



# Teaching Archive & MatDL:

*A space for collaborative development of educational resources, with an initial focus on transport phenomena in materials processing and performance*

Adam Powell

Matt Krane

Co-PIs, NSDL MatDL Pathway

Veryst Engineering

Purdue University



# Teaching Archive

---

- Over 100 homework problems, handouts, courseware, readings, pedagogy; 30 authors
- Metadata: title, author(s), description, keywords, time/difficulty
- Version control: modify, keep old versions
- Collaborative development, corrections etc.
- Fourteen-member Editorial Board
- Paper in J. Mat. Educ., MRS poster Fall '05



# Archive Next Steps

---

- More streamlined pathway for research results to enter education
- More resources including FiPy-related problems and other courseware
- Model-Eliciting Activities
- Student authorship of problems based on research papers



# Future Infrastructure Plans

---

- Editorial Board review infrastructure
- Web form for entering LOM metadata
- Document current use of Archive
- Move courseware to MatForge
- User comments, ratings of resources
- Visualize relationships between resources
  - Ontology structure of keywords, resources
  - Customizable scatter plots of resources

# Virtual Labs (Sadoway-MIT)

Services and content for ...

- virtual labs in large undergraduate introductory science courses
- Alternative to traditional labs
- Beginning with MIT *Intro to Solid State Chemistry*

