

Applicant: Elias Crum
Application number: 1S27825N
14 oktober 2024

Concerning Evaluation application PhD Fellowship strategic basic research: "PERsoNal Genome QUery IN clinical practice (PENGQUIN)"

Dear researcher,

This year, the FWO received 611 applications for a PhD Fellowship strategic basic research, 182 of which could eventually be granted by the board of trustees after a rigorous two-step selection procedure.

The expert panel SBWT5B: Informatics and data communication has carefully evaluated your application as well as your defense during an interview. Based on the final ranking of the candidates in this panel, your application was selected for granting.

Consequently, the board of trustees could grant your application.

Attached you can find detailed feedback on the evaluation. For the evaluation framework that guided these comments and scores, we refer to the [score grid](#).

There will be no further correspondence about this feedback. If you have questions or if you need guidance to interpret the received feedback, reach out to your promotor.

With kind regards,

your account administrator

Assessment criterion “candidate”

Strengths:

The candidate’s study results and academic trajectory are excellent. The candidate has taken relevant courses and completed them with very high grades. The candidate has acquired coding proficiency as well as other crucial software development fundamentals. Grades and CV indicate an outstanding ability to learn and talent for multidisciplinary research. The candidate has a strong motivation for performing the PhD. The candidate has obtained several scholarship awards. Research stays/activities were already undertaken after the studies. During the interview, the candidate was able to present the project well to the panel, although the project proposal as presented during the interview did not seem to fully align with the written proposal.

Weaknesses:

The candidate is new to the field of semantic web research, as well as the many sub-domains that focus on aspects such as data policies and governance, semantic representations of data, and Web technologies. Therefore, the candidate seems to have a lack of background on data management and web technologies. More importantly, during the interview, the candidate was not fully able to clearly and convincingly convey the novelty and the research challenge to the panel. As such, the panel expressed some concerns surrounding the candidate’s critical mindset. Also, the candidate does not appear particularly skilled in privacy and security aspects.

Conclusion:

The candidate is generally well-prepared for the proposed PhD research, but does seem to lack some background in the field of semantic web and skills in privacy and security aspects. The candidate showed strong motivation and presentation skills, but should improve critical mindset.

Score: 4.00

Assessment criterion “project”

Feedback:

Strengths:

The objectives of the project are aligned with personalized medicine. The project is innovative and has the potential to provide an interesting alternative to traditional solutions for patient-centric data management. Overall, the proposed research directions and sub-questions are interesting, and truly exploratory in nature. A central research question has been formulated to guide the project. This research question is decomposed into more specific research questions. The research methodology is sound, and the risk analysis is adequate.

Weaknesses:

Although the research questions have been defined, the objectives are not clearly stated. The scientific work is formulated more like an engineering project than a research proposal. The project is the application of semantic web technologies in a digital infrastructure for data handling related to the biomedical knowledge domain. Indeed, the project is a practical implementation of Solid technology to a biomedical knowledge domain. As such, the originality seems not very high. In terms of feasibility, the proposal is risky, and the link to Solid is not clearly justified, because it is an implementation choice and not a design choice. Some targets/KPIs to assess to what extent the objectives can be met/achieved are missing. Such metrics could help going beyond pass/fail assessment, especially for Components 1-3. In terms of methodology, there is no definition of deliverables or milestones.

Conclusions:

The project is relevant. However, the novelty of the project is medium and the definition of the objectives is lacking, even though the corresponding research questions are formulated. The methodology fits with the work to be performed, although some missing information, such as KPIs, deliverables or milestones. Risk analysis is appropriate.

Score: 4.00

Assessment criterion “application potential”

Feedback

Strengths:

The results of the project will be useful and relevant for the user-centric data management in personalised medicine. The project is being developed to be integrated into ongoing research and product development at VITO in the department of Digital Precision Health. As such it fits well within the organization. The project will improve transparency, which is likely to be well-received by the general public. The project is timely and provides relevant research. The framework that the project aims to develop definitely has the potential to benchmark the challenges and opportunities that such data management can offer to societal and industrial partners. When successful, the project is likely to contribute to a significant change in the way personal genome sequence (PGS) data is handled and used. As exemplified in the proposal there is clear societal relevance, fitting with EU policies and frameworks.

Weaknesses:

There are no specific plans for collaboration with societal or industrial partners. The economical relevance is less convincing - it is not clear what type of companies could benefit from these developments.

Conclusion:

Medium-high strategic importance of the application of the research in terms of relevance and impact. A proper analysis of the possible stakeholders for improving the potential impact of this work - companies, societal actors, medical institutions, seems to be lacking.

Score: 4.50