PROFILE TEXT

Pharmacokinetics encompasses the study of the absorption, disposition, metabolism and elimination of drugs. Pharmacokinetics plays a major role in the development of drugs (the “product”) as well as in the use of drugs (patient-product), for example in drug-drug interactions. Developments in modelling techniques have fundamentally changed the discipline of pharmacokinetics: the use of mathematical models that also allow simulations in virtual patient populations has gradually become more important. The fact that EMA and FDA have embraced modelling and simulation is striking proof of this. A Faculty of Pharmaceutical Sciences where research focuses on the “product” i.e. drug (drug development) and on the “patient-drug” interaction (pharmaceutical care) must have this kind of expertise on board. Even more, it needs to make innovative contributions to research into the “pharmacokinetics of tomorrow”. In addition, a faculty must also always pay attention to the nexus between research and education: training pharmacists, both with a focus on the development of innovative medicines and with a focus on the appropriate use and guidance of patients in their use of medicines, cannot be performed without a solid education in pharmacokinetics. A future proof curriculum not only introduces the principles of pharmacokinetics but also trains young professionals in the techniques of today and tomorrow, so most definitely in aspects of modelling and simulation.

Currently, this research and teaching is jointly provided within the faculty by a visiting lecturer (research and teaching) with (industrial) roots in pharmacokinetics, including modelling and simulation, and a full-time professor responsible for supporting data generation (in vitro work, clinical/bioanalysis of medicines). In its strategic vision, the faculty has expressed a clear need to anchor this discipline(s) in a future-oriented manner in the medium and long term, both in terms of research expertise and the need to ensure the teaching assignment.

Broadly speaking, there are two types of academic pharmacokinetic research: in vitro/translational research into the pharmacokinetic properties of medicines, and clinical pharmacokinetic research in patients. In this vacancy, we have chosen to include the term “translational” in the title. The aim is to rather emphasise the first type of research, without excluding the second type of research nor a clinical finality/valorisation. There are two reasons for this: on the one hand, there is already a research group at Ghent University (in the Faculty of Medicine) that focuses on purely clinical pharmacokinetics (thus allowing to aim for complementarity and interdisciplinarity), and on the other hand, the context of the Faculty of Pharmaceutical Sciences lends itself much better to an in vitro/ translational pharmacokinetic research line, where the strengths of the analytical potential and the broad expertise present in “product” development (chemical, biological, biotechnological, computational), provide a strong foundation for this type of research. In addition, several of these

disciplines within the faculty sometimes also require pharmacokinetic expertise in their research projects. Nevertheless, we do not want to lose sight of the clinical aspect entirely: translational research is also referred to as “from bench to bedside”. Certainly, from the point of view of pharmaceutical care, the patient remains a crucial factor.

Based on the need to consolidate this type of expertise within the faculty in a future-oriented manner, but also to be a player in future developments (in terms of research, with a link to future applications, not least regulatory ones) within the discipline, the faculty's policy committee has decided to invest, starting at least for the first five years of the mandate, via a BOF ZAP mandate, in a young researcher (the vacancy will be opened as a tenure track position), with the focus on research, without nevertheless losing sight of education (the visiting lecturer has indicated that she wishes to terminate her mandate due to commitments in her industrial employment, and this will (have to) take place simultaneously with the recruitment). In the faculty's multi-year strategic planning, this position will be consolidated after the initial BOF-funded period using faculty personnel resources. This has already been included in the long-term calculations for the faculty's personnel policy plan.

Reference was made above to the current synergy within the research group between, on the one hand, the (model-based) pharmacokinetic activities and, on the other hand, the clinical/bioanalytical know-how and laboratory resources. The researcher responsible for the bioanalytical work will also be leaving Ghent University within a few years. It is potentially possible that the person who will fill this new position will eventually also be responsible for supervising this bioanalytical branch of the envisaged pharmacokinetic research. Although developments over the past 10 years show that there has been a shift in research towards the modelling work, the same experience shows that there is substantial added value for (pharmacokinetic) research and subcontracting services (= Unique Selling Proposition) if that research is carried out in symbiosis with the capacity to perform quantitative analyses “in-house”. A profile with knowledge of both pharmacokinetic modelling and quantitative chemical analysis is therefore more desirable than a profile that focuses solely on modelling pharmacokinetic data. Based on the same experience that complementarity and multidisciplinarity raise research to a higher level, the desired profile should preferably also have a clear clinical/medical-pharmaceutical background. A pure biostatistician or mathematically oriented modeller would be an impoverishment for the research as envisioned in the strategic objectives of the Faculty of Pharmaceutical Sciences.

With this vacancy, the Faculty of Pharmaceutical Sciences is creating a future-oriented trajectory that aims to combine the further progress of existing research (and research collaborations) with innovation in these lines of research, in a context shaped by both the healthcare-related aspects and the drug development-related aspects of pharmaceutical sciences.