


Green DiSC certification



Genomics 
 of Gene
Expression Lab




About 

News, blogs and events 

Programmes 

Training 


Resources 

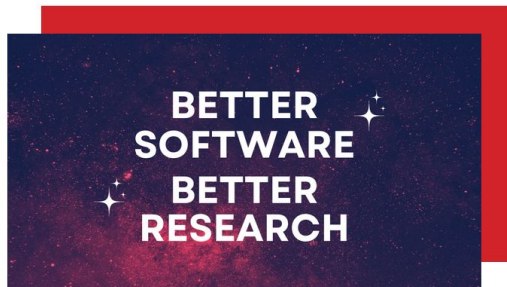
Search 



About us

The Software Sustainability Institute is the first organisation in the world that was dedicated to improving software in research. We help people build better and more sustainable software to enable world-class research.

Read more 




<     >



Settled in Edinburgh

<https://www.software.ac.uk>


Lots of resources for scientific computing and training offered in UK



210+ Fellows

We fund researchers, research software engineers, and industry staff who want to improve software practices in their areas.


[Apply >](#)



Reports and policies

We have collaborated with a range of policymakers to develop 32 reports and policies.


[Find out more >](#)



8,000+ researchers trained

We created and now maintain a scalable and sustainable national training environment by developing new courses, organising workshops, and bringing in and training new instructors.


[Get involved >](#)



RSE Society

From coining the term "RSE" to creating the UK RSE Association and supporting its members towards the RSE Society, the SSI is at the core of this movement.

[Read More >](#)


About News, blogs and events Programmes Training Resources

Docker Introduction

This tutorial aims to introduce the use of Docker containers with the goal of using them to effect r...

[View Tutorial](#)

Reproducible research
Software reproducibility

Introduction to BinderHub

BinderHub is a cloud-based technology that can launch a repository of code (from GitHub, GitLab, and...

[View Handbook](#)

Binder
Reproducible research

DZone Tutorials

DZone provide many tutorials on programming, data science, HPC and software topics. Explore their p...

[View Tutorial](#)

Software development
Data science

Level Up Your Python

This course is aimed at beginners who want to level up to an intermediate python level. As such, it ...

[View Course](#)

Python

DIRAC Training

The DIRAC Training Academy offers both instructor-led and self-paced courses covering a wide range o...

[View Course](#)

HPC
DIRAC

Data Carpentry HPC lesson

A Data Carpentry style lesson was developed for high performing computing (HPC) for genomics.Go to L...

[View Course](#)

Data Carpentry
HPC

Supercomputing Wales training

Supercomputing Wales at Cardiff University have provided several online training courses for HPC on ...

[View Course](#)

HPC

Five recommendations for FAIR software

A collaboration between the Netherlands eScience Center and DANS has put together five recommendations...

[View Handbook](#)

FAIR software

Carpentries Incubator

The Carpentries incubator has many courses that are being collaboratively developed in Carpentry-sty...

[View Course](#)

The Carpentries

Other tools provided for environmental purposes

Some news...

We are in the process of updating the carbon intensity values for electricity consumption to the latest data. Due to a change of T&C with carbonfootprint, this is taking a bit longer than planned.

Interested in green computing? We're recruiting for research roles at the University of Cambridge! [More info here](#)

The major update of the calculator is here! Possibility to share your results as csv, more guidelines on how to use the tool, and the addition of a brand-new AI-specific calculator! [Check out the release notes](#) for the full list of new features.

It's always possible that some bugs have slipped through the net of this new release.. If you spot one, just let us know [here](#)

[More on the project website](#)

Details about your algorithm

To understand how each parameter impacts your carbon footprint, check out the formula below and the [methods article](#)

Runtime (HHMM)

Type of cores

Number of cores

Model

What is the Thermal Design Power (TDP) value per core of your CPU? This can easily be found online (usually 10-15W per core)

Memory available (in GB)

Select the platform used for the computations

Select location

Do you know the real usage factor of your CPU?

☐ Yes ☒ No


Do you know the Power Usage Efficiency (PUE) of your local data centre?


☐ Yes ☒ No


Do you want to use a multiplicative factor?


☐ Yes ☒ No


[Share your results as a csv file!](#)

 **386.96 gCO₂e**
Carbon footprint

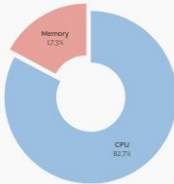
 **2.26 kWh**
Energy needed

 **0.42 tree-months**
Carbon sequestration

 **2.21 km**
in a passenger car

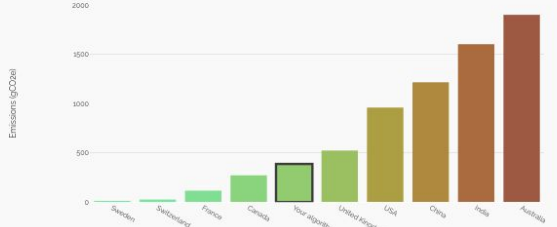
 **0.35%**
of a flight Paris-Dublin

Computing cores VS Memory



Category	Percentage
CPU	82.7%
Memory	17.3%

How the location impacts your footprint



Location	Emissions (gCO ₂ e)
Sweden	~10
Switzerland	~20
France	~50
Canada	~100
Your algorithm	~300
United Kingdom	~500
USA	~900
China	~1200
India	~1600
Australia	~1900

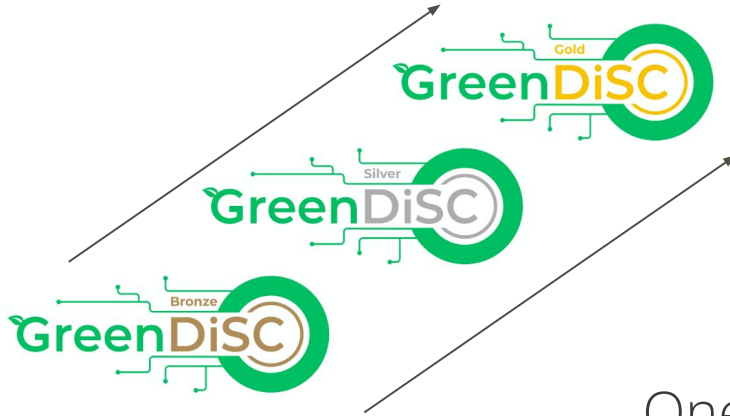
More details about the methodology in the [methods paper](#).

Other resources you may find interesting on this topic: [the GREENER principles](#) for environmentally sustainable computational science, or this [short primer](#) discussing different options for carbon footprint estimation.

Using a SLURM-powered HPC server? Check out [GA4HPC](#), it uses the same calculation method but at scale.



“Computing is an essential component of modern research, and it comes with significant, but not always well-understood, environmental impacts. The climate crisis is urgent, and it is becoming increasingly apparent to scientists using computing that the resulting environmental effects should be taken into account and mitigated where possible - Green DiSC introduction



One evaluation per step

Groups:

- A **fully computing research group** (e.g. computational biology, astrophysics, statistics, machine learning, engineering, chemistry etc.).
- A research software engineering team.
- A group doing **both wet lab and dry lab** research.

Central teams:

- Organisation's **central sustainability team**.
- Department's sustainability representative.
- **IT team**.

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Central teams:

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In Short:

Any **organ or organism** who spends a **significant amount of computer time or computer resources** or **platforms of the institution** that hosts them.

The vision

Evidence-based

3 levels of certification: Bronze, Silver, Gold

Free and open access

Community-based

Iterative



Bronze criteria: General, Offices, Data Storages and compute

General Criteria

For groups	For Central teams
Green DiSK Representative	
Protocol: Computing sustainability procedures for newcomers	
Dissemination of the Green DiSC program	
Shared sustainability and information with other groups	Central institutional repository for sustainability resources

Bronze criteria: General, **Offices**, Data Storages and compute

Offices Criteria

For groups	For Central teams
Inventory of office computing hardware	Inventory of Purchasing streams*
Identification of unused computing equipment	-
Electronic waste processing streams	

Bronze criteria: General, Offices, **Data Storages** and compute

Data Storage Criteria

For groups	For Central teams
Inventory of main data resources	Inventory of (Large) data resources
Protocol: User data directory cleaning	Protocol: regular centralized cleaning and inform groups about storage used
	Template and training resources for data management available for groups

Bronze criteria: General, Offices, Data Storages and **compute**

Compute Criteria

For groups	For Central teams
Inventory of remote infrastructure	
Protocol: User data directory cleaning	Protocol: regular centralized cleaning and inform groups about storage used
Training for green computing	Centralized training for green computing

Silver and Gold criteria: Not yet published, but...



About the criteria

Some examples for Silver

Compute

- Review of HPC infrastructure
- Regular carbon tracking for computing
- Official policy on sustainability

Data storage

- Review of backup strategies
- Streamlining of large shared data resources

Offices

- LCA as part of IT purchase
- Robust e-waste processing
- Equipment is being repurposed

General

- Sustainability becomes part of teaching
- Missing resources are identified centrally



Timeline



Green DiSC onboarding for groups

It's great to have you onboard!

This is the form to be fully enrolled so that we can create an online Google Drive space for your group (we aim to do that within 48h of you completing the form). In this drive, you will find more guidelines on how to manage the scheme and support on working your way through the Bronze level.

If you landed here but are actually representing a central team, [go to this form instead](#).

If possible, try to use an institutional email to sign up. And if you haven't yet, [subscribe to the Green DiSC newsletter](#) to be kept updated about the scheme.

More details [on the scheme's webpage](#).

[Iniciar sesión en Google](#) para guardar lo que llevas hecho. [Más información](#)

* Indica que la pregunta es obligatoria

Institution *

Tu respuesta

Department/Unit (if applicable) *

Tu respuesta


Form that will give access to more resources and help to achieve the criteria

Next deadline for applying:

- July 31st, 2025

Future deadlines to be announced, estimated every 3-4 months

Timeline



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This is the form to be fully enrolled so that we can create an online Google Drive space for your organisation (we aim to do that within 48h of you completing the form). In this drive, you will find more guidelines on how to manage the scheme and support on working your way through the Bronze level.

If you landed here but are actually representing a group, [go to this form instead](#).

If possible, try to use an institutional email to sign up. And if you haven't yet, [subscribe to the Green DiSC newsletter](#) to be kept updated about the scheme.

More details [on the scheme's webpage](#).

fabianry97@gmail.com [Cambiar de cuenta](#) 

 No compartido

* Indica que la pregunta es obligatoria

Institution *

Tu respuesta

Team/organisation represented (it can be central sustainability, IT, a particular department, etc.) *

Tu respuesta

Form that will give access to more resources and help to achieve the criteria

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- July 31st, 2025

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After submitting the form

External revisión:

- Reviewed by other candidates
- That means, every group or central team applying will have to review other candidates (only once for Bronze criteria)

Thanks for your attention