3rd Translational Research Conference

IMMUNE & CELLULAR THERAPIES: Focus on Advanced Gene-Engineered Immune Cells

September 13-15, 2024 – Malahide (Dublin), Ireland

Chairpersons: Chiara Bonini (Milan), Michael Hudecek (Würzburg), Stanley Riddell (Seattle)

Friday, September 13, 2024

08:30–08:40 **Welcome** — Conference chairs

SESSION I – Clinical development of CAR-T cell therapy
Chairs: Aude Chapuis (Seattle), Stanley Riddell (Seattle)

08:40-09:00	Hematology	Claire Roddie (London)
09:00-09:05	*Discussion*	
09:05-09:25	Autoimmune diseases	Matteo Doglio (Milan)
09:25-09:30	*Discussion*	
09:30-09:50	Clinicial managment	Larry Bacon (Dublin)
09:50-09:55	*Discussion*	
09:55-10:02	Selected brief oral communication Glucocorticoid excess drives receptor tyrosine kinase ROR1 expression and efficacy of glucocorticoid-resistant ROR1 CAR-T cells in advanced adrenocortical carcinoma	Marc Philipp Schauer (Würzburg)
10:02-10:05	*Discussion*	
10:05-10:35	*Panel discussion*	

10:35-11:05 ***Coffee Break***

SESSION II – Emerging targets for cell therapy
Chairs: Jennifer Adair (Seattle), Marcela Maus (Boston)

11:05-11:25	CAR targets	Michael Hudecek (Würzburg)
11:25-11:30	*Discussion*	
11:30-11:50	TCR targets	Aude Chapuis (Seattle)
11:50-11:55	*Discussion*	
11:55-12:15	Post translational modifications	Monica Casucci (Milan)
12:15-12:20	*Discussion*	
12:20-12:27	Selected brief oral communication Targeting Cathepsin G peptides on two different HLA molecules with an individual T-cell receptor: a promising approach for acute myeloid leukemia immunotherapy	Francesca Marzuttini (Milan)
12:27-12:30	*Discussion*	

12:30-13:00 *Panel discussion*

13:00-14:15 Lunch

SESSION III – Receptor engineering for tumor therapy
Chairs: Stephen Gottschalk (Memphis), Claire Roddie (London)

14:15-14:35	TCR & TCR-like	Chiara Bonini (Milan)
14:35-14:40	*Discussion*	
14:40-15:00	Modular and Programmable Drug-On CAR Designs	Michael Jensen (Seattle)
15:00-15:05	*Discussion*	
15:05-15:25	Understanding T-Cell antigen recognition: from fundamental insights to clinical applications	Johannes Huppa (Berlin)
15:25-15:30	*Discussion*	
15:30-15:37	Selected brief oral communication Generation and validation of novel mono and bispecific peptide-redirected chimeric antigen receptors for pancreatic ductal adenocarcinoma	Elisa Sangiovanni (Milan)
15:37-15:40	*Discussion*	

15:40-16:10 *Panel discussion*

16:10-16:40 Coffee break

SESSION IV – Gene editing to enhance efficacy
Chair: Shin Kaneko (Kyoto)

16:40-17:00	Allogeneic CAR-T cells in paediatric leukaemia	Robert Chiesa (London)
17:00-17:05	*Discussion*	
17:05-17:25	Targeted CAR & TCR gene insertion	Dirk Busch (Munich)
17:25-17:30	*Discussion*	
17:30-17:50	Safety-validating and enhancing CRISPR 2.0 to improve immune cell therapies	Karl Petri (Würzburg)
17:50-17:55	*Discussion*	
17:55-18:02	Selected brief oral communication A CRISPR-edited allogeneic anti-CD19 CAR-T cell therapy with a PD-1 knockout (CB-010) in patients with relapsed/refractory B cell non-Hodgkin lymphoma (r/r B-NHL): Updated Phase 1 results from the ANTLER trial	Mehdi Hamadani (Milwaukee)
18:02-18:05	*Discussion*	

18:05-18:35 *Panel discussion*

18:45-20:30 Mentored poster walk - Welcome get-together buffet for all
Biology Leaders: Monica Casucci (Milan), Shin Kaneko (Kyoto)
Jennifer Adair (Seattle), Johannes Huppa (Berlin)
Clinical Leader: Chiara Magnani (Zurich)

Saturday, September 14, 2024

08:00-09:00 **3 simultaneous Meet the Expert sessions**

1. How I use CAR-T cell therapy to treat leukaemia? — Claire Roddie (London)
2. What will the next generation of CAR-T products look like? — Stephen Gottschalk (Memphis)
3. What will be the next breakthroughs with iPSC technology? — Shin Kaneko (Kyoto)

09:10-10:10 **SATELLITE SYMPOSIUM**
MATCH Point for Allogeneic CAR-T Therapy: *Breaking barriers with partial HLA matching*
Speakers: Mehdi Hamadani (Milwaukee), Enrique Zudaire (Spring House)
This symposium is supported by Caribou Biosciences

10:10-10:30 ***Coffee break***

SESSION V – Novel cell types and sources - beyond autologous
Chairs: Michael Jensen (Seattle), Halvard Bönig (Frankfurt)

10:30-10:50	NKT cell	Guilia Casorati (Milan)
10:50-10:55	*Discussion*	
10:55-11:15	iPSC-derived cells	Shin Kaneko (Kyoto)
11:15-11:20	*Discussion*	
11:20-11:40	NK cells	Michael O'Dwyer (Galway)
11:40-11:45	*Discussion*	
11:45-12:15	*Panel discussion*	

12:15-13:30 ***Lunch***

13:00-13:30 **SATELLITE SYMPOSIUM**
Leveraging emerging technologies and industry partnerships to advance disease profiling in cancer patients: Improving therapeutic outcomes through personalized healthcare
Speaker: Eda Holl (Durham)
This symposium is supported by Beckman Coulter Life Sciences

13:35-14:50 **Best Abstracts session**
Chairs: Chiara Bonini (Milan), Michael Hudecek (Würzburg)

13:35-13:55	Utilizing insights from T cell signaling biology to alter CAR T cell functionality	Robbie Majzner (Boston)
13:55-14:00	*Discussion*	

14:00-14:07	Selected best abstract Sensitive and bispecific Chimeric TCRs for cancer therapy	Sylvain Simon (Seattle)
14:07-14:10	*Discussion*	
14:10-14:17	Selected best abstract Cytosine base editor ameliorates the safety profile of TCR edited T cells for the Adoptive Cell Therapy of gastrointestinal tumors	Martina Spiga (Milan)
14:17-14:20	*Discussion*	
14:20-14:27	Selected best abstract Harnessing memory stem T cells for adoptive immunotherapy of cancer	Gabriele Inchingolo (Regensburg)
14:27-14:30	*Discussion*	
14:30-14:37	Selected best abstract Caffeine-regulated molecular switches for functional control of CAR T cells	Elise Sylvander (Vienna)
14:37-14:40	*Discussion*	
14:40-14:47	Selected best abstract Deciphering T cell responses after hematopoietic stem cell transplantation and personalized neoantigen vaccination in high-risk pediatric acute lymphoblastic leukemia patients	Sabrina Wagner (Munich)
14:47-14:50	*Discussion*	

SESSION VI – Engineering immune cells in vivo
Chair: Dirk Busch (Munich)

14:55-15:15	B cells for humoral immunity	Adi Barzel (Tel Aviv)
15:15-15:20	*Discussion*	
15:20-15:40	Targeted viral vectors	Christian Buchholz (Langen)
15:40-15:45	*Discussion*	
15:45-16:05	Nanoparticle technology	Jennifer Adair (Seattle)
16:05-16:10	*Discussion*	
16:10-16:17	Selected brief oral communication Efficient Combinatorial Adaptor-Mediated Targeting of Acute Myeloid Leukemia with CAR T-Cells	Laura Volta (Zurich)
16:17-16:20	*Discussion*	
16:20-16:50	*Panel discussion*	

16:50-17:20 Coffee break

SESSION VII – Correlative analyses of response and resistance
Chair: Robbie Majzner (Boston)

17:20-17:40	Analyses on products before and after infusion	Marcela Maus (Boston)
17:40-17:45	*Discussion*	

17:45-18:05	Host factors: Microbiome	Maik Luu (Würzburg)
18:05-18:10	*Discussion*	
18:10-18:30	Analyses on tumor and TME	Leo Rasche (Würzburg)
18:30-18:35	*Discussion*	
18:35-18:42	Selected brief oral communication CD19 CAR T Cells drive a remodeling of the Immune Microenvironment associated with T-cell dysfunction	Chiara Magnani (Zurich)
18:42-18:45	*Discussion*	
18:45-19:15	*Panel discussion*	

Sunday, September 15, 2024

08:00-09:00 **3 simultaneous Meet the Expert sessions**

1. Is AI ready to contribute to the cellular immunotherapy revolution? — Dominic Grün (Würzburg)
2. What correlative studies can inform pre-clinical and clinical CAR-T research? — Marcela Maus (Boston)
3. What will be the next generation of TCR-modified immune cells? — Aude Chapuis (Seattle)

SESSION VIII – Overcoming barriers to improve response
Chairs: Guilia Casorati (Milan), Michael O'dwyer (Galway)

09:10-09:30	Barriers to T cell therapy in multiple myeloma	Stanley Riddell (Seattle)
09:30-09:35	*Discussion*	
09:35-09:55	Harnessing the immune suppressive microenvironment in gastrointestinal tumors	Alessia Potenza (Milan)
09:55-10:00	*Discussion*	
10:00-10:20	Overcoming T cell exhaustion and tumor resistance	Marco Ruella (Philadelphia)
10:20-10:25	*Discussion*	
10:25-10:32	Selected brief oral communication PD-L1 blockade synergizes with c-Jun overexpression to drastically improve intratumoral CAR-T cell accumulation and tumor clearance in an aggressive autochthonous model of lung adenocarcinoma	Andrew Snyder (Seattle)
10:32-10:35	*Discussion*	
10:35-11:05	*Panel discussion*	

11:05-11:35 ***Coffee break***

SESSION IX – The future of engineered cell therapy
Chairs: Adi Barzel (Tel Aviv), Marco Ruella (Philadelphia)

11:35-11:55	Regeneration/rejuvenation of immune cells	Stephen Gottschalk (Memphis)
11:55-12:00	*Discussion*	
12:00-12:20	Application of AI and machine learning	Dominic Grün (Würzburg)
12:20-12:25	*Discussion*	
12:25-12:45	Automated, point-of-care manufacturing	Halvard Bönig (Frankfurt)
12:45-12:50	*Discussion*	
12:50-12:57	Selected brief oral communication One CAR multiple antigens: Universal CAR-T cells that are chemically programmed to recognize tumors	Maria Jornet (Würzburg)
12:57-13:00	*Discussion*	
13:00-13:30	*Panel discussion*	
13:30-13:40	***Closing remarks***	Conference chairs

MEETING CLOSURE