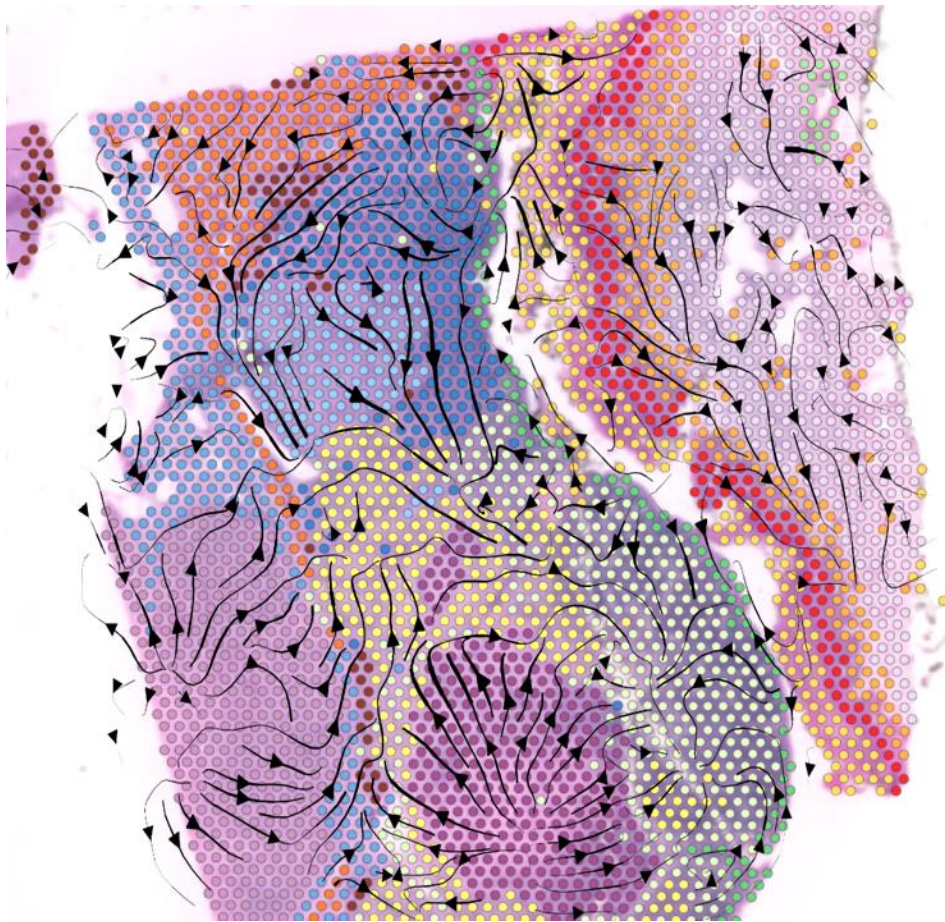


Kick-off Workshop

# Genome Bioinformatics for Health

12th – 14th June 2024

Ostwald-Park Großbothen near Leipzig



**Armenian – German Cooperation 2024 - 2026**

**DigitalLife**

(Digital LifeSciences for Genome-Based Healthcare)

**Venue:**

<https://www.wilhelm-ostwald-park.de/en/>

**Partners:**

Institute of Molecular Biology of the National Academy of Sciences of the Republic of Armenia (IMB)

[www.imb.am](http://www.imb.am)

Armenian Bioinformatics Institute (ABI)

[www.abi.am](http://www.abi.am)

Interdisciplinary Centre for Bioinformatics of the University of Leipzig (IZBI)

[www.izbi.de](http://www.izbi.de)

**Supported by**

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FAST (Foundation of Armenian Science and Technology)

**Organizers:**

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## Wednesday, 12th June

**12.00 Arrival from Leipzig**

**12.30-13.30 Lunch**

### **14.00 Welcome**

<b>14.00</b>	10 min	Arsen Arakelyan (IMB)	
<b>14.10</b>	10 min	Henry Loeffler-Wirth (IZBI)	
<b>14.20</b>	20 min	Hans Binder (IZBI/ABI)	Past, present and future

### **14.40 Miracles of the skin: fibroblasts**

<b>14.40</b>	20 min	Sandra Franz (Med)	Fibroblasts and wound healing
<b>15.00</b>	10 min	Arpine Grigoryan (ABI)	Human Adult and Fetal Fibroblasts Subtypes and Developmental Paths
<b>15.10</b>	20 min	Marta Torregrossa (Med)	Iron mice
<b>15.30</b>	10 min	Melina Tamazyan (ABI)	Single cell RNA-seq of local iron-overloaded and control DX mice skin
<b>15.40</b>	10 min	Discussion	

**15.50 – 16.20 Coffee**

### **16.20 Immune Bioinformatics**

<b>16.20</b>	30 min	Claudia Lehmann/ Ilias Doxiadis (Med)	History of Transplantation
<b>16.50</b>	20 min	Henry Loeffler-Wirth (IZBI)	Computational Immunology
<b>17.10</b>	15 min	Sveta Mnatsakanyan (ABI)	Cancer Immune therapy: Macrophages
<b>18.05</b>	10 min	Discussion	

### **18.15 Cancer Bioinformatics**

18.15	15 min	Meline Hakobyan (IMB)	PanCancer analysis of telomere maintenance mechanisms
18.30	15 min	Yeva Bareghamyan (IMB)	Explainable AI tools for DLBCL lymphoma classification
	5 min	Discussion	

**18.35 – 19.30 Dinner**

**Team Building part I**

## Thursday, 13th June

7:30 – 8.30 Breakfast

### 9.00 FAST advanced session: Vine Bioinformatics for Health

9.00	20 min	Maria Nikoghosyan (ABI,IMB)	Armenian GrapeVine diversity
9.20	15 min	Anush Baloyan (ABI)	Admixture meets SOM portrayal for interpreting genetic components of grapevine
9.35	15 min	Emma Hovhannian (ABI)	Phenotype associations of the Armenian vine
9.50	15 min	Tomas Konecny (ABI, IZBI)	Vine under very low temperature stress
10.05	15 min	Armine Asatryan (ABI, IMB)	Drought stress in vine
10.20	10 min	Discussion	

### 10.30 Molecular Mechanisms of Melanoma

10.30	30 min	Manfred Kunz (Med)	Early stage melanoma development
11.15	15 min	Maria Schmidt (IZBI)	Melanoma heterogeneity on single cell level
11.30	10 min	Hans Binder (IZBI)	Melanoma heterogeneity in space
11.40	15 min	Siras Hakobyan (IMB/ABI)	Melanoma heterogeneity on pathway level
11.55	10 min	Melina Tamazyan (ABI)	Developmental heterogeneity of melanoma
12.05	10 min	Luiza Stepanyan (ABI)	Melanoma heterogeneity in pseudotime
12.15	10 min	Discussion	

12.30-13.30 Lunch

### 13.30 Miracles of the skin: Glands

13.30	30 min	Marlon Schneider (Vet)	Assessing the sebaceous differentiation landscape by single-cell and spatial transcriptomics
14.00	15 min	Julia Nilam Schauer (IZBI)	Meibome Gland- spatial transcriptomics
14.15	10 min	Discussion	

### Medical Informatics and Lifebanking

14.25	30 min	Toralf Kirsten (Med)	Medical Informatics
14.55	15 min	Arsen Arakelyan (IMB)	Armenian Lifebank and beyond
15.10	15 min	Henry Loeffler-Wirth (IZBI)	SOM browser and Leipzig Health Atlas

<b>15.25</b>	10 min	Discussion
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**15.35 – 16.05 Coffee**

**Epigenetics and Modeling**

<b>16.05</b>	15 min	Jörg Galle (IZBI)	Modelling the colonic crypt
<b>16.20</b>	25 min	Jörg Galle (IZBI)	Epigenetics
<b>16.45</b>	25 min	Tomas Konecny (ABI, IZBI)	Plant developmental biology and epigenetics
<b>17.10</b>	10 min	Discussion	

**18.30 – 19.30 Dinner**

**Team building part II**

## Friday, 14th June

**7:30 – 8.30 Breakfast**

### **9.00 SOM portrayal**

<b>9.00</b>	30 min	Henry Loeffler (IZBI)	Basics
<b>9.30</b>	15 min	Hans Binder (IZBI, ABI)	SOM in the context
<b>9.45</b>	15 min	Arsen Arakelyan (IMB,ABI)	Multi-omics and adding new samples
<b>10.00</b>	10 min	Discussion	

### **10.10 THY1**

<b>10.10</b>	30 min	Anja Saalbach (Med)	Control of cell proliferation and differentiation by Thy-1
<b>10.40</b>	15 min	Arpine Grigoryan (ABI)	Thy-1 knockout and wildtype mice: Case VS Control scRNA-seq study
<b>10.55</b>	10 min	Discussion	

**11.05 Next and cool**

**11.05 Team Vine**

**11.25 Team Disease and Health**

**11.50 Team Omics & Bioinformatics**

**12.15 Team Crazy**

**12.30-13.30 Lunch**

**Departure to Leipzig**

## List of Participants

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IMB: Institute of Molecular Biology (Academy of Sciences of Armenia), Yerevan

ABI: Armenian Bioinformatics Institute, Yerevan

IZBI: Interdisciplinary Centre for Bioinformatics, University of Leipzig

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ULEI-VetMed: Faculty of Veterinary Medicine, University of Leipzig