

I-TARGET AND IMMUTRAIN CONFERENCE

IMMUN TRAIN 2

INNATE IMMUNITY MEETS
TUMOR IMMUNOLOGY

PROGRAM

1ST INTERNATIONAL SYMPOSIUM “IMMUNOTHERAPY OF CANCER”:
INNATE IMMUNITY MEETS TUMOR IMMUNOLOGY

SEPTEMBER 29TH AND 30TH 2016

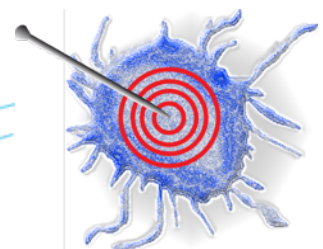


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Elitenetzwerk
Bayern



1 EDITORIAL

Dear guests,

we are happy and proud to welcome you to the international symposium “Immunotrain 2 - Innate immunity meets tumor immunology” in the Carl-Friedrich-von-Siemens-Stiftung at Nymphenburg Palace.

This is the second conference being organised in the context of the Elite Network of Bavaria - “i-Target: Immunotargeting of Cancer” and the inaugural ceremony of the “Immutrain: training network for the immunotherapy of cancer” funded by the Marie-Sklodowska-Curie actions of the Horizon 2020 program of the European Commission. This conference, as it was on its previous edition provides insights into numerous hot research topics in immunology and is intended to be a discussion platform for students and experienced researchers. We are delighted that so many international experts have accepted our invitation to present some of their projects at this symposium. Moreover, as research is ongoing, we can look forward to the students poster session, in which a few current projects and results from the i-Target research groups will be presented. The abstracts are included in this booklet.

We hope that you will also enjoy our beautiful event location and the entertainment that Munich can offer at this time of the year.

With guidance from Professor Stefan Endres, PD Dr. Sebastian Kobold and Professor Veit Hornung, the organisation team has done its best to put together a diverse and stimulating scientific as well as an entertaining social program for you. All of us hope that you will enjoy your participation in the “Immunotrain 2 - Innate immunity meets tumor immunology” and that you will take home some interesting new ideas and pleasant memories of the symposium and the city of Munich.

Yours faithfully

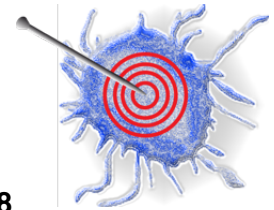
Bruno Cadilha and Maurine Rothe



Bruno
Cadilha



Maurine
Rothe



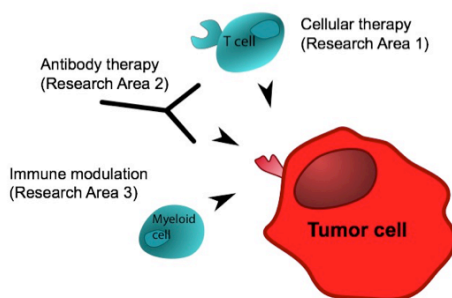
2 I-TARGET AND IMMUTRAIN

2.1 Graduate Program “i-Target: Immunotargeting of cancer“ 2014 to 2018

This project has received funding from the Elite Netzwerk Bayern.

i-Target is an international training program of the Elite Network of Bavaria which started in October 2014. Seven clinical and basic research institutes from the Ludwig-Maximilians-Universität München, Technische Universität München and Friedrich-Alexander-Universität Erlangen-Nürnberg have joined forces in this program. In addition, the program has a large international cooperation network both with academia (including Harvard University) and industry (including Roche). The program funds 12 doctoral positions for natural scientists over 4 years. About 20 doctoral students both from medicine and related disciplines, funded by other sources, are associated to the program. The training program includes weekly seminars, quarterly workshops and annual conferences. A special character of the program is the intense cooperation with the industry and international secondments as an integral part of the PhD-projects.

Malignant diseases represent an unmet medical challenge with a huge social and economical impact. Early diagnosis and optimised operative, medical and radiotherapeutic treatments often cure early stage cancers. The prognosis for many patients with advanced-stage diseases, however, remains dismal. An important achievement of the last decade is the use of the body's own immune system to treat patients. The potential of immunotherapies has been demonstrated impressively through the use and approval of specific antibodies directed against tumor-associated antigens and against so called “immunological check points” which unleash T cells against cancer cells. The scientific focus of i-Target is on basic and preclinical immunotherapy development. i-Target aims at discovering novel therapeutic targets and exploring novel therapeutic approaches against cancer in the three most promising immunotherapy fields: Targeted cell-based therapies, targeted antibody therapy and immunomodulatory therapy (that counteracts tumor-derived immunosuppression).



Tumor immunotherapy is currently subject of intense scientific and clinical development. The requirements of well trained scientists in this research field is rapidly increasing, both in industry and academia. There are currently no structured training programs in Germany to train prospective scientists specifically in the field of immunotherapies. To fill this gap, a team of ten Bavarian professors under the lead of the LMU Munich (speaker: Prof. Endres) have joined forces to investigate innovative immune therapies and to train talented PhD-students in this highly competitive research field.



2.2 Immutrain – Innovative Training Network for the Immunotherapy of Cancer 2015 to 2020

This project has received funding from the European Union’s Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 641549.

As a result of expanding efforts to improve cancer therapy, a paradigm change has occurred by targeting the immune system, not the tumor itself. „Science“ has highlighted immunotherapy of cancer as “breakthrough of the year 2013”. Antibody-based therapies form a constantly growing part of this approach for individualised medicine. Cancer immunotherapy will have a major influence on the coming decade of cancer care.

The training network for the immunotherapy of cancer (Immutrain), has received 3.6 million Euros of funding for four years from the European Union to perform cutting-edge research in this field and to respond to the increasing demand for well-trained and skilled researchers. The network is coordinated by Prof. Dr. Stefan Endres and PD Dr. Sebastian Kobold from the Division of Clinical Pharmacology at the Ludwig-Maximilians-Universität München. Immutrain brings together experts of nine European countries in the fields of monoclonal antibodies, dendritic cells, T-cells and immunomodulatory nucleic acids. The network also offers a considerable industrial involvement to train the next generation of scientists from different perspectives and give insights in different research environments.

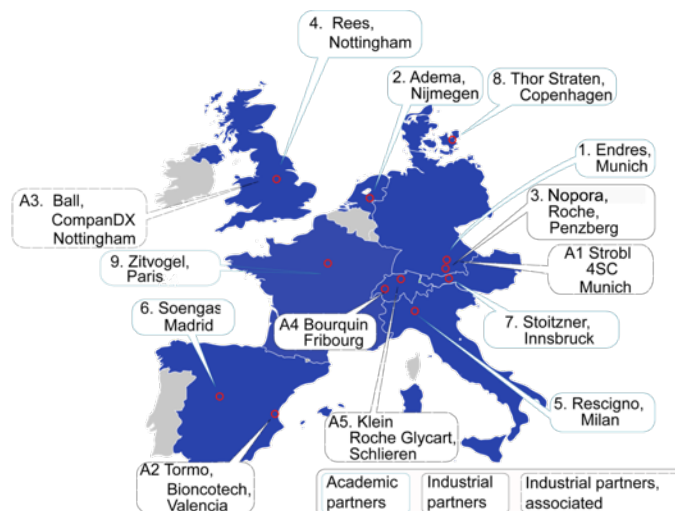
The overall scientific objective of Immutrain is to enhance the efficacy of antibody-based therapies through combination with other immunotherapeutic approaches. Fifteen young scientists, so called Early Stage Researcher are part of the project. Each of them is appointed to a scientific project from a partner of the network and supervised by one or more senior scientists. Each project is part of one of the four scientific work packages of Immutrain:

Work package 1: Combination of antibodies with adoptive cell therapy

Work package 2: New formulations of antibodies to recruit immune cells

Work package 3: Combination of antibodies with dendritic cell therapy

Work package 4: Combination of antibodies with therapeutic nucleic acids



3 ORGANISING TEAM



Celina
Aithal



Bruno
Cadilha



Jennifer
Heinrich



Veronika
Ecker



Laura
Frey



Moritz
Gaidt



Adrian
Gottschlich



Lara
Hartjes



Clara
Karches



Lorenz
Kocheise



Angelina
Krächan



Stefanie
Lesch



Romy
Loschinski



Lukas
Mallaun



Philipp
Metzger



Hanna
Nowotnik



Francesca
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Ignazio
Piseddu



Cornelia
Reichl



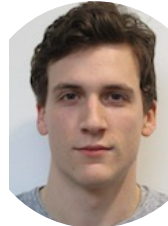
Maurine
Rothe



Paul
Schwarzmüller



Julia
Stein



Stefan
Stoiber



Johannes
Tossounidis



Stefan
Endres



Sebastian
Kobold



Veit
Hornung



Inga
Gerlach



Simone
Gautier



Monika
Fahrenkamp



4 PROGRAM

Thursday 29th September 2016

08:30 **Registration**

09:00 **Welcome address**

09:10 **i-Target and Immutrain intro**

Session 1 - Tumor Microenvironment

Chairs: Philipp Metzger and Ignazio Piseddu



09:20 - 09:35 **Maria Rescigno**, European Institute of Oncology, Milan, Italy
Role of immunogenic cell death in the activity of therapeutic monoclonal antibodies

09:40 - 9:55 **Maria Soengas**, Spanish National Cancer Research Centre, Spain
Immunotherapeutic Implications of Lymphovascular Niches in Melanoma

10:00 - 10:15 **Graham Ball**, Nottingham Trent University, United Kingdom
Bioinformatics Strategies for Immunology and Immunophenotyping

10:20 - 10:35 **Dimitrios Mougiakakos**, University Clinic Erlangen, Germany
Metabolic Reprogramming in Leukemia: From Immune Escape to Targeted Therapies

10:40 - 11:10 Coffee break

Session 2 - Vaccination

Chairs: Maurine Rothe and Julia Stein



11:10 - 11:25 **Carole Bourquin**, University of Geneva, Switzerland
Reprogramming innate immune signalling to improve cancer immunotherapy

11:30 - 11:45 **Marion Subklewe**, Klinikum der Universität München, Germany
Dendritic cell vaccination in AML: results of a phase I/II trial and ex vivo enhancement by checkpoint blockade

11:50 - 12:05 **Patrizia Stoitzner**, Medical University Innsbruck, Austria
The functional role of dendritic cells in immunity against melanoma and non-melanoma skin cancer

12:10 - 14:00 Lunch break and **Poster Session**

Session 3 - Cellular Therapy



Chairs: Celina Aithal and Lukas Mallaun

- 14:00 - 14:25 **Julia Wegner**, University Clinic Würzburg, Germany
Adoptive immunotherapy with CAR modified T cells
- 14:30 - 14:45 **Per thor Straten**, University of Copenhagen, Denmark
Adoptive T cell therapy in the solid cancer; whats next?
- 14:50 - 15:05 **Gosse Adema**, Radboud University, Netherlands
Exploring Sialic Acid Blockade for Cancer Therapy
- 15:10 - 15:25 **Christoph Klein**, Dr. von Hauner Children's Hospital, Germany
Genomic analysis of innate immunity - lessons from patients with rare immunodeficiency disorders

15:30 - 16:30 Coffee break

Session 4 - Novel Technologies



Chairs: Lorenz Kocheise and Laura Frey

- 16:30 - 16:45 **Sebastian Kobold**, Klinikum der Universität München, Germany
Calling T cells to arms: a novel platform for adoptive T cell therapy
- 16:50 - 17:05 **Kirsten Lauber**, Klinikum der Universität München, Germany
Generation of in situ cancer vaccines by radiotherapy: Chances and challenges
- 17:10 - 17:35 **Thorsten Mempel**, Harvard Medical School, USA
T cell migration and function during the anti-tumor response

18:00 - 19:30 **Dinner buffet**

Friday 30th September 2016

08:30 **Registration**

08:55 **Welcome address**

Session 5 - Innate Immunity I

Chairs: Moritz Gaidt and Lara Hartjes



09:00 - 09:25 **Mo Lamkanfi**, Ghent University, Belgium
Inflammasomes in inflammatory disease

09:30 - 09:55 **Seth Masters**, WEHI Melbourne, Australia
New mechanisms of inflammasome activation

10:00 - 10:25 **Eicke Latz**, University of Bonn, Germany
Posttranscriptional regulation of inflammasomes

10:30 - 11:00 *Coffee break*

Session 6 - Innate Immunity II

Chairs: Francesca Pinci and Johannes Tossounidis



11:00 - 11:25 **Vishva Dixit**, Genentech, USA
Why so many ways to die? The non-canonical Inflammasome Pathway

11:30 - 11:55 **Petr Broz**, Biozentrum Basel, Switzerland
Role of Gasdermin-D in inflammasome effector mechanisms

12:00 - 12:25 **Luke O'Neill**, Trinity College, Dublin, Ireland
Metabolic Reprogramming in Innate Immunity and Inflammation

12:30 - 12:45 **Jürgen Ruland**, Klinikum Rechts der Isar, Germany
C-type lectin receptor signals in innate immunity

13:00 - 14:30 Lunch

Session 7 - Antibodies



Chairs: Clara Karches and Stefanie Lesch

14:30 - 14:45 **Christian Klein**, Roche Innovation Center Zurich, Switzerland
Antibody based Immunotherapy of Cancer

14:50 - 15:05 **Karl-Peter Hopfner**, LMU Gene Center Munich, Germany
Integrated ATP dependent mechanism for RIG-I's distinction between self and non-self RNA

15:10 **Closing remarks**

5 SPEAKERS



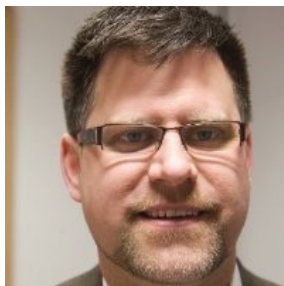
Gosse Adema, Prof. PhD

Centre for Molecular Life Sciences (NCMLS), Radboud University Nijmegen Medical Centre (RUNMC)

Cancer development and immune defense

Current Position

Chair in molecular Immunology, Department of Tumor Immunology, Centre for Molecular Life Sciences



Graham Ball, Prof. PhD BSc (Hons)

Nottingham Trent University, School of Science and Technology CompanDX Ltd

Bioinformatic Algorithms using Artificial Neural Networks to Identify Biomarkers and Key Molecular Drivers

Current Position

Professor of Bioinformatics at Nottingham Trent University
CSO of CompanDX Ltd.
Associate Director the John Van Geest Cancer Research Centre
Visiting professor at the University of Auvergne and at Nottingham University Hospitals Trust



Carole Bourquin, Prof. M.D., Ph.D.

Chair of Pharmacology, Department of Medicine Faculty of Sciences, University of Geneva

Immune cell activation and migration, immune regulation and tumor microenvironment

Current Position

Full Professor of Pharmacology University of Geneva, Switzerland



Petr Broz, PhD

Focal Area Infection Biology, Biozentrum, University of Basel

Host-pathogen interaction, Innate Immunity

Current Position

Assistant Professor at Biozentrum, University of Basel



Vishva Dixit, MD

Genentech

Cell death and inflammation

Current Position

Vice President and Staff Scientist, Physiological Chemistry, Genentech



Karl-Peter Hopfner, Prof. PhD

LMU Gene Center Munich

DNA-repair mechanisms, structural biology of DNA-double strand break repair, cancer therapy

Current Position

Director of Gene Center Munich and Head of the Department of Biochemistry



Christian Klein, Dr.
Roche

Antibody based Cancer Immunotherapy (CIT) and bispecific antibodies

Current Position

Head Oncology Programs & Department Head Cancer, Immunotherapy Discovery, Distinguished Scientist



Christoph Klein, Prof. MD, PhD
LMU, Dr. von Hauner Children's Hospital, Munich

Pediatric Hematology/Oncology

Current Position

Professor of Pediatrics Chair, Department of Pediatrics



Sebastian Kobold, PD, MD
Division of Clinical Pharmacology, LMU

Tumor Immunology, Adoptive T cell Therapy, Antibody Therapy

Current Position

Attending physician, Group Leader, Immunopharmacology Group, Head of the Pharmacophenomic Diagnostic, Division of Clinical Pharmacology, Klinikum der Universität München

Scientific coordinator of the Marie-Sklodowska-Curie Innovative Training Network "IMMUTRAIN" and of the international training network "i-Target: immunotargeting of cancer", supported by the Elite Network of Bavaria



Mo Lamkanfi, Prof. Dr.
Ghent University and VIB

Innate immunity/inflammasomes and NOD-like receptors

Current Position

Professor at Ghent University (Department of Internal Medicine, Faculty of Medicine),
Group Leader of the Inflammasome and NOD-like Receptor Laboratory at VIB
(Inflammation Research Center)



Eicke Latz, Prof. MD

Institute of Innate Immunity, University of Bonn

Toll-like receptors, Inflammasomes, TAM receptors

Current Position

Director of the Institute of Innate Immunity at the University of Bonn
Professor at University of Bonn



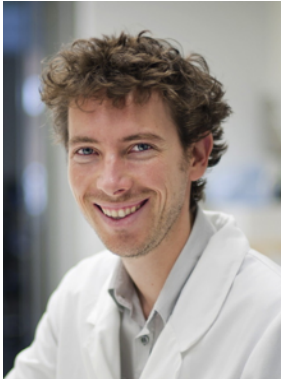
Kirsten Lauber, Prof.

Molecular Oncology, LMU Clinic for Radiotherapy and
Radiation Oncology, Campus Grosshadern

Molecular Radiation Oncology and Radiation Immunology

Current Position

Professor for Molecular Radiation Oncology (W2)



Seth Masters, PhD

The Walter and Eliza Hall Institute

Inflammation

Current Position
Laboratory Head



Thorsten Mempel, MD, PhD

Massachusetts General Hospital

Cell migration and intercellular communication in the adaptive immune system

Current Position
Principal Investigator, Center for Immunology and Inflammatory Diseases, Massachusetts General Hospital
Associate Immunologist, Massachusetts General Hospital
Associate Professor of Medicine, Harvard Medical School
Robert and Laura Reynolds MGH Research Scholar
Associate Member, MGH Center for Systems Biology
Associate Investigator, MGH Center for the Study of Inflammatory Bowel Disease



Dimitrios Mouggiakakos, PD, MD

University Hospital Erlangen

Suppressive cell populations in transplantation and cancer

Current Position
Group leader and physician at the University Hospital Erlangen, Department of Hematology and Oncology



Luke O'Neill, PhD

School of Biochemistry and Immunology, Trinity
Biomedical Sciences Institute, Dublin, Ireland

**Innate Immunity, Inflammation, TLRs, NLRP3,
Immunometabolism**

Current Position

Chair of Biochemistry, Trinity College Dublin
Visiting Fellow, Christs College Cambridge



Maria Rescigno, Prof. PhD

IEO - European Institute of Oncology

Immunobiology of Dendritic Cells and Immunotherapy

Current Position

Director of Experimental Oncology Unit on Dendritic Cell Biology and
Immunotherapy, European Institute of Oncology, Milan



Jürgen Ruland, Prof. Dr. med

TUM, Rechts der Isar Hospital

**Signaling in the immune system
Molecular mechanisms of innate and adaptive immunity
Pathogenesis of lymphomas
Interaction of the immune system and tumor cells**

Current Position

Director of Department for Clinical Chemistry and Pathobiochemistry at Rechts der
Hospital

Isar



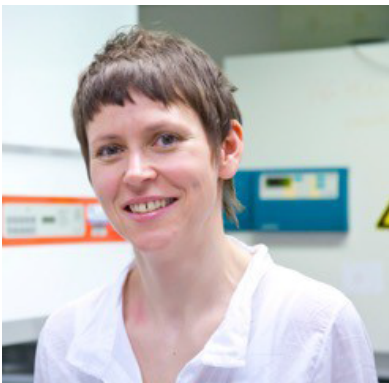
Maria Soengas, PhD

Centro Nacional de Investigaciones Oncológicas (CNIO)

Cutaneous Melanoma

Current Position

Leader of the Melanoma Group at the CNIO



Patrizia Stoitzner, Assoc. Prof.

Medical University of Innsbruck, Austria

Role of skin dendritic cells in immunity and tolerance, function of skin dendritic cells in immunosurveillance of cutaneous tumors, interactions between dendritic cells and inhibitory immune cells in tumor environment, development of novel strategies to treat skin cancer by harnessing skin dendritic cells.

Current Position

Assoc. Prof. (Associate Professor) at the Department of Dermatology, Venereology & Allergology



Per thor Straten, Prof. PhD

University Hospital Herlev, Denmark

Cancer immunology and immunotherapy

Current Position

Director, Centre for Cancer Immunotherapy (CCIT), Dept. of Hematology



Marion Subklewe, Prof. Dr.
LMU - Klinikum der Universität München

Translational Cancer Immunology

Current Position

Professor for Internal Medicine with focus on cellular Immunotherapy at Klinikum der Universität München, Med. Klinik und Poliklinik III

Group Leader of the Clinical Cooperation Group Immunotherapy (Helmholtz Zentrum)

Senior Physician at Klinikum der Universität München, Med. Klinik und Poliklinik III



Julia Wegner, Dr.
University Hospital of Würzburg

CAR T-cell Engineering

Current Position

Science manager

6 POSTER TITLES

P1	Heike Anders Lauber lab	HSP90 inhibition: Sensitization of aggressive soft tissue sarcomas to radiotherapy by enhancing the extent and the immunogenicity of sarcoma cell death
P2	Lydia Bellmann Stoitzner lab	Immunosurveillance in different transplantable melanoma mouse models.
P3	Veronika Ecker Buchner lab	Negative feedback inhibition as novel therapeutic approach for chronic lymphocytic leukemia (CLL)
P4	Moritz M. Gaidt Hornung lab	Human monocytes engage an alternative inflammasome pathway
P5	Sabrina Kirchleitner Schnurr lab	Melanoma differentiation-associated protein 5 (MDA5)-mediated reprogramming of myeloid-derived suppressor cells (MDSC) as novel therapeutic strategy for pancreatic cancer
P6	Philipp Metzger Schnurr lab	Anti-PD-1 monoclonal antibodies stain unrecognized marker on cells
P7	Hanna Nowotny Rothenfußer lab	Establishing isomeric functions of short and long isomers of TRIM9 in innate immunity
P8	Laura Posselt Schnurr lab	Immunotherapy of hepatocellular carcinoma: RIG-I as potential target
P9	Natasa Prokopi Stoitzner lab	Loss of skin dendritic cells and their role in a spontaneous melanoma mouse model
P10	Felicitas Rataj Kobold lab	Arming T cells with activating FcγRIIIa receptors for antibody redirected lysis of cancer cells
P11	Maurine Rothe Subklewe lab	Enhancing Dendritic Cell-induced T-cell Responses by Immunomodulating Agents
P12	Michael Ruzicka Rothenfußer lab	Immunotherapy targeting RIG-I in a mouse model of AML.
P13	Anna Tiefenthaller Lauber lab	Immunological effects of intraoperative radiotherapy in mamma carcinoma patients after breast conserving therapy
P14	Bruno Cadilha Kobold lab	Dominant Negative Tumor Growth Factor β Receptor 2 enables T cell activity in a murine orthotopic pancreatic tumor model

7 SPONSORS



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