

Nanotechnology in Cancer: Engineering for Oncology Programme

Cambridge, UK

12 - 14 September 2019



Scientific Programme

Thursday 12th September 2019

- 12:00 REGISTRATION
- 12:30 WELCOME LUNCH
- 13:30 CONFERENCE WELCOME
Kostas Kostarelos (SPC Chair)
- 13:35 SESSION 1: EFFECTIVE TRANSPORT OF SIRNA, MRNA, CRISPR-CAS9
Chair: Kostas Kostarelos
- 13:35 EMBO KEYNOTE LECTURE
René Bernards
NKI, Netherlands
"A one-two punch model for cancer therapy"
- 14:20 **Michelle Bradbury**
MSKCC, USA
"Next-generation ultrasmall silica nanoparticle solutions for overcoming biological barriers to molecularly-targeted drug delivery"
- 14:50 **Aditi Mehta**
Ludwig Maximilians University of Munich, Germany
Proffered Paper 1: "Nano-Particles for in vivo genome editing mediated by CRISPR-cas9 for undruggable KRAS driven lung cancers"
- 15:05 EXHIBITOR INTRODUCTIONS
60-second intro pitches by each company
- 15:15 COFFEE BREAK & EXHIBITION
- 15:45 **Olivia Merkel**
LMU, Germany
"Correlating quantitative tumor accumulation and gene knockdown using SPECT/CT and bioluminescence imaging within an orthotopic ovarian cancer model"
- 16:15 **Twan Lammers**
University Hospital Aachen, Germany
"Smart cancer nanomedicine"
- 16:45 **Angela Pine**
University of Essex, UK
Proffered Paper 2: "The development of gene therapy by way of DNAzymes"
- 17:00 **Marianne Ashford**
AstraZeneca, UK
"Developing Nanomedicines to enable Innovative Cancer Therapy - Lipid Nanoparticles as a delivery system for nucleic acid-based drugs"

- 17:30 **POSTER SPOTLIGHTS**
Abstracts 1-3 will be presented in short 'flash talks' of 3 minutes each.
- 17:45 **NETWORKING RECEPTION**
including drinks and light food
- 18:15 **POSTER DISCUSSION SESSION 1 & TRADE EXHIBITION**
Until 19:45. Posters 1-25 will be presented.

Friday 13th September 2019

- 09:00 **SESSION 2: DETECTION AND TREATMENT OF EARLY STAGE DISEASE**
Chair: Caroline Dive
- 09:00 **KEYNOTE LECTURE**
Mark Dewhirst
Duke Cancer Institute, USA
"Development of a thermally triggered liposomal drug delivery platform: a bench to bedside story"
- 09:45 **Rachel Hu**
Cristal Therapeutics, Netherlands
"CriPec® platform and lead product CPC634: principles, nonclinical evaluation and clinical translation"
- 10:15 **Aria Ahmed-Cox**
Children's Cancer Institute Australia
Proffered Paper 3: "Seeing is believing: Quantitative analysis of nanoparticle uptake kinetics and cellular localisation in a three dimensional brain tumour model"
- 10:30 **Hanan Abumanhal-Masarweh**
Technion Institute of Technology, Israel
Proffered Paper 4: "Modulating the Tumour pH: Liposomal bi-carbonate enhance doxorubicin activity in breast cancer"
- 10:45 **COFFEE BREAK & EXHIBITION**
- 11:15 **Claire Wilhelm**
Paris Diderot University, France
"Optimal application windows for magnetic hyperthermia, photothermia, and magneto-photo-thermia with magnetic and plasmonic nanoparticles, in cancer treatment"
- 11:45 **Laura Chaves**
Speratum, Costa Rica
Proffered Paper 5: "A novel LGA-PEI self assembly nanotechnology for safe and effective therapeutic delivery of specialized microRNA-based mimics"
- 12:00 **Miguel Fuzeta**
University of Lisbon, Portugal
Proffered Paper 6: "Manufacturing Human Mesenchymal Stem/Stromal Cell (MSC)-Derived Extracellular Vesicles in Vertical-Wheel Bioreactors for Cancer Therapy"
- 12:15 **POSTER SPOTLIGHTS**
Abstracts 26-28 will be presented in short 'flash talks' of 3 minutes each.
- 12:30 **LUNCH**

- 13:15 **POSTER DISCUSSION SESSION 2**
Posters 26-50 will be presented.
- 14:45 **SESSION 3: EXOSOMES, PROTEINS & NUCLEIC ACID MARKERS**
Chair: Claire Wilhelm
- 14:45 **KEYNOTE LECTURE**
Molly Stevens
Imperial College London, UK
"Engineering the bio-material interface for cancer applications "
- 15:30 **Caroline Dive**
CRUK Manchester Institute, UK
"Liquid biopsies for early detection of lung cancer - nanotechnologists help required!"
- 16:00 **Marilena Hadjidemetriou**
University of Manchester, UK
Proffered Paper 7: "Nano-omics enrichment tools for cancer biomarker discovery"
- 16:15 **COFFEE BREAK & EXHIBITION**
- 16:45 **Enrico Iaccino**
Magna Græcia University, Italy
Proffered Paper 8: "In vivo phage display-based platform for tumour detection and tumour derived exosomes trapping"
- 17:00 **Kostas Kostarelos**
University of Manchester, UK
"Designing 3D and 2D Nanomaterials as Transporters for Cancer Therapeutics"
- 17:30 **Raymond Schiffelers**
UMC Utrecht, Netherlands
"RNA delivery with synthetic nanomedicines and extracellular vesicles"
- 19:30 **CONFERENCE DINNER**
Churchill College Dining Hall
Free tickets are available to all participants.

Saturday 14th September 2019

- 09:00 **MEET THE EXPERT**
Caroline Dive
CRUK Manchester Institute, UK
In this session our speaker will share from her personal and professional perspectives on the path to scientific leadership and women in science.
- 09:30 **SESSION 4: MORE EFFECTIVE, TARGETED IMMUNOTHERAPY**
Chair: Raymond Schiffelers
- 09:30 **Ronit Satchi-Fainaro**
Tel Aviv University, Israel
"Ibrutinib sensitizes melanoma to immune checkpoint modulators following immunisation with nano-vaccines by relieving immune-suppressing microenvironment"
- 10:00 **Helena Florindo**
University of Lisbon, Portugal

Proffered Paper 9: "Multi-targeting nano based platform as an effective immunotherapy against solid tumours"

10:15 **Rakesh Dixit**

Bionavigen, USA

"Safety and Pharmacokinetic Challenges to Nanomedicines"

10:45 COFFEE BREAK & EXHIBITION

11:15 **Raphaël Lévy**

University of Liverpool, UK

Proffered Paper 10: "Are We Building on the Shoulders of Giants or on a Nanobubble?"

11:30 **Shiladitya Sengupta**

Harvard Medical School, USA

"Cancer Immunology at the Nanoscale"

12:00 KEYNOTE LECTURE

Darrell Irvine

MIT, Boston, USA

"Using nanomaterials to engineer anti-cancer immunity"

12:45 CONFERENCE SUMMARY

Scientific Programme Committee

13:00 LUNCH & DEPART