Technical Electives:

- **MIE344:** Ergonomic Design of Information Systems
- **MIE457:** Knowledge Modelling and Management
- **MIE498H/Y:** Research Thesis



Information Engineering Faculty

- Michael Gruninger



Christopher Beck



Scott Sanner
(No photo)

- Mariano Consens



Mark Fox



Careers for Information Engineers

- Designer (products, interfaces)
- Systems Analyst, Systems Architect
- Financial services
- Manager
- Consultant
- Start-Up Company



Graduate Studies for Information Engineers

- Data analytics / Big Data
- Artificial Intelligence
 - Knowledge representation and reasoning
 - Semantic Web
 - Intelligent manufacturing
 - Intelligent scheduling

