

Open access  
to research infrastructure  
at the University of Maribor  
for global benefit

Zoran Ren

# HPC RIVR - investment project to acquire the supercomputing capabilities for Slovenia

Duration: 2019-2021

Funding : EUR 20 000 000.00 (80% EU, 20% RS)  
+ 6 000 000,00 (EuroHPC JU)

[www.eu-skladi.si](http://www.eu-skladi.si)

The investment is co-financed by the Republic of Slovenia and the European Union from the European Regional Development Fund.



# RiUM - investment project to acquire the state-of-the-art research equipment for the University of Maribor

Duration: 2020-2023

Funding : EUR 28 982 964.08 (80% EU, 20% RS)

[www.eu-skladi.si](http://www.eu-skladi.si)

The investment is co-financed by the Republic of Slovenia and the European Union from the European Regional Development Fund.



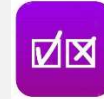
# CONSTITUENTS

## European Charter for Access to Research Infrastructures:

Principles and Guidelines for Access and Related Services, European Commission, 2016



Definition



Limits



Users



Ethical conduct



Open access



Quality



Costs and fees



Data management



Education



Transparency

# DEFINITION



The **public research infrastructure** (hereinafter referred to as **PRI**) comprises

- **the core PRI** (facilities, equipment, databases) and
- **PRI for the creation and transfer of knowledge** (researchers, professional services).

Quality and modern core PRI is a **prerequisite for successful public research work** and is key to achieving excellence in research and wider social development.

Core PRI can be **physical or virtual**.

PRI is **managed by public institutions** (universities or public institutes).

PRI is **placed in individual entities** representing the organisational units of public institutions equipped with PRI (e.g. member, centre, institute, laboratory or other unit).



# USERS



PRI shall be **openly available**, in whole or in part, to researchers, research groups or research organisations (users) **in the framework of publicly funded research activities**.

Users participate in the design or creation of new knowledge, products, processes, methods and systems using PRI in the framework of their research work.

The **user must demonstrate adequate skills necessary for safe and efficient use of PRI**. An entity can provide the user with a service to perform work on PRI or offer training for external users.

Users **must observe relevant principles, strategies, directives and other regulatory documents of the PRI entities**.



# OPEN ACCESS



User open access means a **legitimate and mandated way of using PRI and services**, which may be **physical, remote or virtual**.

Possible **forms of open access**:

- **Excellence-driven Access,**
- **Market-driven Access and**
- **Wide Access.**

All forms of access shall be granted after an assessment of the relevant application.

**Entities** within public institutions are **responsible for determining the scope of their own PRI** available to users under **clear, transparent and fair conditions**.



# OPEN ACCESS



Entities provide users with a **certain amount of PRI access**, which is measured by access units defined by individual entities. **Access units may vary** depending on different types of RI and can be accurately identifiable, such as PRI usage hours, number of cycles, gigabytes created and stored etc.

Procedures to gain open access to PRI may vary according to different types of PRI within individual entities (e.g. application, negotiation, evaluation, etc.), but **decisions on the request for access to users must be clear and justified.**





# COSTS AND FEES



**Open access to PRI** may be **free of charge or payable**, depending on type of access and available public funding to operate the PRI. All access conditions relating to the use of PRI must be **transparent and publicly available**.

Access fees for different types of PRI must follow the following principles:

- **accountability;**
- **traceability** of the work carried out on the RI, including the record of access applications (successful and unsuccessful), the reasons for refusal of access (where applicable), usage data, etc.;
- **double funding prohibition;**
- **compliance** with all relevant national and EU funding conditions, and competition law.



# EDUCATION



**Education**, training and cooperation with other institutions and organisations that **benefit from PRI** for its research **is encouraged** in the context of open access.



# LIMITS

**Open access to PRI may be restricted** by reasons of:

- national security and defence,
- privacy and confidentiality,
- business sensitivity,
- intellectual property rights and
- ethical aspects in accordance with the relevant laws and regulations.



# ETHICAL CONDUCT



The open access policy to PRI follows the **eight principles** of the European Code of Conduct for Research Integrity of the European Scientific Foundation (ESF) and the Union of European Academies (ALLEA):

**honesty in communication,**

**reliability in the conduct of research,**

**objectivity,**

**impartiality and independence,**

**openness and accessibility,**

**duty of care,**

**fairness in citing references and merit,**

**accountability to future  
scientists and researchers.**



# QUALITY



To ensuring the quality of open access to PRI, it is necessary to establish mechanisms to assess the quality of RI access within individual entities by applying the **RACER** (*Relevant, Accepted, Credible, Easy, Robust*) principles:

- relevance and close relationship with the pursued objectives;
- acceptance by RI and stakeholders;
- credibility for non-experts;
- unambiguity and simple explanation;
- ease of monitoring, with low cost and little effort, and
- stability in cases of manipulation attempts.



# QUALITY

The implemented RACER mechanisms should include the following parameters:

- user metrics;
- RI operational metrics;
- strategic indicators;
- financial metrics.



# DATA MANAGEMENT



The data management policy shall contain clear instructions on **how and where the resulting data are stored for a reasonable period of time** and how the user should provide this **data for re-use**. The instructions may vary depending on the type of RI within each entity.

The data must follow the principles of **FAIR** (*Findable, Accessible, Interoperable, Reusable*), i.e. the data must be easy to find, accessible, usable by different systems and suitably organised for re-use.



# TRANSPARENCY



A **single open access information point** is essential for the uniform and transparent public provision of all information on access to public research infrastructure.

The information point at the University of Maribor is the Department of Research and Artistic Arts (**ORUD UM**) at the Rectorate of the University of Maribor.

The University of Maribor is developing a dedicated, publicly available online platform **BRiUM** for the full implementation of the Open Access Policy to RiUM, offering full overview of existing RiUM, and sharing the RiUM with researchers, research groups and research organisations in Slovenia and EU.





**BRiUM** - publicly available online platform for full implementation of the Open Access Policy to RiUM, offering full overview of existing RiUM, and mechanisms for sharing the RiUM with researchers, research groups and research organisations in Slovenia and worldwide.

BRiUM offers different functionalities, such as:

- comprehensive overview of the available RiUM;
- easier to find and locate RiUM;
- comparison of the technical characteristics of research equipment;
- providing basic information on access, usability and other RiUM conditions;
- creating a user account for the purpose of booking RiUM;
- ability to contact RiUM administrators to get more information.

Contact: [bri@um.si](mailto:bri@um.si)



# UM Database for research infrastructure

## UM Database for research infrastructure

[Check of the map](#)[CREATE AN ACCOUNT](#)

### TO BOOK THE EQUIPMENT, YOUR REGISTRATION IS REQUIRED

Če želite raziskovalno opremo UM rezervirati za izvedbo vaše raziskave, vljudno prosimo, da se uporabniki, ki nimate digitalne identitete Univerze v Mariboru, registrirate v spletno aplikacijo BRIUM. Za dodatne informacije smo dosegljivi na spletnem naslovu: [bri@um.si](mailto:bri@um.si)

RESEARCH  
INFRASTRUCTURE

## SEARCH BY LOCATION



OPEN MAP



## GENERAL SEARCH

Enter your search keywords



## FILTERS

## Research Areas

- Smart Energy and Circular Systems
- Health and Safe Food
- Artificial Intelligence and ICT
- Advanced Materials and Technologies
- Other research orientations

## Location - Geographical Availability

- Koper
- Kranj
- Ljubljana
- Murska Sobota
- Maribor
- Celje
- Krško

Results: 15

3 od 15 vrstic

1 2 3 4 5 &gt; || 1 &lt;



88



## Fakulteta za strojništvo

View more... &gt;

## List of equipment

Frekvenčno stabiliziran laser-Laserex Alliance siste  
m  
LASERSKA NAPRAVA FÖRMIGA P100  
Polarizacijski mikroskop  
Destilator - nekifkacijska naprava  
KES-FB AUTO sistem  
FTIR SPECTRUM 3 IN IR MIKROSKOP SPOTLIGHT 20  
0i  
SiroFAST merilni sistem za objektivno vrednotenje tk  
anin  
Pilotska naprava za čiščenje odpadne vode  
SISTEM ZA STEREO-OPTIČNO MERIENJE DEFORMA  
CIJ NA POVRŠINI MATERIALA  
Kombinirani širokopolni in ozkopolni rentgenski apar  
at (DIFRAKTOMETRER DB Advance)

Fakulteta za elektrotehniko računaln  
ištvo in informatiko

View more... &gt;

## List of equipment

RAČUNALNIK SUPERMICRO DUAL XEON  
LASER 405 NM, 5MF SKLOPLEN  
RTDS  
ODČEVALNIK TOKOV IN NAPETOSTI  
MIKRO/NANO OBDELOVALNI IN LITOGRAFSKI SISTE  
M S SEM/FIB  
ŠIROKOSPEKTRALNI SUPERCONTINUUM VIR Z VLA  
KNOM  
EVALUATION KIT - GENAM 720P-CD  
DEWESOFT SISTEMI  
MIKROSKOPSKA ENOTA + ILLUMINATOR  
ŠIROKOPASOVNI GEORADARJI IN PRIPADAJDČA DPR  
EMA

Fakulteta za gradbeništvo, prometno  
inženirstvo in arhitekturo

View more... &gt;

## List of equipment

MERILEC SORPCIJE VODE WPA-T  
ŠTEVEČ PROMETA QTT NC 200mm, vmesnikom, prog  
ramom HDM, paketom za asfalt  
ZWICK ELEKTRONSKI APARAT ZA DDL, MEH KAR M  
AT,  
Termografska kamera FLIR E60bx s pripadajočo opre  
mo  
Merilna oprema ALMEMO za merjenje toplotnega to  
ka s pripadajočo opremo IALMEMO 5690-2M + karti  
ca z 10 vhodi ES5690UA10, serijski vmesnik ZA1919  
DKU-US, senzor toplotnega toka FQAD19CFQMG17  
C, termožica LTO1500, vlagomer FLIR MR77, toplotn  
o prevodna pasta ZB9000WP, merilnik temperature i  
n vlage Velleman DEM105, programska oprema WIN

## SEARCH BY LOCATION

 OPEN MAP >

## GENERAL SEARCH

Enter your search keywords 

## FILTERS

### Research Areas

- Smart Energy and Circular Systems
- Health and Safe Food
- Artificial Intelligence and ICT
- Advanced Materials and Technologies
- Other research orientations

### KLASIFIKACIJA MERIL

- Software Service Facilities
- Energy Engineering Facilities (non nuclear)
- Atmospheric Measurement Facilities
- Analytical Facilities
- Bio-informatics Facilities
- Translational Research Centres
- Gravitational wave detectors and Observatories
- Animal facilities
- Marine &amp; Maritime Engineering Facilities
- In situ Earth Observatories

### KLASIFIKACIJA Leeds

Results: 764

3 od 764 vrstic 



### MOBILNI SISTEM ZA SINHRONIZIRANO HITRO DIGITALNO SNEMANJE PREEHODNIH

Oprema za napredno digitalno vizualizacijo in meritev e ekstremno hitrih prehodnih pojavov z visoko čas

[View more...](#) >

#### Contacts - Responsible person

 Fakulteta Fakulteta  
 38640123123  
 fakulteta@um.si

#### Member of the University of Maribor

 Fakulteta za strojništvo  
Smetanova ulica 17  
2000  
 Prostor  
<https://www.fs.um.si/>

#### Location



### Dual channel OxiplexTM - (Blizu- infrardeči spektrometer tkiva)

Oprema se uporablja za merjenje možganske oksigene enizacije.

[View more...](#) >

#### Member of the University of Maribor

 Filozofska fakulteta  
Koroška cesta 160  
2000  
 Prostor  
<https://ff.um.si/>

#### Location



### Stroj za balansiranje rotorjev, osi in gredi HBM 50

Stroj je namenjen za eno in dvoravninsko balansiranj e rotorjev, turbin, diskov, osi in gredi do teže

[View more...](#) >

#### Member of the University of Maribor

 Fakulteta za strojništvo  
Smetanova ulica 17  
2000  
 Prostor  
<https://www.fs.um.si/>

#### Location



