



Immune Profiling of Single Cells

EMBL COURSE



EMBL Courses and Conferences during the Coronavirus pandemic

With the onsite programme paused, many of our events are now being offered in virtual formats.

Registration is open as usual for many events, with back-up plans in place to move further courses and conferences online as necessary. Registration fees for any events affected by the COVID-19 disruption are fully refundable.

More information for participants of events at EMBL Heidelberg can be found [here](#).

Programme

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Day 1 - Monday 10 February 2020

| Time | Speaker | Location |
|-------|---|--------------------|
| 08:45 | Bus from ISG Hotel to EMBL ATC entrance | ISG Hotel bus stop |

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|---------------|--|----------------|
| | Welcome and Lab Safety | |
| 09:00 - 09:30 | Elisabeth Zielonka - EMBL Heidelberg, Germany Irena Provaznikova - EMBL Heidelberg, Germany | Flex Lab A & B |
| 09:30 - 10:00 | Flash Talk Presentations | Flex Lab A & B |
| | Lecture: Introduction to 10x Genomics and Basics Cell Handling | |
| 10:00 - 11:00 | Katharina Danielski - 10x Genomics, Germany Nicola Cahill - 10x Genomics, UK | Flex Lab A & B |
| 11:00 - 11:15 | Coffee break | Flex Lab A & B |
| | Practical: Label Cells with Antibodies | |
| 11:15 - 12:00 | Katharina Danielski - 10x Genomics, Germany Nicola Cahill - 10x Genomics, UK Diana Ordonez - EMBL Heidelberg, Germany Irena Provaznikova - EMBL Heidelberg, Germany | Training Lab B |
| 12:00 - 13:00 | Lunch Break | EMBL Canteen |
| | Practical: Cell Washing & GEM Generation and start RT | |
| 13:00 - 14:30 | Katharina Danielski - 10x Genomics, Germany Nicola Cahill - 10x Genomics, UK Diana Ordonez - EMBL Heidelberg, Germany Irena Provaznikova - EMBL Heidelberg, Germany | Training Lab B |
| 14:30 - 14:45 | Coffee break | Flex Lab A & B |
| | Lecture: Antigen Receptor Repertoires at Single Cell Resolution | |
| 14:45 - 15:45 | Michael Stubbington - 10x Genomics, UK | Flex Lab A & B |
| | Practical: Dynabead Cleanup & cDNA Amplification o/n | |
| 15:45 - 18:00 | Katharina Danielski - 10x Genomics, Germany Nicola Cahill - 10x Genomics, UK | Training Lab B |
| 18:00 - 19:00 | Dinner | EMBL Canteen |
| 19:00 | Shuttle back to ISG Hotel | ATC entrance |

Day 2 - Tuesday 11 February 2020

| Time | Speaker | Location |
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| 08:45 | Bus from ISG Hotel to EMBL ATC entrance | ISG Hotel bus stop |
| 09:00 - 10:00 | Lecture: Preparing a High Quality Single Cell Suspension Diana Ordonez - EMBL Heidelberg, Germany | Flex Lab A & B |
| 10:00 - 12:00 | Practical: cDNA Cleanup & Protein Library Construction Katharina Danielski - 10x Genomics, Germany Nicola Cahill - 10x Genomics, UK | Training Lab B |
| 12:00 - 13:00 | Lunch Break | EMBL Canteen |
| 13:00 - 13:45 | Lecture: Preparation of Tumor Infiltrating Leukocytes for Single Cell Immune Profiling Jana Soyka - Miltenyi Biotec, Germany | Flex Lab A & B |
| 13:45 - 14:45 | Practical: Tours of FACS and Sequencing Core Labs | FACS and Sequencing Facilities |
| 14:45 - 15:00 | Coffee Break | Flex Lab A & B |
| 15:00 - 15:45 | Lecture: TotalSeq™ – Single Cell Analysis: From Multicolor Flow Cytometry to Simultaneous RNA and Protein Analysis Julia Dickow - Biolegend, Germany | Flex Lab A & B |
| 15:45 - 18:00 | Practical: Target Enrichment 1 & 2 (BCR) Katharina Danielski - 10x Genomics, Germany Nicola Cahill - 10x Genomics, UK | Training Lab B |
| 18:00 | Bus to ISG Hotel and downtown | ATC entrance |
| 19:30 | Dinner Downtown | |

Day 3 - Wednesday 12 February 2020

| Time | Speaker | Location |
|---------------|--|--------------------|
| 08:45 | Bus from ISG Hotel to EMBL ATC entrance | ISG Hotel bus stop |
| 09:00 - 11:45 | Practical: Enriched and GEX Library Construction Katharina Danielski - 10x Genomics, Germany Nicola Cahill - 10x Genomics, UK | Training Lab B |

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|---------------|---|--------------------------------|
| 11:45 - 12:45 | Practical: Tours of FACS and Sequencing Core Labs | FACS and Sequencing Facilities |
| 12:45 - 13:30 | Lunch break | EMBL Canteen |
| 13:30 - 14:30 | Lecture: Single-cell Multi-omics Approaches in Hematology and Precision Medicine Simon Haas - HI-STEM gGmbH and German Cancer Research Centre, Germany | Flex Lab A & B |
| 14:30 - 15:30 | Lecture: Using Total-Seq to understand hepatic macrophage heterogeneity in inflammation Charlotte Scott - Ghent University and VIB, Belgium | Flex Lab A & B |
| 15:30 - 15:45 | Coffee Break | Flex Lab A & B |
| 15:45 - 16:30 | Lecture: Comparing and integrating Adaptive Biotechnologies and 10X Genomics immune profiling data to make an automated pipeline for tumor reactive TCR discovery and cloning Edward Green - German Cancer Research Centre, Germany | Flex Lab A & B |
| 16:30 - 18:00 | Lecture: Cellranger Data Analysis I Katharina Danielski - 10x Genomics, Germany Nicola Cahill - 10x Genomics, UK | Flex Lab A & B |
| 18:00 - 19:00 | Dinner | EMBL Canteen |
| 19:00 | Shuttle back to ISG Hotel | ATC entrance |

Day 4 - Thursday 13 February 2020

| Time | Speaker | Location |
|---------------|---|-----------------------|
| 08:30 | Bus from ISG Hotel to EMBL ATC entrance | ISG Hotel bus stop |
| 08:45 - 09:30 | Lecture: Cellranger Data Analysis Katharina Danielski - 10x Genomics, Germany | Flex Lab A & B |
| 09:30 - 12:00 | Practical: Loupe Cell/VDJ Browser Tutorial Nicola Cahill - 10x Genomics, UK | Computer Training Lab |
| 12:00 - 13:00 | Lunch Break | EMBL Canteen |
| 13:00 - 14:00 | Lecture: Shifting the Transcriptomics Frontier Nicola Cahill - 10x Genomics, UK | Flex Lab A & B |

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| 14:00 - 14:15 | Closing Remarks and Coffee Break Elisabeth Zielonka - EMBL Heidelberg, Germany | Flex Lab A & B |
| 14:15 - 17:00 | Optional: Loupe Cell/VDJ Browser Free Time Katharina Danielski - 10x Genomics, Germany | Computer Training Lab |
| 14:15 - 17:00 | Optional: Project and Troubleshooting Slots Nicola Cahill - 10x Genomics, UK | Flex Lab A & B |
| 17:00 | Bus to Heidelberg Train Station and Crown Plaza Hotel | ATC entrance |