



Artificial Intelligence for Image Data Analysis in the Life Sciences

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AI4Life WP7 lead (Communication, Outreach & Training)



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Bridging the Life & Computer Science Communities



The goal is to radically **reduce the disparity** between the theoretical applicability and the practical use of AI-based image analysis methods in the life sciences. AI4Life will bridge the gap between the two rapidly developing fields of **AI/ML methods** development and **biological imaging**.

Goals

1

Democratized
availability of
**AI-based image
analysis methods**

2

Establish **standards** for
the submission,
storage and FAIR
access

3

Simple **model**
deployment, sharing, and
dissemination through a
developer-facing service

4

Organize **Open Calls** and
Challenges for image
analysis problems

5

Empower common
image analysis
platforms with AI
integration

6

Organizing **outreach** and
training events i.e. image
analysis workshops,
participation in conferences

Structure

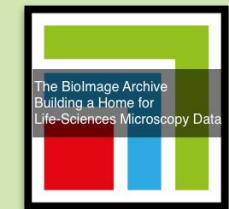


Activities

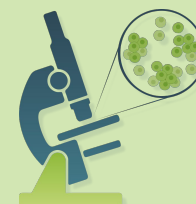
AI Models Format & Zoo



AI ready datasets



Open Calls & Challenges

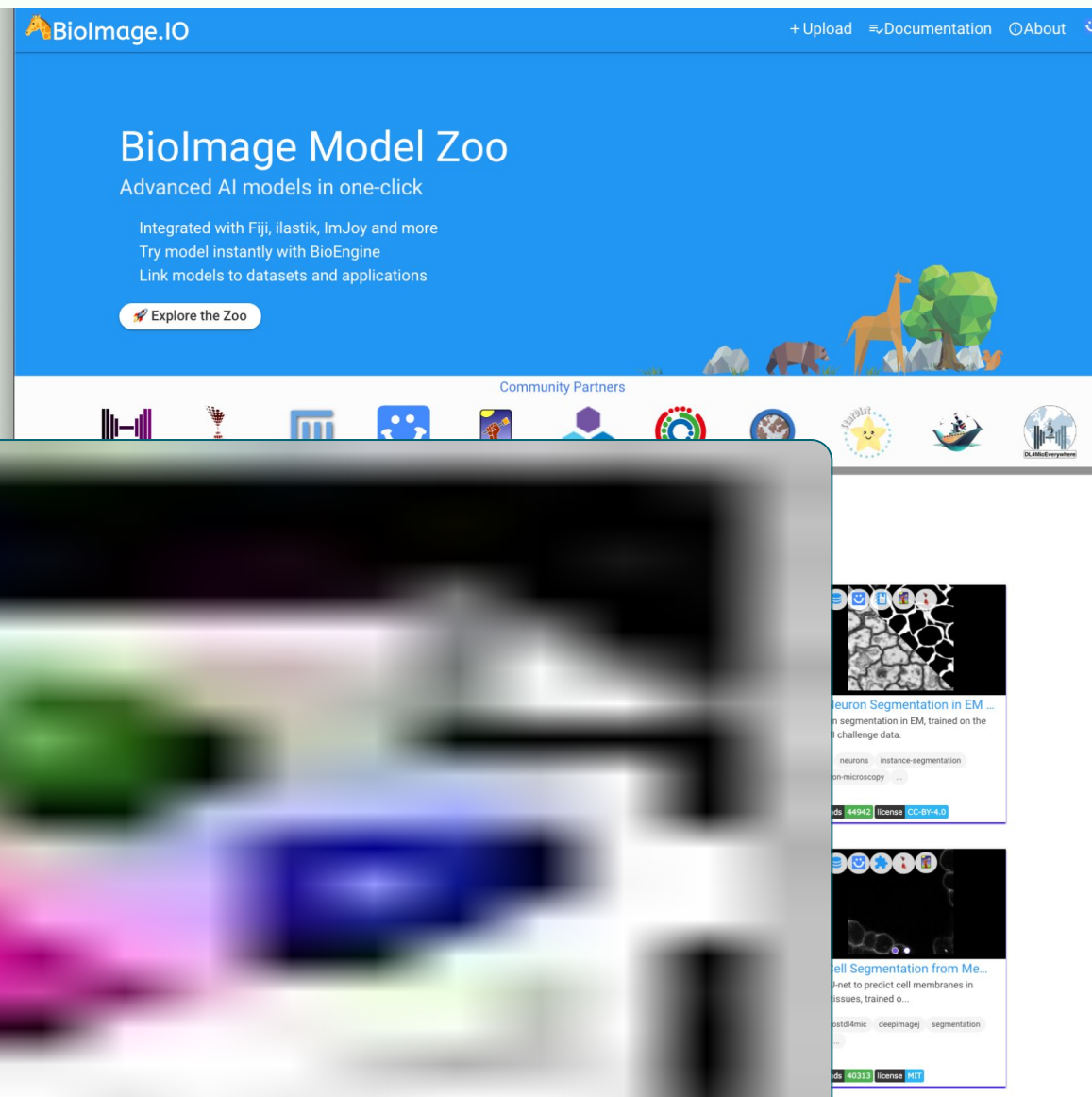


Workshops



BioImage Model Zoo

- **Community-driven**
- **Open source**
- Community-based process for **contributing models**
 - Cross-software
 - Model
 - Model
 - chose
- Users choo
- Make **share** neural net



OPEN CALL for Bioimage Analysis Support



- ☐ I need help analysing image data
- ☐ I need help creating training data
- ☐ I need help applying Deep Learning to my research data

Apply by
March 31



ai4life.eurobioimaging.eu

OPEN CALL for Bioimage Analysis Support



Apply by
March 1st

Deadline extended
March 8

Do you need help applying Deep Learning to your research?



<https://bit.ly/AI4Life-2nd-open-call>

OPEN CALL

Bioimage Analysis Support



Apply by
January 10

Do you need help applying Deep Learning to your research?

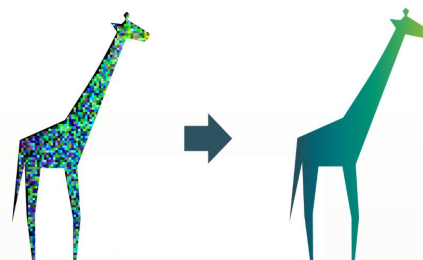


<https://bit.ly/AI4Life-3rd-open-call>

Open Calls & Challenges

DENOISING CHALLENGE

Submit until
July 31



ai4life.eurobioimaging.eu

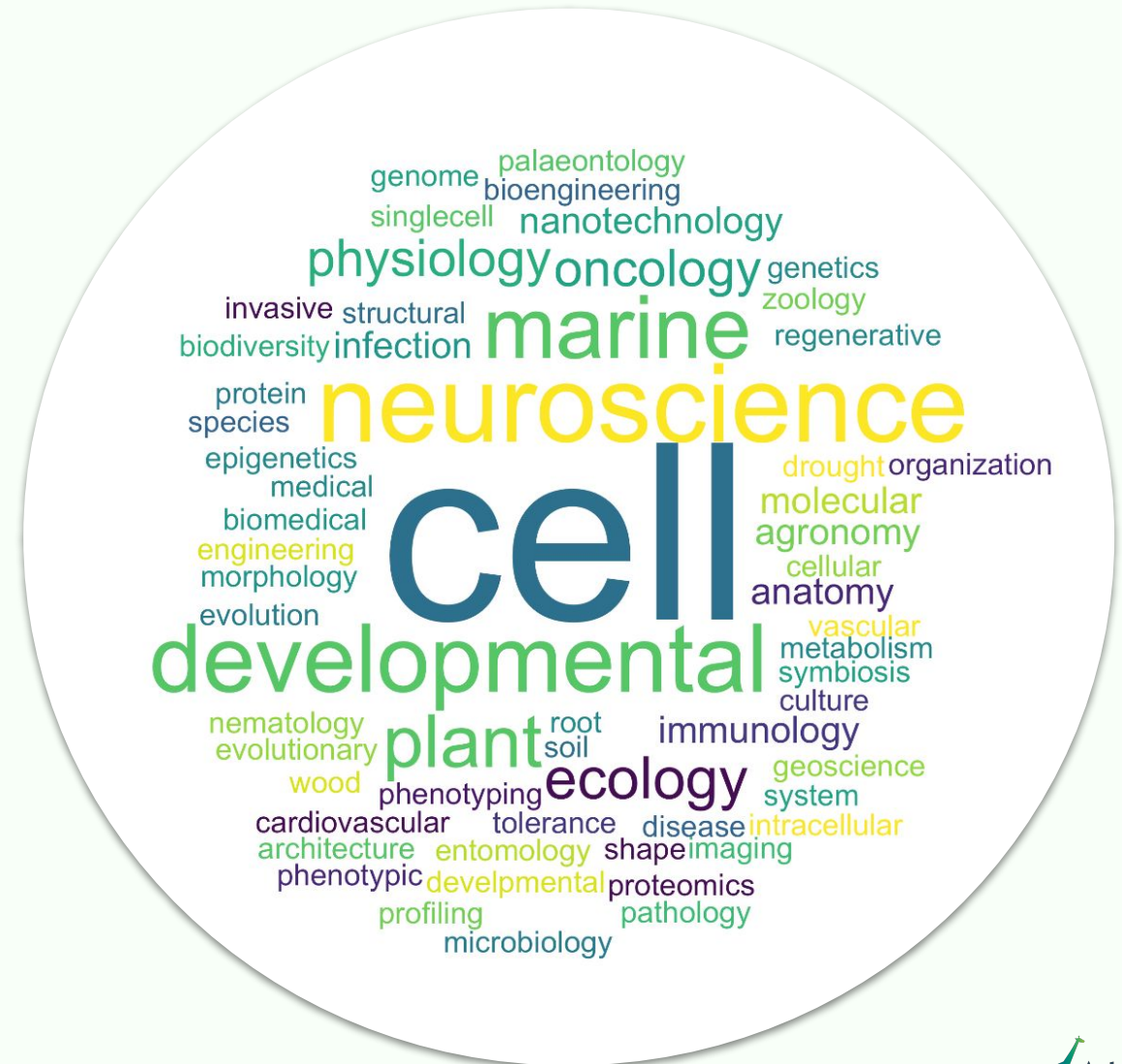
<https://ai4life.eurobioimaging.eu/denoising-challenge>

ai4life@eurobioimaging.eu

More in 2025!

72 applications

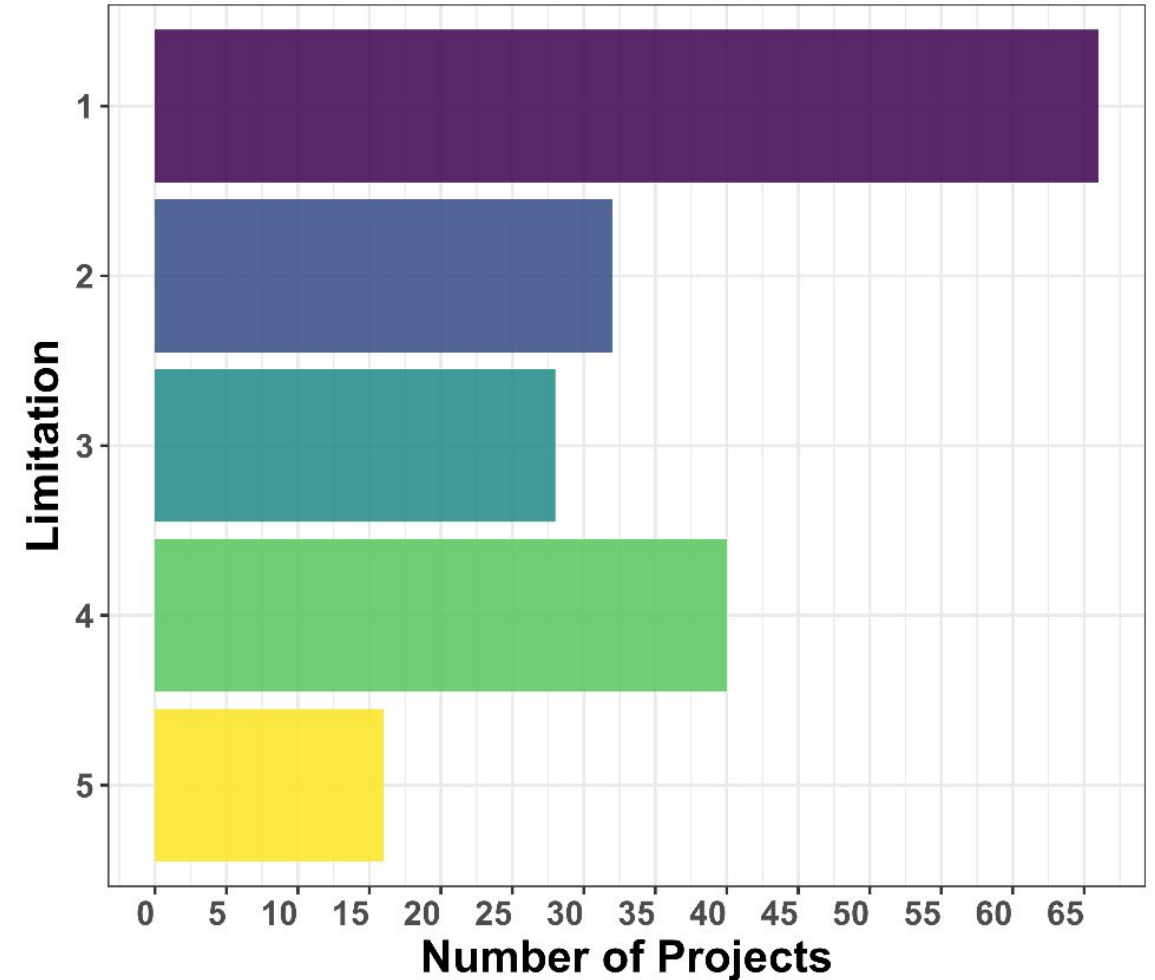
First Open Call



Why did they apply? What challenge are they facing?

Limitation in analyzing data

- Example 1: Improving your image analysis workflow
- Example 2: Improving your image analysis data and/or data storage strategy
- Example 3: Training data creation
- Example 4: Consultancy on available tools and solutions
- Example 5: Catering your problem to other experts



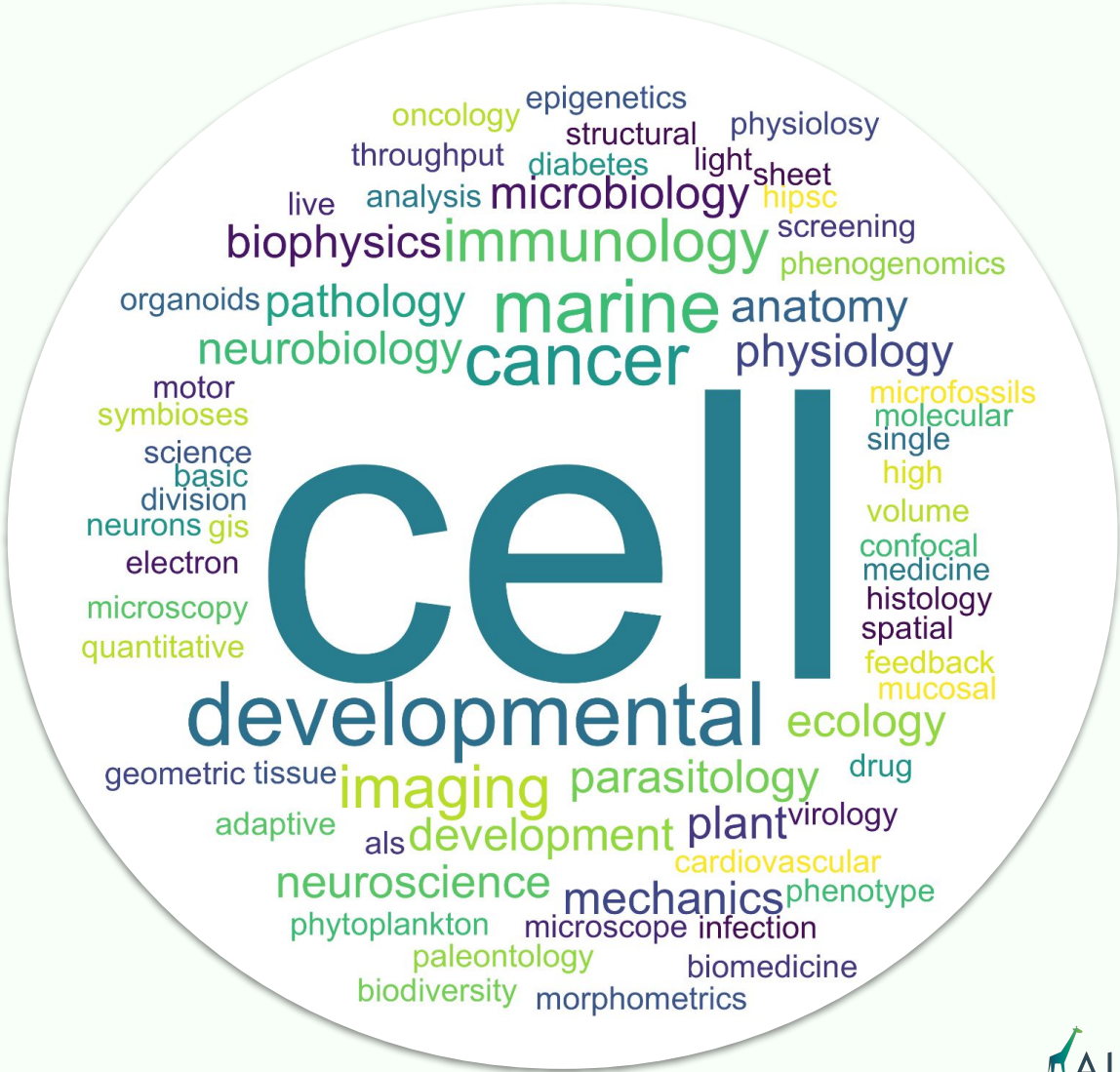
First AI4Life Open Call: 8 projects selected



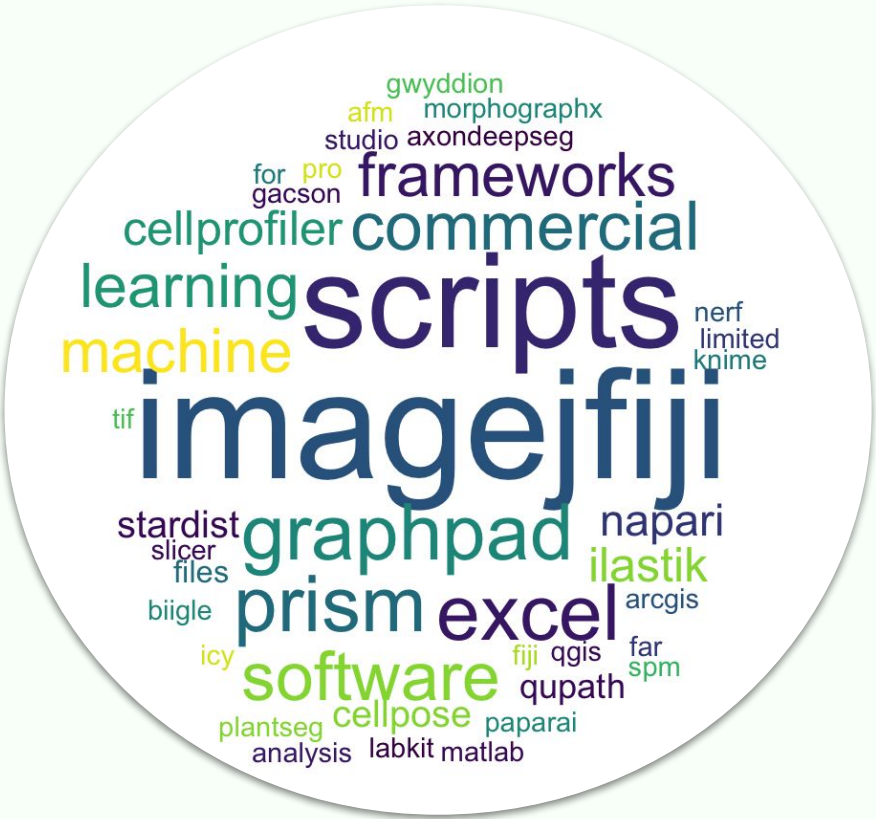
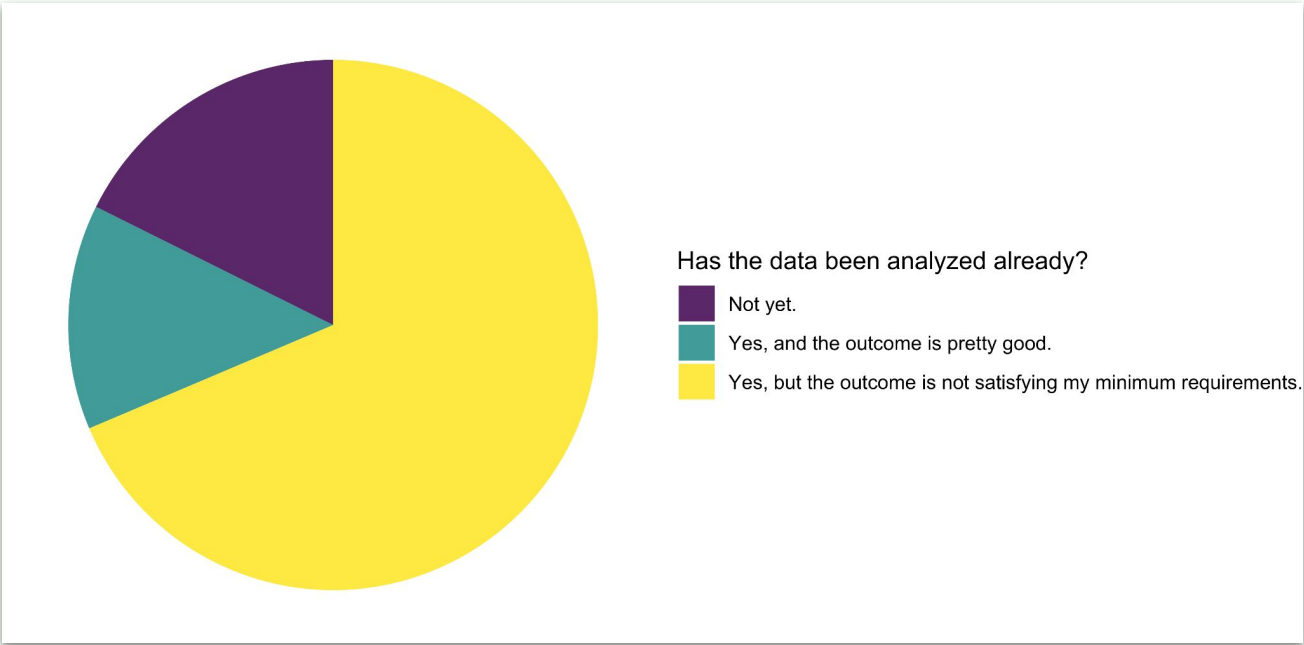
<https://ai4life.eurobioimaging.eu/use-cases/>

51 applications

Second
Open Call



How have they addressed the problem so far?



Second AI4Life Open Call: 20 + 7 projects selected

Consultation phase: **20** projects selected

Deep Learning support phase: **7** projects selected

1. Automated species annotation in turbid waters (#11*)
2. Optimizing calcium image acquisition with machine learning denoising algorithms (#13)
3. Diatom symbioses at planetary scale (#14*)
4. Automated segmentation of actin filaments in intact cells (#21)
5. Enhancing the effective resolution of intravital microscopy with digital expansion microscopy (#23)
6. Ultrastructural protein mapping through Correlation of Light and Electron Microscopy (#26)
7. NeuroScan – A 3D human motor neuron disease platform for high throughput drug screening (#38)

OPEN CALL

Bioimage
Analysis
Support



Apply by
December 10

Do you need help applying Deep Learning to your research?



AI4Life



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<https://bit.ly/AI4Life-3rd-open-call>

ai4life@eurobioimaging.eu

2024			2025							
Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug





8
Countries

36
Months

10
Partners

4M
Euros

63
AI
models

42
Training
datasets

19K+
Unique
visitors

7
Curated
AI-ready
datasets

2
Model / Data
community
standards

4
Records on
FAIRsharing



in numbers

Last update 11.10.2024

2 (of 3)
Open Calls

1 (of n)
Challenges

123
Applicants to the
Open Calls

15
Selected projects on
the Open Calls

9
Hackathons

134
Dissemination
activities

4
Workshops

3
Training
videos

7
Preprints

9
Peer-reviewed
publications

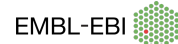
27
Zenodo
records

60
News

8
Newsletters

251
Subscribers

2172
Followers on
social media



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[@AI4LifeTeam](https://twitter.com/AI4LifeTeam)

Thank you!

- AI4Life website:
www.ai4life.eurobioimaging.eu
- Subscribe to the AI4Life newsletter:
<https://bit.ly/ai4life-newsletter>