The African applied pharmacometrics training (APT) fellowship: 1 year later

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Introduction

The Applied Pharmacometrics Training Fellowship in Africa provides advanced skills training required for regulatory quality analyses and reporting among African pharmacometricians. Following the successful completion of the first cohort, we are currently training a second cohort.

The purpose of this paper is to describe progress, lessons learned and to reiterate the strategy, tactics, and curriculum.

Our goal is to create a sustainable ecosystem for pharmacometrics in Africa. We invite partners to join us in this effort.

Methods

The 2022 program comprised of a 12-week virtual program with self-learning exercises, live tutorials, and model-based data analyses with a further 12-weeks immersion program conducting a model-based analysis under the mentorship of experienced pharmacometricians[1].

Based on lessons learned, the 2023 program has fully integrated the didactic and the data analysis components into a 6-month program. The entire program is overseen and conducted by academic, pharma, and product development partners. The structured virtual learning curriculum and real-life research datasets expose fellows to model-based analyses and applications in drug development. Fellows are selected from an open-call for doctoral-level scientists, who then work on assignments that reinforce themes of scientific leadership and teamwork, while their mentors gain insights into healthcare needs in traditionally underserved African settings.

Results

A total of 16 fellows from Democratic Republic of Congo, Egypt, Ethiopia, Kenya, Nigeria, Tanzania, South Africa, and Sudan completed the 2022 program and qualified for a University of Cape Town certificate of completion. Examples of the modeling analysis projects that were done by fellows from the APT 2022 cohort will be presented at the 31st PAGE meeting, A Coruña, Spain 2023[2,3,4].
A virtual Certara Africa consulting team located in Cairo (Egypt) and in Cape Town (South Africa) was launched in February 2023 and is currently comprised of 5 staff (red stars in Figure 1).

For the 2023 program, we have selected 8 fellows from countries highlighted in Figure 1 from an applicant pool of 70 (some of which were from outside of Africa) and extended our pool of industry partners. The updated curriculum, program structure, and project descriptions is presented in Figure 2 for comment and critique.
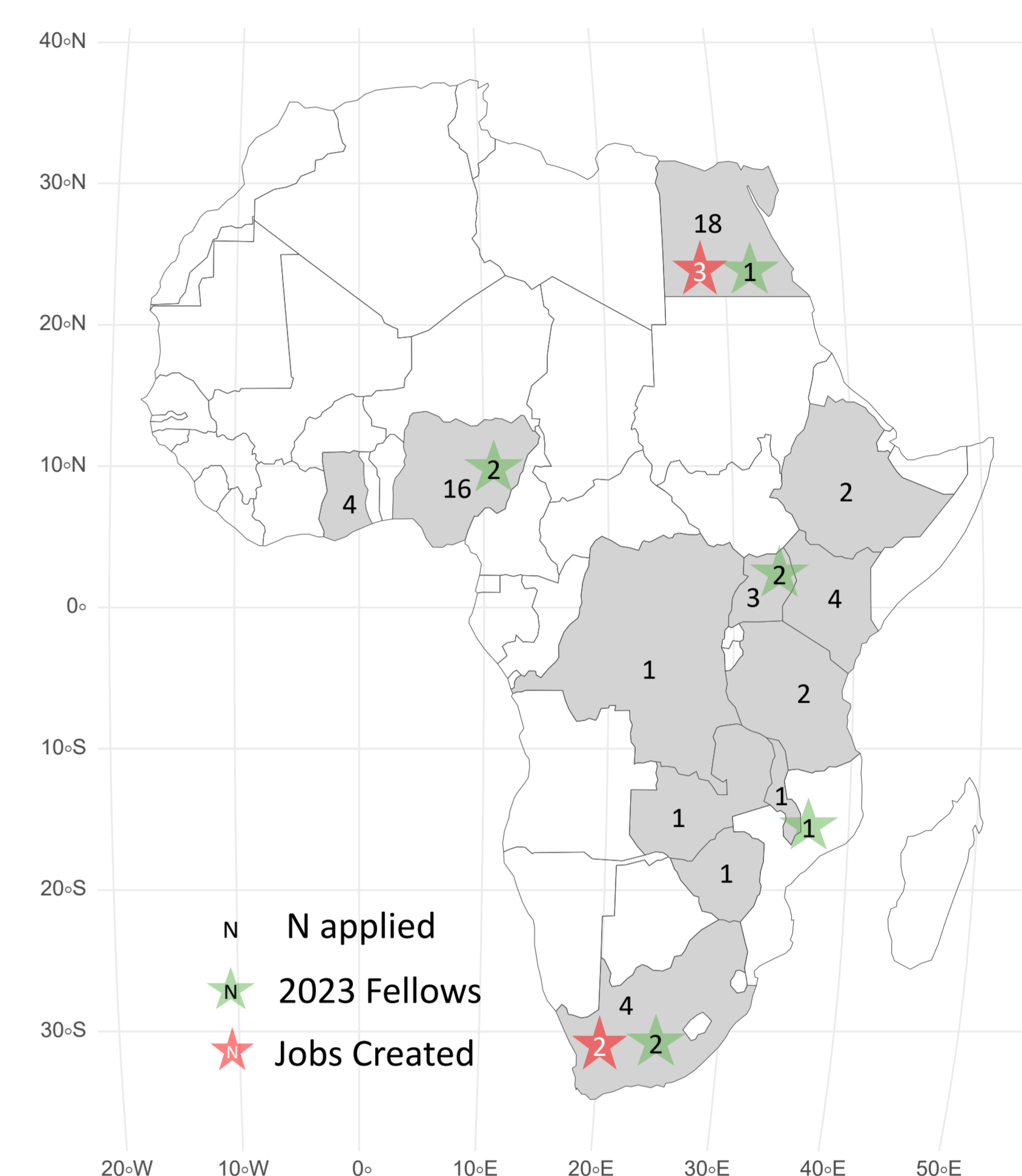

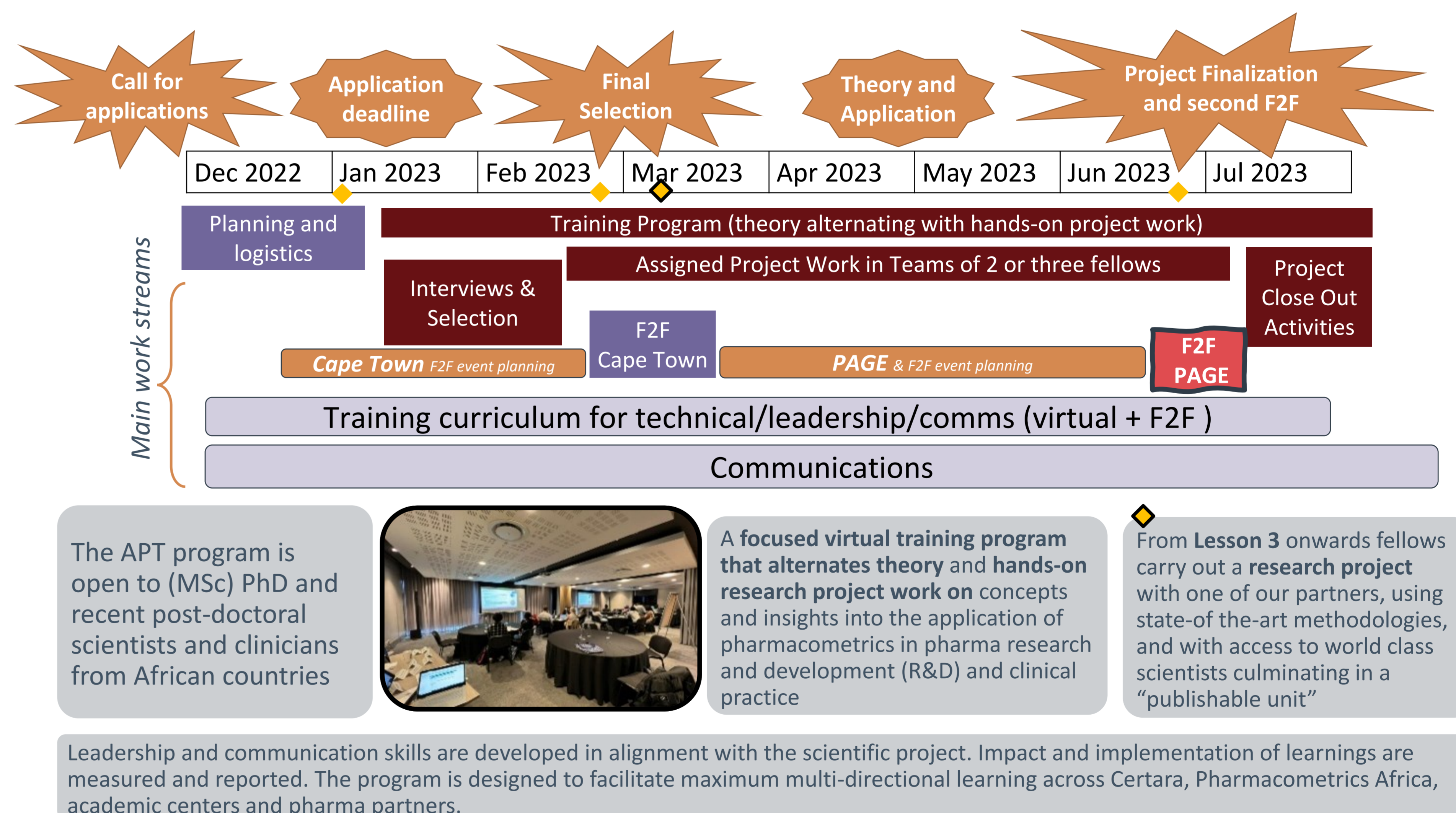Figure 1: Geographical Distribution of the 2023 applicants and selected fellows

Figure 2: Overview of the 2023 APT program structure and timeline

The APT program is open to (MSc) PhD and recent post-doctoral scientists and clinicians from African countries

A focused virtual training program that alternates theory and hands-on research project work on concepts and insights into the application of pharmacometrics in pharma research and development (R&D) and clinical practice

From Lesson 3 onwards fellows carry out a research project with one of our partners, using state-of the-art methodologies, and with access to world class scientists culminating in a "publishable unit"

Leadership and communication skills are developed in alignment with the scientific project. Impact and implementation of learnings are measured and reported. The program is designed to facilitate maximum multi-directional learning across Certara, Pharmacometrics Africa, academic centers and pharma partners.

Conclusions

A fellowship program in pharmacometrics in Africa aiming to fill-in scarce skills development and local job creation has been developed and initiated. We have shared with the community examples of promising research outputs and jobs created. The second edition is currently ongoing with continuous collaborative improvements from all parties. We invite partners to share feedback and to join us in this effort. This program will advance innovative biosimulation applications for the global benefit.

Acknowledgments

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