MESI-STRAT

Systems Medicine of Metabolic-Signaling networks -
A New Concept for Breast Cancer Patient Stratification

Annual Meeting

March 13 – 15th, 2019

HITS Studio Villa Bosch

Schloss Wolfsbrunnenweg 33

69118 Heidelberg, Germany

Meeting Program

Dear MESI-STRAT partners, dear advisory board members, dear guests,

It is a great pleasure to welcome you to the first annual meeting of the MESI-STRAT consortium. Kindly hosted by our partner HITS, we are happy to meet in the beautiful Studio Villa Bosch of HITS in Heidelberg.

One year ago in March 2018, we met for the first time in the frame of our kick off meeting at the UMCG in Groningen. We celebrated the start of MESI-STRAT, learned about the expertises within our consortium and advisory board, and we planned the details for the implementation of MESI-STRAT. In September 2018 the work package leaders met again in the frame of an Executive Board Meeting, in which action plans were further developed for the operational phase of MESI-STRAT.

Now, we are very much looking forward to see you all in Heidelberg to discuss our progress and the next steps.

In the morning of day 1, the emphasis will be on updating our advisory board on the MESI-STRAT progress (Sessions 1 - 4). Work package leaders and partners will give an overview of the work done in year 1. This overview will provide the basis for further discussions and the development of action plans during the meeting.

Our afternoon will start with a session about 'The future of scientific publication'. We will hear a keynote speech of Dr. Andrea Leibfried, Executive Editor at Life Science Alliance, and we look forward to a lively discussion with all participants about this timely topic.

Afterwards, Dr. Susanne Weg-Remers from our partner KID (German Cancer Information Service at DKFZ, Heidelberg) will inform us about their work and present the first results of the telephone survey of breast cancer patient needs related to MESI-STRAT.

In the following three workshops we will explore expertise and resources of our IAB members for MESI-STRAT (Session 7). The aim of the first workshop is to explore external clinical cohorts and discuss their possible linkage to MESI-STRAT. The focus of the second workshop is to discuss how to integrate external modelling expertise into MESI-STRAT. Finally, in workshop 3 we will discuss concrete actions of the MESI-STRAT communication strategy with internal and external experts. Since the workshops will take place in parallel we have made a suggestion for the participants in each workshop (page 6).

The major aim of Session 9 on Friday morning is to prepare a detailed action plan for the next 12 months. For this purpose, all participants, including our advisory board members, will be divided into four expert teams (Experimentalists, Modellers, Clinicians and Data Scientists). Templates for timelines, including due dates for deliverables and milestones, and for the first reporting will be provided to the work package leaders in advance. The outcome of these expert team meetings will be presented in short talks to the whole consortium.

After a last coffee break, Olga Krebs from HITS will give a hands-on workshop about FAIR data management using FAIRDOMHub.

We look very much forward to an enjoyable meeting with fruitful and exciting discussions.

Best wishes,

Kathrin Thedieck, Christiane Opitz, Tobias Anzeneder and Janina Leyk

Meeting Program / Time schedule

Wednesday, March 13th 2019

18:30 –	Dinner at "Essighaus" (costs to be covered by the participants, only cash payment possible)	Plöck 97, 69117 Heidelberg

Thursday, March 14th 2019

Time	Topic	Speaker/Contributors
08:30 – 09:00	Registration	
09:00 – 09:30	Introduction	K. Thedieck (UIBK) C. Opitz (DKFZ)

Session 1: Preclinical and clinical work *Chair: C. Opitz*		
09:30 – 09:50	WP6 Clinical Studies and Longitudinal Analyses	C. Opitz (DKFZ)
09:50 – 10:10	MESI-REPOSITORY (WP1) and the ET termination trial (WP7)	T. Anzeneder (PATH)
10:10 – 10:30	WP7 Clinical Trials	C. Opitz (DKFZ) S. Schott (UKL-HD)
10:30 – 10:50	WP7 Preclinical Models	M. Palafox (VHIO) B. van den Eynde (DDI)
10:50 – 11:20	Coffee Break	

Session 2: Experimental and modelling work *Chair: K. Thedieck*		
11:20 – 11:40	WP3 SIGNALING NETWORKS for model parameterization & validation	C. Sers (CHAB)
11:40 – 12:00	WP4 METABOLIC NETWORKS for model parameterization and validation	M. Ziegler (UiB)
12:00 – 12:20	WP5 Integrative MESI network modeling and network analyses	D. Shanley (UNEW) I. Heiland (UiT)

Session 3: Data Management *Chair: J. Leyk*		
12:20 – 12:30	WP2 Data Management	S. Grellscheid (UiB)
12:30 – 12:40	WP2 MESI-SEEK (FAIRDOMHub)	W. Mueller (HITS)

Session 4: Communication and Dissemination *Chair: K. Thedieck*		
12:40 – 13:00	WP9 Communication & Dissemination	J. Leyk (UMCG/UIBK) B. Tektemur Altay (SBS) T. Anzeneder (PATH)
13:00 – 14:00	Lunch Break	

Session 5: The future of scientific publishing *Chair: K. Thedieck*		
14:30 – 14:50	Keynote speech: Open Access or Open Science - how to share reproducible data	A. Leibfried, Executive Editor, Life Science Alliance
14:50 – 15:30	Open discussion	All participants

15:30 – 16:30	Open Session for one-on-one discussions Strategic Board Meeting	All participants SB Members

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Session 6: Telephone survey of breast cancer patient needs *Chair: T. Anzeneder*		
16:30 – 17:15	Talk (20 min): Molecular testing as pre-requisite for personalized cancer therapy – concerns and interests of information seeking breast cancer patients	S. Weg-Remers Head of the Cancer Information Service at the German Cancer Research Center (DKFZ), Heidelberg, DE

Session 7: Workshops – Exploring external expertise and resources for MESI-STRAT		
17:15 – 18:30	Alwin Mittasch Studio: Workshop 1 - Exploration of external clinical cohorts and their possible linkage to MESI-STRAT *(Chair: C. Opitz, DKFZ)*	
	Talk 1: The genomics of breast cancer - Overview of relevant projects, clinical cohorts, and data in Oslo, NO (10 min)	V. Kristensen University of Oslo, Oslo University Hospital, NO
	Talk 2: Inhibition of Signal Transduction for Breast Cancer Treatment - Overview of clinical cohorts and data at BIDMC with potential links to MESI-STRAT (10 min)	G. Wulf Harvard Medical School Beth Israel Deaconess Medical Center (BIDMC), Dana-Farber Harvard Cancer Center Boston, US
	Discussion: develop strategies and an action plan	See list of participants on page 6
	Fritz Haber Auditorium: Workshop 2 - Integration of external modelling and data management expertise into MESI-STRAT *(Chair: K. Thedieck, UIBK & D. Shanley, UNEW)*	
	Talk 1: Modeling tools for signaling and pharmacology models (10 min)	A. Raue Merrimack Pharmaceuticals, Cambridge, MA, US
	Talk 2: The new challenge: diversity (10 min)	H. Westerhoff VU University, University of Amsterdam and University of Manchester, EU
	Discussion: develop strategies and an action plan	See list of participants on page 6
	Carl Bosch Auditorium: Workshop 3 - The MESI-STRAT communication strategy: Integration of internal and external expertise *(Chairs: T. Anzeneder, PATH & J. Leyk, UMCG/UIBK)*	
	Communication with patients, when, how and what (10 min)	E. Verschuur EuropaDonna
	Discussion: develop strategies and an action plan	See list of participants on page 6
19:00 –	MESI-STRAT Network Dinner at "Wirtshaus zum Nepomuk"	Obere Neckarstraße 2, 69117 Heidelberg

Friday, March 15th 2019

Time	Topic	Speaker/Contributors
Session 8: MESI-STRAT Management & Communication		
08:30 – 09:00	MESI-STRAT Management	K. Thedieck (UIBK), J. Leyk (UIBK/UMCG)
09:00 – 09:30	MESI-STRAT Communication Action Plan	J. Leyk (UIBK/UMCG)

Time	Topic	Speaker/Contributors
Session 9: Team discussions to develop concrete action plans for the next 12 months		
09:30 – 11:00	<u>Carl Bosch Auditorium</u> Experimentalists *(Chair: K. Thedieck)* <u>Alwin Mittasch Studio</u> Modellers *(Chair: D. Shanley)* <u>Foyer</u> Data Scientists *(Chair: S. Grellscheid)* <u>Fritz Haber Auditorium</u> Clinicians *(Chair: C. Opitz)*	Executive Board & All participants
11:00 – 12:00	Coffee Break & Discussion	
12:00 – 12:30	Group picture	
12:30 – 13:30	Lunch Break	
13:30 – 14:30	<u>Carl Bosch Auditorium</u> Team Presentations – Experimentalists – Modellers – Data Scientists – Clinicians	Executive Board & All participants
14:30 – 15:00	Coffee Break & Discussion	

Time	Topic	Speaker/Contributors
Session 10: Workshop - FAIR data & Executive Board Meeting		
15:00 – 16:00	Workshop - FAIR data	O. Krebs (HITS) Interested participants
	Alignment of and agreement on action plans	Executive Board & IAB
16:00	End of meeting	

Session 7: Workshops

The major goal of our workshops on Thursday afternoon is to develop action plans to incorporate the expertise from our advisory board and partners into MESI-STRAT.

Please see below the list of participants per workshop. Please note that this list is a suggestion based on your expertise and tasks in MESI-STRAT. Furthermore, we tried to distribute the partners arriving with several co-workers to different workshops. In case you would like to participate in another workshop than suggested for you, please let us know (leyk@mesi-strat.eu).

Workshop 1: Exploration of external clinical cohorts and their possible linkage to MESI-STRAT *(Chair: C. Opitz, DKFZ)*

Advisory Board Members	Partners
Vessela Kristensen (representative of A.-L. Borresen-Dale)	PATH, Charlotte Singruen
Gerburg Wulf	CHAB, Christine Sers
	UiT, Ines Heiland
Partners	UNEW, Ciaran Welsh
DKFZ, Christiane Opitz	UKL-HD, Lotte Märtner
UKL-HD, Sarah Schott	DDI, Luc Pilotte
	UKL-HD, Laura Michel

Workshop 2: Integration of external modelling expertise into MESI-STRAT *(Chair: K. Thedieck, UIBK & D. Shanley, UNEW)*

Advisory Board Members	Partners
Andreas Raue	UMCG, Barbara Bakker
Hans Westerhoff	UIBK, Cecilia Barile
	SBS, Basak Tektemur Altay
Partners	CHAB, Cornelia Gieseler
UNEW, Daryl Shanley	UMCG/UIBK, Patricia Razquin-Navas
UIBK, Kathrin Thedieck	UiB, Sushma Grellscheid
UiB, Mathias Ziegler	UiT, Suraj Sharma
HITS, Wolfgang Mueller	

Workshop 3: The MESI-STRAT communication strategy: Integration of internal and external expertise *(Chairs: T. Anzeneder, PATH & J. Leyk, UMCG/UIBK)*

Advisory Board Members	Partners
Ellen Verschuur (representative of S. Knox)	UKL-HD, Juliane Nees
	HITS, Olga Krebs
	CHAB, Pamela Riemer
Partners	DKFZ, Tamara Prentzell
PATH, Tobias Anzeneder	VHIO, Marta Palafox
UMCG/UIBK, Janina Leyk	NIN, Karl-Heinz Kellner
DKFZ/KID, Susanne Weg-Remers	DDI, Benoit van den Eynde
UIBK, Monika Egger-Büssing	UMCG, Miriam Langelaar-Makkinje

Session 9: Team discussions to develop concrete action plans for the next 12 months

The major aim of session 9 on Friday morning is to prepare a detailed action plan for the next 12 months. For this purpose, all participants, including our IAB members, will be divided into four expert teams (Experimentalists, Modellers, Clinicians and Data Scientists). Templates for timelines, including due dates for deliverables and milestones are provided to you. In addition, you will receive a template for the next internal report, which needs to be completed by all partners by March 31, 2019. Maybe you can use the meeting to fill in already most of the information?!

After lunch, at 1:30, every expert team will briefly present its action plan and timeline (5 minutes), followed by a discussion of all participants.

Experimentalists

1. Chair: UIBK, Kathrin Thedieck
2. *IAB, Gerburg Wulf*
3. <u>CHAB, Christine Sers</u> (WP3 leader)
4. <u>UiB, Mathias Ziegler</u> (WP4 leader)
5. UMCG, Barbara Bakker
6. CHAB, Cornelia Gieseler
7. UMCG/UIBK, Patricia Razquin-Navas
8. CHAB, Pamela Riemer
9. DKFZ, Tamara Prentzell
10. VHIO, Marta Palafox
11. NIN, Karl-Heinz Kellner
12. DDI, Benoit van den Eynde
13. DDI, Luc Pilotte
14. UMCG, Miriam Langelaar-Makkinje

- Output:
    - Action plan and timeline for the next year until M27 (March 2020) to reach Deliverables and Milestones, including communication and dissemination activities
    - Preparation of internal reporting document
- Milestones
    - MS4 (M30): Prediction of first subgroup specific marker panels
- Deliverables
    - **D3.1 (M18): Signaling time course data sets for ER+BC cell lines (CHAB)**
    - **D4.1 (M18): Metabolite time course data sets for ER+BC cell lines (UiB)**
    - D3.2 (M57): Signaling marker panels for patient derived models and samples measured

Modellers

1. <u>Chair: UNEW, Daryl Shanley</u> (WP5 leader)
2. *IAB, Andreas Raue*
3. <u>UiT, Ines Heiland</u> (WP5 co-leader)
4. UNEW, Ciaran Welsh
5. UiT, Suraj Sharma
6. SBS, Basak Tektemur Altay

- Output:
    - Action plan and timeline for the next year until M27 (March 2020) to reach Deliverables and Milestones, including communication and dissemination activities
    - Preparation of internal reporting document
- Milestones
    - MS4 (M30): Prediction of first subgroup specific marker panels
- Deliverables
    - **D5.1 (M18): Computational signaling and metabolic models for ER+BC cell lines (UNEW)**
    - **D5.2 (M27): First MESI model parametrized for patient samples (UNEW)**
    - D5.3 (M36): First customized model for pharma

Data Scientists

1. <u>Chair: UiB, Sushma Grellscheid</u> (WP2 co-leader)
2. *IAB, Hans Westerhoff*
3. <u>HITS, Wolfgang Mueller</u> (WP2 leader)
4. HITS, Olga Krebs

- Output:
    - Action plan and timeline for the next year until M27 (March 2020) to reach Deliverables and Milestones, including communication and dissemination activities
    - Preparation of internal reporting document
- Milestones
    - MS4 (M30): Prediction of first subgroup specific marker panels (UNEW). Model predictions in MESI-SEEK
- Deliverables
    - **DMP updates** (planned as an integral part of the project periodic reports in **month 18**, 36 and 48)
    - D2.1 (M57): Omics data in public resources (EMBL-EBI & others) (HITS)

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Clinicians

1. <u>Chair: DKFZ, Christiane Opitz</u> (WP6 leader)
2. *IAB, Vessela Kristensen*
3. *IAB, Ellen Verschuur*
4. <u>UKL-HD, Sarah Schott</u> (WP7 leader)
5. <u>PATH, Tobias Anzeneder</u> (WP1 leader)
6. PATH, Charlotte Singruen
7. UKL-HD, Juliane Nees
8. UKL-HD, Lotte Märtner

- Output:
    - Action plan and timeline for the next year until M27 (March 2020) to reach Deliverables and Milestones, including communication and dissemination activities
    - Preparation of internal reporting document
- Milestones
    - **MS2 (M18): ET Termination Trial First Patient, First Visit (FPFV) (PATH). Informed consent signed**
    - **MS3 (M18): MESI-STRAT patient days (PATH). First patient day held**
    - MS4 (M30): Prediction of first subgroup specific marker panels (UNEW). Model predictions in MESI-SEEK
    - MS5 (M45): ET Termination Trial Last Patient First Visit (LPFV) (PATH). Informed consent signed
    - MS6 (M51): WOO Trial Last Patient First Visit (LPFV) (UKL-HD). Informed consent signed
    - MS7 (M54): WOO Trial Last Patient Last Visit (LPLV) (UKL-HD). Samples in NCT tissue bank
    - MS8 (M57): WOO Trial End of Study (UKL-HD). Data analysis complete
    - MS9 (M57): ET Termination Trial Last Patient Last Visit (LPLV) (PATH). Samples in PATH biobank
    - MS10 (M57): ET Termination Trial End of Study (PATH). Data analysis complete
- Deliverables
    - **D7.3 (M24): WOO trial: Midterm recruitment report (UKL-HD)**
    - D7.4 (M30): ET termination trial: Midterm recruitment report (PATH)
    - D6.1 (M36): Preclinical Model-Subgroup Assignment (DKFZ)
    - D7.5 (M57): WOO trial: Report on status of posting results (UKL-HD)
    - D7.6 (M57): ET Termination trial: Report on status of posting results (PATH)

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