National centre for innovative software solutions in academic research

Information event
Open ODISSEI eScience Call 2022
Welcome to the information event

Open ODISSEI eScience Call 2022

“Empowering researchers in the social science through digital technology”
Program

• Introduction (13:00-13:45)
  - Netherlands eScience Center (Joris van Eijnatten)
  - eScience Expertise (Rob van Nieuwoort)
  - ODISSEI and ODISSEI facilities (Kasia Karpinska)
• Mentimeter survey (5 min)
• Break (10 min)
• Information on the Call (14:00 – 15:00)
  - The Open ODISSEI eScience Call 2022 (Rena Bakhshi)
  - Projects in the spotlight (from Open ODISSEI eScience call 2021, Jisk Attema)
  - Q&A
Context: What is the eScience Center?

national centre / independent foundation / 2012 / NWO & SURF / RSEs /
strategy 2021-2025: two ambitions

eScience Center Vision Statement
‘A robust research community, in which all investigators in all domains are able to exploit advanced digital technologies to answer curiosity-driven questions, keeping the Netherlands at the forefront of cutting-edge international research’

eScience Center Mission Statement
‘Enabling digitally enhanced research and empowering researchers across all disciplines through innovative research software’
Ambition 1: Projects

Open Calls for eScience Domain Research
- technological advances in disciplinary research

Collaborations in Innovative Technologies
- innovative digital technologies

Other Calls
- small-scale initiatives
- ODISSEI
- ...
How we work

• Project = (LA + team) & RSEs
• Driven by research challenges faced by project partners
• We apply state-of-the-art solutions from computer science and digital infrastructure
• We develop reusable & open software, data and knowledge
• Open Science to advance academic research!
Your partners in a project

• Research Software Engineers (RSEs)
• broadly oriented researchers with a strong affinity with ICT (most have a PhD)
• understand both the research question and modern ICT solutions
• currently a team of 70-80 RSEs
• 12 RSEs in our SSH section
Our Technological expertise

- Artificial Intelligence
  - Machine Learning
  - Image Processing
  - Natural Language Processing

- Analytics
  - Big Data Analytics
  - Text Analysis
  - Visualization

- Data processing
  - Databases
  - Real-time data analysis
  - Interoperability and linked data

- Computing
  - Exploiting hardware accelerators
  - High performance computing
  - Cloud computing
  - Combining simulations

Software quality

- Developing workflow technologies
- Improving software practices
- Advancing software sustainability
- Increasing academic impact
Privacy-preserving analytics

- Sharing data through trusted (third) parties
  - Remote access (e.g., CBS, Using the ODISSEI Secure Supercomputer)
  - Compute to data
  - Trusted third party computation
- Distributed processing
  - Secure multiparty computation
  - Federated machine learning
Analysing complex networks: board interlock networks & case law analytics

Images from: [Heemskerk et al. 2016]

[D van Kuppevelt et al. IEEE eScience 2018]
[D van Kuppevelt et al. Legal Knowledge and Information Systems, 2017]
5 recently funded ODISSEI – eScience Center projects

**Andreas Flache, University of Groningen**
Interacting factors in school choice: modelling consequences for school segregation with an agent-based model

**Irina Lock, University of Amsterdam**
The robot or the brain? Building a classifier for visual news frames of Artificial Intelligence

**René Bekkers, VU University Amsterdam**
Transparency in the Netherlands’ Nonprofit Sector

**Jurian Edelenbos, Erasmus University Rotterdam**

**Javier Garcia-Bernardo, Utrecht University**
Tracking and visualizing states as fossil-fuel owners

**Laura Ootes**

Social Psychology, Communication Sciences, Sociology, Organization Studies

agent-based modelling, image processing, deep learning, natural language processing, network analysis, visualization
Research Software Directory

• Finding software
• Making software accessible
• Quickly judge relevance and usage
• Indicating return on investment

All software contributed to by the eScience Center is added to the Research Software Directory

www.research-software.nl
ODISSEI and ODISSEI facilities
ODISSEI presentation here
Mentimeter survey

Go to menti.com and use the code 42 11 46 0
Open ODISSEI eScience Call 2022
Call Objective

“This call for proposals supports researchers in the social sciences who expect to benefit from the application or development of digital technologies and research software, but who need additional expertise in applying these methods.”
Who can apply?

LA: ‘Lead Applicant’
- holds a contract at the ODISSEI member organization\(^1\)
- In possession of a PhD
- contract for at least the duration of the requested project

Furthermore, the LA
- the activities should be integral to the proposed work plan
- may submit only one proposal in that capacity in this call.
- without a prior history of projects awarded under the Open ODISSEI eScience 2021 Call (as LA), will get preference.

\(^1\)https://odissei-data.nl/en/en-odissei/member-organisations/
## What can be applied for?

<table>
<thead>
<tr>
<th>Requirements for LA</th>
<th>PhD</th>
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<tbody>
<tr>
<td></td>
<td>Contract for duration of project at the ODISSEI member organization</td>
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<tr>
<td></td>
<td>One submission in this capacity</td>
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</table>

<table>
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<tr>
<th>Conditions projects</th>
<th>Duration: 3-6 months</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Support eScience Center RSEs: 3 PM</td>
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<td></td>
<td>Single LA, team members <em>possible</em></td>
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<tr>
<td></td>
<td>Collaboration between LA (team) and RSEs</td>
</tr>
<tr>
<td></td>
<td>The datasets should be available at the project start</td>
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<tr>
<td></td>
<td>A clearly defined research question from Social Sciences</td>
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</table>

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<tr>
<th>Available nr. projects</th>
<th>5</th>
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Collaboration

Our RSEs offer an advice and support during the duration of the project to help achieve the desired results.

This includes

- initial **brainstorming** on suitable technologies,
- **advice** on designing experiments and formulating research questions,
- technical **implementation** and **testing**,  
- help with **interpreting** the results,  
- **contribution** to the digital methodology component in a research paper,  
- **help** with the software release (if deliverable is a software) following our best practices.
Call Timeline

- 14 June 2022  
  information event

- May-Aug. 2022  
  consultation meetings with SoDA and eScience RSEs

- 6 September 2022, 14:00:00 CET  
  deadline proposal

- Sep. - Oct. 2022  
  admissibility check, panel assessment

- mid October 2022  
  applicants informed of final decision
Call procedure details

Step 1. Information event & consultancy (May-August)

Information event (today):
- About ODISSEI, eScience Center and our expertise
- QA session

Consultancy:
- SoDA consultancy
- 1h consultancy with eScience and SoDA experts

Step 2. Proposal submission & assessment (September - October)

Eligibility check: Lightweight
Panel assessment: Ranking of proposals based on scores
Assessment criteria:
- Academic quality (34%)
- Application of eScience expertise (33%)
- Re-use and sustainability (33%)

Proposal submission (September 6, 2022 at 14:00 CEST) via the EasyChair system

Step 3. Awarding decision (mid October)

Decision:
- Based on recommendations by the assessment panel of Social Science, ODISSEI, and eScience Center experts.
- Positive decision by the ODISSEI MB and eScience Center’s DT
Consultation sessions

All selected applicants are invited to participate in consultations sessions

**One-hour consultation**
- register via [https://forms.office.com/r/rcXhs6yxTi](https://forms.office.com/r/rcXhs6yxTi)
- individual meeting
- discussion on the research questions, suitable technological solutions, the viability of the approach, and the match with the eScience Center expertise
- with an eScience Center expert and ODISSEI SoDA team member

**Contact the ODISSEI SoDA team**
- separately (email to soda+nlesc@odissei-data.nl) or at SoDa Data Drop-in sessions ([https://odissei-data.nl/en/soda-data-drop-in/](https://odissei-data.nl/en/soda-data-drop-in/))
- discussion on their project ideas
- look at the data related to the prospective project

NOTE: The outcome of these meetings **not** part of the review and selection process. The assessment panel will do its own evaluation based on the final submission.

Consultation sessions are optional but highly recommended.
May – August 2022.
A competitive proposal aims to:

• address a challenging research question in social sciences;

• make clear why digital technologies or improved research software is required for this;

• explain how it strengthens and connects to other research performed in the ODISSEI community;

• deliver publication (of a research paper), a blog post or white paper, and software or code release.
Proposal Form

• Details of the applicant
• Research Question (max. 200 words)
  • Describe the research problem you are planning to work on and pose a concise research question following from that problem.
  • Provide context for the importance of the problem being solved.
• Planned work (max. 200 words)
  • Describe your study.
  • What do you expect the application of software to do for you?
• Expected outcome (max 200 words)
  • Briefly describe the deliverables
  • Describe how this output will be used in your work and promoted after the project ends
Proposal Form

- Description of available data (for each available dataset)
  - The dataset will be available at the start of the project

- Use of ODISSEI facilities and explanation (if applicable)
  - Nb: this call does not provide funding for an access to these facilities.

### Description of available data

<table>
<thead>
<tr>
<th>Dataset name</th>
<th>Repository</th>
<th>Short description</th>
<th>Type of data</th>
<th>Form of the data</th>
<th>Metadata</th>
<th>Size of the dataset</th>
<th>Restrictions</th>
<th>More information</th>
</tr>
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<tbody>
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</tbody>
</table>

Please confirm that:
- [ ] The dataset will be available at the start of the project

### ODISSEI facilities

- [ ] ODISSEI Microdata access
- [ ] ODISSEI named access
- [ ] ODISSEI Secure Supercomputer time
- [ ] ODISSEI Data Science Team assistance (does not need funding, subject to availability)
- [ ] Other

**Explanation:**

Explain how these facilities may be used.
Submission instructions

Read all the documents for the call (available via the call page).

- Download the project proposal template.
- Complete the template and save it as pdf.
- Submit it via EasyChair.

For submitting your proposal, the EasyChair system will require:

- a proposal title,
- an abstract (copy Research Question section in the proposal form);
- at least 3 keywords, and
- the proposal file (in the pdf format).

https://www.esciencecenter.nl/calls-for-proposals/open-odissei-escience-call-2022/
https://easychair.org/conferences/?conf=odisseiescience2022
Recap: Important Links

- All information on this call: [https://www.esciencecenter.nl/calls-for-proposals/open-odissei-escience-call-2022/](https://www.esciencecenter.nl/calls-for-proposals/open-odissei-escience-call-2022/)

- Register for free consultation hour via [https://forms.office.com/r/rcXhs6yxTi](https://forms.office.com/r/rcXhs6yxTi)

- Reach out to the SoDa Team (email to soda+nlesc@odissei-data.nl) or at SoDa Data Drop-in sessions ([https://odissei-data.nl/en/soda-data-drop-in/](https://odissei-data.nl/en/soda-data-drop-in/))

- The EasyChair submission system: [https://easychair.org/conferences/?conf=odisseiescience2022](https://easychair.org/conferences/?conf=odisseiescience2022)
Projects in the spotlight
5 recently funded ODISSEI – eScience Center projects

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Javier Garcia-Bernardo, Utrecht University
Tracking and visualizing states as fossil-fuel owners

Social Psychology, Communication Sciences, Sociology, Organization Studies

agent-based modelling, image processing, deep learning,
natural language processing, network analysis, visualization
The promise of philanthropy is that it creates a better world. Philanthropic activities may contribute most when organizations collaborate with government and corporate actors.

However, the actual contribution of philanthropic activities to the wellbeing of mankind remains unclear:

- To what extent and how do philanthropic activities contribute to positive societal change?
- Where do activities of philanthropic organizations complement government initiatives to achieve SDGs?
- To what extent do philanthropic organizations indicate social cohesion, and give citizens a voice in society?
- How are philanthropic organizations embedded in elite networks of power?
Approach

This project aims to enhance research on transparency and insight in the activities and outcomes of philanthropic organizations in the Netherlands by:

• identifying their contributions to Sustainable Development Goals (SDGs)
• constructing a database of ties between organizations
• and describing the diversity of the philanthropic sector in the Netherlands.
Develop tools that can extract information from the annual reports: and that classifies and links them based on:

- Board members
- Organizations type
- Sustainable development goals
- Mission statements / activities
- Financial data

Requires: NER, entity linking, topic modelling

Reuse of tools often possible (for names and SDGs but Dutch =/= English)
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How is AI framed in online media images?

Framing affects people’s emotional response and possibly adoption of new technology.

Earlier research focused mainly on text.

Images are more saliently processed, remembered and trigger emotions more profoundly.

Image credits:
carloscastilla / 123RF Stock Photo
Sound On Sound Fest
### Datasets

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td><strong>Training, verification, &amp; test data I</strong></td>
<td>Free online image database of over 2 million free high-resolution images. Ca. 3.200 images concerned with AI, ca. 1.0000 with machine learning (duplicates expected)</td>
</tr>
<tr>
<td><strong>Training, verification, &amp; test data II</strong></td>
<td>Free online image platform of ca. 2 million images Ca. 700 images concerned with AI, ca. 100 with machine learning (duplicates expected)</td>
</tr>
<tr>
<td><strong>Training, verification, &amp; test data III</strong></td>
<td>Ca. 66.000 images (of a total of ca. 5 billion) concerned with AI, ca. 49.000 with machine learning (duplicates expected, and lots of irrelevant pictures such as PPT slides)</td>
</tr>
<tr>
<td><strong>Full data set media images I (Getty)</strong></td>
<td>Ca. 33.000 tagged with AI (of a total of ca. 70 million), ca. 5.400 with machine learning (duplicates expected)</td>
</tr>
<tr>
<td><strong>Full data set media images II (Shuttershock)</strong></td>
<td>Ca. 3.600 tagged with AI (of a total of ca. 320 million), ca. 1.100 with machine learning (duplicates expected)</td>
</tr>
<tr>
<td><strong>News images (INCA)</strong></td>
<td>INCA: INfrastructure for Content Analysis Short description Open source platform: “The GDELT Project monitors the world's broadcast, print, and web news from nearly every corner of every country in over 100 languages:” (needs scraping)</td>
</tr>
</tbody>
</table>
One sentence eScience challenges

Andreas Flache, University of Groningen
“My model should run 10x faster”

Irina Lock, University of Amsterdam
“I want to apply machine learning on many images”

René Bekkers, VU University Amsterdam
“If only all the texts were computer understandable”

Jurian Edelenbos, Erasmus University Rotterdam
“Combine qualitative and quantitative methods to analyse my texts”

Javier Garcia-Bernardo, Utrecht University
“Help me visualize and analyse dataflows on maps”

NOTE: these are not actual quotes but my improvisation; apologies to the researchers if the summary does not do justice to the project.
We look forward to working with you!
“Empowering researchers across all disciplines through innovative research software”

Contact information

Programme Management
open-calls@esciencecenter.nl

SoDa team
soda+nlesc@odissei-data.nl