



# E-learning for OpenMI-Enabled Integrated Modelling

Christos Makropoulos, Yiannis Doxaras and George  
Karavokiros

**National Technical University of Athens**

# Context

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- As understanding of environmental system complexity progresses, the need for more integrated analysis and modelling of these systems and their interactions increases.
- Current interest on interfaces and cross-sectoral and cross-system implications of policies and interventions, results in a growing need for reliable and seamless integration of models and tools
- These tools have been developed for different parts of the integrated system, by different parties.

# Challenge

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- Making the use of these integrating environments **intuitive and user friendly**
- Embed them within the education process and use the possibilities they offer to **promote and teach** integrated modelling

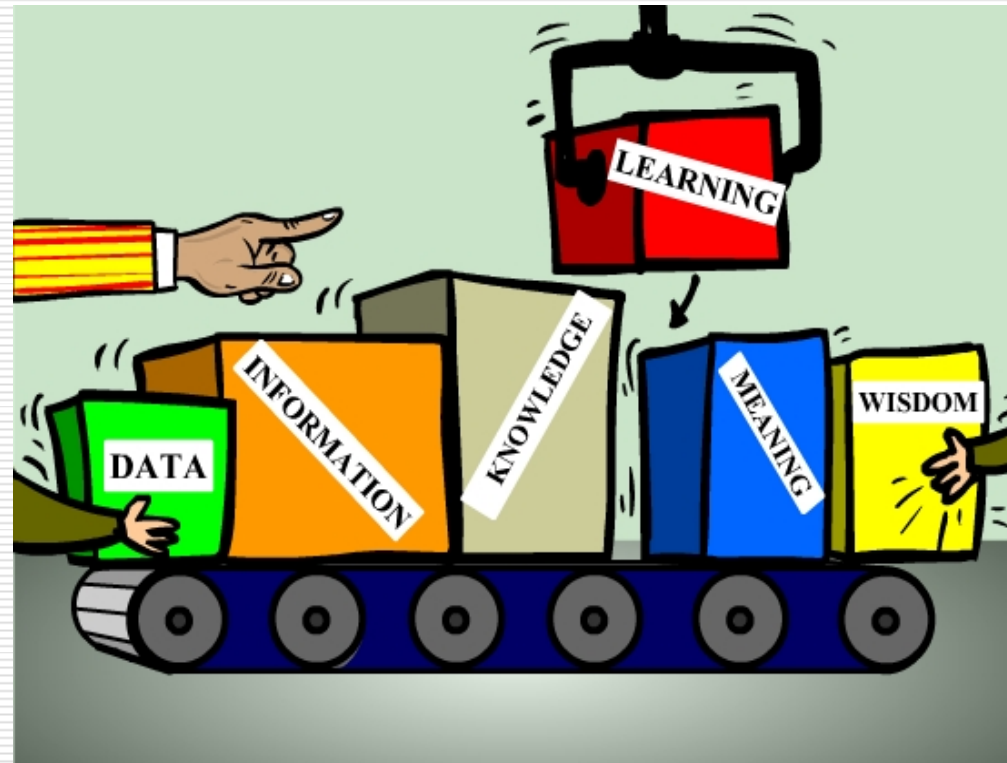
# Environmental education in context

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- The educational system in the European Union, has attempted to address the **need for highly trained environmental professionals** balancing specific domain knowledge and an understanding of cross-disciplinary issues, through the **establishment of environmental courses** at undergraduate and post-graduate levels.
- The graduates of these courses have actively assisted in **changing the Union's environmental policy and practice** which is now rightfully considered the most advanced in the world

# E-learning concept

- ❑ A dynamically changing environment (tech + natural)
- ❑ Data-Information-Knowledge flow (and change)
- ❑ Learning has to keep up!!
- ❑ To allow for progressing to the quest for meaning...



# E-learning

- Digital literacy
- Virtual Campuses
- Emerging issue in the EU (knowledge based society)
- Anytime-Anyplace

VICAIRE - MODULE 3

Groundwater Hydrology - Chapter 4

1. Soil layers located above the water table are exposed at:

- positive water pressures;
- negative water pressures;
- no influence of water pressure.

2. The increasing of temperature leads to:

- increasing of soil suction;
- decreasing of soil suction;
- no influence on soil suction.

Figure 4.6. Principium scheme for soil suction explanation

| Universities should:  | Suggested Response:   |
|---|---|
| Provide (affordable) education, customised to meet current and future needs | Relevant/Current PG Course<br>Topic &<br>E- learning delivery         |
| Provide the link between data-information-knowledge and learning            | Quick transfer between<br>Research and Teaching<br>Updatable material |
| Provide training on mechanisms of learning per se                           | Hands-on approach<br>(web/digital literacy: new learning paradigm)    |
| Provide a platform for communication, exchange of ideas and collaboration   | International Team and Audience<br>Link with USA initiatives (CUAHSI) |
| Provide tools and data to apply the theory: online and free                 | Link to HO Infrastructure, the CUAHSI Network and Software Companies) |

# Partners

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A kick-off within the OpenMI LIFE project:

- Natural Environment Research Council (UK)
- DHI - Water and Environment (DK)
- Wallingford Software Limited (UK)
- National Technical University of Athens (EL)
- University of Thessaly (EL)
- Aquafin (BE)
- VMM (BE)
- Université de Liège (BE)

With the help of OpenMI Association members:

- IHE Delft (NL)
- Alterra (NL)
- CUAHSI contacts and input

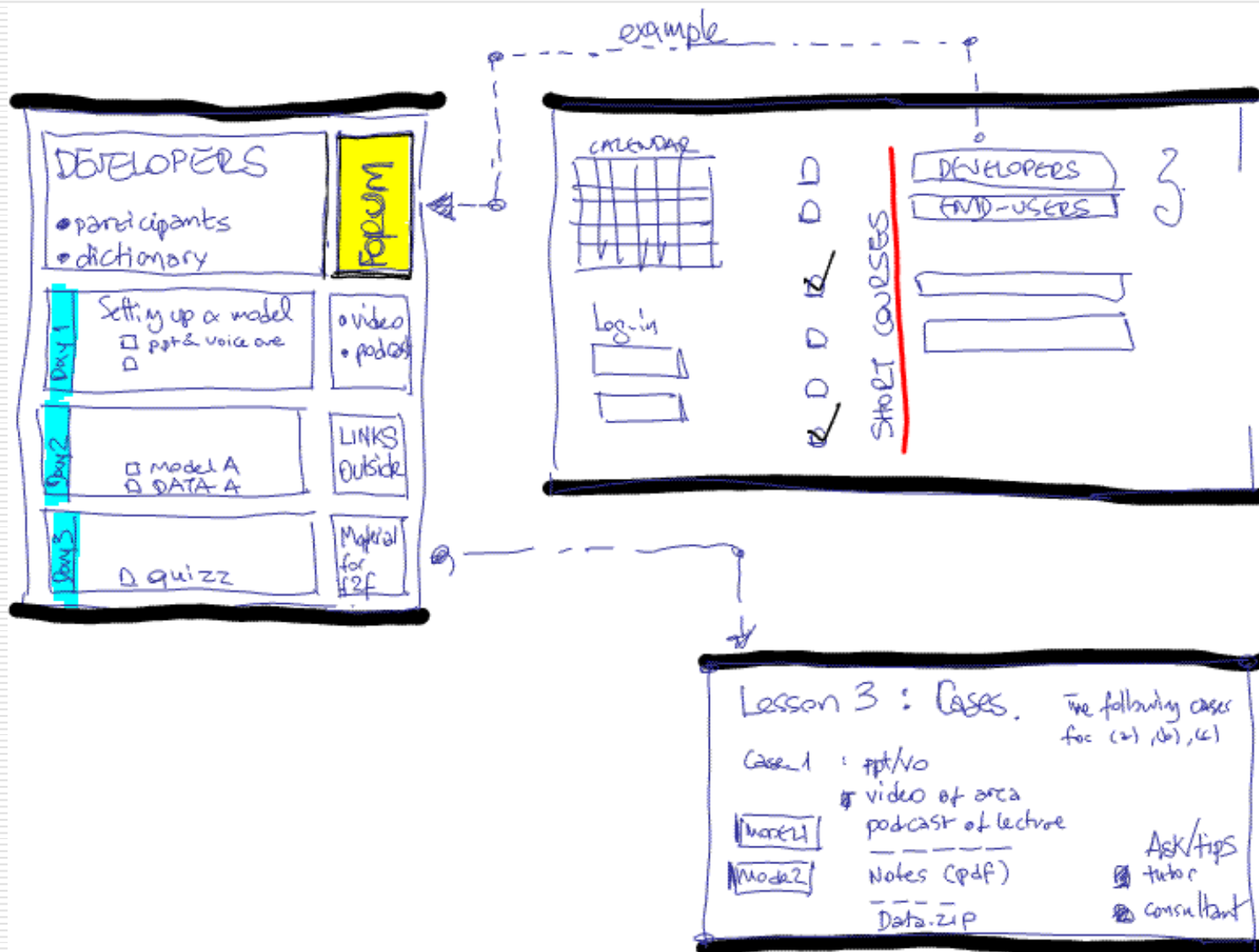


# Overview of Actions

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- Organisation of a Virtual Network of Higher Education Institutions for Integrated Modelling facilitated by OpenMI
  - Development of an e-learning platform for the delivery of courses
  - Development of Educational Material for:
    - Introduction to OpenMI
      - Users (1 module)
      - Developers (1 module)
    - Subject specific courses [to be added in over the longer term]
  - Delivery of a pilot course for selected users (volunteers?)
-

# An (early) concept diagram



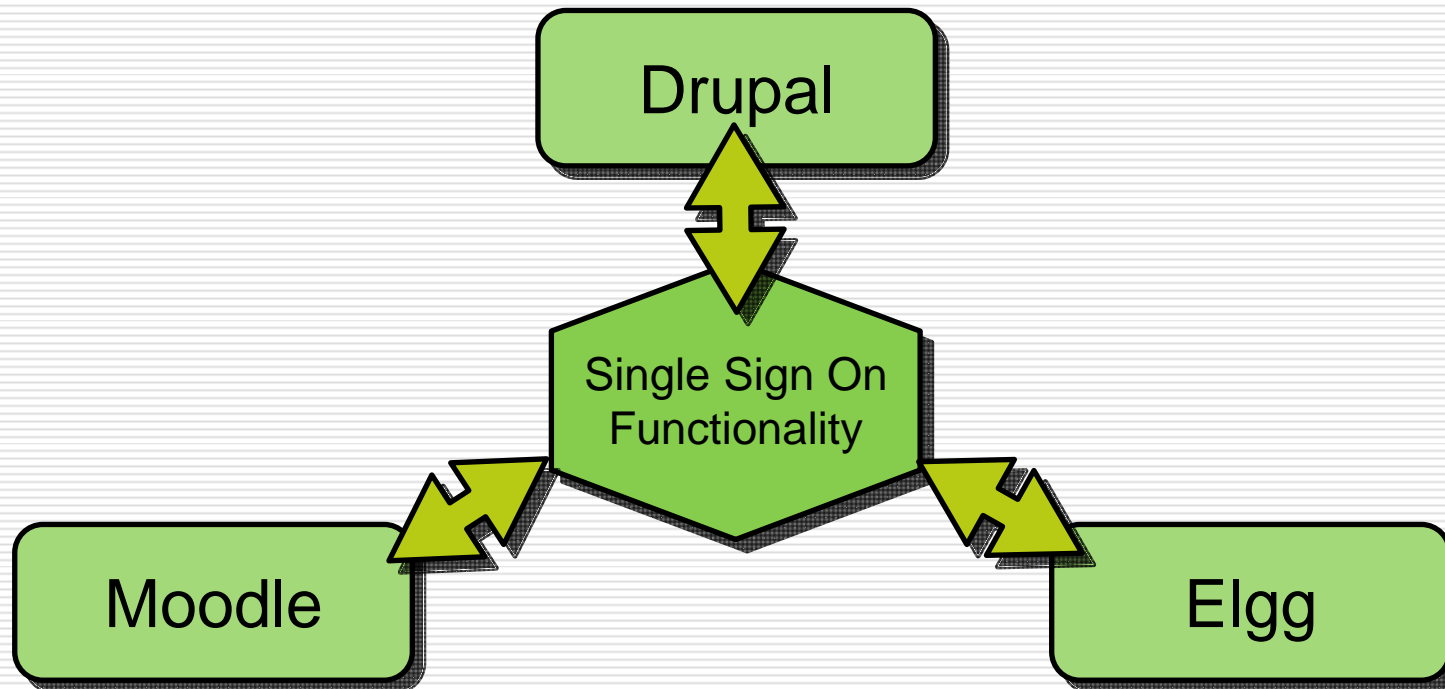
# Implementation Software

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- **Moodle** state of the art open source e-learning platform.
- **Drupal** #1 CMS the last 3 years. Advanced ontology and community management capabilities.
- **Elgg**. The most active and emerging open source, social networking platform (“educational-facebook: migrate existing communities”).

# Deployment Diagram

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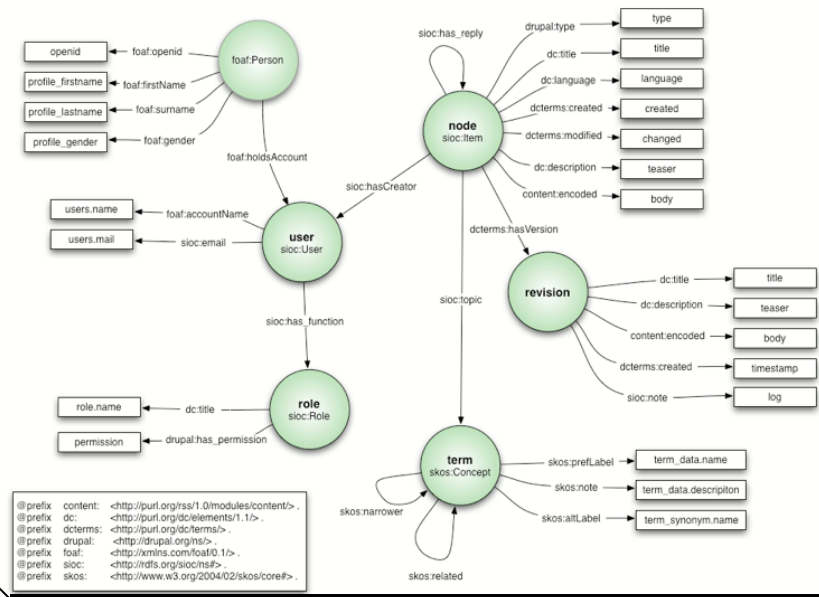


# Systems Integration

The screenshot shows the OpenMI site administration interface. At the top, it says "You are logged in as Admin User (Logout)" and "Thursday 21 May 2009". The navigation menu includes Home, Courses, Learner Services, Student Council, LRC / Resources, IT Services, and Themes. The main content area is titled "Available Courses" and displays "No courses in this category" with a button to "Add a new course". On the left, there is a "Site Administration" sidebar with a tree view of categories like Users, Courses, Grades, Location, Language, Modules, Security, Appearance, Front Page, Server, Networking, Reports, and Miscellaneous. A calendar for May 2009 is also visible.

The screenshot shows the elggCommunity website. The header includes the OpenMI logo and navigation links for Home, About, News, Community, Docs, Hosting, and Download. The main content area features a "Log in" form with fields for Username and Password, and a "Remember me" checkbox. Below the login form are links for "Register" and "Lost password". To the right, there is a section for "elggDevelopers" with links to "Bug tracker", "API reference", and "Documentation". Further down, there is a "Newest members" section displaying a grid of user avatars and a "Latest bookmarks" section.

The screenshot shows the eFront website. The header includes the eFront logo and navigation links for Home, Product, Services, Download, Resources, Partners, Company, and Community. The main content area is titled "eFront: A Refreshing Learning Experience" and features a "Latest News" section with several announcements, including "eFront v3.5.3 build 3893 released" and "eFront v3.5.3 beta build 3695 released". Below the news, there is a preview of the eFront user interface showing various course options and lessons.



Drupal: Semantic Web Functionalities



# Learning Methodologies

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- Project based learning.
- Self Evaluation, automated feedback.
- On line Class feature (real time course broadcasting and offline search)
- Learning Communities.
- Collaborative learning.
- Twitter live feedback.
- Advanced Taxonomies for content search.
- Cross knowledge domain linking. Advanced Ontologies.
- Multilingual content.
- Mobile thematic.
- Customizable UI

# User roles in the educational procedure

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- Guest
  - Access to public information
- Student
  - Participation in modules (access to educational material, participation in module activities)
  - Communication with teachers and students
- Teacher
  - Module content management
  - Module activities management
  - Responsible for the ongoing educational procedure
- Administrator
  - User management
  - Membership management
  - Course structure management
  - Module administration

# Module functionalities

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1. Teaching mechanisms
  - a) Teaching material
  - b) Activities
2. Evaluation
  - a) Self-assessment
  - b) Evaluation by the instructor
  - c) Module evaluation
3. Grading and Reporting
4. Information and Communication mechanisms
  - a) One way
    - Static information
    - Inform – Notify – Feedback
    - Time related (Events, Calendar)
  - b) Two-ways: Synchronous and Asynchronous

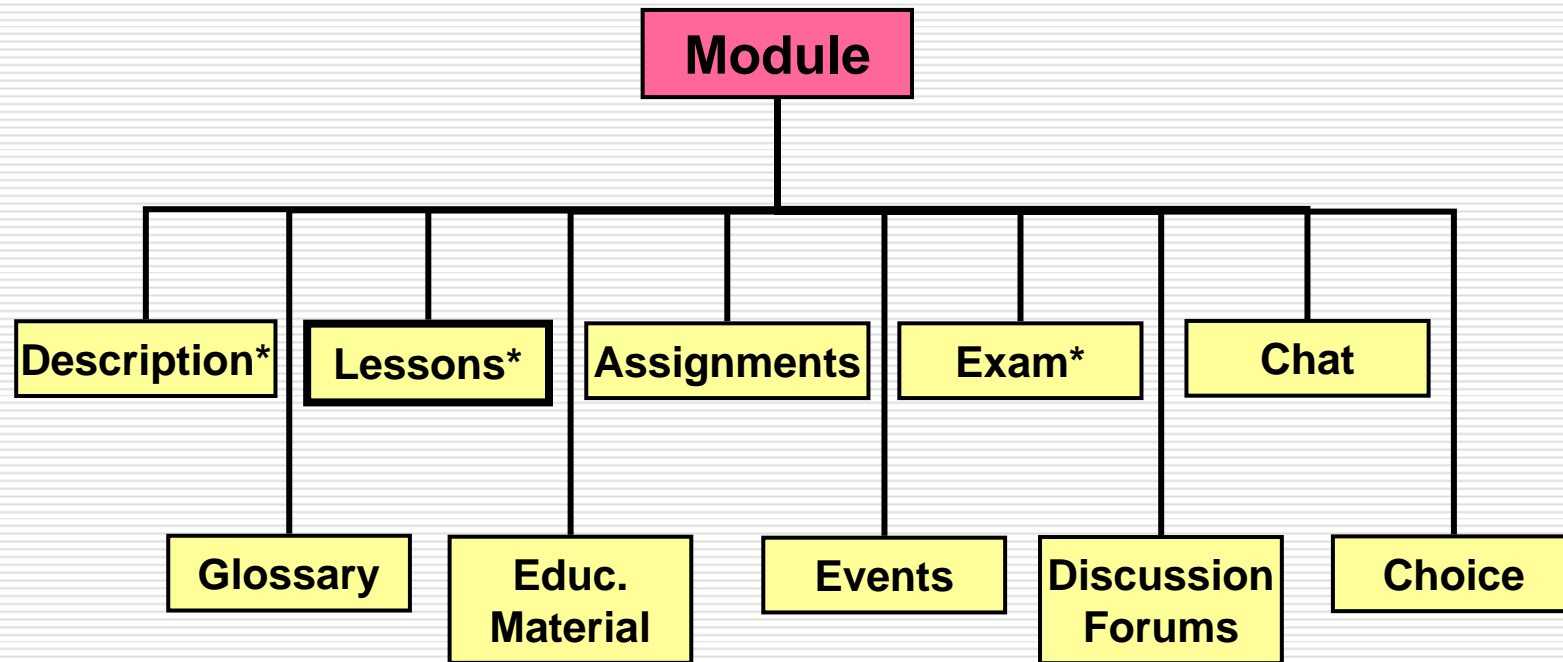


# Forms of communication supported by the e-learning platform

|                          | <b>Mode</b>  | <b>Level</b>       | <b>Participants</b>                                |
|--------------------------|--------------|--------------------|--|
| <b>Chat</b>              | Synchronous  | Module             | Teachers and Students<br>(many to many)            |
| <b>Dialogs</b>           | Synchronous  | Platform           | Teachers and Students<br>(one to one)              |
| <b>Email</b>             | Asynchronous | Platform           | Teachers and Students<br>(one to one, one to many) |
| <b>Messages</b>          | Asynchronous | Platform           | Teachers and Students<br>(one to one, one to many) |
| <b>Discussion Forums</b> | Asynchronous | Platform<br>Module | Teachers and Students<br>(many to many)            |
| <b>Choice</b>            | Asynchronous | Module             | Students   |

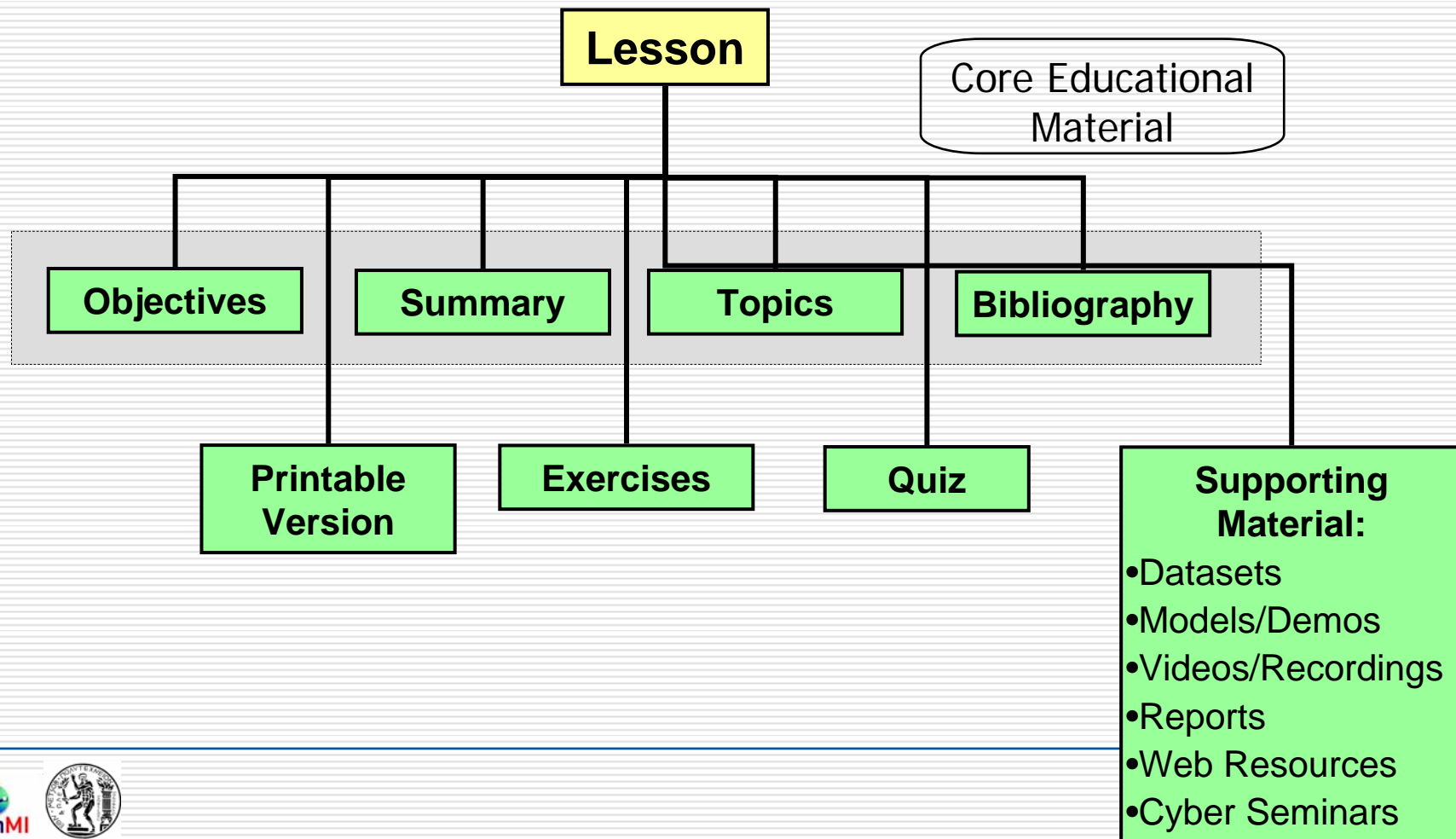
# Module components

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\* Required

# Lesson components




# Lesson components

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- **Topics** (a) hypertext (lecture notes, case studies), (b) animated presentations w/voiceover (c) multimedia (video, animations, graphics)
- **Quiz** (Knowledge stabilization units/*Formative Assessment*) (not to be evaluated): (a) solved problems, (b) questions and answers, (c) multiple choices
- **Exercises** (to be evaluate/*Summative Assessment*): (a) reports, (b) software applications (GIS, models, commercial software)
- **Bibliographical material:** (a) digital library (papers, studies, books, manuals), (b) theses catalogue (c) links to URLs, (d) dictionary of terms

# Logging In: A closer look

| Returning to this web site?   | Is this your first time here?  |
|---|--|
| <p>Login here using your username and password:<br/>(Cookies must be enabled in your browser) </p> <p>Username: <input type="text" value="makropoulos"/></p> <p>Password: <input type="password" value="XXXXXXXX"/></p> <p><input type="button" value="Members login..."/></p> <p>Forgotten your username or password?</p> <p><input type="button" value="Yes, help me log in"/></p> | <p>Welcome to the <b>Login Page of Educate!</b> .You probably already have been notified about your new account to the Educate! Learning Platform containing an email and a password for you to use in this form.Please fill in the form with the correct data so the system can log you in to the Educate! Learning Platform.</p> |

Maintained by   
National Technical University of Athens

**Educate!**  
[Home](#)

You are logged in as **Christos Makropoulos** (Logout)  
  
Supported by the INTERREG III B CADSES Programme

Examples from the Educate! E-Learning course at NTUA  
<http://www.water-msc.org/>

# Available Modules...

**Statistics**

Connections during the last 7 days

Connected today : 4

Total users : 44  
Total modules : 24

News and Announcements Unsubscribe from this forum

**Visit the Test Module to learn to operate this platform**  
by Official Administrator - Monday, 11 June 2007, 11:25 AM

Please visit the [Demonstration Module](#) we created for demonstration purposes under the Internal modules category to help you learn to operate this platform.

Thematic Areas

- Thematic Area 1: Scientific Background**  
Hydraulics - Hydrology  
Ecology, Chemistry and Microbiology
- Thematic Area 2: Urban Water Management**  
Water Supply and Distribution Management  
Wastewater collection and treatment  
Stormwater Management
- Thematic Area 3: Catchment Management**  
Integrated Flood Risk Management  
Groundwater  
Integrated Water Resources Management
- Thematic Area 4: Environmental Management**  
Policy and Legislation  
Environmental Assessment  
Surface Water Quality Modelling  
Ecohydrology, Sediment Transport and River Remediation  
Decision-Making Analysis and Tools for Environmental Sciences  
Submarine Outfalls



# Module interface

## Data Analysis Tools

This module is coordinated by:  
**Christos Makropoulos**

- Module Participants
- Module description

This module aims to provide a basic knowledge of tools for data analysis. It includes two sub-modules, geographical information systems, and probability and statistics. The first sub-module introduces geographic information systems, their main concepts, including inter alia, data models, geographic projections, spatial analysis and quality assurance. It further provides an introduction and hands-on tutorials for a leading, commercial, GIS software (ArcGIS by ESRI). The second sub-module provides essentials of probabilistic modelling of natural processes, introduces characteristic concepts such as return period and risk, as well as characteristics natural behaviours such as seasonality, intermittency and persistence, and provides tools to analyze data series and build probabilistic models useful for the design and management of hydraulic structures.

**Communication Point:**

- Discussion Forum
- Chat on Data Analysis Tools
- GIS Glossary
- News forum

Turn editing off

- Settings
- Assign roles
- Grades
- Groups
- Backup
- Restore
- Import
- Reset
- Reports
- Questions
- Files
- Unenrol me from Data Analysis T
- Profile

Latest News

- Add a new topic...
- 9 May, 20:04  
Baki Sandra  
Assignment extension more...
- 9 Mar, 17:14  
Koutsoyiannis Demetris  
Welcome to the second sub-module of WREM103 - Lesson 7 is now open more...
- 17 Feb, 10:49  
Makropoulos Christos  
Task Submission more...
- 10 Feb, 15:33  
Makropoulos Christos  
Task Submission more...
- Older topics ...

Calendar













Done

# A discussion forum

Show/edit current subscribers ▲  
Unsubscribe from this forum  
Track unread posts

This is a place for general discussion

Add a new discussion topic

| Discussion   | Started by  | Replies | Unread ✓ | Last post  |
|--|---|---------|----------|--|
| Statistics Assignment                                |  Frangos Andreas          | 6       | 0        | Koutsoyiannis Demetris<br>Sun, 20 Apr 2008, 07:27 PM |
| Questions 5  |  Chagios Fotios           | 1       | 0        | Koutsoyiannis Demetris<br>Wed, 2 Apr 2008, 07:29 PM  |
| Exams  |  Koutiva Ifigenia         | 5       | 0        | Makropoulos Christos<br>Sun, 30 Mar 2008, 09:17 PM   |
| Questions 4  |  Koutiva Ifigenia        | 3       | 0        | Koutsoyiannis Demetris<br>Sat, 29 Mar 2008, 02:22 PM |
| access problems                                      |  Minasidou Kassiani     | 5       | 0        | Koutsoyiannis Demetris<br>Fri, 28 Mar 2008, 09:40 AM |
| Questions 3  |  Chagios Fotios         | 1       | 0        | Koutsoyiannis Demetris<br>Fri, 28 Mar 2008, 09:20 AM |
| Grades   |  Horvat Anja            | 1       | 0        | Koutsoyiannis Demetris<br>Tue, 25 Mar 2008, 09:51 AM |
| Qustions 2   |  Chagios Fotios         | 5       | 0        | Koutsoyiannis Demetris<br>Thu, 20 Mar 2008, 08:25 AM |
| Quizz 4 (numerical) on basic concepts of probability |  Vojt Predrag           | 3       | 0        | Koutsoyiannis Demetris<br>Tue, 18 Mar 2008, 11:06 PM |
| Problem with Internet platform                       |  Isakovic Dusko         | 1       | 0        | Koutsoyiannis Demetris<br>Tue, 18 Mar 2008, 10:52 PM |
| theoretical quiz 2                                   |  Moniodi Maria          | 11      | 0        | Kordopati Dionysia<br>Tue, 4 Mar 2008, 09:28 PM      |
| Errata   |  Koutsoyiannis Demetris | 11      | 0        | Koutsoyiannis Demetris<br>Sun, 2 Mar 2008, 06:10 PM  |



# Inside a discussion forum...

The screenshot shows a forum interface with a header banner for 'DUCATE! Postgraduate Course in Water Resources and Environmental Management'. The banner includes a logo, navigation links like 'Educate! > Data Analysis T > Forums > Discussion Forum > Assignment', and a search bar. Below the banner, there are controls for 'Display replies in nested form' and 'Move this discussion to...'. The main content area displays three posts:

- Assignment** by Makropoulos Christos - Monday, 21 January 2008, 01:54 PM. The post text reads: "I am starting a new post on the GIS assignment - so that we keep the discussion about it in one place - and also to remind you that this must be done sooner rather than later. You will find that there is really no 'correct' way of doing this, and I expect every one to go through a slightly different process (although the end results should be similar) so what I am looking for here is clarity of thought and consistency of process - and a detailed description of what you have done and why. Edit | Delete | Reply".
- Re: Assignment** by Antonaru Maria Otilia - Wednesday, 23 January 2008, 08:49 AM. The post text reads: "I have some problems with the river.shp and lowland.shp. It seems that they didn't have the same system of coordinates as the other. At river.shp and lowland.shp, at Properties - Source it appears: Coordinate system: Unknown How can I solve this? Do you have the same problem? Thank you Show parent | Edit | Split | Delete | Reply".
- Re: Assignment** by Antonaru Maria Otilia - Wednesday, 23 January 2008, 01:18 PM. The post text reads: "Sorry, I realized later that I should have posted my question on the new post that you created for GIS assignment. Regarding what I asked I am confused now, after your answer. Did I made a mistake? If yes, I am sorry. But can you be more explicit? Thank you. Show parent | Edit | Split | Delete | Reply".

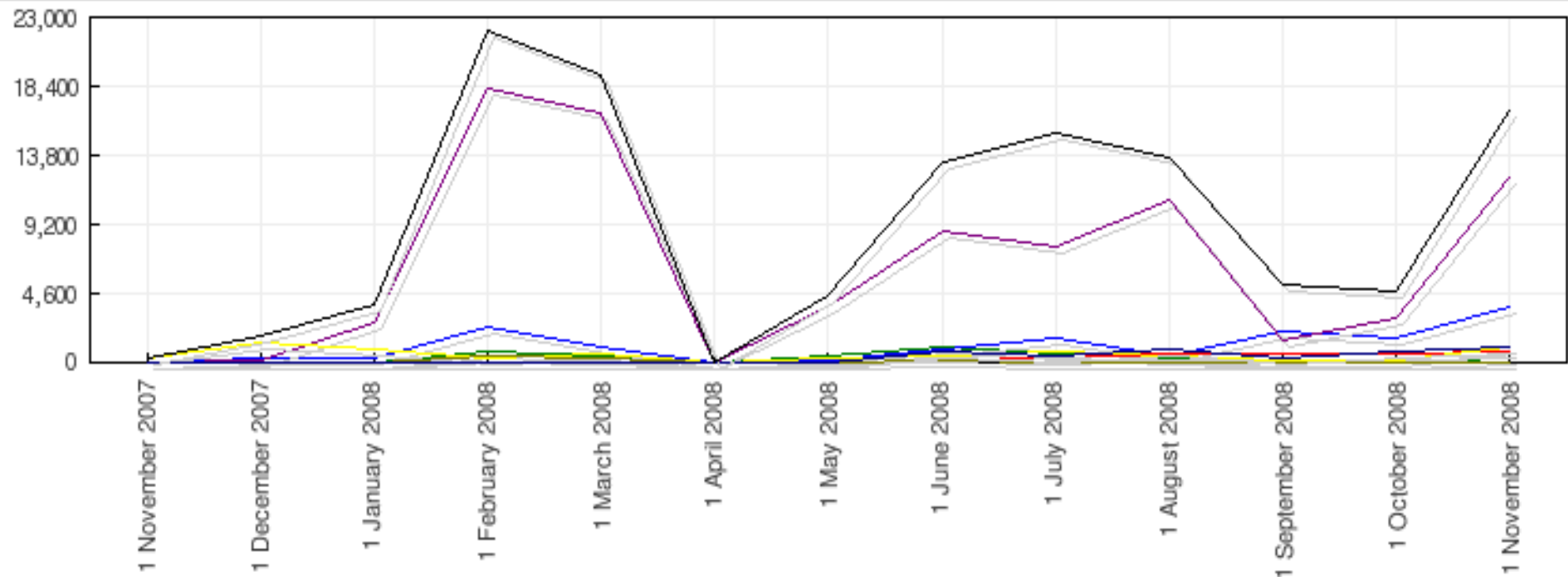
Each post includes a small profile picture and a 'Rate...' dropdown menu at the bottom right of the post content area.

# The platform

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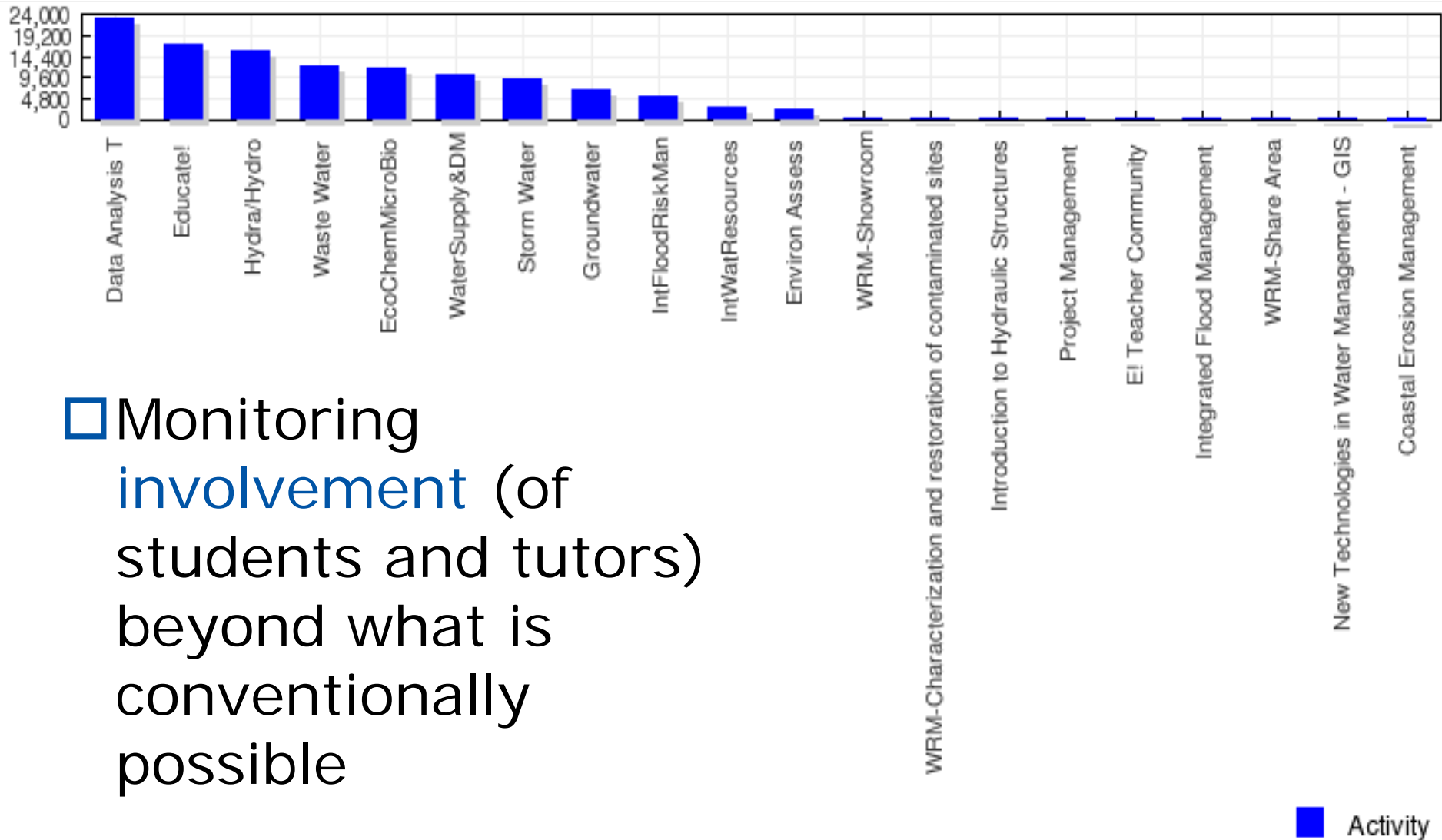
- Can be used to support both **distance** and **blended** learning (short courses).
- An excellent **monitoring tool** of the activities of the course and resulting engagement (much better than traditional courses!)

# Activity



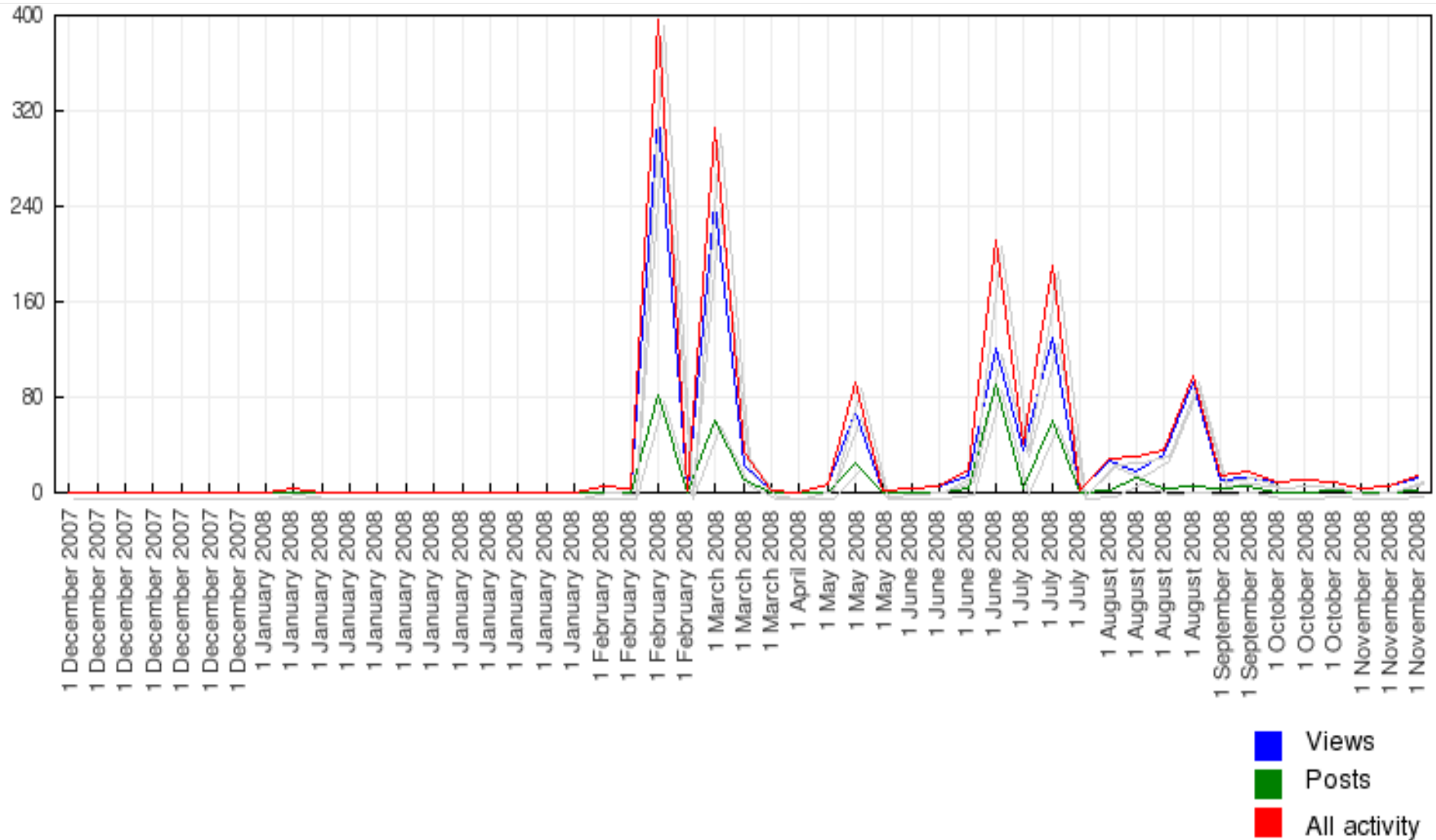
- Course Coordinator
- Assistant
- Guest
- Student
- Tutor
- Module Coordinator
- Administrator
- All

# Activity of Modules

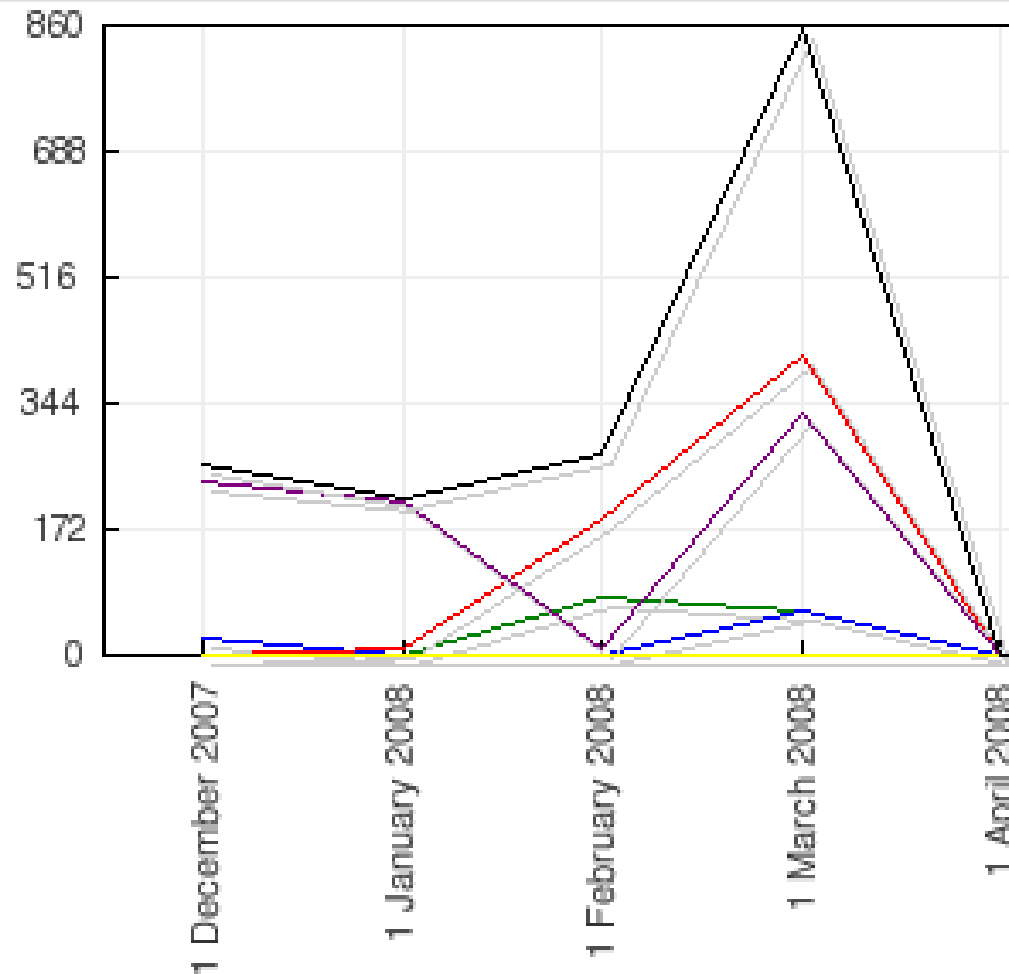


□ Monitoring involvement (of students and tutors) beyond what is conventionally possible

# e.g. Tutor activity...



# Posts in the discussion forum



- Collaboration between students-tutors and among students
- Posts anyplace all-the-time – replies anytime – all-the-place...

# Monitor and record feedback

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- Discussions, suggestions and arguments are recorded.
- Questionnaires allow continuous feedback.
- Co-development of course: relevance and engagement
  - Area for students to upload and share useful material
  - Actual transnational collaboration in practice – at all levels

# Questionnaires

Please comment on the following issues by assigning an appropriate score to each question

|  | Average rank      |          |         |       |                |     |
|--|-------------------|----------|---------|-------|----------------|-----|
|  | Strongly disagree | Disagree | Neither | Agree | Strongly agree |     |
| I was satisfied with teaching the module   |                   |          |         | ■     |                | 4.2 |
| The experience was enjoyable   |                   |          |         | ■     |                | 4.2 |
| I strongly encouraged the interaction between students through the use of technology |                   |          |         | ■     |                | 4.4 |

2. What is your overall evaluation of the organization of the course?

| Response  | Average | Total |
|-----------|---------|-------|
| Very good | 88%     | 7     |
| Excellent | 12%     | 1     |
| Total     | 100%    | 8/8   |



# Impressions from participants: past experience

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- Students very satisfied with the approach:
- Part-time attendance of such high-level course, made possible a **radical change** on what LLL means (improving its true potential).

12. What was the most satisfying part of the course?

| # | Response   |
|---|--|
| 1 | Ability to use some other means of presenting the teaching material. The Moodle system itself.   |
| 1 | Being able to develop the lecture anytime anywhere, and allow it to grow gradually<br>Being able to respond to students questions anytime anywhere which is compatible to my research work schedule. |
| 1 | Final presentation of Mini theses  |
| 1 | The direct communication with the students   |
| 1 | The introductory week in Belgrade  |
| 1 | water treatment technologies.  |

# Assessment of methods and tools

The following on line tools are easy to use:

|  | Average rank |  |  |   |              |     |
|--|--------------|--|--|---|--------------|-----|
|  | not at all   |  |  |   | very much so |     |
| Chat                                   |              |  |  | ■ |              | 3.3 |
| Forum                                  |              |  |  |   | ■            | 4.6 |
| Private Messages System                |              |  |  | ■ |              | 3.8 |
| Reading Material (in Web Pages Format) |              |  |  | ■ |              | 3.6 |
| Reading Material (in PDF Format)       |              |  |  |   | ■            | 4.8 |
| Assignments                            |              |  |  |   | ■            | 4.7 |
| Quizzes                                |              |  |  |   | ■            | 4.6 |
| Glossaries                             |              |  |  | ■ |              | 4.1 |
| Calendar                               |              |  |  |   | ■            | 4.2 |
| Choices                                |              |  |  |   | ■            | 4.1 |
| Grades                                 |              |  |  |   | ■            | 4.2 |
| Skype                                  |              |  |  |   | ■            | 4.2 |

# Learning 2.0

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- ❑ Tweets captured during the lesson.
- ❑ Social media smart device applications. iphone, android, web smart phone client.
- ❑ Quizzes answered in real time (over the mobile) with data transferred to the system/tutor.
- ❑ Content and article sharing, inside the same workgroup.

# Taxonomies Content

Find content using the COSMOS Tag Cloud

Asteroid belt Asteroids Astrometry Big Bang Black holes Comets Constellations Coordinates Cosmology **Crater** Dark matter  
Earth **Galaxies** Globular clusters Gravitational force and gravity Kinetic energy Light Reflection Meteorite  
**Moon** Nebula Open clusters Orbit **Planets** Pollution Potential energy Pulsars **Quasars** Seasons **Solar**  
**system** Star chart Stars **Sun** **Supernova remnants** Universe - generally Vision







## Who's online

There are currently *0 users* and *2 guests* online.

## Who's new

- peroffs
- reinhard-nagele
- sashka45

## Languages

-  Български
-  English
-  Finnish
-  Deutsch
-  Ελληνικά
-  Svenska

## My COSMOS

- Submit Educational Content
- Submit Learning Activity
- Teachers' Blogs
- Co-design COSMOS
- My account
- My inbox
- Submit content
- Administer
- Log out

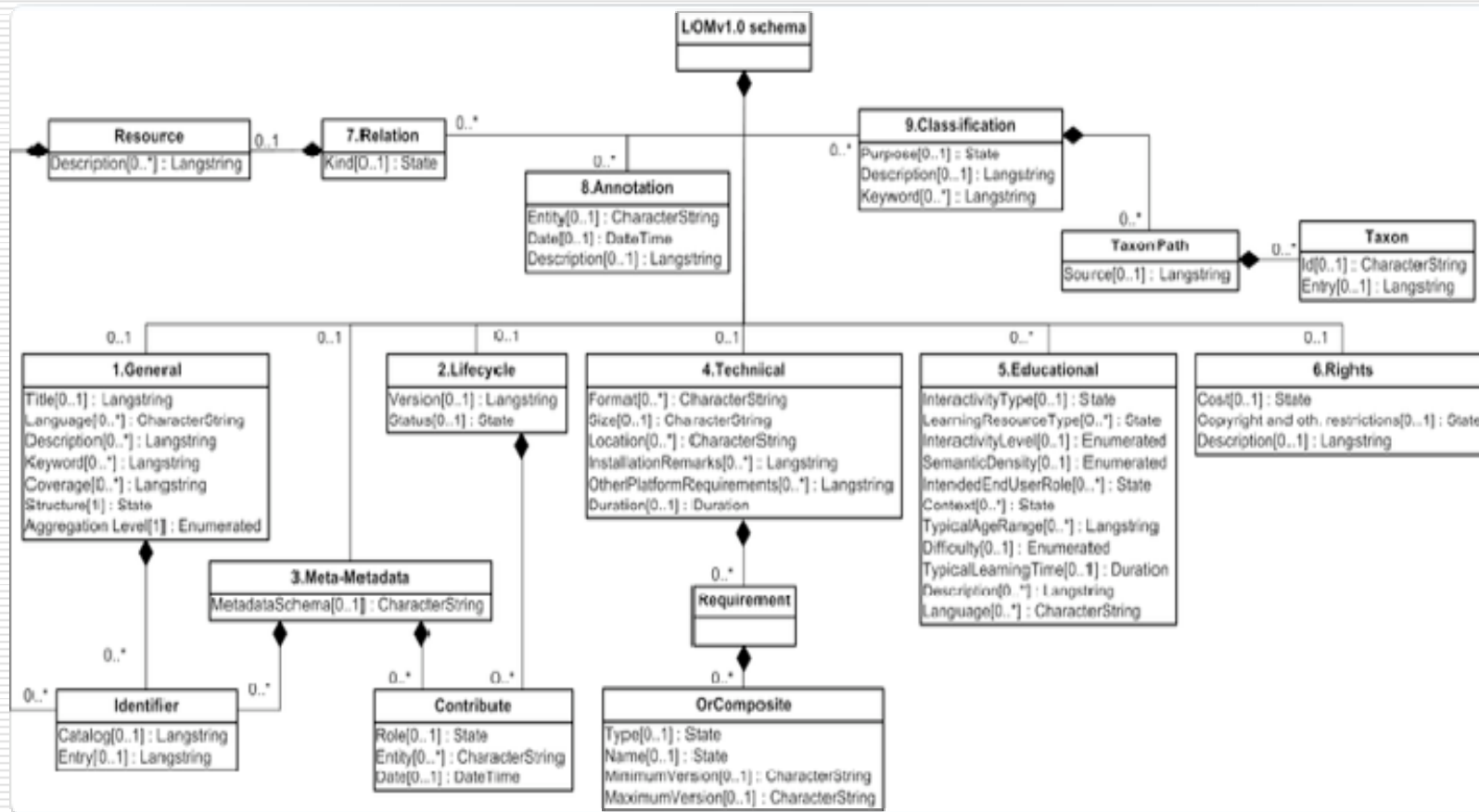
# Advanced Taxonomies for Learning Metadata

| Nr    | Name       | Explanation   | Size                                 | Order       | Value space                        | Datatype  | Example  |
|-------|------------|---|--------------------------------------|-------------|------------------------------------|---|--|
| 1     | General    | This category groups the general information that describes this learning object as a whole.  | 1                                    | unspecified | -                                  | -   | -  |
| 1.1   | Identifier | A globally unique label that identifies this learning object.   | smallest permitted maximum: 10 items | unspecified | -                                  | -   | -  |
| 1.1.1 | Catalog    | The name or designator of the identification or cataloging scheme for this entry. A namespace scheme.   | 1                                    | unspecified | Repertoire of ISO/IEC 10646-1:2000 | CharacterString (smallest permitted maximum: 1000 char) | "ISBN", "ARIADNE", "URI"                                       |
| 1.1.2 | Entry      | The value of the identifier within the identification or cataloging scheme that designates or identifies this learning object. A namespace specific string. | 1                                    | unspecified | Repertoire of ISO/IEC 10646-1:2000 | CharacterString (smallest permitted maximum: 1000 char) | "2-7342-0318", "LEAO875", "http://www.ieee.org/documents/1234" |
| 1.2   | Title      | Name given to this learning object.   | 1                                    | unspecified | -                                  | -   | -  |

| Nr  | Name     | Explanation   | Size                                 | Order     | Value space | Datatype   | Example   |
|-----|----------|---|--------------------------------------|-----------|-------------|--|---|
| 1.5 | Keyword  | A keyword or phrase describing the topic of this learning object.<br><br>This data element should not be used for characteristics that can be described by other data elements.   | smallest permitted maximum: 10 items | unordered | -           | LangString (smallest permitted maximum: 1000 char) | ("en", "Mona Lisa")   |
| 1.6 | Coverage | The time, culture, geography or region to which this learning object applies.<br><br>The extent or scope of the content of the learning object. Coverage will typically include spatial location (a place name or geographic coordinates), temporal period (a period label, date, or date range) or jurisdiction (such as a named administrative entity). Recommended best practice is to select a value from a controlled vocabulary (for example, the Thesaurus of Geographic Names [TGN]) and that, where appropriate, named places or time periods be used in preference to numeric identifiers such as sets of coordinates or date ranges.<br><br>NOTE 1:--This is the definition from the Dublin Core Metadata Element Set, version 1.1.* | smallest permitted maximum: 10 items | unordered | -           | LangString (smallest permitted maximum: 1000 char) | ("en", "16th century France")<br><br>NOTE 2:--A learning object could be about farming in 16th century France: in that case, its subject can be described with 1.5:General.Keyword=("en","farming") and its 1.6:General.Coverage can be ("en","16th century France"). |

|   |             |  |                                       |             |   |   |   |
|---|-------------|--|---------------------------------------|-------------|---|---|---|
| 5 | Educational | This category describes the key educational or pedagogic characteristics of this learning object.<br><br>NOTE:--This is the pedagogical information essential to those involved in achieving a quality learning experience. The audience for this metadata includes teachers, managers, authors, and learners. | smallest permitted maximum: 100 items | unspecified | - | - | - |
|---|-------------|--|---------------------------------------|-------------|---|---|---|

# LOM Schema Definition



# Video Lectures



A collage of images. The top row shows various devices: a tablet, a smartphone, a laptop, and a desktop monitor, all displaying a presentation slide titled "DNA as Genetic Material" with a molecular structure. The bottom row shows three smaller images of students in a classroom setting. Below these images are two circular buttons labeled "TEST" (blue) and "REC" (red). A green callout bubble with a black border points to the "REC" button and contains the text "Content and eLecture Consumers".

## Record



## Produce



## Publish





## Cyberseminars – Archive

### • About Cyberseminars

A cyberseminar is a PowerPoint presentation shown over the Web in conjunction with a conference call for narration by the presenter. CUAHSI pays on a connection basis so minimizing the number of connections on each campus is preferable. If time allows, a question and answer period may follow.

PDF versions of the cyberseminars are available for all the talks. Some presentations are available in integrated audio/video format. To view: download and install [atplay.exe](#) then download and view the .wrf file.

### Fall 2008 Schedule

**October 10, 2008;** 3:00pm ET

- **Scott Collins**, University of New Mexico and Sevilleta LTER  
**Title:** Integrated Science for Society and the Environment: an integrated research plan
  - WebEx Meeting Number: **595 122 034**
  - [Presentation Slides](#) (2.2MB, 45 pages; PDF)
  - [Recorded Presentation](#) (WRF file requires [plug-in](#))
  - **New!** [Video Presentation on SciVee](#)

**October 17, 2008;** 3:00pm ET

- **Cecelia DeLuca**, Head, Earth System Modeling Infrastructure Section National Center for Atmospheric Research  
**Title:** ESMF and Earth System Curator: Integrated modeling infrastructure for virtual communities
  - WebEx Meeting Number: **598 994 166**
  - [Presentation Slides](#) (600KB, 34 pages; PDF)
  - [Recorded Presentation](#) ([WRF file](#) requires [plug-in](#))
  - **New!** [Video Presentation on SciVee](#)

### Cyberseminar Links

[2009 Seminars](#)[Archive Seminars](#)



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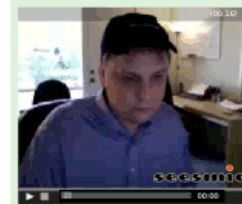
**{OpenChannel.info}** IR education & expertise > online

**LearnersTV.com** Beta



33. **Christopher Finke**  
April 23rd, 2008 at 11:12 am  
Although Ryan has demonstrated that this will allow dogs to participate more fully in the discussion. I am back on the fence.

34. **Michael Arrington**  
April 23rd, 2008 at 11:12 am



35. **Craig Mische**  
April 23rd, 2008 at 11:14 am  
a good idea



36. **Joi Ito**



## ESMF and Earth System Curator: Integrated modeling infrastructure for virtual communities - Cecelia DeLuca, NCAR

Upcoming CUAHSI Activities

Cyberseminars

7 November - Edward Rutherford, UMich

14 November - Aris Georgakakos, Georgia Tech

CUAHSI Membership Meeting & Reception at Fall AGU

1:36 / 57:50

Menu

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**Submitted by:** CUAHSI-dk  
**DOI:** 10.4016/9905.01  
**Description:** presented 17 October 2008  
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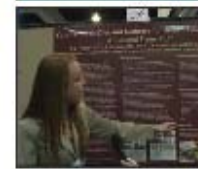
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There aren't any supplementary materials available for this video.

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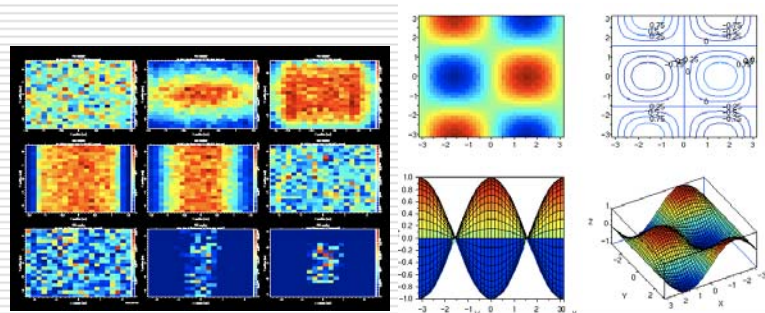
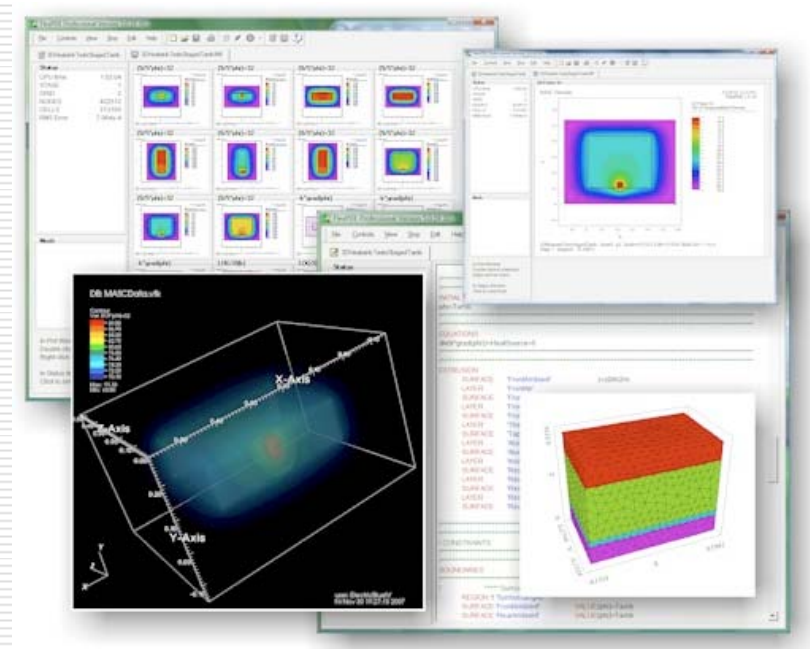


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submitted by: CUAHSI-dk

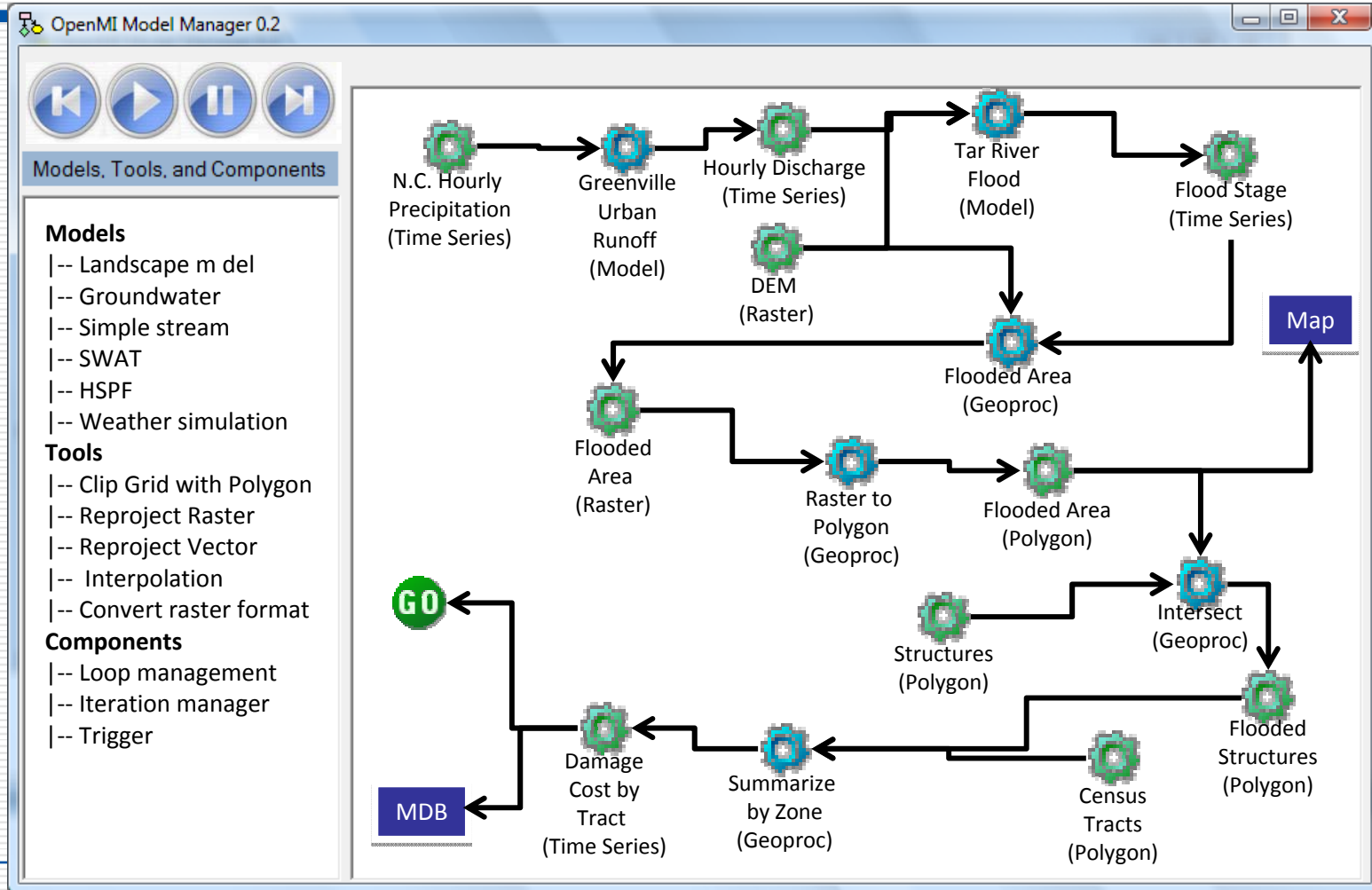


Your Guide to Diet and Diabetes for...  
Views: 214 | Uploaded: Apr 10, 2008  
submitted by: Summerjoyski

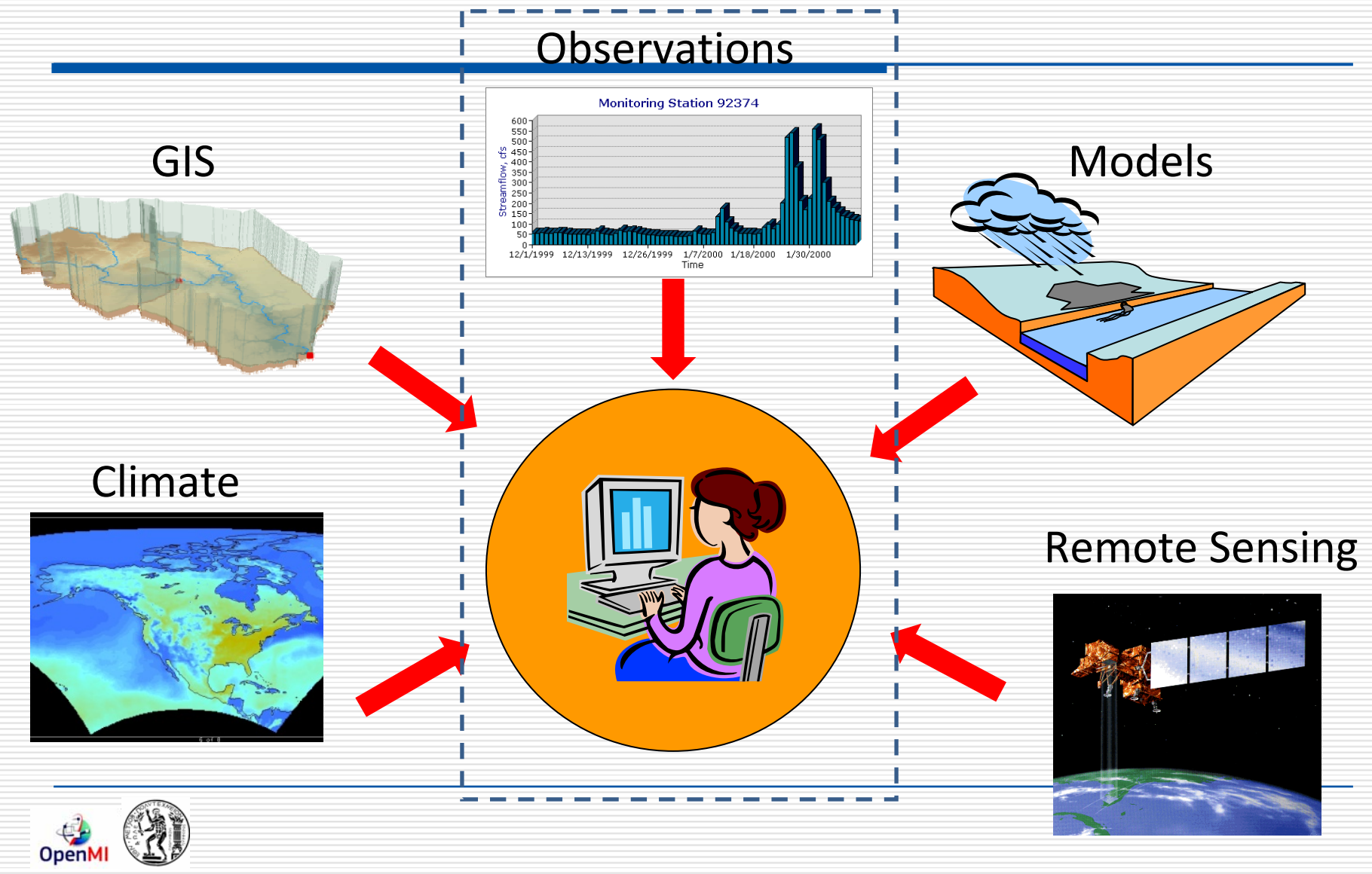
# Simulation Environment



# Simulation Environment: Time Series Modeling + GIS Scenario



# Consistent with "Harvesting data from web services" approach



# A vision for the longer term

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- Transnational environmental problem resolution – which is of major concern in the EU - will be greatly facilitated by **building bridges**.
  - Courses attended by students from multiple countries will contribute in building these bridges by allowing the participants to discuss problems and **co-evolve perspectives**, in the informal, collaborative space of the (virtual) classroom.
-

# Bridges for the students and the professionals

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- Senior professionals within the age group 35+ who are in charge of units, institutions and government departments responsible for environmental and water issues, often do not have adequate formal education on the subject.
- Keeping education up to date is a challenge for the EU
- The situation calls for **new methodological approaches** and tools designed to address the classic education needs as well as those of life-long learning.
- It is especially important to **allow practicing professionals to update their knowledge without leaving their work**, and hence speed up the uptake of new knowledge by decision-makers.

# Future Needs

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- More **common action and mobility** (real and virtual) in HE and training: a change in perspective for new scientists and engineers
  - More common action in **continuous education and professional training**: A change in perspective on the balance between knowledge obtained as an undergraduate and as a professional!
  - More collaboration (and feedback) between **knowledge providers and knowledge consumers**: A change of perspective for practitioners and academics!
  - A **wider knowledge base** for individuals and organisations (engineering, planning, legal, social science: disciplinary barriers crossing – without falling into journalistic approaches...): **Re-design and re-thinking of curricula**
  - A **wider (co-developed, common) evidence base** on environmental problems, options, data etc accessible by all, to base education and training on: **OpenMI-Education and beyond...**
- 
- **E-learning can be a powerful instrument towards these aims.**