

CNIO - CaixaResearch Foundation Frontiers Meeting
FRONTIERS IN IMMUNOMODULATION AND CANCER THERAPY: SECOND EDITION
October 16th- 18th, 2024

Venue:

Spanish National Cancer Research Centre – CNIO Auditorium, Madrid, Spain

Chairpersons and organizing committee:

Luis Álvarez-Vallina, CNIO, Madrid, Spain

María Casanova-Acebes, CNIO, Madrid, Spain

Nabil Djouder, CNIO, Madrid, Spain

David Sancho, CNIC, Madrid, Spain

Gaia Trincucci, JEM, New York, US

Rationale:

The immune system has the ability to recognize and kill tumor cells. However, tumors may invade the immune system generating an immunosuppressive tumor microenvironment making tumors resistant to immunotherapies. This conference will focus and discuss recent findings on mechanistic insights of immune escape machinery, immunotolerance and immunomodulation. We will address how tumors can escape the immune system creating an immunosuppressive tumor microenvironment and how tumours become resistant to immunotherapy. This conference will also present an overview of pre-clinical and emerging clinical advances targeting the immune system for treatment of cancer or cancer-associated disorders.

SPEAKER LIST

Speakers:

Dr. Mark Cragg - Southampton General Hospital; University of Southampton, Southampton, UK

Dr. Karin De Visser - The Netherlands Cancer Institute, Amsterdam, Netherlands

Dr. Sandra Demaria - Weill Cornell Medical College, New York, US

Dr. Florent Ginhoux - Gustave Roussy, Villejuif Cedex, France

Dr. Ilaria Malanchi - The Francis Crick Institute, London, UK

Dr. Kenneth Murphy - Washington University in St. Louis, Washington, US

Dr. Hai Qi - Institute for Immunology, Tsinghua University, Beijing, China

Dr. Caetano Reis e Sousa - The Francis Crick Institute, London, UK

Dr. Boris Reizis - NYU Grossman School of Medicine, New York, US

Dr. Bruno Silva-Santos - Gulbenkian Institute for Molecular Medicine, Lisbon, Portugal

Dr. Ramnik Xavier - Broad Institute, Cambridge, US

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Wednesday October 16th, 2024

13:00 *Registration - welcome coffee - main hall*

14:45-15:00 *Welcome address: Maria Casanova-Acebes*

15:00-16:00 **Keynote Lecture**

Development and function of the cDC1

Kenneth Murphy, Washington University in St. Louis, Washington, US

Chair: Maria Casanova-Acebes

16:00-16:30 *Coffee break – social room*

16:30-18:30 **Targeting the tumor microenvironment**

Chair: Maria Casanova-Acebes

This session will present recent work and discuss new ideas targeting the tumor microenvironment, how to disrupt the supportive environment that promotes tumor growth and progression and how to inhibiting factors like angiogenesis, immune suppression, and stromal support to seek to enhance the efficacy of cancer treatments and impede tumor development.

16:30 – 16:45 *short talk: Investigating the Role of the CCL2-CCR2 Axis in Bladder Cancer Metastasis Using Ccl2 Knockout Models*

Víctor Manuel García Martínez, CIEMAT, Madrid, Spain

16:45 – 17:00 *short talk: Alveolar macrophages early control of CAF tone in Non-Small Cell Lung Cancer (NSCLC)*

Eduardo Garvín, Spanish National Cancer Research Centre, Madrid, Spain

17:00 – 17:30 **Tumor Macrophage Heterogeneity**

Florent Ginhoux, Gustave Roussy, Villejuif Cedex, France

17:30 – 17:45 *short talk: Rank pathway inhibition impairs immunosuppression in macrophages enhancing the anti-tumour response*

Eva González Suárez, Spanish National Cancer Research Centre, Madrid, Spain

17:45 – 18:00 *short talk: Lurbinectedin-Induced Transcriptional Reprogramming: A Pathway to Sensitise SCLC to Immunotherapy*

Joan Salvador Russo Cabrera, H12O-CNIO, Madrid, Spain

18:00 – 18:30 **Ilaria Malanchi**, The Francis Crick Institute, London, UK

Wrap up: Maria Casanova

18:45-20:15 *Welcome cocktail for all participants – social room*

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Thursday October 17th, 2024

09:00 - 12:00 Immune system engineering and vaccination strategies in tumors

Chair: Gaia Trincucci

The following session will the cutting-edge approaches and promising developments in the field. It will discuss Immune system engineering and vaccination strategies in solid tumors to offer innovative approaches to cancer therapy by enhancing immune recognition and response to tumor cells. Techniques such as CAR T-cell therapy and vaccination to prime the immune system against tumor-specific antigens will be explored.

09:00 – 09:30 Engineering Antibodies for Agonism

Mark Cragg, Southampton General Hospital; University of Southampton, UK

09:30 – 09:45 *short talk: CAR-T cells secreting T cell engagers (CAR-STAb-T) demonstrate superior antitumor activity than tandem CAR-T cells for B-cell hematological*
Javier Arroyo Ródenas, Spanish National Cancer Research Centre, Madrid, Spain

09:45 – 10:00 *short talk: CD44v6-specific CAR-NK cells as novel strategy in precision medicine for bladder cancer treatment*
Iris Adriana Maria Lodewijk, Research Institute Hospital 12 de Octubre Foundation (i+12), Madrid, Spain

10:00 – 10:30 Immunotherapy with natural conventional type-1 dendritic cells excels at immune memory induction to eradicate cancer relapse
David Sancho, Spanish National Center for Cardiovascular Research - CNIC, Madrid, Spain

Wrap up: Gaia Trincucci

10:30-11:30 *Group picture CNIO main entrance - Coffee break and poster session 1 – social room*

11:30 – 12:00 Physiological and regulatable T cell redirection against intracellular and extracellular tumour antigen
Luis Álvarez Vallina, Spanish National Cancer Research Centre - CNIO, Madrid, Spain

12:00-14:00 *Lunch break – Canteen*

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14:00-17:00 Immunomodulation and immunotolerance

Chair: David Sancho

The following session will cover the most recent advances in immunomodulation and immunotolerance, vital in medical advancement, including cancer therapy and organ transplantation. Understanding how the immune system can be regulated will offer promising avenues for therapeutic intervention, while achieving immunotolerance holds potential for revolutionizing treatment in various diseases, emphasizing collaboration and knowledge exchange to improve patient outcomes.

14:00 – 14:30 DaNGeRous necrophagy, coprophagy and immunity to cancer
Caetano Reis e Sousa, The Francis Crick Institute, London, UK

14:30 – 15:00 New mechanistic insights on gamma-delta T cell targeting of liquid and solid tumors
Bruno Silva-Santos, Gulbenkian Institute for Molecular Medicine, Lisbon, Portugal

15:00 – 15:15 *short talk: Dual modulation of cytotoxic and checkpoint receptors tunes the efficacy of Delta One T cells against colorectal cancer*
Rafael Blanco Domínguez, Institute of Molecular Medicine João Lobo Antunes, Lisboa, Portugal

15:15 – 15:30 *short talk: Rab8a restores function in CD11c+CD11b+ dendritic cells of an aging host*
Sharvan Sehrawat, Indian Institute of Science Education and Research, Mohali, India

Wrap up: David Sancho

15:30-16:00 *Coffee break and poster session group 1 – social room*

16:00 – 16:30 Extracellular DNA and its regulation in immunity and autoimmunity
Boris Reizis, NYU Grossman School of Medicine, NY, US

16:30 – 17:00 In situ vaccination by radiation and immunotherapy: novel insights and combinations
Sandra Demaria, Weill Cornell Medical College, NY, US

17:00-18:30 *Poster session group 1 – Refreshments – social room*

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Friday, October 18th, 2024

09:00-12:00 Metabolism in immunology

Chair: Luis Álvarez-Vallina

This session will discuss how the microbiome and various metabolic pathways could influence and rewire the inflammatory environment. This session will highlight the importance of interdisciplinary research to elucidate these complex interactions and their impact on human health.

09:00 – 09:15 *short talk: Reprogramming and therapeutic relevance of immunosuppressive cells in the process of prostate cancer metastasis*

Victoria Cid, CiCBioGune, Derio, Spain

09:15 – 09:30 *short talk: Neutrophils in obesity*

Rosa Gallo, Spanish National Cancer Research Centre, Madrid, Spain

09:30 – 10:00 Spatial transcriptomics identify controllers of tissue homeostasis

Xavier Ramnik, Broad Institute, Cambridge, US

10:00 – 10:15 *short talk: Inhibition of PU.1 Transcription Factor as a Strategy for Cancer Immunotherapy*

Sung Ouk Kim, Western University, London, Canada

Wrap up: Luis Álvarez Vallina

10:15-11:00 *Coffee break and poster session group 2 – social room
(certificates and invoices will be available at the reception desk)*

11:00 – 11:30 TREMing1 neutrophil immunity in breast metastasis

María Casanova-Acebes, Spanish National Cancer Research Centre -CNIO, Madrid, Spain

11:30 – 12:00 URI is a novel biomarker and neoadjuvant target for immune checkpoint inhibitors in resistant colorectal cancer

Mariana Angulo (on behalf of **Nabil Djouder**), Spanish National Cancer Research Centre -CNIO, Madrid, Spain

12:00-14:00 *Lunch and poster session group 2 – social room*

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14:00-16:45 Neuroimmunomodulation

Chair: Nabil Djouder

This session will explore the bidirectional communication between the nervous and immune systems, unveiling how psychological and physiological factors influence immune responses.

14:00 – 14:30 In search of good memory: the B-cell story

Hai Qi, Institute for Immunology, Tsinghua University, Beijing, China

14:30 – 14:45 *short talk: On the way to assess NKG2D TRUCK as a therapy for Pediatric Central Nervous System Tumors*

Laura Clares Villa, Hospital La Paz Institute for Health Research (IdiPAZ) – CNIO, Madrid, Spain

14:45 – 15:00 *short talk: A bioactive soluble recombinant mouse LIGHT promotes effective tumor immune cell infiltration delaying tumor growth*

José Ignacio Rodríguez-Barbosa, University of Leon, Leon, Spain

15:00 – 15:15 *short talk: Development of a tumour selective precision immunovirotherapy expressing immune checkpoint inhibitors targeting LAG-3*

Alicia Teijeira Crespo, Cardiff University, Cardiff, UK

Wrap up: Nabil Djouder

15:15-16:00 *Coffee break and poster session group 2 – social room*

16:00-16:45 *Closing Lecture*

Dissecting how breast tumors hijack myelopoiesis to promote metastasis

Karin de Visser, The Netherlands Cancer Institute, Amsterdam, Netherlands

16:45-17:00 *Wrap up and closing: David Sancho, Nabil Djouder, Maria Casanova, and Luis A. Vallina*

17:00 *Poster/talk prizes*

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[Thursday 17 poster session group 1](#)

Lorena	Alba Castellon
Mariana	Angulo-Aguado
Alejandra	Aroca
Maria Elena	Barba Sarasua
Clara	Bayona
Annika	Bestehorn
Belén	Blanco
Guillermo	de la Vega Barranco
Inés	Díaz Cano
Jaime	Franco Mansilla
Jan	Frič
Juan	García-Agulló
Marta	Gómez de Cedrón
Marina	Gómez Rosel
Oana	Hangiu

[Friday 18 poster session group 2](#)

Jan	Hochstadt Martínez
Anaïs	Jiménez-Reinoso
Eunjeong	Kim
Rodrigo	Lázaro
Mariola	Munarriz
Alessia	Panzeri
Raquel Victoria	Pérez Fernández
Esther	Rey Iborra
María del Mar	Rigual Abolafio
Mario	Rodríguez del Collado
Pian	Sun
José Antonio	Torres Alcaide
Miriam	Velasco Sidro
Ivana	Zagorac