

Bio

Liesbet Geris is Research Professor in Biomechanics and Computational Tissue Engineering at the university of Liège and KU Leuven in Belgium. Her research focusses on the multi-scale and multi-physics modeling of biological processes. Together with her team and their clinical and industrial collaborators, she uses these models to investigate the etiology of non-healing fractures, to design in silico potential cell-based treatment strategies and to optimize manufacturing processes of these tissue engineering constructs. Liesbet is scientific coordinator of the Prometheus platform for Skeletal Tissue Engineering (50+ researchers). She has edited several books on computational modeling and tissue engineering. She has received 2 prestigious ERC grants (starting in 2011 and consolidator in 2017) to finance her research and has received a number of young investigator and research awards. She is a former member and chair of the Young Academy of Belgium (Flanders) and member of the strategic alliance committee of the Tissue Engineering and Regenerative Medicine Society. She is the current executive director of the Virtual Physiological Human Institute and chair of the Avicenna Alliance Research & Technology Working Group and in that capacity she advocates the use of in silico modeling in healthcare through liaising with the clinical community, the European Commission and Parliament, regulatory agencies (EMA, FDA) and various other stakeholders including patients. Besides her research work, she is often invited to give public lectures on the challenges of interdisciplinary in research, women in academia and digital healthcare.



Motivation

Over the past 10 years, the in silico medicine field has seen an incredible progress. It has turned from a niche field, driven by a number of staunch believers in academia and industry, into a **vibrant field** of scientific research and development, with many young researchers and start-up activities joining the **ecosystem**. There is also a strong increase in attention and interest from a range of stakeholders, including regulatory bodies, policy makers, public & private funders, payers & buyers, healthcare professionals and patients. This increased dynamism and attention is supported, facilitated and enhanced by organisations such as the VPH institute and the Avicenna Alliance.

My volleyball coach once told me that in my career I would often use skills acquired during my years of playing competitive team sports – team work, leadership, drive, ambition, grit. Looking at the activities I find myself gravitating towards, it is precisely those that are the most alike competitive team sports. In silico medicine (and also tissue engineering) can only advance when we ensure the entire path from the computer screen to the patient is rolled out - which is something that cannot be done by a single research group or company, this **needs to be done together**. This is my personal motivation to commit time and effort on the Avicenna Alliance and especially its Research & Technology Working Group that aims to make the connection between Academia (and other public entities) and Industry.

Plan for the coming 3 years

Since its inception, I have been strongly involved in the activities of the Avicenna Alliance as the chair of the Research & Technology Working Group, the co-chair of several task forces (EU funding and EMA collaboration) and participant in a wide range of **activities and outputs** (GSP, AI white paper, EMA white paper, consultation feedback etc.). Additionally, a number of other tangible results of the R&T Working Group have been obtained by exploiting the position of the VPH institute as an independent international non-profit organization for academics and members of public organisations. These involve the interactions with the stakeholders such as the European Commission and regulatory agencies. Long-standing personal relations with specific units within the European Commission ensure there is a platform to provide regular updates of the advances of the in silico medicine field

and the open challenges that require further public investments. As a result, the upcoming work program of the Horizon Europe and Digital Europe programs will include a significant amount of funding calls dedicated to or including in silico medicine technologies.

For the **next 3-year period**, if elected, I intend to continue on the path we have started for the different focus points of the R&T working group listed below. Hence, the plan for the future includes both activities organized with the specific goal to create links between the members and engage with other stakeholders as well as activities in support of the current and future task forces to create additional opportunities for the excellent work done by the task force leaders.

- **Creating links between the VPHi Membership and Avicenna Industry Members** through organising and supporting a mix of activities that are targeting the community at large as well as helping to set up smaller consortia and bilateral contacts. These activities include the WG meetings, the running activities (e.g. C⁴BIO initiative, the expression-of-interest one-pager) as well as new initiatives. As an example, with the VPHi student committee we will organise a series of career workshops with industrial Avicenna members providing testimonies: (1) the different types of professional activities after obtaining a PhD in in silico medicine (academia, R&D industry, start-up, regulatory, payer) and (2) tips and tricks in translation of in silico medicine technology (spin-off, start-up, financing rounds, acquisition). This will bring also the youngest members of the scientific community closer to the industry partners.
- **Promotion of in silico medicine in the Horizon Europe and Digital Europe Programme.** Continuing the good relations with European Commission will be the key point of these activities. This will include connecting the Avicenna membership with community-wide actions such as the EDITH coordination & support action coordinated by VPHi (www.edith-csa.eu) that aims to develop a roadmap for the development of the (ecosystem of the) virtual human twin and identify crucial research and infrastructure challenges for the next decade. More inward looking, we will continue the development of the expression of interest one-pager to allow consortia to be formed by and with Avicenna members. Additionally, we will help RPP resume the mapping and communication of the upcoming funding opportunities to the membership.
- **Working towards the creation of an in certified tissue library for biological materials.** We will continue the support of the C⁴BIO community challenge, scientifically and logistically. The latter is envisaged by assisting in the search for additional external funding to amplify the magnitude of the activities (linked to the previous point).
- **Work on credibility building for AI technologies and policy asks.** Having finalised the AI white paper, the task force will now leverage it with the help of RPP in the ongoing policy activities. Beyond the activities of the task force, maintaining a clear and consistent line of communication on AI as part of the in silico technologies spectrum towards all stakeholders will be important to ensure a proper understanding and appreciation of our field.
- **Medical community outreach,** probing the healthcare professionals about their knowledge, expectations and hesitations related to in silico medicine. Sharing this information with the membership will provide much needed input to better understand the prime users of our technologies and tailor our communication towards/with them. Here again, the dual academic-industrial character of the Alliance will be leveraged by using the most appropriate channels when organising our activities.

Our working group and its task forces of course do not operate in isolation. There are many touching points with activities in other task force and working groups. By actively participating in those activities and through the board meetings, I will strive to **ensure complementarity** of the work that we do and **optimize synergies within the entire Avicenna community and beyond**.