EU-STANDS4PM
standards for personalised medicine

A European standardization framework for data integration and data-driven *in silico* models for personalized medicine – EU-STANDS4PM

Workshop at the annual COMBINE meeting

18 July 2019
Studio Villa Bosch Heidelberg, Germany
(hosted by Heidelberg Institute for Theoretical Studies HITS)

TABLE OF CONTENT

INTRODUCTION

Objectives of EU-STANDS4PM

One of the major goals of EU-STANDS4PM is to assess and evaluate national standardization strategies for interoperable health data integration as well as data-driven in silico modelling approaches for personalized medicine with the aim to bundle European standardization efforts. The project will produce an in depth EU-wide mapping of relevant European initiatives with regard to data sources (WP1) as well as in silico models (WP2). This process is the foundation to assemble specific recommendation and guidelines (including EU standard documents) for data harmonization and integration strategies as well as data-driven in silico approaches to interpret human disease/health data.

EU-STANDS4PM and COMBINE

The "Computational Modeling in Biology" Network (COMBINE) coordinates the development of various community standards and formats in the life sciences with special focus on systems biology, systems medicine, synthetic biology and related fields. As such COMBINE focusses on bottom-up or “grass-roots” standards defined by scientific communities. These community standards play an important part in the development of personalized and systems medicine approaches but differ from those standards issued by national and international standardization bodies, such as DIN (German Institute for Standardization), the European Committee for Standardization (CEN/CENELEC) and ISO (International Organization for Standardization).

Through an active engagement of the COMBINE network EU-STANDS4PM will collaborate with this relevant stakeholder community towards the project´s objectives. This is part of EU-STANDS4PM´s pro-active outreach and communication strategy with a major focus on identification and direct interaction with external initiatives and projects to create a forum to debate on future developments of *in silico* models for personalized medicine.

Objectives of the workshop

The current EU-STANDS4PM workshop at the annual COMBINE meeting is embedded in the context of work package 1 “Data sources and standards for predictions in personalized medicine” with the objective to initiate and consolidate a pan-European standardization framework for *in silico* methodologies applied in personalized medicine. A central aim of WP1 is to drive harmonization and interoperability of domain-specific standards (scientific bottom-up/community standards and standards set by national and international standardization bodies) in personalized medicine in order to facilitate data integration to enable predictive *in silico* modeling on a broader European level. Through the workshop EU-STANDS4PM will consult the COMBINE community to put a focus on (i) analyzing interoperability and scalability of data and metadata standards relevant in COMBINE and (ii) reflect on possibilities for cross-domain and cross-technology data integration to facilitate *in silico* modelling approaches in personalized medicine.

Meeting venue

Conference Centre Studio Villa Bosch
Schloss-Wolfsbrunnenweg 33 | 69118 Heidelberg, Germany
Tel.: +49 6221 533 400 | Fax.: +49 6221 533 599 400
www.studio-villa-bosch.de

AGENDA

18 July 2019

Morning session - 9:30 to 11:00

Keynote - Data Integration and the need for standards: FAIRDOM
Carole Goble, University of Manchester

Presentation series - selected from the abstracts submitted to the COMBINE meeting

Midday introduction session - 11:30 to 13:00 (15 min presentations and panel discussion)

- EU-STANDS4PM: Data sources and standards for personalized medicine
  Niklas Blomberg, ELIXIR/EU-STANDS4PM
- Standards in Biobanking: BBMRI
  Petr Holub, Masaryk University
- Clinical Data and Systems Medicine
  Søren Brunak, University of Copenhagen/*EU-STANDS4PM*
- Clinical translational
  Norbert Graf, University Hospital Saarland (TBC)
- Using patient-derived data for personalized medicine: Ethical and Legal Aspects
  Katharina Eva Ó Cathaoir, University of Copenhagen/EU-STANDS4PM

Lunch break from 13:00 to 14:00

Afternoon interactive workshop sessions - 14:00 to 17:30

World Cafés - 14:00 to 15:45

Introduction
Lead: Niklas Blomberg/Martin Golebiewski (EU-STANDS4PM)

- Interactive parallel discussions in smaller groups that re-mix every 10-15 min
- Discussion participants move to another table and re-mix (table moderators stay)
- Groups develop their ideas and give their input summarized ad-hoc on a handwritten poster at each table
- Ideas, problems, approaches and know-how at each table of the previous groups are transported via the poster and through the moderators to the following groups
- After 6 rounds for 6 different topics all workshop participants reassemble again and the moderators summarize and report from each table

World Café groups (6 rounds – 15 min each):

1) Data and model standards – Which of them are relevant for personalized medicine Moderator:
   Ingrid Kockum, Karolinska Institutet/EU-STANDS4PM
2) Reproducibility – standards as drivers
   Moderator: Olaf Wolkenhauer, University of Rostock/EU-STANDS4PM
3) Integration of clinical and research data – Approaches, problems and standardization gaps
   Moderator: Søren Brunak, Copenhagen University/EU-STANDS4PM
4) Pitfalls in developing and harmonizing standards
   Moderator: Martin Golebiewski, HITS gGmbH/EU-STANDS4PM
5) Transformation/Transition from community standards to formal standards
   Moderator: Heike Moser, DIN/EU-STANDS4PM
6) Using patient-derived data for personalized medicine: Legal and ethical aspects
   Moderator: Katharina Eva Ó Cathaoir, Copenhagen University/EU-STANDS4PM

Coffee break from 15:45 to 16:15

16:15 to 17:30 - Reporting from the world cafés (6*10 min) + 15 min conclusion and action plan

ACKNOWLEDGEMENTS

EU-STANDS4PM is funded by the European Union Horizon2020 framework programme of the European Commission Directorate-General for Research and Innovation under Grant Agreement # 825843.

The EU-STANDS4PM workshop is part of the EU-STANDS4PM work package 1– “Data sources and standards for personalized medicine” and work package 4 – “Data access, outreach and governance”, with support also from work package 2 – “Integrated data analysis and in silico models in personalized medicine” and work package 3 – “Legal ethics, policy and certification for data-driven in silico models in personalized medicine”.

CONTACT

Martin Golebiewski (workshop organization)

HITS gGmbH
Schloss-Wolfsbrunnenweg 35
69118 Heidelberg
Telephone: +49 6221 533 281
e-mail: martin.golebiewski@h-its.org

Marc Kirschner (Coordination)

Forschungszentrum Jülich GmbH
Project Management Jülich (PtJ)
52425 Jülich, Germany
Telephone: +49 2461 61-6863
e-mail: m.kirschner@fz-juelich.de
web: www.eu-stands4pm.eu

Sylvia Krobitsch

Forschungszentrum Jülich GmbH
Project Management Jülich (PtJ)
52425 Jülich, Germany
Telephone: + 49 30 20199-3403
e-mail: s.krobitsch@fz-juelich.de


EU-STANDS4PM
standards for personalised medicine