# CRISPR as a Research Tool in Cancer and Regenerative Medicine

Karolinska Institutet, Solna, Vesalius Lecture Hall
Berzeliusväg 3, 171 65 Solna, Stockholm

## Thursday, May 25, 2023

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| 11:00 – 12:30 | Registration and lunch. Mounting of posters. |
| **12:30 – 14:30** | **Session 1.** Chair: **Pia Johansson,** Lund University |
| **12:30 – 12:40** | Welcome<br><br>**Bernhard Schmierer,** SciLifeLab<br>**Fredrik Wermeling**, Karolinska Institutet |
| **12:40 – 13:25** | Keynote lecture.<br><br>**John Doench**, Broad MIT, US<br>***Expanding the CRISPR screening toolbox with Cas12a, base editors, and more*** |
| **13:25 - 13:45** | **Magdalena Strauss,** EBI, Cambridge, UK<br>***Linking transcriptome to genotype in single cells identifies mutation-induced transcriptional heterogeneity of IFNγ response*** |
| **13:45 - 14:30** | **Randall Platt**, ETH Zürich, CH<br>***Harnessing the CRISPR toolbox to engineer biology*** |
| **14:30 – 15:00** | **Coffee break** |

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| **15:00 – 17:10** | **Session 2.** Chair: **Rodrigo Morales Castro,** Karolinska Institutet |
| **15:00 - 15:45** | **Douglas Ross-Thriepland**, AZ and CRUK Functional Genomics Centre, Cambridge, UK<br>***Target Discovery - Arrayed & Pooled CRISPR Screening to Drive Drug Discovery*** |
| **15:45 - 15:55** | **Bernhard Schmierer**, SciLifeLab and Karolinska Institutet<br>***The SciLifeLab CRISPR Functional Genomics unit*** |
| **15:55 - 16:05** | **Pia Johansson**, Lund University<br>***The Cell and Gene Therapy Core at Lund Stem Cell Centre*** |
| **16:05 - 16:50** | **Tuuli Lappalainen**, NY Genome Center and KTH Stockholm<br>***Fine-tuning of transcription factor expression dosage uncovers non-linear effects in regulatory networks*** |
| **16:50 - 17:20** | **Jennifer Stott**, IDT<br>***Improved methods for CRISPR HDR research***<br><br>**Zofia Świątczak,** Synthego<br>***Arrayed CRISPR Screening and Custom Engineered Cells for Cancer Drug Discovery*** |
| **17:30 – 19:30** | **Poster session, mingle buffet and drinks.** |

## Friday, May 26, 2023

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| **8:30 – 9:00** | **Coffee and sandwich** |
| **9:00 – 10:20** | **Session 3.** Chair: **Eva Brinkman, Karolinska Institutet** |
| **09:00 - 09:45** | **Jacob Corn**, ETH Zürich, CH<br>***Better genome editing by listening to the cells*** |
| **09:45 - 10:05** | **Alexander Espinosa,** Karolinska Institutet<br>***Light induced expression of gRNA allows for optogenetic gene editing of T lymphocytes in vivo*** |
| **10:05 - 10:25** | **Verónica Rendo,** Uppsala University<br>***CRISPRa as a tool to characterize mechanisms of resistance associated with p53 pathway reactivation in diffuse midline glioma*** |
| **10:25 – 11:00** | **Coffee break** |
| **11:00 – 12:50** | **Session 4.** Chair: **Diego Velásquez Pulgarin,** Karolinska Institutet |
| **11:00 - 11:45** | **Neville Sanjana**, New York Genome Center, US<br>***New Frontiers in Pooled CRISPR Screens*** |
| **11:45 - 12:05** | **Jenna Persson,** MOMA Tx, Boston, US<br>***Uncovering novel dependencies in the DNA repair space with CRISPR/Cas12a screening*** |
| **12:05 - 12:50** | **Eric Shifrut,** University of Tel Aviv, IL<br>***CRISPR discovery platforms for human T cell therapies*** |
| **12:50 – 13:40** | **Lunch** |

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| **13:40 – 15:00** | **Session 5.** Chair: **Martin Enge,** Karolinska Institutet |
| **13:40 - 14:10** | **Yumeng Mao**, Uppsala University<br>***Uncovering key resistance mechanisms to cancer immunotherapy*** |
| **14:10 - 14:30** | **Linnea Kristenson**, University of Gothenburg<br>***Deletion of the TMEM30A gene allows leukemic cell evasion of NK cell cytotoxicity*** |
| **14:30 - 14:50** | **Guido Alessandro Baselli,** SciLifeLab and Karolinska Institutet<br>***Identification of novel factors controlling non genetic cell plasticity in Chronic Myeloid Leukemia*** |
| **14:50 - 15:00** | **Wrap up and Departure.** |