==General Meeting Information==

==Agenda==
* Semantic eScience

==Attendance==
* Deborah McGuinness  dlm@cs.rpi.edu  dlmguinness@gmail.com
  * Katie Chastain  chastk@rpi.edu  chastaka@eckerd.edu (works through gmail)
  * Rui Yan  yanr2@rpi.edu  raymondino.yan@gmail.com  (Raymond)
  * Bhavana Malhotra  malhob@rpi.edu  bhavana.rules@gmail.com
  * Qi Pan  pang2@rpi.edu  gigli.litutu@gmail.com
  * Christopher Gizara  gizarc@rpi.edu

Matthew (Xiaochuan) Ma  max4@rpi.edu
* Bolian Zhang  zhangb8@rpi.edu  bolianzhang85@gmail.com
* Kristine Gloria  glorim@rpi.edu  gloriakt1@gmail.com
* Stephen McAuliffe  mcauls@rpi.edu  sgt.gustav@gmail.com
* Jennifer VanDerwerken  brownj20@rpi.edu  jennifervanderwerken@gmail.com

Chen Wang  wangc10@rpi.edu  gonnnaxin@gmail.com
* Ruiwen Liu  liur3@rpi.edu  rwen.liu@gmail.com

Yudong Zhang  zhangy32@rpi.edu  zhang.yd531@gmail.com
* Mengzhu Peng  pengm@rpi.edu  mengzhu.peng@gmail.com  (Tia)
Randy Bohannon  bohanr@rpi.edu  ranbohannon@gmail.com

==Action Items==

==Notes==

Patrice - PhD in ontologies and logic from Buffalo
Katie - first term ITWS

Chris Gizara - second year grad in itws
Stephen McAuliffe - senior undergrad cs
Randy Bohannon - grad itws - communicating information interest (data science and xinformatics)
Steve Zhang - itws grad, undergrad major in networks (network security)
Riddle Zhang - from Macau
Mengzhu Tia Peng - e commerce  first year ITWS

Raymon Rui - second year at RPi (pronounced ray) just jointed twc
Jennifer VanDerwerken (brown email) itws with HCI concentration, 2nd term, taken data science
(work full time and lives an hour away from RPI)
Qi Pan - 2nd year itws, internship experience with data mining interested in bring ing semantic technologies back to standard and poors followon from internship

Bhavana Malhotra - data science, second year itws.
Liyin Zhang - second year grad in itws. taken database, xinformatics

Ruiwen Liu - second year grad itws.

Matthew Ma - ITWS sw engineering focus
“Knowledge is the common wealth of humanity” - enable the sharing of complex information.

We can help share information related to, say, earth science, without needing a Ph.D in earth science.

Non-experts can use data (e.g., graduate students), non-experts can present data to others (e.g., politicians seeking policy changes).

**Brainstorming exercise:** What do we need to achieve Semantic eScience?

- collaboration
- data availability
- standardized data
- easily understandable data
- accurate data
- searchable data
- accessible data
- timely data
- control group (comparable data)
- representative data
- categorized data along multiple dimensions
- flexible data model
- extensible data model
- subject matter expertise
- hypothesis
- strategies for dealing with change (data as well as models)
- input - problems to be solved; also data

**Information Era:** manage data, store data, curate data, make data accessible

- data/products/scientists must be accessible to a lot of audiences, from interested public, all the way up to policy leaders and governments
- data -> information -> knowledge -> wisdom
- shift some of the burden from users (of data) to providers; people collecting/providing the data are the ones making the data useable, so those who need to use it have an easier time collecting and interpreting
  -- for example, the water purity experts (providers) vs. the parents with children falling ill who think that the water purity is the problem (users)
- LOTS of data - we need to be able to search it, visualize it, interpret it, manipulate it, determine what is not useful
  -- metadata: conditions of collection, content, provenance. Data about the data

**Evolving Science:**
eScience

- sharing data so other people can use, interpret, and help explore it
- interdisciplinary
- individual research is far less common - mostly in teams now

**Semantic Web Methodology & Tech Development Process:**
- Use Case
- Small team, mixed skills, Analysis - from different perspectives
- Develop model/ontology - not highly technical yet
- Use tools - the ones that the computer can use/understand (programming languages, databases)
- Science/expert review - get the specific knowledge in specialized fields
- Leverage tech infrastructure - use tech available where possible
- Rapid prototype - implement idea
- Open world: evolve, iterate, redesign, redeploy - account for changing data, and also respond to feedback where necessary
- (evaluation at all steps)

**Virtual Observatory Example:**
- The goal is that the data appears local in integrated to the user (in preferred language, etc)
- Must interact with databases, through semantic mediation layer, then make that available through web portals, web services, etc.

**==Class Logistics==**
We meet Mondays, 1-3:50pm
**Class webpage:** [http://tw.rpi.edu/web/Courses/SemanticeScience/2012](http://tw.rpi.edu/web/Courses/SemanticeScience/2012)
- Calendar and Syllabus are located there
- Also reading lists and homework assignments!

**==Next Class - 9/10==**
*NOT next week 9/3 (Labor Day)*
Getting into use cases