Next generation Institutional Repositories
The case of the CUT Institutional Repository KTISIS

Alexia Kounoudes, Marios Zervas, Petros Artemi, Stamatios Giannoulakis
Outline

- Ktisis history
- Aim of the project
- Implementation
- New functionalities
- Next Generation Repositories
Ktisis history

- Institutional repositories were originally developed to provide dissemination of the research output created at universities and research institutions.
- Open source software gave the ability to developers to build custom features.
- In 2009 Ktisis was developed by the Library and Information Services of the Cyprus University of Technology.
- Ktisis was developed using the open source software DSpace.
Ktisis history

- Ktisis initial goals
  - Locate and archive cultural heritage items
  - Long-term preservation and access to the data
  - Promote interest and involvement in the digitization process cultural heritage
  - Promote open access
- In the following years it was decided that Ktisis should only store research activities of the university
- In early 2015 it was decided that the Cyprus University of Technology must become a member of ORCiD
- At the same time the Library decided to move to DSpace-CRIS
- There are 2 funds to promote open access (Private company, University fund)
Aim of the project

• To integrate the use of ORCiD in Ktisis
• Identifying researchers and linking them to their research work is difficult and challenging
• Researchers use different variations of their name
• CRIS systems come as a solution for collecting, managing, preserving, analyzing and showcasing the research output of institutions, providing the use of persistent identifiers such as ORCiDs
CRIS System

- Publication ➔ Activity ➔ Paper ➔ Impact
- Funding ➔ Publications
- Project ➔ Funding_a thru Funding_n with associated outcomes
- Equipment ➔ Research Data ➔ Publication
- Explore co-author networks
Welcome to Ktisis

Ktisis is an open access institutional repository gathering any digital material relating to the various activities of the Cyprus University of Technology, especially original research material produced by the members of the University. Defined in this framework, Ktisis demonstrates the intellectual life and the research activities of the University, preserving, spreading and promoting the scientific research to the local and international community. Ktisis was named after the symbol of the Cyprus University of Technology depicting Ktisis, the spirit of creation.
Aim of the project

- To extend the scope of Ktisis, by adding value to the system and its content.
- DSpace-CRIS is free, open source and compliant with open standards.
- DSpace-CRIS can collect and manage research information such as researchers’ profiles, department pages, project grants, research outputs, metrics, reports and statistics.
- To provide a framework to the researchers to submit information about their research activities such as Participation in Editorial Boards.
Implementation

• Collaboration with the company 4Science
• DSpace-CRIS is centered on researchers, so we had to change the hierarchy structure to be based around organizational units which are then connected to the researchers
Implementation

DSpace-CRIS

1st Level Entities

- People
- Organizational units
- Projects

2nd Level Entities

- Publications
- Datasets
- Researcher pages
- Projects
- Organizational units
Implementation

• We created a new organizational unit which represents the University entity as a whole
• Organizational units were created to represent each faculty and department
• New organizational units to represent all the external affiliations. These values were normalized before they were imported in the new system.
• We created a list with the names, the department, faculty and ORCiD of all the University researchers, which was imported into the system
New functionalities
Researcher Profile Enhancement
New functionalities
Researcher Profile Enhancement

Kalogirou, Soteris A. (rp00110)

Profile
Contact information
Biography

Bibliometrics

Publications

University responsibilities
Teaching list
Supervision of PhD/MSc projects

Research activities
Research projects

Service to the community/university
Committee memberships - external organizations

Service to the professional/self-development
Participation in editorial boards

Name Card

Kalogirou, Soteris A.
Καλογήρου, Σωτήρης

Department
Department of Mechanical Engineering and Materials Science and Engineering

Faculty
Faculty of Engineering and Technology

Committee Membership – External Organizations

Results 1-1 of 1 (Search time: 0.014 seconds).

Committee name
Technical Chamber of Engineers, Cyprus

Work accomplished
Member of the Energy Committee.

Start date
02-05-2000

End date
New functionalities
Researcher Profile Enhancement

Kalogirou, Soteris A. (rp00110)

Profile
- Contact information
- Biography

Bibliometrics

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Name Card

Kalogirou, Soteris A.
Καλογήρου, Σωτήρης

Department
- Department of Mechanical Engineering and Materials Science and Engineering

Faculty
- Faculty of Engineering and Technology

Editorial Boards (All)

<table>
<thead>
<tr>
<th>Name of editorial board</th>
<th>Academic year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy - The International Journal</td>
<td>2011-2012</td>
</tr>
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Results 1-2 of 2 (Search time: 0.000 seconds).
New functionalities

Researcher Profile Enhancement

• Users can update their Researcher Profile status to make it either visible or hidden
• Users can update their picture, their personal information such as name, title, department, personal site, qualifications, etc.
• When publications are already in the system, the researchers can "claim" a publication (or "disclaim" it) and automatically add it to their profile
# New functionalities

## Projects

### Primary Data

<table>
<thead>
<tr>
<th>Project title</th>
<th>Coordinating and IntegRating state-of-the-art Earth Observation Activities in the regions of North Africa, Middle East, and Balkans and Developing Links with GEO related initiatives towards GEOSS</th>
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</thead>
<tbody>
<tr>
<td>Code</td>
<td>GEO-CRADLE</td>
</tr>
<tr>
<td>Project Coordinator</td>
<td>Hadjimitsis, Doroantos G.</td>
</tr>
<tr>
<td>Start date</td>
<td>01-02-2016</td>
</tr>
<tr>
<td>Expected Completion</td>
<td>31-07-2018</td>
</tr>
</tbody>
</table>

### Description

**Abstract**

GEO-CRADLE brings together key players representing the whole (Balkans, N. Africa and M. East) region and the complete EO value chain with the overarching objective of establishing a multi-regional coordination network that will (i) support the effective integration of existing EO capacities (space/air-borne/in-situ monitoring networks, modelling and data exploitation skills, and past project experience), (ii) provide the interface for the engagement of the complete ecosystem of EO stakeholders (scientists, service/data providers, end-users, governmental orgs, and decision makers), (iii) promote the concrete uptake of EO services and data in response to regional needs, relevant to the thematic priorities of the Call (adaptation to climate change, improved food security, access to raw materials and energy), and (iv) contribute to the improved implementation of and participation in GEO, GEOSS, and Copernicus in the region. In this context, GEO-CRADLE lays out an action plan that starts by inventorying the regional EO capacities and user needs, which in turn leads to a gap analysis, the definition of region specific (G)EO Maturity Indicators and common priority needs. Through showcasing pilots, it demonstrates how the priorities can be tackled by the GEO-CRADLE Network, and provides the roadmap for the future implementation of GEOSS and Copernicus in the region, building on the GEO-CRADLE Regional Data Hub, which abides by the GEOSS Data Sharing Principles. To maximise the impact of GEO-CRADLE activities, well-defined Communication, Dissemination and Stakeholder Engagement strategies are proposed. Key Performance Indicators (KPIs) will be used for the quantified assessment of the impact, identifying potential enabling or constraining factors, while pursuing realistic but also ambitious exploitation scenarios. For efficient project coordination, the project management is assisted by a regional coordination structure, and active liaison with EC, GEO and UN initiatives.
New functionalities
Projects
New functionalities
Metrics

| Title: | A strong regioregularity effect in self-organizing conjugated polymer films and high-efficiency polythiophene: fullerene solar cells |
| Authors: | Choulis, Stelios A. Kim, Youngkyoo Cook, Steffan |
| Keywords: | Polymers;Fullerenes;Nanostructured materials;Plastic films;Solar cells |
| Issue: | 2006 |
| Publisher: | Nature |
| Abstract: | The influence of polymer regioregularity (RR) on the molecular nanostructure, and on the resulting material properties and device performance was analyzed. Annealed blend films show increased J0 regardless of RR, that indicates improved charge-carrier diffusion. It was found that the highest device efficiencies will be achieved with the highest RR P3HT. It was also found that the dark-current density of as-fabricated devices made with pristine P3HT increases with the RR of P3HT in the higher voltage regime |
| URI: | http://ktisis.cut.ac.cy/handle/10488/7613 |
| ISSN: | 1476-1122 (print) 1476-4860 (online) |
| DOI: | 10.1038/nmat1574 |
| Rights: | © Nature Publishing Group |
| Type: | Article |

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**Google Scholar™ Check**

**Altmetric**

Cyprus University of Technology
Next Generation Repositories

• The vision of COAR for Next Generation Repositories is to position repositories as the foundation for a distributed, globally networked infrastructure for scholarly communication

• The objectives of Next Generation Repositories are:
  • Cross-repository interoperability by exposing uniform behaviors across repositories
  • Value added services to support discovery, access, annotation, real-time curation
  • To help transform the scholarly communication system by emphasizing the benefits of collective, open and distributed management
Next Generation Repositories

- According to COAR Working Group on behaviors and standards for the next generation of repositories Ktisis managed to achieve:
  - Exposing Identifiers: The use of ORCiD identifiers for individual researchers which relate to their publications
  - Declaring Licenses at a Resource Level: In Ktisis we use Creative Commons Copyright Licenses
  - Discovery through Navigation: Link to the landing page of a publication
  - Batch Discovery: Ktisis is compatible with aggregators such as OpenAIRE
  - Exposing Standardized Usage Metrics: In Ktisis we have implemented metrics and statistics
  - Preserving Resources: Ktisis ensures that the scholarly output and all resources will be available in the long term by preservation and keeping copies of the system daily
Next Generation Repositories

• Future goals:
  • Interacting with Resources (Annotation, Commentary and Review): Ktisis will support commentary, annotation and peer review activities.
  • Resource Transfer: Ktisis will provide references to the repositories where the resources are distributed
  • Collecting and Exposing Activities: Ktisis will notify authors about changes, additions, comments, annotations, peer-reviews, access, downloads, etc.
  • Identification of Users: For the functions such as annotation, commentary, peer review users will have the possibility to identify themselves
Benefits

• DSpace-CRIS provides a flexible data model to describe all the entities that populate the research environment and their meaningful links

• DSpace-CRIS is open-source and it provides a technology that allows us to maintain independence from vendors

• Our publications are safely and easily managed as before, but now we have the advantage to link them to relevant data such as authors, projects, metrics, networks, statistics, etc.
Benefits

• DSpace-CRIS provides persistent identifiers

• Provides the ability to import records from external databases such as Web of Science, Scopus, etc. This interoperability saves a lot of time for the population of the system.
Challenges

• One of the main goal of Ktisis is to gather the publications of the academic community
  • The University asked to all members of the academic community and the PhD students to create an ORCID account
  • The Library attempt with the support of 4Science to automate the procedure of importing the publications for Scopus and Web Of Science
• The researcher profile reflects the Research and Academic Portfolio academics have to fill every year for their evaluation.
  • The University Senate decided that is their obligation to update the data in Ktisis researcher profile.
  • The Library employs Students for the updating of the researcher profile
  • Try to simplify and automate the procedure (for example the Studies and Student Affairs provide with the course title)
Conclusions

• The transformation of Ktisis into a CRIS system has provided the academic community of our university a lot of benefits and functionalities
• The researchers are now able to keep track of their work
• Ktisis now enables them to build a full academic profile which will assist them in their assessment process
Thank you very much for your attention

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