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GÉANT Infoshare: OpenAIRE Graph API - UNIC Virtual Campus Use Case

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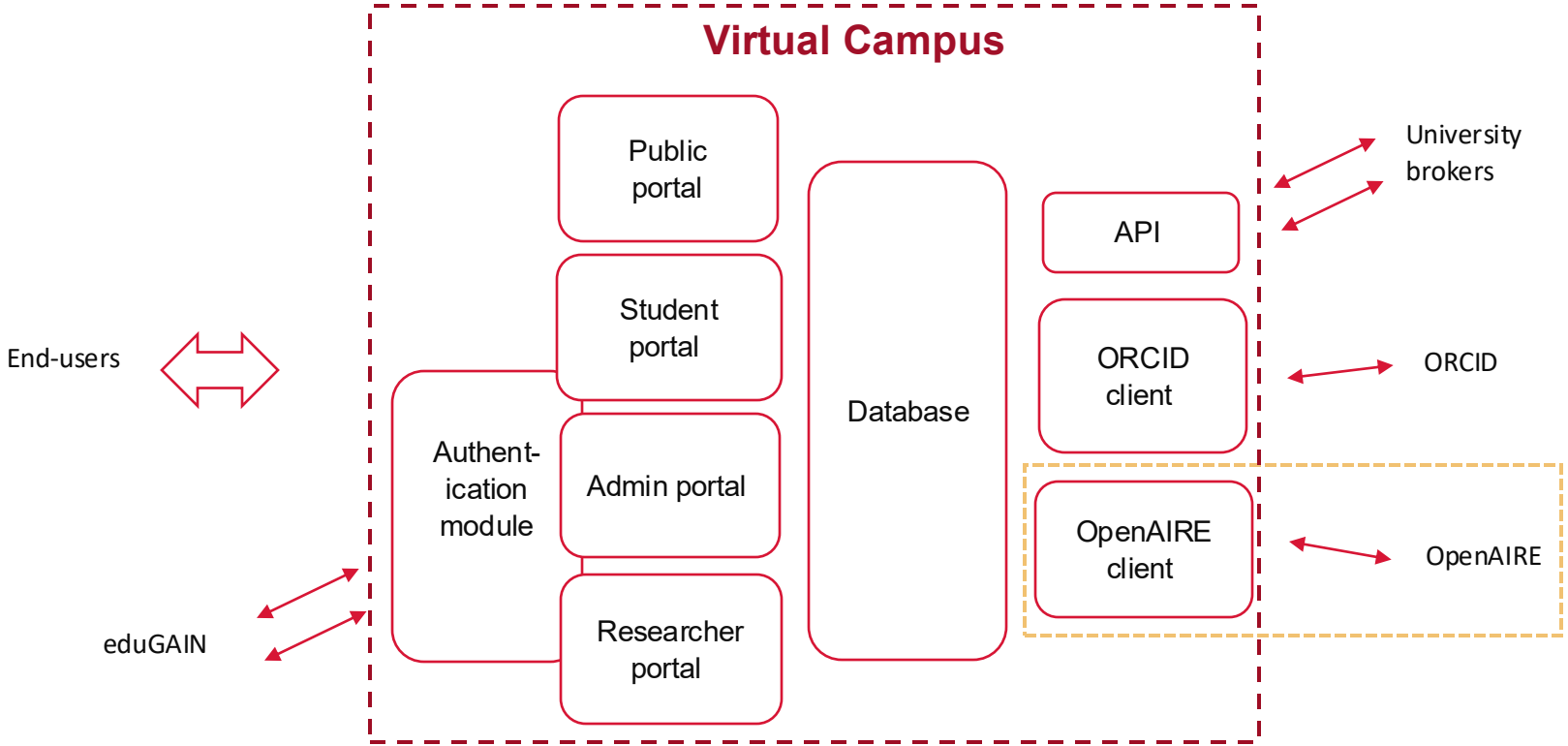
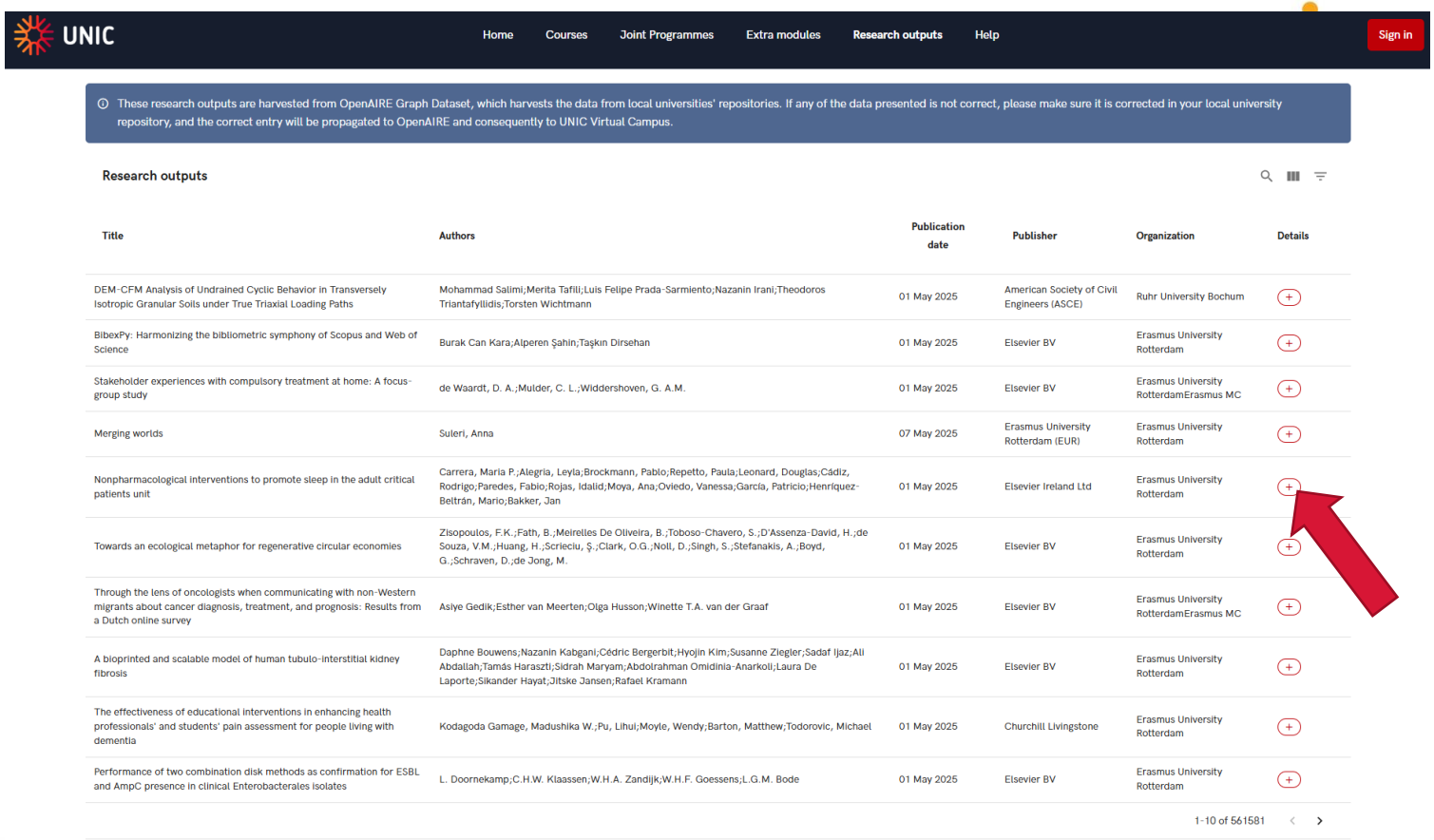
https://campus.unic.eu/



Research outputs



Research outputs – details

Research details

Title

Predictive control of a general water distribution system by using sequential linear programming

Authors

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Contributors

Not available

Publication date

01 Mar 2025

Resource type

publication

Publisher

Elsevier BV

Organization

University of Zagreb

Language

Undetermined

Subjects

General network;Water distribution system;TECHNICAL SCIENCES. Electrical Engineering. Automation and Robotics.;Linearization;Predictive control;TEHNIČKE ZNANOSTI. Elektrotehnika. Automatizacija i robotika.;Sequential linear program

Description

The paper focusses on water distribution systems (WDSs) of a general configuration, whose operation profile is decided by solving a sequential linear program (SLP). The paper introduces linearization procedure for a general network. The necessary SLP mathematical form for a general WDS is also derived. Cost function and all the constraints for the WDS optimization are elaborated. To validate the approach, the derived procedure is applied to a toy example and to a large segment of a WDS from a city in Spain. The results are compared with the operation policy obtained using hysteresis control and substantial operational costs reduction possibilities are demonstrated while respecting all WDS constraints.

Links

https://doi.org/10.1016/j.conengprac.2024.106232
https://repozitorij.fer.unizg.hr/islandora/object/fer:13245
https://urn.nsk.hr/urn:nbn:hr:168:781646
https://repozitorij.fer.unizg.hr/islandora/object/fer:13245/datastream/FILE0

OpenAIRE Graph API

- **/v1/organizations/** - for each UNIC institution (by legalName) we found OpenAIRE OrganizationId stored the identifier in database along with other attributes of the institution
- **/v2/researchProducts/** - to retreive research outputs for all ten universities participating in the UNIC European University alliance for display in the UNIC Virtual Campus
- **Daily sync job** (Java service)
  - scheduled once a day
  - uses /v2/researchProducts/ with parameters fromPublicationDate/toPublicationDate and relOrganizationId
  - retrieves data for the previous day, e.g. on September 25th retrieve data for September 24th
- **Monthly sync job**
  - scheduled at the 1st day of the month
  - retrieves data for the entire month before the last, e.g. on September 1st Sep retrieve data for the entire July
  - additional control in case the daily sync does not retrieve all data or if some data is missed
- Result: before ~100 000, and now ~550 000 Research outputs in Virtual Campus
- Future plan: we aim to enable connection of researchers and their outputs within the Virtual Campus

Questions / discussion

Thank you!

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