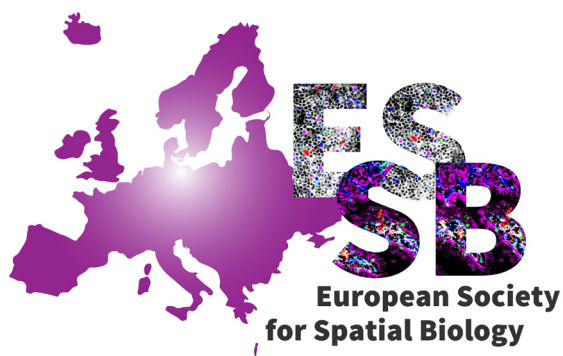


**12 – 13 December 2024
Berlin, Germany**



Programme & Abstract book

**Inaugural conference of the
European Society
for Spatial Biology
(ESSB e.V.)**



ESSB Founding Members:



Denis Schapiro
President



Anja Hauser
*Vice President and Conference
President*



Christian Schürch
*Vice President and
Treasurer*



Raza Ali



Leeat Keren



Julio Saez-Rodriguez



Sinem Saka

Want to become a member of the ESSB?

Join us at the **Members' Assembly
on Thursday, 12 December 2024,
at 6:00 pm, Ballroom 3**

Inaugural conference of the European Society for Spatial Biology (ESSB e.V.)

12 – 13 December 2024, Berlin, Germany

Venue

Hotel & Conference Center

Titanic Chaussee Berlin

Chausseestr. 30

10115 Berlin, Germany

Congress President

Anja Hauser

Charité – Universitätsmedizin Berlin &
German Rheumatology Research Center Berlin
(DRFZ),
a Leibniz Institute; Germany

Contact Conference

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ESSB2024

European Society for Spatial Biology (ESSB e.V.)

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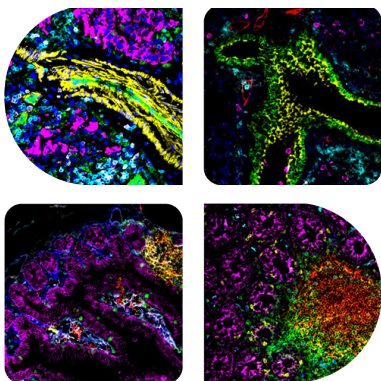
Contact: spatialbiologysociety@gmail.com

Website: spatialbiologysociety.eu



Anja Hauser

Dear Friends of Spatial Biology,



It is an immense pleasure for me to welcome you to the inaugural conference of the European Society for Spatial Biology here in the center of Berlin.

The ESSB is still a young society, it was only founded this year. Therefore, we were all the more surprised and, in a positive sense, overwhelmed by the enthusiasm we received during the preparation for this conference. The number of registrations far exceeded our expectations. In addition to the great interest of participants from academia, we are very grateful for the support from industry partners who make this event possible. Together, this highlights the relevance and timeliness of the interdisciplinary, rapidly developing field of spatial biology, as well as the need for scientific exchange and for meeting other scientists working in this area.

I hope that with this conference we can create a forum for exactly those interactions and lay the foundation for many more ESSB events that will advance this interesting and important field.

Now I wish all participants a successful conference - enjoy the science, immerse yourself in discussions and meet old and new friends!

Anja Hauser

Congress President and ESSB Vice President

DAY 1: Thursday, December 12, 2024

Titanic Hotel Chaussee, Ballroom 3

8:15 am Welcome

8:30 am Session 1 New Developments in Spatial Biology

- ▶ *Keynote speaker Joakim Lundeberg, Sweden: Resolving the tissue ecosystem into its components
- ▶ **Nicole Strittmatter, Germany: Studying disease states in cancer and infection using spatial metabolomics
- ▶ Short talk by Xavier Rovira Clavé, USA: In Situ Tracking of Clonal Evolution and Phenotypic Heterogeneity in Tumors by Spatial Epitope Barcoding
- ▶ Short talk by Carsten Hopf, Germany: Multimodal MALDI Lipid-Protein Imaging of Amyloid- β Plaques and Machine Learning reveal Alzheimer's Disease Signatures

10:15 am Coffee break, posters & industry exhibition

11:00 am Session 2 - Image Analysis for Spatial Biology

- ▶ **Carolina Wählby, Sweden: Spatial (transcript)omics – a joint mapping of tissue function and architecture
- ▶ Short talk by Jan Schröder, Germany: Deep Spatial Phenotyping of the Bone Marrow Microenvironment in NPM1-Mutant Acute Myeloid Leukemia
- ▶ Short talk by Malte Kuehl, Germany & Denmark: PathoPlex – Next-generation multiplexed image analysis

12:00 pm Lunch Symposium Akoya Biosciences

ESSB Lunchtime Raffle!

- ▶ Alessio Colombo, Akoya Biosciences: Ultrahigh-Plex and High-Throughput Spatial Biology Solutions: From Discovery to the Clinic

12:30 pm Lunch, posters & industry exhibition

1:30 pm Lunch Symposium Miltenyi Biotec

ESSB Lunchtime Raffle!

- ▶ Katrin Schönborn & David Agorku, Miltenyi Biotec: Unlocking new insights in colorectal cancer with spatial multiomic on the MACSima™ Platform

2:00 pm Session 3 - Machine Learning and Data Integration in Spatial Biology

- ▶ **Leeat Keren, Israel: Escalating high-dimensional imaging for cancer research Talk sponsored by Ionpath
- ▶ Short talk by Josef Lorenz Rumberger, Germany: Automated classification of cellular expression in multiplexed imaging data with Nimbus
- ▶ Short talk by Iva Buljan, Austria: Tissue-specific prediction of biological age from histopathological images

3:00 pm *Coffee break, posters & industry exhibition*

4:15 pm Session 4 - New Spatial Biology insights for disease and pathology

- ▶ ***Keynote speaker** Bernd Bodenmiller, Switzerland: Highly multiplexed imaging of tissues with subcellular resolution by imaging mass cytometry
- ▶ Short talk by Maria Puschhof, Germany: Molecular drivers of low- to high-grade transition in IDH-mutant glioma
- ▶ Short talk by Gesa Krueger, Germany: Modeling immune responses of cattle to mycobacteria using magnetic bioprinted granulomas

5:30 pm Dinner Symposium - 10xGenomics

ESSB Dinner Raffle!

- ▶ Sarah Taylor, 10X Genomics: Mapping Immune Cell Populations Using High-Definition Spatial Technologies

6:00 pm Members' assembly

7:00 pm Poster session & get-together at the industry exhibition

Food and drinks will be provided.



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*Keynote: 45 min (40+5), **Invited speaker: 30 min (25+5),
***Short talks selected from abstracts: 15 min (12+3)

DAY 2: Friday December 13, 2024

Titanic Hotel Chaussee, Ballroom 3

8:15 am Short Breakfast Talk by Vizgen & Ultivue

Breakfast Buffet will be provided!

- ▶ *Dries Van Hemelen und Friedrich Preusser: Merging Expertise: Vizgen and Ultivue Join Forces to Innovate in Spatial Multi-Omics"*

08:30 am Session 5 Spatial Immunology

- ▶ ****Camilla Engblom, Sweden: Spatially resolving B cell clonal dynamics**
- ▶ Short talk by Raluca Niesner, Germany: MetaFLIMB – longitudinal *in vivo* NAD(P)H fluorescence lifetime imaging of the femoral marrow
- ▶ Short talk by Katharina Imkeller, Germany: Connecting the Spatial Architecture and Immune Function of Tertiary Lymphoid Structures in Glial Tumors
- ▶ Short talk by Vladimir Sukhov, USA: Advanced Spatial Analysis Highlights Immune Cell Organization in Successful Tumor Rejection After Immune Checkpoint Therapy
- ▶ Short talk by Francesca Bosisio, Belgium: Omics Integration Reveals Spatial and Molecular Predictors of Response to Anti-PD-1 Immunotherapy in Metastatic Melanoma
- ▶ Short talk by Aysegül Adam, Germany: Spatial characterization of Innate Lymphoid Cells in oral inflammatory diseases

10:15 am Coffee break, posters & industry exhibition

11:00 am Session 6 New Dimensions in Spatial Biology

- ▶ ****Harsharan Singh Bhatia, Germany: Clear-Omics: Spatial molecular maps in optically cleared 3D intact specimens**
- ▶ Short talk by Peter Androvic, Germany: Beyond Genes: Integrating Transcriptomics with Structure and Metabolism to Map Neurodegeneration
- ▶ Short talk by Jorge Trojanowski, Spain: Single-round Profiling by Amplification and Color Encoding (SPACE)-FISH in 3D microvasculature on-chip

12:00 Lunch Symposium - Lunaphore

ESSB Lunchtime Raffle!

- ▶ Daniel Azorin, ETH Zurich & Müge Akpınar, Lunaphore: Spatial multiomics for precision target identification in the tumor microenvironment

12:30 pm Lunch, posters, industry exhibition

1:30 pm Lunch Symposium Standard BioTools

ESSB Lunchtime Raffle!

- ▶ Melissa Klug, Standard BioTools™: Whole Slide Imaging Modes for Imaging Mass Cytometry Reveal Cellular Diversity of the Tumor Immune Microenvironment in Mouse Glioblastoma

02:00 pm Session 7 Tumor Microenvironment

- ▶ **Raza Ali, UK: Charting the intact breast tumour microenvironment
- ▶ **Oliver Stegle, Germany, Data infrastructures for spatial omics and advances in cell segmentation
- ▶ Short talk by Spencer Watson, Switzerland: Investigating Glioblastoma Recurrence with Spatial Multi-Omics
- ▶ Short talk by Ann-Marie Baker, UK: Spatial analysis reveals reshaping of tumour-immune dynamics at the transition to invasive colorectal cancer
- ▶ Short talk by Christina Schniederjohann, Germany: Microenvironmental Factors Impacting Chemotherapy Response in B-NHL

3:45 pm *Coffee break, posters & industry exhibition*

04:15 pm Session 8 Visions for Spatial Biology

Talk sponsored by Ionpath

- ▶ *Keynote speaker: Peter Sorger, USA: Spatial profiling of human tissues for discovery and diagnosis

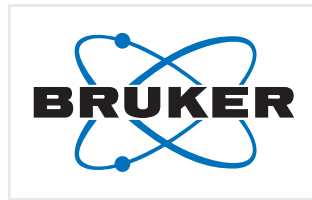
5:15 pm Poster Award Ceremony, Concluding remarks and Farewell



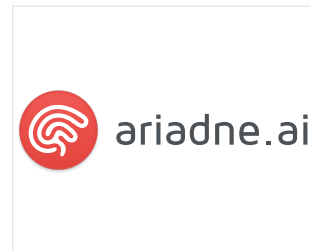
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The conference would not be possible without sponsorship.

We thank our Gold Supporting Members



We thank our Conference Sponsors



Special thanks go to:



The abstract booklet is
sponsored by Lunaphore

Two invited speakers are
sponsored by



Travel Grant Awardees

We are pleased to announce the following EFIS

Travel Scholarship Awardees:

Erison Santos, Brazil

Noel Thombiano, Burkina Faso

Sarthak Sahoo, India

Sefiyat Odunola Adebisi, South Africa

Sogunmez Erdogan Nuray, Turkey

Anna Pascual-Reguant, Spain

Ada Junquera, Finland

