NI4OS-Europe тематични услуги. Българският принос

NI4OS-Europe National End-Users Training – Bulgaria

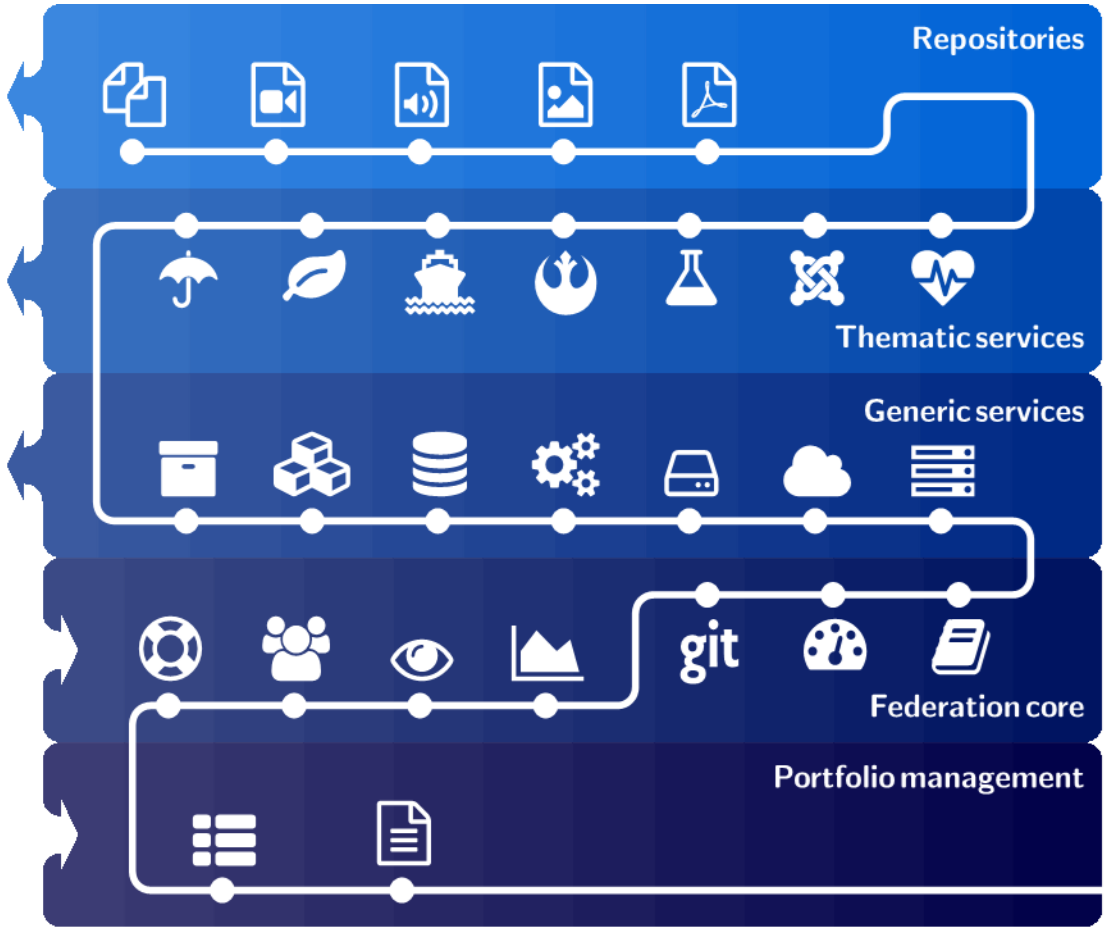
26/11/2021

София Ивановска

ИИКТ-БАН

Какво са тематичните услуги?

- Тематичните услуги предоставят различни възможности на изследователите в областта на специфична научна дисциплина
- Те са свързани с други елементи на екосистемата (generic services, repositories…)



Критерии при избора на тематични услуги

- Основна информация
  - Име на услугата, кратко описание

- Изисквания за изчислителни ресурси и дисково пространство
  - Изчислителни ресурси, изисквания за виртуални машини, брой на виртуалните машини
  - Дисково пространство
  - Изисквания за HPC ресурси, брой машини
  - Изисквания за GPU ресурси, брой (виртуални) машини

Критерии при избора на тематични услуги

- Допълнителна информация
  - Ще бъде ли използвана съществуваща инфраструктура?
  - Описание на метаданните
  - Съществува ли работен процес?
  - Съответствие с GDPR

- Софтуер
  - Вид на използвания софтуер
  - Лицензи

Въвеждане на тематични услуги в експлоатация

Регистриране в каталога на NI4OS

- Регистрация на доставчика и тематичната услуга
- Дефиниране на правила и политики за ползване
  - Правила за използване на тематичната услуга
  - Правила за достъп
  - Упътвания за потребителя
  - Политика за конфиденциалност
- Интегриране с други услуги на EOSC/NI4OS
  - Интеграция с Helpdesk системата на NI4OS
  - Интеграция със системата за мониторинг (ARGO)
  - Други възможности: автентикация и оторизация на достъпа, дисково пространство, облачна инфраструктура

Използване на тематични услуги от потребителите

- Информиране на потенциални потребители за новата тематична услуга
- Регистриране на нови потребители (ако услугата изисква регистрация)
- Помощ при използването на тематичната услуга
- Приемане на предложения за разширяване възможностите на услугата

Пример за тематична услуга

NI4OS Resources Providers Helpdesk

Reduce and Visualize Gene Ontology

Basic information

Resource organization
Ruđer Bošković Institute

Service providers
Ruđer Bošković Institute

Web page
http://revigo.irb.hr

Marketing information

Description

REVIGO is a Web server that summarizes long, unintelligible lists of Gene Ontology (GO) terms by finding a representative subset of the terms using a simple clustering algorithm that relies on semantic similarity measures. Furthermore, REVIGO visualizes this non-redundant GO term set in multiple ways to assist in interpretation: multidimensional scaling and graph-based visualizations accurately render the subdivisions and the semantic relationships in the data, while treemaps and tag clouds are also offered as alternative views.

Tagline

REVIGO
reduce + visualize Gene Ontology

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reduce + visualize Gene Ontology

Welcome, Revigo can take long lists of Gene Ontology terms and summarize them by removing redundant GO terms. Read more about Revigo on our Frequently Asked Questions page.

Please enter a list of Gene Ontology IDs below, each on its own line. The GO IDs may be followed by value which describes the GO term in a way meaningful to you. The value(s) must have a dot '.' for a decimal separator. (Hoover with a mouse over an icon for additional info)

Examples:

- #1 - Supek et al. (2010) PLoS Genet,
- #2 - Ester et al. (2010) Inv New Drug,
- #3 - Van't Veer et al. (2002) Nature

```
% Highly expressed genes across all bacterial
% genomes, where expression level is predicted
% by codon usage. p-value is for enrichment of
% Gene Ontology terms with these highly expressed
% genes.
%
% Data from: Supek F et al., PLoS Genetics 2010,
% or see http://www.adaptome.org/

% GeneGroup pValue
GO:0009268 1e-14
GO:0010447 1e-14
GO:0000027 1e-297
GO:0042255 1e-297
GO:0042257 1e-297
```

How large would you like the resulting list to be: Large (0.9) Medium (0.7) Small (0.5) Tiny (0.4)

If provided, the values associated with GO terms represent: P value

Advanced options:

Would you like to remove obsolete GO terms: Yes (default)

What species would you like to work with: Whole UniProt database (default)

What semantic similarity measure would you like to use: SimRel (default)

Start Revigo

If you found Revigo useful in your work, please cite the following reference:

Supek F, Bošnjak M, Škunca N, Šmuc T.
"*REVIGO summarizes and visualizes long lists of Gene Ontology terms*"
PLoS ONE 2011. doi:10.1371/journal.pone.0021800

Revigo uses these databases which are periodically updated:

- The Gene Ontology database (go.obo) which is dated Friday, July 02, 2021.
- The UniProt-to-GO mapping database from the EBI GOA project (goa_uniprot_gcrp.gaf.gz) which is dated Thursday, June 17, 2021.

Revigo is an iProject funded by the Ministry of Science and Education, Republic of Croatia (2008-057) and Ruđer Bošković Institute.
The Revigo project was implemented at the Division of electronics, Ruđer Bošković Institute.

Did you find Revigo useful in your work? Please share it with your colleagues.

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REVIGO
reduce + visualize Gene Ontology

Frequently Asked Questions

- What is a Revigo?
- I have a list of interesting genes, but not a list of GO terms
- I still don't have a list of interesting genes, but I'd like to try out my favourite GO enrichment tool and then bring the output to Revigo to summarize and visualize
- The species I work on is not in the species list in Advanced options
- List of common terms used in Revigo and ther meanings
- When I export the TreeMap to CSV, what does NULL (-1) value in "Representative" column means?
- How can I create high quality drawings?
- How do I integrate Revigo with my service or a programming language?

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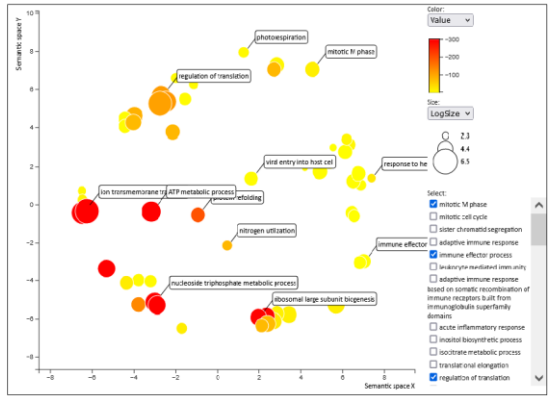
Return to the input page and change input parameters

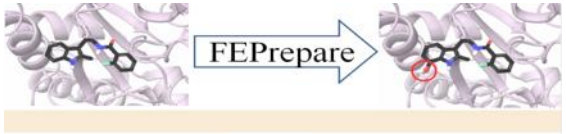
Biological Process (104) Cellular Component (52) Molecular Function (45) Tag Clouds

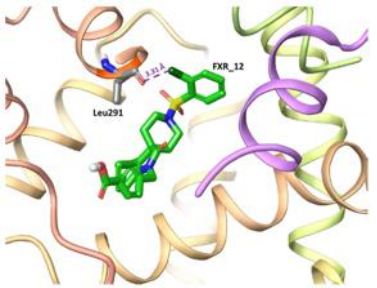
Scatterplot & Table Interactive Graph Tree Map

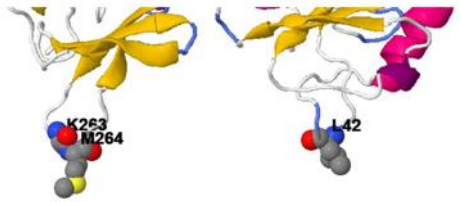


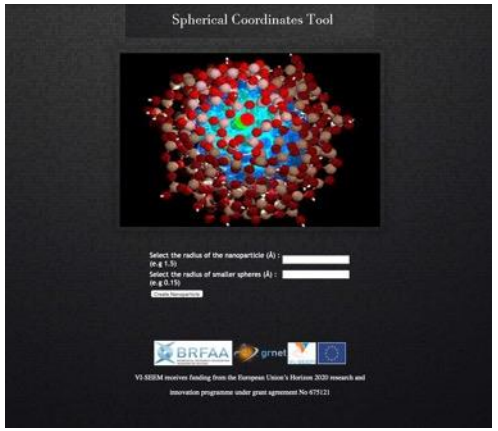
Тематични услуги в проекта

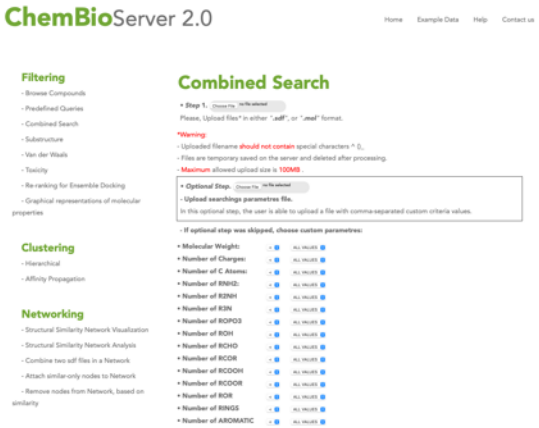
- FEPrepare - set-up procedure for NAMD/FEP simulations
- DREAMM - ML tool that predicts the protein-membrane interfaces
- NanoCrystal - crystallographic tool that creates nanoparticle models
- ChemBioServer - filtering, clustering and networking of chemical compound libraries
- Schrödinger API - solving of multidimensional time-independent Schrödinger equation
- Gaussian API - fitting repulsive potentials in density-functional tight-binding with Gaussian process regression
- REVIGO - REduce and VIsualize Gene Ontology
- DREAM - atmospheric cycle of mineral dust aerosol











Следва: Clinhealth