

Scienza Aperta e Dati Aperti nella ricerca biomedica
Esperienze e prospettive dell'Università di Trento
28 October 2022

Think Open @ CIMEC UniTN & The Italian Reproducibility Network - ITRN: dalla competizione alla collaborazione

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Open Science - CIMeC



Think Open @ CIMeC

**Centro Interdipartimentale Mente e Cervello
Università di Trento**

Integrity, Reliability & Sustainability



CIMeC Strategic Plan



- Open data include and grantees **integrity** of research (i.e., reliability, rigor, and replicability). This is a relevant issue to define the international reputation of a research center. **Reliability** is becoming essential in science.
- For open data we will reduce costs and increase reputation, for cost **optimisation**.
- Putting data to good use in neuroscience, will increase collaboration and integration with other centers/groups **implementing relevant discoveries** accelerates research, heightens the quality of results.
- **Open use of instruments** i.e., to have facilities available to all researchers starting from junior researcher without the need of “sharing” results with senior researcher: from labs to facilities

Open Science Seminars @ CIMeC

CiMeC
Center for Mind/Brain Sciences

 **UNIVERSITY OF TRENTO - Italy**

PROF. ROBERTO CASO
PROF. PAOLO GUARDA
FACULTY OF LAW, TRENTO, ITALY

OPEN ACCESS PUBLISHING
MARCH 27, 2018
AT 10.30AM

ROVERETO - 1ST FLOOR SEMINAR ROOM,
FEDRIGOTTI, CORSO BETTINI 31

OPEN SCIENCE SEMINARS

- PREPARATION
- DISCOVERY
- ANALYSIS
- WRITING
- PUBLICATION
- OUTREACH
- ASSESSMENT

These events are carried out within the framework "Dipartimenti di Eccellenza"

INFORMATION
cimcc@unitn.it

CiMeC
Center for Mind/Brain Sciences

 **UNIVERSITY OF TRENTO - Italy**

VITTORIO IACOVELLA, PHD
CIMEC, TRENTO, ITALY

**THE FAIR PRINCIPLES:
RETHINKING DATA MANAGEMENT
IN A OPEN-SCIENCE
ENVIRONMENT**

NOVEMBER 8, 2018 AT 4PM

MATTARELLO - CONFERENCE ROOM
BASEMENT, VIA DELLE RECOLE 101

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Open Science Workshops @ CIMeC



Think Open Rovereto Workshop 2020

July 10-11, 2020

Friday, July 10th

Morning Session

9.15 - Introduction to the Workshop from the Organizing Committee

9.30 - The way we were, the way we would like to be. Open science: a brief recap | **Massimo Grassi**

10.40 - Open Research as a Quality Control Process | **Marcus Munafò**

11.50 - Building a more collaborative neuroimaging science | **Camille Maumet**

12.50 - Break

Afternoon Session

14.30 - Brain research data and personal data privacy: practical tips to share and protect | **Stephan Heunis**

15.40 - Pushing the Boundaries of Open Science at CERN | **Kamran Naim**

16.50 - The effect of analytical choices on fMRI findings | **Rotem Botvinik-Nezer**

Saturday, July 11th

Morning Session

9.30 - Why we should use Jupyter notebook in Medical Image Analysis | **Serena Bonaretti**

10.40 - Increasing the impact of your research by using rich, integrated and open-access communications | **Vittorio Iacovella**

11.50 - BIDS: a data standard to support the neuroimaging community | **Guiomar Niso**

12.50 - Break

Afternoon Session

14.30 - Advancing scientific discovery via cloud-based collaboration and open neuroscience methods | **Franco Pestilli**

15.40 - Sequential analyses on open datasets: problems and possible solutions | **William Hedley Thompson**

16.50 - Building next-generation preprocessing pipelines: the fMRIPrep experience | **Oscar Esteban**

UNIVERSITY CENTRE

CIMeC - Center for Mind/Brain Sciences

The Center ▾

Academics ▾

Research ▾

Third mission ▾

CeRiN ▾

CiMeC

Center for Mind/Brain Sciences

THINK

OPEN
@
CIMeC

Home | **Open Science**

Open Science

Open Science Events

Scientific community as a whole is currently involved in a great theoretical and practical effort to improve knowledge related to brain functioning and brain diseases. Goal of Open Science initiatives is to optimize extracting information from experimental acquisition seamlessly collating pieces coming from different methodologies and support free circulation of knowledge, in order to facilitate communication and improve reliability of research.

Think Open @ CIMeC is an open - science oriented platform to organize and share research products within CIMeC and from CIMeC to the rest of the world.

Mission

Think Open @ CIMeC goal is to build, maintain and keep updated a virtual space, compliant with latest privacy and intellectual property rules, where researchers can share research products coming from every step of the research routine, i.e.: preliminary procedures and experimental setup, acquisition planning, data coming from healthy volunteers or patients, data analysis strategies and code, scientific publications.

Think Open @ CIMeC virtual space supports integrating scientific products coming from different methodologies, which could be explored from within CIMeC as well as external collaborator and holds up gathering of multi-center neuroimaging studies.

Think Open @ CIMeC pursues circulation of information in an environment which is compliant with research integrity and open science principles.

Subjects

Research Integrity

In order to regulate and strengthen transparency in building research products to be shared, open science initiatives usually suggest following several principles related to research integrity. As part of the University of Trento, Think Open @ CIMeC pursues dissemination and adoption of the following principles, discussed and defined by ALLEA - All European Academies (2018):

- **reliability** in ensuring the quality of research, reflected in the design, the methodology, the analysis and the use of resources;
- **honesty** in developing, undertaking, reviewing, reporting and communicating research in a transparent, fair, full and unbiased way;
- **respect** for colleagues, research participants, society, ecosystems, cultural heritage and the environment;
- **accountability** for the research from idea to publication, for its management and organisation, for training, supervision and mentorship and for its wider impacts.

Open science initiatives support sharing of generic knowledge related to everyday scientific practice. Think Open @ CImEC endorse sharing every kind of knowledge through good practices, including:

- ## Data sharing

- **discussing** and updating guidelines and tools related to protect participants' privacy, consent and sharing purposes, as stated in General Data Protection Regulation 2016/679;
- **disseminating** and supporting the adoption of data and metadata description standard (e.g.: BiDS - Brain Imaging Data Structure) to facilitate data - fusion and proper sharing towards outside CIMEC;
- **helpdesk** for preparation to sharing acquisitions, transforming "raw" data collection without specific descriptors to well-formed dataset including rich and FAIR (Findable Accessible Interoperable Reusable) principles compliant metadata.

To achieve free, open circulation of information researchers should share their research products published in scientific journals. Think Open @ CIMEc, as part of University of Trento, supports every way to Open Access through the following activities:

- ## Contact

Creating an appropriate environment for OS

Actions to: **facilitate the researcher's work by not leaving him/her alone**

- prepare dedicated documentation (e.g., consent form, data management plan)
- define/describe procedures to facilitate data sharing that overcome local/national bureaucratic difficulties
- identify platforms/repository and modality of action for data sharing
- promote formats for data sharing of interest to the centre

Prizes for Open Science “projects” since 2021

Share and

collaborate across
time and space





NEW!

We would like to invite you to the next **ITRN meeting, online**, that will be held **Wednesday 26 October 2022 at 15:30 (CET)**

[The agenda is available at this link](#)

If you are an ITRN member and have not received the link to the meeting please write us via [e-mail](#)

REPRO COFFEE

See when the next "ReproCoffee" will be held, [more info here](#)

SEMINARS ON OPEN SCIENCE

A remote educational course open to everyone, focused on Master and PhD Students covering open science topics and practices.

ITRN OPEN RESEARCH SURVEY

We ask you for a few minutes of your time to answer some questions about the use of Open Research practices in your research. This is the link to participate: [RN survey](#)

Your responses will provide a provisional benchmark of where we are, and data will be used to shape future ITRN initiatives around Open Research. Thank you for your valuable contribution! *This is an international initiative, which will be pursued by the other Reproducibility Networks as well. The original survey, developed by E. Norris et al., has been modified by M. Montefinese and made available under the CC BY-NC 4.0 license.*





ITALIAN REPRODUCIBILITY NETWORK

<https://www.itrn.org>

MISSION

The Italian Reproducibility Network (ITRN) is a peer-led consortium that aims to **disseminate the factors that contribute to robust research within the Italian scientific community.**

This is achieved by promoting initiatives and offering a hub for scientists to get in touch, exchange ideas and good practices, and promote collective learning.

ITRN seeks collaboration with **scientists in several disciplines, technical experts** in relevant fields and **stakeholders**, so as to connect the widest possible spectrum of skills and knowledge.

INTERNATIONAL PARTNERS

[Australian Reproducibility Network](#)

[Brazilian Reproducibility Initiative](#)

[Finnish Reproducibility Network](#)

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[Portuguese Reproducibility Network](#)

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Workgroups and current initiatives

- **Educational Workgroup:** *for information write to educational@itrn.org* (for aa. 2022/23 see <https://www.itrn.org/initiatives/online seminars>)
 - **OnLine Seminars on open science**
 - **Hands-on Tutorial on open science practices**
- **On site Seminars and initiatives on open science**
- **ReproCoffee:** *for information write to ReproCoffee@itrn.org* (for next meetings see <https://www.itrn.org/initiatives/reprocoffee>)
- **RN Open Research Survey:**
- **Communication Workgroup:**
 - website <https://www.itrn.org>
 -  @italianrepro
 - presentations of ITRN and simposia on Open Science & Reproducibility at Italian scientific conferences

Workgroups and current initiatives

- **Awards:** (e.g., SIPF-ITRN)
- **Mentoring:**
network members give their availability to mentor others
- **Ambassadors:**
ITRN members promoting Open Science and Reproducibility in specific areas
- **Multilab/multicenter projects support**
Dissemination/Support to ITRN members in such initiatives (e.g., via web site)

RESOURCES

ITALIAN REPRODUCIBILITY NETWORK



[ENG] Think Open Rovereto Symposium 2021-02

Power analysis for Neuroimaging
 CIMEC UNITN, 18th November, 2021

Speakers: Beyer F., Ellis C.



[IT] ITRN Kickoff Event - October 14, 2021

First public event organized by ITRN - Presentation of the network (slides ENG)



[ENG] ITRN Kickoff Event - October 14, 2021

"Open and reproducible science in neuroimaging: it takes an ecosystem"

Speaker: Russell Poldrack



[IT] Symposium XXIX Congresso Nazionale SIFP Palermo - October 2, 2021

Towards an open and reproducible science: Italian Reproducibility Network

Speakers: Bortoletto M., Calignano G., Crepaldi D., Iacovella V.



[IT] Think Open Rovereto Symposium 2021-01

La scienza aperta nelle applicazioni cliniche
 CIMEC UNITN, 17th June, 2021

Speakers: Borghesani V., Porteri C., Bertò G., Lettieri G.



[ENG] Open Science Seminars @ CIMEC

Open Science Seminars CIMEC UNITN, 2018-2021

Speakers: Iacovella V., Crepaldi D., Parizza F., Caffini M., Grassi M., Giglia E.

Seminari Open Science



■ Numero iscritti
■ Numero partecipanti

- **758** persone si sono **iscritte** ad almeno un seminario
- In media, il **70%** degli iscritti ha partecipato al seminario
 - >700 visualizzazioni su YouTube
 - il più visto: Chambers
- **545** persone hanno **partecipato** ad almeno un seminario
 - 14% ha partecipato a 3 o più incontri

Università di Milano-Bicocca
 Politecnico di Milano
 Università Cattolica
 IRCCS Fatebenefratelli
 Università di Pavia

 Università di Torino

 Istituto Italiano di Tecnologia
 Università di Genova

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 (Sapienza, Roma
 Tre,
 Guglielmo Marconi)
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 Università di Palermo



Università di Trento (CIMEC)
 Fondazione Bruno Kessler

 Sissa
 Università di Trieste
 Università di Udine

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 Università di Parma
 Università di Modena e Reggio Emilia

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 Università di Perugia

 Università di Bari
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16 partecipanti affiliati a istituzioni straniere

Francia, Canada, Slovenia, Cina, Danimarca, Paesi Bassi, Stati
 Uniti, Spagna, Svizzera, Turchia, Gran Bretagna



ITALIAN REPRODUCIBILITY ITRN SURVEY NETWORK

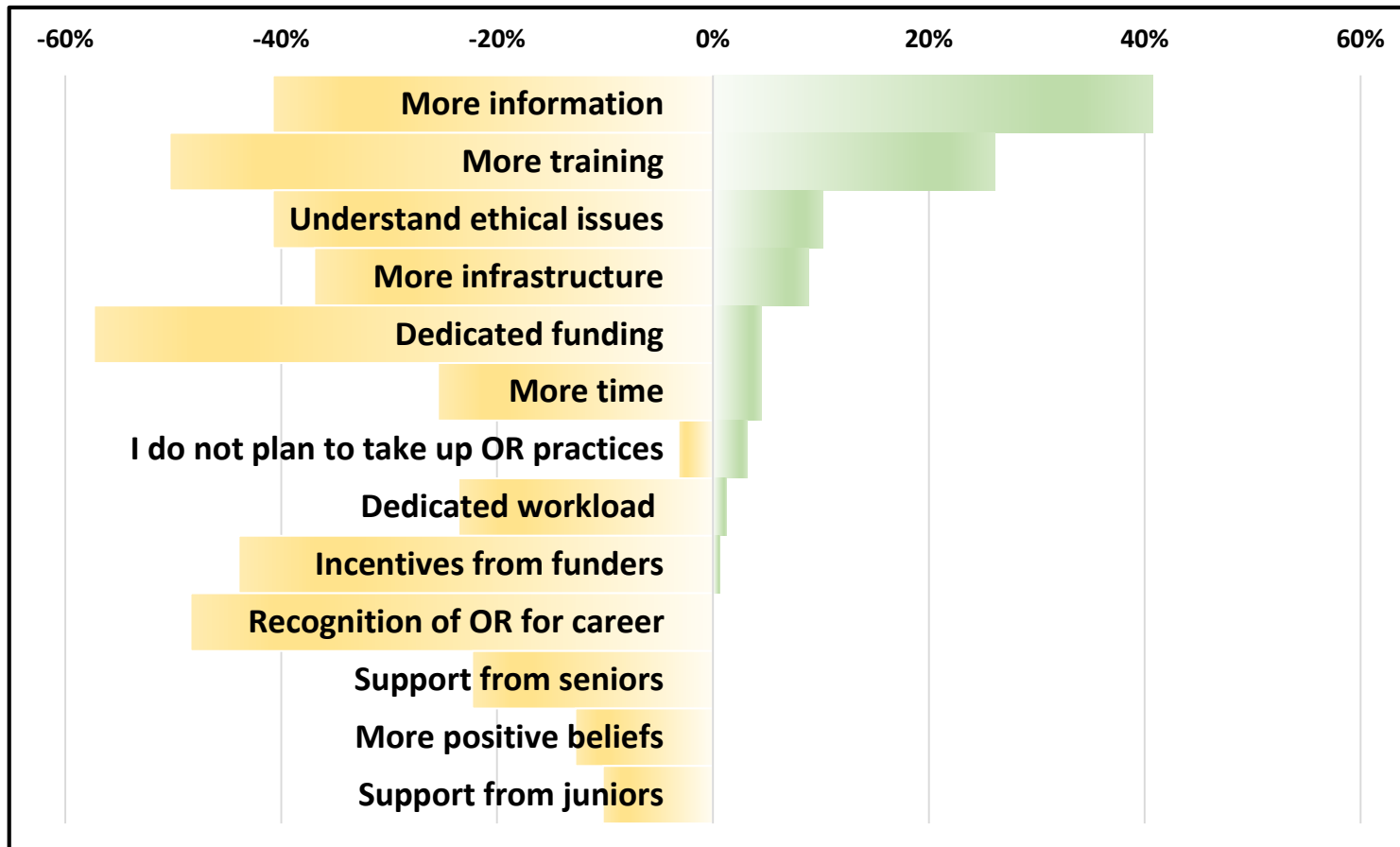
ITRN OPEN RESEARCH SURVEY

Understand researchers' awareness and use of Open Research (**OR**) in Italian research institutions.

- Online questionnaire (<5 minutes) based on the UKRN survey and made available from January 2022.
- Recruitment via email, mailing lists and social networks.
- Some questions of the survey:
 - a. *Demographics*: career level, research field, etc...
 - b. *Awareness and use of OR practices*
 - c. *Support needed to use more OR practices*

Any response

First response



What would help you to use
more **Open Research**
practices?

Join the Italian Reproducibility Network

<https://www.itrn.org>



Grazie per l'attenzione

“Transparent and impartial reporting of clinical trial results will ultimately identify the treatments most likely to maximize benefit and reduce harm.” Kaplan & Irvin 2015