

Call for proposals

Artificial Intelligence for Clinical Decision Support (AI4CDS)

Concept

MOLIT Institute and its scientific collaborators are happy to announce the Artificial Intelligence for Clinical Decision Support (short: „AI4CDS“) call for projects. Aim of this call is to support the upcoming generation of scientists by providing an environment to establish new approaches for data driven medicine for Clinical Decision Support (CDS) while, enriching their network on a national- and international level and providing the possibility to present the results on the most important scientific congress for medical informatics, biometry, and epidemiology GMDS 2023 in Heilbronn, Germany.

Students are invited to send their project proposals related to Artificial Intelligence (AI) and Clinical Decision Support within the context of precision medicine. There are no limitations in scope for projects, but they should be related to the topics AI and/or CDS.

Together with our scientific collaborators (see below) additional data sources could be considered for your project. Please indicate the necessity for further negotiations to obtain data for your use-case within your project proposal.

Objectives

- Learning to implement new approaches for clinical decision support in a protected environment with (real) data.
- Getting to know the (young) international data science community and promote data sharing between researchers.
- Be present and exchange experiences with your peers and other scientists at the GMDS conference in Heilbronn, Germany.

Target Audience

To promote young talent this call is open for small groups of students from under- and postgraduate university programs, as well as students from medical schools. International applications are explicitly encouraged.

Subjects of interest include (list not exhaustive): any discipline that works with data, pattern recognition and artificial intelligence amongst others like bioinformatics, medical informatics, biology, which could impact clinical decision making in any way.



MOLIT

- Prof. Dr. med. Christian Fegeler
- Dr. Stefan Sigle
- Patrick Werner, M.Sc.

External (candidates)

- To be announced...

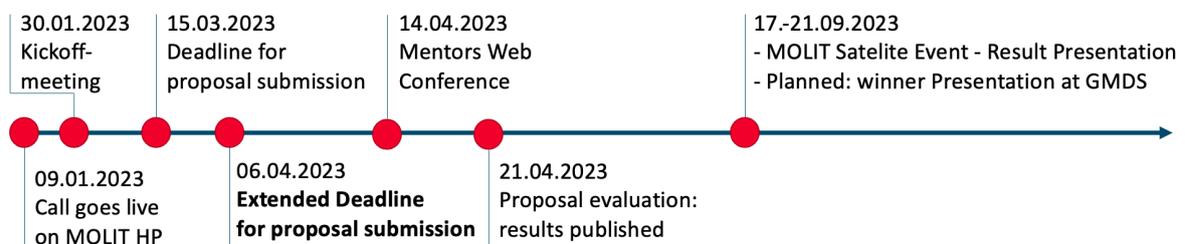
Example Use-cases

The following example use-cases serve as inspiration for this call. Other use-cases are applicable.

- Use-case 1: Knowledge databases contain information regarding possible medications for genetic variants, which could function as parameters to identify suitable patients based on their molecular profile with artificial intelligence.
- Use-case 2: Clinical cases are analysed against clinical Guidelines to search for patterns which indicate applicability for clinical guidelines which leads to a decreased workload for the clinician.
- Use-case 3: Imaging studies conducted during cancer diagnostics could be used to indicate a genetic analysis for a patient in certain entities.
- Use-case 4: Research regarding infections in intensive care units and their subsequent destabilization risk probability.

Process & Timeline

For this call a 2-step process is set up: student groups send their proposal via the web form. If necessary, a consultation prior to project evaluation will be conducted to evaluate the possibility of data provisioning and feasibility. After submission, proposals get evaluated by the scientific board and accepted or rejected based on the criteria: I) structure and outline, II) relevance and impact, and III) feasibility and possible translation into clinical practice. There will be a maximum of 10 projects accepted. In case of acceptance, teams will get in touch with a mentor that accompanies the group towards their goal to present their results at the MOLIT Satellite Event. It is also planned, that the winner will be presenting @GMDS2023 main event. The following shows the timeline for the steps happening within this call:



Further Links

- MOLIT Institute Homepage: <https://molit.eu>
- Platform of German Cancer Registries for research data
 - Rhineland Palatinate: <https://www.krebsregister-rlp.de/datenauswertung/datennutzung-in-der-forschung>,
 - Baden-Württemberg: <https://www.krebsregister-bw.de/home/auswertungen-forschung/aggregierte-daten>
- Open Databases which may contain data useful for your project: <https://physionet.org/about/database/#open>

Frequently Asked Questions (FAQ)

Who can participate in this call?

- Answer: Groups of up to 5 students from the areas of Medical Informatics, Biometry, Epidemiology, Bioinformatics, and Medicine. Even if you are a student from other fields do not hesitate to apply to this call.

What do I have to present to join this call?

- Answer: You should provide an outline of your proposed project, not exceeding 5 pages which describe: idea, (technical) background (which data sources do you consider using), methods and technical feasibility, and risks.

I have an idea, but I am not sure if it is suitable for AI4CDS. What can I do?

- Answer: Be sure to send your proposal anyway, together with our scientific board we discuss suitability and feasibility of your proposal.

I don't have the necessary data to evaluate my research proposal. What should I do?

- Answer: Be sure to tick the appropriate boxes in the submission form. There is an option to check feasibility for the provisioning of data for your project idea within the collaborating institutions.

Is there funding available for this project?

- Answer: Funding is available and will be handled after acceptance. Funding can be provided in the form of travel expenses, processing fees and entrance fee to the GMDS 2023 Event. Funding is adjusted to necessities of a given project.

How will my contribution be evaluated?

- Answer: Each board member will give a score from 1-5 for the following aspects: I) structure and outline, II) relevance and impact, and III) feasibility and possible translation into clinical practice.

Who can I contact with questions regarding this call?

- Answer: please write an email to ai4cds@molit.eu

