AI&II
Amsterdam Infection & Immunity Institute

Principal investigators
Research topics
Cover photo:
Still from award winning scientific film
“Glycotreat” at the Film Festival in Cannes
made by Sensu Film
https://youtu.be/KYRSluPCVIQ

Amsterdam Infection & Immunity Institute
AI & II

Portrets taken by Jonas Briels Fotografie, Amsterdam

Lay-out by Stella uit de Bosch, Amsterdam UMC
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**Marc Benninga**  
Pediatric Gastroenterology, location AMC/VUmc

Our research is focused on 1) the epidemiology, pathophysiology, and treatment of pediatric functional gastrointestinal disorders (gastro-esophageal reflux, abdominal pain and constipation), 2) the epidemiology and (patho)physiology of rare motility disorders (Achalasia, Pseud-obstruction), 3) influence of enteral feeding and microbiome on Crohn's disease, 4) the role of the microbiome in infant sepsis, 5) Obesity and liver disease and 6) the clinical consequences of parenteral feeding in intestinal failure.

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**Elisabeth Bel**  
Pulmonology, location AMC

My current research program focuses on severe asthma, with a particular emphasis on phenotyping, pathophysiological mechanisms, monitoring and therapeutic approach. Main projects include 1) clinical trials with novel asthma biologicals 2) cohort studies in patients with adult-onset asthma, to identify predictors and biomarkers of poor outcome 3) real life studies using data from a national registry of patients with severe asthma 4) studies arising from the European Clinical Research Collaboration SHARP, which I am co-chairing.

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**Lisa van Baarsen**  
Rheumatology & Clinical Immunology/Experimental Immunology, location AMC

It is my ambition to unravel the molecular and biological processes leading to systemic autoimmune diseases by studying unique human lymphoid and synovial tissue biopsies obtained during the pre-clinical and earliest phases of rheumatoid arthritis. My group specifically investigates the role of human mesenchymal stromal cells in disease development. Ultimately, this research will increase our understanding of the earliest phases of rheumatoid arthritis and obtained data may be translated to other inflammatory chronic diseases.

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**Derk Amsen**  
Hematopoiesis, location Sanquin

We study the signals and their receptors, as well as the signal transduction pathways and transcriptional networks that control the differentiation, lineage stability and effector functions of conventional and regulatory T cells. We seek to acquire fundamental insights and use these to improve adoptive T cell therapies against cancer and inflammatory diseases.

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**Program Inflammatory diseases**
Bianca Blom
Experimental Immunology, location AMC

Allogeneic hematopoietic stem cell transplantation (HSCT) is an important modality in the treatment of hematologic malignancies. Research in the Blom/Hazenber Lab focusses on allo-immune responses directed against the tumor (potentially curative 'graft vs leukemia' responses) and on allo-immune responses directed against healthy tissues of the host that cause graft vs host disease, a common complication of allogeneic HSCT with high morbidity and mortality.

Maarten Boers
Epidemiologie & Biostatistiek; Amsterdam Rheumatology and Immunology center, location VUmc

Research interests include early intervention and combination therapy in rheumatoid arthritis, core outcome measures in rheumatology, benefit and harm of glucocorticoids, impact of diagnostic studies on patient outcome, generic health status measurement, health economics and health technology assessment.

Cornelis van Drunen
Otorhinolaryngology (ENT), location AMC

I study the role or airway epithelial cells in the regulation of local immune responses. In particular, both the disease state of the epithelium in (non)allergic rhinitis, asthma, nasal polyps, and chronic rhinosinusitis, as well as how the epithelium maintains homeostasis by bridging the gap between environmental triggers (bacteria, viruses, allergens) and the immune system (T lymphocytes, innate lymphoid cells, dendritic cells). Tools include proteomics, (single cell) sequencing, and an epithelial 3D ex vivo model that reflects the in vivo situation.

Jeroen den Dunnen
Rheumatology/Experimental Immunology, location AMC

My research focuses on inflammation induced by antibodies and antibody- receptors, the Fc receptors. We are studying antibody-induced inflammation in the context of various diseases, including bacterial infections, rheumatological diseases, and inflammatory bowel disease. Our main goal is to unravel the molecular mechanisms of antibody-induced inflammation, with particular focus on cell signaling and metabolic reprogramming.
Wytske Fokkens  
Otorhinolaryngology, location AMC  
My research focusses on mucosal pathology of the diseased upper airway mucosa from non-allergic and allergic rhinitis to chronic rhinosinusitis with and without nasal polyps. Phenotyping and endotyping of disease in a clinical and laboratory setting has led to a new treatment options, that are further evaluated in the clinic. A special emphasis is put on personalised medicine and the prediction of reaction to treatment.

Karin Fijnvandraat  
Pediatric Hematology, location AMC, Sanquin  
The clinical and translational research of my group is focused on hemophilia and sickle cell disease. In hemophilia we adress the heterogeneity in phenotype and the etiology of ADA, anti drug antibodies that are directed against the transfused clotting factor VIII. In sickle cell disease we focus on cerebral sequelae and the etiology of allo-immunization, development of antibodies directed against transfused red blood cells.

Marjolein van Egmond  
Molecular Cell Biology & Immunology/ Surgery, location VUmc  
My research addresses the activation of myeloid effector cells by antibodies – especially focussing on immunoglobulin A – in health and disease. We investigate the contribution of auto-antibodies in autoimmune diseases. Furthermore, we develop novel antibody-based therapies to target cancer with special attention to the peri-operative setting.

Sue Gibbs  
Skin and Mucosa regenerative medicine, location VUmc  
Current focus lies with developing next generation immune competent skin and oral mucosa tissue engineered constructs to understand the (patho)physiology of adverse scar formation (keloids, hypertrophic scars) and to understand similarities and differences between allergic and irritant contact dermatitis with the aim of identifying novel drug targets and personalized as well as general therapeutic strategies. Recently, research has extended into the field of hair follicles and importantly “organ-on-a-chip”, in particular immune competent “skin-on-a-chip” and “melanoma-on-chip”, which has the potential to provide a personalized medicine approach to treating human skin disease.
Armand R.J. Girbes  
Intensive Care Medicine, location VUnmc

The research focuses on sepsis, sepsis-like syndromes and consequences of mostly sepsis related critically-ill patients. It also includes dosing of antibiotics and pharmacology (PK/PD of antibiotics).

Marieke van Ham  
Immunopathology, location Sanquin

We investigate regulation of T cell-dependent B cell responses and formation of high affinity IgG antibodies in human. The cues controlling the actual process of B cell differentiation into IgG-producing plasma cells are largely unknown. We investigate how B cell differentiation into IgG-secreting plasma cells is regulated by antigen and specific signals from follicular Thelper cells. We use big data analyses and systems biology to unravel integrated networks of immune regulation. Our efforts to translate our fundamental findings into the clinic resulted in establishment of (inter)national consortia to study B cell differentiation in autoimmunity and therapy thereof.

Jörg Hamann  
Experimental Immunology, location AMC

My research focusses on the molecular signatures and effector functions of tissue-resident immune cells in (neuro)inflammation. We want to know how these cells contribute to inflammatory disorders, such as multiple sclerosis. A family of receptors I am studying in particular are adhesion G protein-coupled receptors (EMR1 to 4, CD97, GPR56, GPR97, GPR114). Enhancing knowledge of these non-canonical seven-span transmembrane receptors may open new therapeutic opportunities.

Otto S Hoekstra  
Radiology & Nuclear Medicine, location VUmc

My research concerns technical and clinical validation of (new) radiopharmaceuticals, in oncology and rheumatology. It focuses on quantitative positron emission tomography (PET) in a broad spectrum of diseases, and on the implementation of the results in daily clinical practice.
Markus W Hollmann  
Anesthesiology & L.E.I.C.A, location AMC

My research focuses on the link between inflammation and organ protection. We study cardio- and lung protective strategies and their underlying mechanisms in a translational approach. Furthermore, in collaboration with the NKI we look at anesthesia and tumor biology, in particular immunosuppresive effects of opioids and their effect on cancer recurrence.

Irene van der Horst-Bruinsma  
Rheumatology, location VUmc

Gender en sex differences in rheumatic, inflammatory diseases and clinical studies in Axial Spondyloarthritis/Ankylosing Spondylitis on early diagnosis, treatment extra-articular manifestations (uveitis) and comorbidity (cardiovascular diseases and osteoporosis).

Stephan Huveneers  
Medical Biochemistry, location AMC

My research focus is to understand how mechanical forces control vascular integrity in inflammation and cardiovascular disease. We aim to elucidate the endothelial mechanisms underlying mechanotransduction at integrin-based adhesions and cadherin-based cell-cell junctions. The group has expertise in vascular cell biology, endothelial barrier function, angiogenesis and advanced live cell imaging.

Gerrit Jansen  
Rheumatology, location VUmc

My research focuses on unraveling molecular mechanisms of drug resistance and designed strategies to overcome drug resistance in the field of autoimmune diseases, in particular rheumatoid arthritis. This work concentrates on classical disease modifying anti-rheumatic drugs (DMARDs) as well as new generations of small molecule experimental drugs with novel mechanisms of action.
Willem F. Lems
Rheumatology, location AMC

My research lines started with metabolic bone diseases in patients with rheumatic diseases, including glucocorticoid-induced osteoporosis. Additionally, I worked on modern treatment of RA with different COBRA and other treatments options, and knee-osteoarthritis, focussing on comorbidity and different phenotypes. Finally, I started up some work on Patient Reported Outcomes.

Nicole Juffermans
Intensive Care and Laboratory of Experimental Intensive Care and Anesthesiology, location AMC

Basic and clinical research aimed at improving diagnostic tests, optimizing transfusion strategies and searching for alternative strategies (other than transfusion) in the care for critically ill and injured patients with a disturbed coagulation status. This disturbed status encompasses both bleeding as well as a thromboembolic signature. The ultimate aim is to diminish inflammation and organ failure and to improve outcome of the critically ill and injured.

Antoine van Kampen
Clinical Epidemiology, Biostatistics and Bioinformatics, location AMC

My research focuses on the development of computational models of the germinal center in the context of plasma cell differentiation, rheumatoid arthritis, B-cell lymphoma, and HIV-1 vaccines. Our current interests are multiscale models that integrate molecular networks with cellular models, modelling of ACPA glycosylation, and modelling kinetic maturation. Furthermore, we are involved in the analysis of T/B-cell repertoire sequencing data.

Conny van der Laken
Rheumatology, location VUmc

My research focuses on development and implementation of innovative imaging techniques for a broad spectrum of inflammatory rheumatic diseases. In translational research, new imaging biomarkers are developed to visualize immunological targets in vivo to elucidate pathogenesis, to support development of new anti-rheumatic drugs, to enable early diagnostics and therapy monitoring of rheumatic diseases.

Willem F. Lems
Rheumatology, location AMC

My research lines started with metabolic bone diseases in patients with rheumatic diseases, including glucocorticoid-induced osteoporosis. Additionally, I worked on modern treatment of RA with different COBRA and other treatments options, and knee-osteoarthritis, focussing on comorbidity and different phenotypes. Finally, I started up some work on Patient Reported Outcomes.
Anke-Hilse Maitland-van der Zee  
Respiratory Medicine, location AMC

Current research of Prof. Dr. A.H. Maitland-van der Zee focuses on precision medicine. Precision Medicine refers to the tailoring of medical treatment to the individual characteristics of each patient. It involves the application of “omic” analysis and systems biology to analyze the cause of an individual patient’s disease at the molecular level and then to utilize targeted (possibly in combination) to address that individual patient’s disease process. Her research is focused on airways diseases, in particular asthma in children and adults, Cystic Fibrosis (CF), and lung cancer.

Rene Lutter  
Respiratory Medicine and Experimental Immunology, location AMC

Address the mechanisms underlying chronic (and corticosteroid-unresponsive) inflammation and acute worsening of asthma and COPD, combining translational studies (rhinovirus and allergen challenges in humans) and mouse models. Focus is on translational control and mitochondrial dysfunction in bronchial epithelium, and anti-viral activities by eosinophils and alveolar macrophages. Interest in tuberculosis focuses on the impact of granulomatous indoleamine 2,3-dioxygenase on M. tuberculosis and infected macrophages.

Esther Lutgens  
Medical Biochemistry, location AMC

The Experimental Vascular Biology (EVB) group of Prof. Lutgens focuses on the interactions of the immune system in cardiovascular disease, and her key interest is in immune checkpoint proteins. In her multidisciplinary team, Dr. Lutgens combines immunological techniques with cell biology, state-of-the-art animal models for atherosclerosis, development of small molecule inhibitors, and human pathology, and has the capacity to translate and commercialize basic findings to the clinic.

Rosalie Luiten  
Dermatology, location AMC

My research focuses on clinical, translational and experimental research on pigment cells and pigment disorders in order to understand the pathogenesis and improve treatment of these diseases. We are studying the relation between vitiligo and melanoma, which forms the basis for developing new types of immunotherapy of melanoma and predictive biomarkers for therapy response. Vitiligo research focusses on the autoimmune pathogenesis and immune-suppressive therapies.
Martijn Nolte
Molecular & Cellular Hemostasis, location Sanquin

My research focuses on T cell functionality, in particular in the bone marrow. We examine the migration and localization of the various T cell subsets that are present in the bone marrow, and how these cells influence blood cell formation. We do this in the steady state, and compare this to different types of infections. These studies address on one hand how the bone marrow is able to generate the right type of immune cells upon infection, but it also sheds light on how (chronic) inflammation can drive anemia or even bone marrow failure.

Servaas A. Morré
Medical Microbiology and Infection Prevention, location VUmc

Professor Servaas A. Morré (VUmc&MUMC) is working on Chlamydia trachomatis infections for almost 25 years, with a central focus on female infertility & women's reproductive health. His second research line is on Bacterial Meningitis together with Prof. dr. Marceline Tutu van Furth with a strong focus on prediction of late complications of this infection. He is a serial entrepreneur in the field of (infectious) disease diagnostics, human biomarkers and personalised medicine to generate new application in health care systems.

Jaap M. Middeldorp
Pathology, location VUmc

My work aims at elucidation of the molecular pathogenesis of various Epstein-Barr virus (EBV) and Cytomegalovirus (CMV) linked acute, chronic (autoimmune) and malignant diseases (lymphoma and carcinoma), and defining novel (early) diagnostic markers and new strategies for therapeutic intervention. We perform careful analysis of virus activity in human (tumor) tissue biopsies and paired (exosomes in) body fluids of patients and controls worldwide, as well as in defined cell and mouse models. Clinical trials to validate our findings are being pursued. The work is conducted via multiple (inter)national collaborations with a clear motivation to transfer knowledge and skills to developing countries.

Reina Mebius
Molecular Cell Biology and Immunology, location VUmc

My research focuses on the micro-environmental control of immune reactions, ranging from studies of lymph node development, mucosal immune responses, to immune reactions within auto-immune and cancer patients. We are interested to understand how stromal cells operate as active interacting partners of immune cells and affect immune responses.

Martijn Nolte
Molecular & Cellular Hemostasis, location Sanquin
Michael Nurmohamed  
Rheumatology, location VUmc  

My current work focuses on mechanistic studies to unravel underlying pathophysiological mechanisms that explain the increased occurrence of cardiovascular events in patients with inflammatory arthritis. Alongside this road there is a special interest in methotrexate (MTX), not only for its favourable cardiovascular effects but also optimizing MTX therapy by assessing MTX levels in blood cells ultimately aiming at personalized medicine for the anchor drug in rheumatology.

Michiel Pegtel  
Pathology, location VUmc  

Michiel Pegtel is associate professor at the department of Pathology and is PI the Exosomes Research group (ERG) a multi-disciplinary laboratory focusing on cancer biology, cancer immunology and autoimmunity. The research lines are connected by the relatively recent realization that most cells secrete small vesicles called ‘exosomes’ that have a key role in cell-cell communication steering many biological processes that can be exploited for clinical purposes. The group focuses on liquid biopsy research in patients with cancer and using omics approaches and drug target discovery with genetic and small molecule screens, live-imaging and mouse models.

Ronald de Ree  
Experimental Immunology/Otordinaloryngology, location  

My work focuses on answering the questions which endogenous properties of proteins make them into allergens and which exogenous factors (environmental/dietary/microbial) contribute to the induction of IgE mediated allergy. A second mayor field of attention is to apply the acquired knowledge on allergen molecules and exogenous factors to improve allergy diagnostics and allergen-specific immunotherapy.

Menno de Rie  
Dermatology, location AMC  

My research has a strong translational character and is focused on immunodermatology and pigmentcellresearch. For instance in immunodermatology we are studying tissue resident memory cells in psoriasis in order to understand the chronic nature of psoriasis and develop better treatments. In pigmentcellresearch we are developing clinical tools to better quantify disease severity and on the other hand are we developing transplantation and laser techniques to treat vitiligo.
**Joris Roelofs**  
Pathology, location AMC

Coagulation and the kidney. My group studies reciprocal interactions between coagulation/hemostasis and mechanisms of renal disease. Currently, I focus on 2 distinct but complementary research lines: 1. The role of the Protein C and Protein S anticoagulant systems in acute kidney injury and renal transplant rejection; 2. The role of blood platelets in acute and chronic renal disease, with an emphasis on diabetic nephropathy.

**Thomas Rustemeyer**  
Dermatology and Allergology, location AMC

The research focuses on immunological mechanisms in inflammatory skin diseases. Among these are different types of contact dermatitis the major research areas. Hereto, involved T cell populations and inflammatory mediator profiles in blood and skin are analysed. Predictive parameters for risk profiling are identified by combing these findings with epidemiological data. This knowledge is also applied to occupational skin diseases based on inflammatory mechanisms of caused by UV-light exposure.

**Arnold Spek**  
Center for Experimental and Molecular Medicine (CEMM), location AMC

My current work focuses on the biology underlying the dismal prognosis of pancreatic cancer and idiopathic pulmonary fibrosis. Both disorders are characterized by excessive proliferation, immune cell infiltration and extracellular matrix production. We aim to understand the cross-talk between the different cellular components in driving disease progression in order to identify alternative targets to combat disease progression.

**Hergen Spits**  
EXIM, location AMC

The goal of my research is to get an understanding of the functions of human Innate Lymphoid Cells. The focus is on development of these cells and on their roles in cancer and in auto immune/inflammatory diseases of the lung, skin and intestine.
Phyllis Spuls  
Dermatology, location AMC

My research focuses on evidence based dermatology of inflammatory dermatoses (e.g. psoriasis and atopic eczema). Besides improving topical, photo- and (off-label) systemic therapy by randomized controlled trials and prospective observational registries, we participate in therapeutic drug monitoring of biologics, investigate biomarkers for response, summarize evidence in systematic reviews, participate in guideline, core outcome set and shared decision making tool development to improve clinical care.

Sander Tas  
Rheumatology & Clinical Immunology; Experimental Immunology, location AMC

Dr. Tas is a translational scientist with experience in both basic and clinical translational research. He is one of the AMC Principal Investigators focusing on the molecular regulation of inflammation, in particular the role of NF-κB signaling and other pathways in immune-mediated inflammatory diseases. Furthermore, he is program leader “inflammatory diseases” of the Amsterdam Infection & Immunity Institute (AMC/VUmc). Dr. Tas also initiated a clinical research project (“RUBRIC”) that aims to ensure optimal (safety, efficacy, medical knowledge, cost effectiveness) medical use of biologics in the treatment of rare, severe and refractory immune-mediated inflammatory diseases.

Anje te Velde  
Tytgat Institute of Liver and Intestinal Research, location AMC

My research focuses on the immunological aspects of inflammatory bowel diseases (IBD) using experimental models and human material. The understanding of the pathophysiological mechanisms involves research of epigenetic alterations, environmental factors and a dysregulated mucosal immune response to the gut microbiota. In a more holistic project on intestinal health I coordinate a patient-centered project: MyOwnResearch (https://www.youtube.com/watch?v=DqWSFpxFtB).

Gestur Vidarsson  
Experimental Immunohematology, location Sanquin

Or work focuses on humoral immune responses emphasizing on antibody biology in humans. This includes work on Fc-receptors, complement and antibody glycosylation where study its significance in human immune responses. To do this we use antigen-specific IgG glycosylation analysis and glycoengineering, in conjunction single cell B cell techniques. We are also actively putting these tools for diagnostic purposes in antibody testing in pregnancy and for therapeutic purposes.
Menno de Winther
Medical Biochemistry, location AMC
My major line of research focuses on the regulation of monocytes and macrophages in the context of cardiovascular disease, particularly atherosclerosis. We use a combination of mouse models, human cell systems and patient materials to define regulatory inflammatory pathways in disease to delineate approaches to modify disease development. A specific focus is on metabolic and epigenetic processes and on how histone modifying enzymes control cellular function.

Ronald van Vollenhoven
Rheumatology and Clinical Immunology, location AMC, VUmc
My research focuses on the development and evaluation of innovative therapies for autoimmune rheumatological diseases, especially rheumatoid arthritis (RA) and systemic lupus erythematosus (SLE). Working in international consortia, I have ongoing responsibilities for both regulatory and investigator-initiated clinical trials with biologicals, targeted synthetic agents, and other novel treatments. I also lead international efforts to develop optimal treatment strategies such as ‘treating-to-target’.

Carlie de Vries
Medical Biochemistry, location AMC
The research of my group focuses on the role of nuclear receptor Nur77 and its co-regulator FHL2 in chronic inflammatory diseases such as atherosclerosis and diet-induced type 2 diabetes. We apply genomics and metabolomics to determine the exact mechanism of action of these proteins and to identify strategies modulating their activity. In macrophages Nur77 has an anti-inflammatory function in the resolution phase designating it a potential target for intervention in chronic inflammation.

Alexandre Voskuyl
Amsterdam Rheumatology and immunology Center, location VUmc
My research combines clinical and translational research on systemic autoimmune diseases (SLE, systemic sclerosis, vasculitis). Clinical research is focussed on remission and/or comorbidities, and the search for biomarkers (e.g. before and after treatment). Currently we are investigating the role of exosomes in SLE, in particular in lupus nephritis. The potential role of Positron Emission Tomography in the presence of interstitial lung disease in systemic sclerosis, and its role for the presence of large vessel vasculitis is investigated.
Job B.M. van Woensel
Pediatric Intensive Care Unit, location AMC

My current work consists of two main research lines. First clinical and translational studies in critically ill children with severe respiratory insufficiency. We aim at the role of neutrophil extracellular traps in children with severe viral lower respiratory tract infections. Second we investigate the long-term effects of severe respiratory insufficiency in children including this who needed mechanical ventilation.

Coert Zuurbier
Anesthesiologie, location AMC

Our research is directed at the understanding of crucial cellular mechanisms underlying death/survival programs of the heart during ischemia-reperfusion conditions (PTCI, CABG, shock), and at the development of treatments to push the cell death/survival programs into the direction of survival. Therapeutic options have a keen eye towards translation to the clinic, and are specifically directed at the mitochondria and its binding partner hexokinase, and inflammatory pathways driven by innate immunity.
Program Infectious diseases

Diederik van de Beek
Neurology, location AMC

We perform clinical translational research in the field of neurological infections. We perform prospective clinical cohort studies, randomized clinical trials, and experimental research, combining our clinical expertise with groundbreaking, translational approaches using clinical data, human samples, next generation sequencing, in vitro techniques, and mouse models in the areas of bacterial meningitis & encephalitis, infections after stroke, and septic encephalopathy.

Frederike Bemelman
Internal Medicine, nephrology and Clinical Immunology, location AMC

My research focusses on infection and immunity in renal transplant patients. In the Cellimin immune biomarkers are used to stratify patients before transplantation for their immunological risk and to personalize their Immunosuppressive maintenance therapy. Furthermore, immunity against urinary tract infections, Epstein Barr Virus, BK virus and CMV are investigated. Several vaccination trials have been done, assessing the effects of the various immunosuppresser regimens. Finally and because of our extensive multi ethnic patient population, specific riskfactors for developing renal disease in the different racial background are researched.

Ben Berkhout
Medical Microbiology, location AMC

My research focuses on molecular dissection of HIV replication mechanisms. This includes pioneering studies on the identity and size of the HIV reservoir that frustrates attempts to cure this virus infection. Based on the available molecular virology expertise, we have initiated several novel antiviral strategies, e.g. towards a gene therapy based on RNA interference and a cure using optimized CRISPR-Cas reagents. We study virus replication in cell culture, in humanized mouse models and using patient-derived blood samples.

Wilbert Bitter
Medical Microbiology and Infection control, location VUMc

When I started my own group at the VUMc in 2001 I decided to work (mainly) on tuberculosis. To accelerate this research we focus predominantly on fish tuberculosis and use the zebrafish embryo infection model. We use this model to study host-pathogen interaction and bacterial cell envelope processes. Recently we also started to use our knowledge on these systems for antibiotic development and testing. We are best known for our work on mycobacterial protein secretion systems, including the identification and structural analysis of the ESX-5 membrane complex.
**Michael Boele van Hensbroek**  
Paediatrics and Global Health, location AMC  

Global Child Health and paediatric infectious diseases are my areas of interest often taking a syndromic approach (e.g., anaemia, coma & convulsions, fever). In addition, an important research project aims to study the incidence, and aetiology of Nodding Syndrome in South Sudanese children. Finally, I am co-principal investigator of a large program in Kwara state, Nigeria evaluating the impact of a health insurance system on maternal and child health.

**Matthijs Brouwer**  
Neurology, location AMC  

My research focuses on neurological infections including bacterial meningitis, encephalitis and neuroborreliosis, with a specific focus on new diagnostic methods. Furthermore, my research includes autoimmune disease of the nervous system, such as neurosarcoidosis. Within these fields, I perform translational research projects including patients cohorts, in vitro and in vivo validation of hypotheses derived from the patients data and clinical trials.

**Frank Cobelens**  
Global Health, location AMC  

Multidisciplinary approaches to problems at the interface of biomedical aspects of infectious diseases, their socioeconomic context and control policy, combining classical epidemiology with operational research and cost-effectiveness and disease modeling. Recent work focuses on tuberculosis and includes TB/HIV coinfection, anti-tuberculosis drug resistance, TB diagnostics and evaluation of novel interventions for TB control.

**Atze Das**  
Medical Microbiology, location AMC  

We study the molecular biology of HIV and develop novel anti-viral strategies. Basic research focuses on the structure and function of the HIV genome (e.g., role of viral RNA elements and proteins in replication). Translational and applied research focuses on novel strategies to inhibit HIV replication (e.g., based on CRISPR/Cas9), development of a conditionally replicating HIV as a safe live-attenuated vaccine, and the development of new gene expression systems (Tet-On systems).
The Right Data, Right Now research program is embedded in Amsterdam Medical Data Science. Its ultimate goal is to use the large amounts of routinely gathered electronic patient data for the benefit of future patients. Currently our main focus is on the Right Dose, Right Now projects, which brings individual antibiotic dosing to the bedside using big data. In addition, we continue to develop a wide variety of machine learning models in the context of intensive care medicine.

My research focuses on inflammation induced by antibodies and antibody-receptors, the Fc receptors. We are studying antibody-induced inflammation in the context of various diseases, including bacterial infections, rheumatological diseases, and inflammatory bowel disease. Our main goal is to unravel the molecular mechanisms of antibody-induced inflammation, with particular focus on cell signaling and metabolic reprogramming.

My research focuses on the role of protein ubiquitination in disease. Of special interest is the E3 ubiquitin ligase UBE3A that is deficient or mutated in patients with Angelman Syndrome (AS), a severe intellectual disability syndrome. By combining biochemical, molecular biological and cell biological techniques we seek to get insight in the molecular and cellular basis of this intellectual disability syndrome.

My research focuses on the role of protein ubiquitination in disease. Of special interest is the E3 ubiquitin ligase UBE3A that is deficient or mutated in patients with Angelman Syndrome (AS), a severe intellectual disability syndrome. By combining biochemical, molecular biological and cell biological techniques we seek to get insight in the molecular and cellular basis of this intellectual disability syndrome.
Arie van der Ende  
*Medical Microbiology, location AMC*

We study the molecular epidemiology and population structure of the main pathogens causing bacterial meningitis and of Chlamydia species causing respiratory infections and sexual transmitted disease. In addition, we study the pathogenesis of meningococcal invasive disease. We are particularly interested in the interaction between meningococci and the host innate immune response and in the meningococcal stress response and its regulation by small RNAs (ribo-regulation).

Suzanne Geerling  
*Intern Med, infect dis, location AMC*

Besides an infectious disease specialist, I am also program director of the residents internal medicine, projectleader of several projects concerning urinary tract infections, HIV-infection and quality of care and member of different working groups for the development of (inter)national guidelines for the treatment of urinary tract infections.

Theo Geijtenbeek  
*Infectious Diseases, location AMC*

My research focuses on the function of C-type lectins on dendritic cell subsets in adaptive immunity and infection in humans. We are studying the role of C-type lectins such as DC-SIGN, Langerin and dectin-1 in infections with viruses (HIV-1, measles virus), mycobacteria and fungi. Furthermore, we are investigating the function of these pattern recognition receptors in the induction of aberrant adaptive immunity in diseases such as allergy and asthma.

Armand R.J. Girbes  
*Intensive Care Medicine, location VUmc*

The research focuses on sepsis, sepsis-like syndromes and consequences of mostly sepsis related critically-ill patients. It also includes dosing of antibiotics and pharmacology (PK/PD of antibiotics).
Lia van der Hoek  
Medical Microbiology, Laboratory of Experimental Virology, location AMC

There are patients with an unexplained disease: a physician suspects a virus infection, yet all regular diagnostic tests remain negative. These mystery patients are the focus of my research. I investigate whether these patients are infected by an unknown or unexpected virus, or have an altered virome. VIDISCA-NGS, a library preparation technique combined with nextgen sequencing developed in my group, can measure local viromes (the total of commensal and pathogenic viruses in a body compartment), and discover novel viruses.

Jeroen Hermanides  
Anesthesiology, location AMC

I focus on the consequences and treatment of diabetes and stress hyperglycaemia in the perioperative period, neurometabolism/cognitive dysfunction and perioperative allergy/anaphylaxis.

Klaas van Gisbergen  
Hematopoiesis, location Sanquin

The recent realization that many memory T-cells within barrier tissues permanently reside at these sites has radically changed fundamental concepts of T cell memory. We hypothesize that tissue-resident memory T cells (Trm) are better adapted than circulating memory cells to induce custom-made responses within the target tissue. Currently, a lack of knowledge on the potential of Trm hampers their use in immune therapies. We aim to improve fundamental insight into Trm differentiation to enable the future application of these cells in immune therapies against infection and cancer.

Martin Grobusch  
Centrer fo Tropical Diseases and Travel Medicine, Department of Infectious Diseases, location AMC.

My and my team’s research activities evolve around tropical medicine an global health, general infectious diseases and travel medicine topics as they involve from clinical practice. At the Tropencentrum, imported disease epidemiology and vaccine immunology are in the focus; the main research interests pursued in sub-Saharan Africa and beyond span pathophysiology, epidemiology, diagnosis, treatment and treatment tool development to control optimisation of malaria, HIV, tuberculosis and co-infections and viral haemorrhagic fevers.

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Frank van Leth
Department of Global Health, location AMC

The central theme of my research is the optimise and extent the use of trans-disciplinary research methodologies to address pertinent global health questions. This includes novel approaches to measure disease occurrence, to estimate efficacy of interventions, and to measure impact at the level of the health system or the general population.

My work is not limited to a single disease area, but my experience makes that projects are often within the field of tuberculosis and/or HIV, as well as in the field of antimicrobial resistance.

Neeltje Kootstra
Experimental Immunology, location AMC

My research focuses on the host-virus interaction and immune responses in viral infections. We have identified several virus dependency (factors supporting viral replication) and restriction factors (factors inhibiting viral replication) and study their role in HIV and HBV replication. Furthermore, we study molecular mechanisms involved in HIV-specific T cell (dys)function during chronic infection and immune control. We also participate in several cohort studies on HIV infection and perform immunological studies focusing on immune activation and immune (dys)function.

Antoine van Kampen
Clinical Epidemiology, Biostatistics and Bioinformatics, location AMC

My research focuses on the development of computational models of the germinal center in the context of plasma cell differentiation, rheumatoid arthritis, B-cell lymphoma, and HIV-1 vaccines. Our current interests are multiscale models that integrate molecular networks with cellular models, modelling of ACPA glycosylation, and modelling kinetic maturation. Furthermore, we are involved in the analysis of T/B-cell repertoire sequencing data.

Joppe W.R. Hovius
Department of Internal Medicine, Section of Infectious Diseases & Center for Experimental and Molecular Medicine & Amsterdam Multidisciplinary Lyme borreliosis Center, location AMC.

My research focuses on ticks & tick-borne diseases (TBDs). At the Center for Experimental and Molecular Medicine (CEMM) we study tick-host-pathogen interactions and aim to improve the basic understanding, prevention, diagnosis and treatment of TBDs. In addition, at the Amsterdam Multidisciplinary Lyme borreliosis Center (AMLC) we offer specialized care for patients suspected of TBDs and we are the coordinator of multiple clinical studies investigating the prevalence, pathogenesis and diagnosis of established and emerging TBDs.
Rene van Lier
Adaptive Immunity Lab, location Sanquin

The lab has a longstanding interest in unraveling the processes that drive the differentiation, function and maintenance of virus-specific T cells. The general approach is the unbiased identification of (novel) regulatory molecules in humans followed by translation of the key findings into in vivo models in unique genetically modified animals. A successful direction of the lab in recent years has been to look beyond blood and to study T cells in the tissue environment. In this latter context, the recent elucidation of the role of the transcriptional repressors Hobit/Blimp-1 and of the NOTCH signalling pathway in the maintenance of tissue resident T-cells is a direct result of our integrative approach that bridges human and mouse immunology.

Rene Lutter
Respiratory Medicine and Experimental Immunology, location AMC

Address the mechanisms underlying chronic (and corticosteroid-unresponsive) inflammation and acute worsening of asthma and COPD, combining translational studies (rhinovirus and allergen-challenges in humans) and mouse models. Focus is on translational control and mitochondrial dysfunction in bronchial epithelium, and anti-viral activities by eosinophils and alveolar macrophages. Interest in tuberculosis focuses on the impact of granulomatous indoleamine 2,3-dioxygenase on M. tuberculosis and infected macrophages.

Jaap M. Middeldorp
Pathology, location VUMc

My work aims at elucidation of the molecular pathogenesis of various Epstein-Barr virus (EBV) and Cytomegalovirus (CMV) linked acute, chronic (autoimmune) and malignant diseases (lymphoma and carcinoma), and defining novel (early) diagnostic markers and new strategies for therapeutic intervention. We perform careful analysis of virus activity in human (tumor) tissue biopsies and paired (exosomes in) body fluids of patients and controls worldwide, as well as in defined cell and mouse models. Clinical trials to validate our findings are being pursued. The work is conducted via multiple (inter)national collaborations with a clear motivation to transfer knowledge and skills to developing countries.

Servaas A. Morré
Medical Microbiology and Infection Prevention, location VUMc

Professor Servaas A. Morré (VUMc&MUMC) is working on Chlamydia trachomatis infections for almost 25 years, with a central focus on female infertility & women’s reproductive health. His second research line is on Bacterial Meningitis together with Prof.dr. Marceline Tutu van Furth with a strong focus on prediction of late complications of this infection. He is a serial entrepreneur in the field of (infectious) disease diagnostics, human biomarkers and personalised medicine to generate new application in health care systems.
Tom van der Poll
Center of Experimental & Molecular Medicine, location AMC
My current work focuses on sepsis, in particular the pathogenesis, host response biomarkers and immunotherapy. This research combines in-depth observational studies in patients with clinically relevant mouse models using human pathogens.

Dasja Pajkrt
Pediatric Infectious Diseases, location AMC
The topic of my research is viral pediatric infections with the focus on hiv and picornavirus and hiv infections in children. Within my two research groups, both basal and clinical research questions are being studied. Within the pediatric hiv field, my research team studies long term neurological, neurocognitive and psychosocial outcomes of perinatally hiv infected children growing into adulthood and determine mechanisms underlying potential deficits. Within the picornavirus research group, the pathogenesis of picornavirus infections in children is studied in an epidemiological as well as fundamental manner using human stem cell derived organoids. Novel preventive and therapeutic interventions are being tested using these newly developed 3D human models for infection.

Martijn Nolte
Molecular & Cellular Hemostasis, location Sanquin
My research focuses on T cell functionality, in particular in the bone marrow. We examine the migration and localization of the various T cell subsets that are present in the bone marrow, and how these cells influence blood cell formation. We do this in the steady state, and compare this to different types of infections. These studies address on one hand how the bone marrow is able to generate the right type of immune cells upon infection, but it also sheds light on how (chronic) inflammation can drive anemia or even bone marrow failure.

Michiel Pegtel
Pathology, location VUmc
Michiel Pegtel is associate professor at the department of Pathology and is PI the Exosomes Research group (ERG) a multi-disciplinary laboratory focusing on cancer biology, cancer immunology and autoimmunity. The research lines are connected by the relatively recent realization that most cells secrete small vesicles called ‘exosomes’ that have a key role in cell-cell communication steering many biological processes that can be exploited for clinical purposes. The group focuses on liquid biopsy research in patients with cancer and using omics approaches and drug target discovery with genetic and small molecule screens, live-imaging and mouse models.

Tom van der Poll
Center of Experimental & Molecular Medicine, location AMC
My current work focuses on sepsis, in particular the pathogenesis, host response biomarkers and immunotherapy. This research combines in-depth observational studies in patients with clinically relevant mouse models using human pathogens.
Maria Prins
Dept of Infectious Diseases, Amsterdam UMC, AMC and Dept of Infectious Diseases Research and Prevention, Public Health Service of Amsterdam, location AMC, GGD

Our research focuses on the epidemiology and prevention of sexually transmitted and bloodborne infections in key populations. We are using data from several cohort studies including the long-standing Amsterdam Cohort Studies on HIV, the MOSAIC study on acute HCV, and the Amsterdam PrEP demonstration project. I am also leading the Infectious Diseases network of the Academic Collaborative for Public Health, the Sarphati Initiative, which translates research findings into policy and practice, and vice versa.

Peter Reiss
Global Health, location AMC

My group's research is focused on studying HIV infection across the prevention and care cascade, in the era of effective combination antiviral treatment & prevention. At one end of the spectrum we aim to reduce HIV incidence in Amsterdam by innovative means of prevention and early diagnosis and treatment (https://hteam.nl/). At the other end we conduct translational research to unravel the mechanisms underlying the increased risk of comorbidity in people living with HIV as they age (https://agehiv.nl).

Tobias F. Rinke de Wit
Global Health, location AMC

My research is always in the context of implementation of innovations in healthcare in Africa. In my position as Director Research of PharmAccess Group and Joep Lange Institute, I oversee various multi-disciplinary operational research projects. There are in the areas of healthcare quality and healthcare financing and emphasize the application of mobile-health technologies. In particular my research concentrates on so called ‘connected diagnostics’, a digital mobile healthcare approach that uses point-of-care diagnostic tests to direct conditional payments to healthcare providers and patients when a pertinent medical condition has been diagnosed.

Rogier Sanders
Medical Microbiology, location AMC

My basic and translational research focuses on the rational design of antiviral vaccines, in particular against HIV-1 and HCV. In particular, we aim to induce broadly neutralizing antibodies by presenting native-like envelope proteins to the immune system.
Marceline Tutu van Furth
Pediatric Infectious Diseases and Immunology, location AMC, VUmc

My current research focuses on central nervous system infections from bench to bedside. In South-Africa the main topic of research is tuberculous meningitis (pathophysiology, clinical studies, metabolomics, proteomics). In the Netherlands the main topic is bacterial and viral meningitis (follow-up, clinical studies). Some other studies are conducted around HIV.

Paul Savelkoul
Medical Microbiology & Infection Control, location VUmc

Research focus: Bloodstream infection / Microbiome analysis / Antibiotic resistance / Mycobacteria diagnostics / Typing of strains for infection control

Janke Schinkel
Medical Microbiology, location AMC

As a MD, clinical virologist, my research focuses on bottlenecks for elimination of hepatitis C virus (HCV) infection. To guide vaccine design, I study the role of antibodies in immune protection. Furthermore, I use viral sequencing to map (inter)national HCV transmission networks among men who have sex with men (MSM) to prioritize prevention strategies. I also developed an home-based HCV testing tool to facilitate treatment as prevention in the MSM population. Finally, I am an expert in HCV resistance to 'direct acting antivirals'.

Hergen Spits
EXIM, location AMC

The goal of my research is to get an understanding of the functions of human Innate Lymphoid Cells. The focus is on development of these cells and on their roles in cancer and in auto immune/inflammatory diseases of the lung, skin and intestine.

Marceline Tutu van Furth
Pediatric Infectious Diseases and Immunology, location AMC, VUmc

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Henry de Vries
STI outpatient clinic Public Health Service Amsterdam and department of dermatology Amsterdam UMC, location AMC.

My research involves clinical management of sexually transmitted infections such as lymphogranuloma venereum (LGV), hepatitis C (HCV) and HPV-related anal cancer precursor lesions, three emerging STD's that are common among HIV positive gay men. I also work on the epidemiology, transmission networks and treatment of antimicrobial multidrug-resistant gonorrhoea and chlamydia trachomatis.

Marc van der Valk
division of infectious diseases, location AMC

My research focuses on improving the understanding and management of co-morbidity and co-infection in people living with HIV with a special interest in viral hepatitis. I am a senior co-investigator of the AGEhIV cohort study (www.agehiv.nl) and co-initiator of the MC FREE (Amsterdam MSM HCV free; www.mcfree.nl) consortium.

Christina Vandenbroucke-Grauls
Medical Microbiology and Infection Control, location VUmc

My research has two focus points. 1. Host-pathogen interaction, in particular infections with Streptococcus pneumoniae, and infections with Clostridium difficile; 2. identification of risk factors and prevention of infections with multidrug-resistant pathogens.

Kees van ’t Veer
CEMM, location AMC

My research focuses on the regulation and involvement of Toll-like receptor responses during bacterial infection and sepsis. In particular we are studying the role of IRAK-M as negative regulator in human monocytes and lung epithelial cells, and aim to elucidate the structure function of human IRAK-M. Furthermore, we are investigating the regulation and involvement of blood coagulation during bacterial infections.

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Job BM van Woensel
Pediatric Intensive Care Unit, location AMC

My current work consists of two main research lines. First clinical and translational studies in critically ill children with severe respiratory insufficiency. We aim at the role of neutrophil extracellular traps in children with severe viral lower respiratory tract infections. Second we investigate the long-term effects of severe respiratory insufficiency in children including this who needed mechanical ventilation.

Katja Wolthers
Dept of Medical Microbiology, Laboratory of Clinical Virology, location AMC

My research focuses on human picornaviruses (enteroviruses and parechoviruses). With my clinical background, I like to combine clinical studies on the importance of these viruses for patients with epidemiological analyses on prevalence and circulation pattern, and with in-depth research on the pathogenesis of these viruses. For that I use human 3D cell culture models or 'organoids' to study entry in the human body and determine viral and host factors related to infection and severity of disease.

Joost Wiersinga
Division of Infectious Diseases and Center for Experimental Molecular Medicine (CEMM), location AMC.

My current work combines basic research to a translational setting aimed to improve the management of patients with sepsis. The focus is on innate immune responses in pneumonia and sepsis, caused by Streptococcus pneumonia, Klebsiella pneumonia, and Salmonella typhi. Special interests include optimization of antibiotic therapy (including guideline development), melioidosis and the role of the gut microbiota during severe bacterial infections (http://microbiotacenter.nl/).
Program Cancer Immunology

Derk Amsen
Hematopoiesis, location Sanquin.

We study the signals and their receptors, as well as the signal transduction pathways and transcriptional networks that control the differentiation, lineage stability and effector functions of conventional and regulatory T cells. We seek to acquire fundamental insights and use these to improve adoptive T cell therapies against cancer and inflammatory diseases.

Timo K. van den Berg
Department of Blood Cell Research, location Sanquin.

My research focuses on the role of innate immune cells in immunotherapy against cancer. In particular, we aim to identify and exploit relevant immune checkpoints. For example, we have previously discovered that the CD47-SIRPalpha interaction functions as an innate immune checkpoint. Disruption of CD47-SIRPalpha enhances the clinical efficacy of cancer therapeutic antibodies, such as e.g. trastuzumab, etuximab and rituximab. Our group is actively involved in a drug development program targeting the CD47-SIRPalpha axis.

Adriaan Bins
Medische oncologie, location AMC.

My research focusses on T-cell induction in prophylactic and curative oncologic treatment settings, targeting tumour specific neoantigens. Among other activities, this involves the search for neo-antigens in mismatch repair deficient colorectal cancer patients. In addition my research group explores novel ways to combine ICB treatment with radiotherapy, in the context of investigator initiated a clinical trials.

Elisabeth Bloemena
Pathology, location VUmc.

My research focuses on head and neck cancer and in particular potential malignant lesions of the oral mucosa. We try to establish an algorithm that can predict the chance of malignant transformation in people with oral leukoplakia.
Bianca Blom  
Experimental Immunology, location AMC

Allogeneic hematopoietic stem cell transplantation (HSCT) is an important modality in the treatment of hematologic malignancies. Research in the Blom/Hazenberg Lab focuses on allo-immune responses directed against the tumor (potentially curative ‘graft vs leukemia’ responses) and on allo-immune responses directed against healthy tissues of the host that cause graft vs host disease, a common complication of allogeneic HSCT with high morbidity and mortality.

Max Dahele  
Radiation Oncology, location VUmc

My main focus has been on translational technology research (collaborator Wilko Verbakel) working on improvements to radiotherapy treatment (planning, imaging, proton therapy, and automation, including artificial intelligence). I have additional collaborations, including with colleagues in thoracic surgery (Chris Dickhoff) working on combined modality therapy and salvage therapy, and recently in radiobiology (Peter Sminia) and cancer pharmacology (Elisa Giovannetti).

Niels van de Donk  
Hematology, location VUmc

Niels van de Donk’s special interest is the treatment of patients with multiple myeloma and he is involved in translational research towards finding new targets for therapy with a focus on immune therapy. He is also secretary of the HOVON multiple myeloma working party, and member of the IMWG (International Myeloma Working Group), EHA, and ASH. He is serving on the EHA Scientific Program Committee since 2018.

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Marjolein van Egmond  
Molecular Cell Biology & Immunology/ Surgery, location VUmc

My research addresses the activation of myeloid effector cells by antibodies - especially focusing on immunoglobulin A - in health and disease. We investigate the contribution of auto-antibodies in autoimmune diseases. Furthermore, we develop novel antibody-based therapies to target cancer with special attention to the peri-operative setting.
Klaas van Gisbergen  
Hematopoiesis, location Sanquin

The recent realization that many memory T-cells within barrier tissues permanently reside at these sites has radically changed fundamental concepts of T cell memory. We hypothesize that tissue-resident memory T cells (Trm) are better adapted than circulating memory cells to induce custom-made responses within the target tissue. Currently, a lack of knowledge on the potential of Trm hampers their use in immune therapies. We aim to improve fundamental insight into Trm differentiation to enable the future application of these cells in immune therapies against infection and cancer.

Eric Eldering  
Exerperimental Immunology, location AMC.

My group studies apoptosis regulation in normal and pathological immune cells. The research lines comprise fundamental and translational aspects divided over two themes: hemato-oncology on Chronic Lymphocytic Leukemia and other B cell malignancies, and hemato-immunology focusing on interaction between the immune system and malignant cells, including cancer immunometabolism.

Juan J. Garcia Vallejo  
Molecular Cell Biology & Immunology, location VUMc.

The emerging field of Cytomics is enabling a systems level understanding of cell heterogeneity and functional specialization, which is particularly relevant for immune-mediated diseases. My group focuses in the development and implementation of analytical and computational methods for the identification of cellular biomarkers in cancer and, ultimately, contribute to identifying effective immunotherapy cellular targets. We currently focus on glioblastoma and pancreatic ductal adenocarcinoma, two cancers with dismal prognosis and where preliminary results indicate that immunotherapy may be a promising approach.

Theo Geijtenbeek  
Infectious Diseases, location AMC.

My research focuses on the function of C-type lectins on dendritic cell subsets in adaptive immunity and infection in humans. We are studying the role of C-type lectins such as DC-SIGN, Langerin and dectin-1 in infections with viruses (HIV-1, measles virus), mycobacteria and fungi. Furthermore, we are investigating the function of these pattern recognition receptors in the induction of aberrant adaptive immunity in diseases such as allergy and asthma.

Klaas van Gisbergen  
Hematopoiesis, location Sanquin

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Arjan W. Griffioen  
Medical Oncology, location VUmc

My current research is aimed at the development of a cancer vaccine directed at the tumor vasculature. This work involves the study of the relationship between the immune system and the process of angiogenesis, as well as the investigation of the newly developed vaccines in combination with checkpoint inhibition, chemo- and targeted therapies. Melanoma, breast carcinoma and glioblastoma are the currently investigated indications.

Richard Groen  
Hematology, location VUmc

My research focuses on the investigation of the bidirectional interaction of tumor cells and the bone marrow (BM) microenvironment. In particular, we study the mechanisms through which the BM microenvironment can be molded by tumor cells, and the subsequent influence on tumor progression and therapy resistance, with an ultimate goal to inform the design of novel pharmacological and cellular therapies targeting these malignancies.

Joke den Haan  
Molecular Cell Biology and Immunology, location VUmc

The den Haan lab studies the functions of different types of dendritic cells and macrophages in the immune system and specifically their capacity to cross-present antigens and to induce T and B cell responses. Using antibody-mediated and liposomal antigen targeting to CD169+ macrophages we have established an important collaboration between CD169+ macrophages and cDC1 in the activation of CD8+ T cells. Our aim is to exploit this collaboration for the development of anti-cancer vaccines.

Mette D. Hazenberg  
Hematology, location AMC, Sanquin

Allogeneic hematopoietic stem cell transplantation (HSCT) is an important modality in the treatment of hematologic malignancies. Research in the Blom/Hazenberg Lab focuses on allo-immune responses directed against the tumor (potentially curative ‘graft vs leukemia’ responses) and on allo-immune responses directed against healthy tissues of the host that cause graft vs host disease, a common complication of allogeneic HSCT with high morbidity and mortality.
Harry Hendrikse
Radiology & Nuclear Medicine, Clinical Pharmacology & Pharmacy, location VUmc

My research focuses on translational studies aiming drug development and drug targeting of radiolabeled clinically used drugs in oncology. We measure radiolabeled drug kinetics and response using imaging tools, including positron emission tomography (PET). By PET imaging we are enabled to predict efficacy of drug treatment in cancer patients. PET provides a means of predicting therapeutic response in individual patients prior to actual therapy and, as such, is an important step forwards towards precision medicine.

Markus W Hollmann
Anesthesiology & L.E.I.C.A, location AMC

My research focuses on the link between inflammation and organ protection. We study cardio- and lung protective strategies and their underlying mechanisms in a translational approach. Furthermore, in collaboration with the NKI we look at anesthesia and tumor biology, in particular immunosuppressive effects of opioids and their effect on cancer recurrence.

Otto S Hoekstra
Radiology & Nuclear Medicine, location VUmc

My research concerns technical and clinical validation of (new) radiopharmaceuticals, in oncology and rheumatology. It focuses on quantitative positron emission tomography (PET) in a broad spectrum of diseases, and on the implementation of the results in daily clinical practice.

Gerrit Jansen
Rheumatology, location VUmc

My research focuses on unraveling molecular mechanisms of drug resistance and designed strategies to overcome drug resistance in the field of autoimmune diseases, in particular rheumatoid arthritis. This work concentrates on classical disease modifying anti-rheumatic drugs (DMARDs) as well as new generations of small molecule experimental drugs with novel mechanisms of action.
Jekaterina Jordanova  
Gynaecology, location AMC/VUmc

My group works on the etiological, genetic and immunological background of various virally induced cancer types, such as vulvar-, cervical, head-and-neck and penile cancer. Currently, my main interest is on multiplex immunohistochemistry/RNAish in archival patient material for determining microenvironment biomarkers for tumor development, metastasis and response to immunotherapy. I am involved in several immunotherapy trials at the CGOA (AmsterdamUMC/NKI).

Antoine van Kampen  
Clinical Epidemiology, Biostatistics and Bioinformatics, location AMC

My research focusses on the development of computational models of the germinal center in the context of plasma cell differentiation, rheumatoid arthritis, B-cell lymphoma, and HIV-1 vaccines. Our current interests are multiscale models that integrate molecular networks with cellular models, modelling of ACPA glycosylation, and modelling kinetic maturation. Furthermore, we are involved in the analysis of T/B-cell repertoire sequencing data.

Gertjan Kaspers  
Pediatric Oncology, location VUmc

My research group is involved in laboratory and clinical studies in leukemias and brain tumors, and in quality-of-life and late effects research. As special topic, we have the so-called Outreach program, a collaboration with several hospitals in developing countries. In that context, clinical and translational research is done as well. As P.I. a total of 24 PhD students are now doing research with me being their promotor, and 27 students sofar successfully completed their PhD.

Arnon Kater  
Hematology, location AMC

We are working towards a better understanding of the cellular and molecular processes underlying the emergence and clinical behavior of B cell malignancies, in particular chronic lymphocytic leukemia (CLL). Many new insights are emerging in this field which rapidly leads towards new treatment modalities. We focus on crosstalk with the microenvironment and on the impact the malignant cells have on the normal immune system. Findings in the lab are further explored in clinical trials and vice versa, question from the clinic are studied in more detail in the lab.
Yvette van Kooyk
Molecular Cell Biology and Immunology, location VUmc

My current work combines basic research to a translational setting aimed to identify glycans as DC targeting strategy to improve anti-tumor as well as glyco immune checkpoints that suppress the tumor microenvironment through targeting inhibitory lectin receptors. Knowledge on immune inhibitory glycans is implemented to treat inflammatory responses such as allergy and auto-immunity.

Rene van Lier
Adaptive Immunity Lab, location Sanquin

The lab has a longstanding interest in unraveling the processes that drive the differentiation, function and maintenance of virus-specific T cells. The general approach is the unbiased identification of (novel) regulatory molecules in humans followed by translation of the key findings into in vivo models in unique genetically modified animals. A successful direction of the lab in recent years has been to look beyond blood and to study T cells in the tissue environment. In this latter context, the recent elucidation of the role of the transcriptional repressors Hobit/Blimp-1 and of the NOTCH signalling pathway in the maintenance of tissue resident T-cells is a direct result of our integrative approach that bridges human and mouse immunology.

Rosalie Luiten
Dermatology, location AMC

My research focuses on clinical, translational and experimental research on pigment cells and pigment disorders in order to understand the pathogenesis and improve treatment of these diseases. We are studying the relation between vitiligo and melanoma, which forms the basis for developing new types of immunotherapy of melanoma and predictive biomarkers for therapy response. Vitiligo research focusses on the autoimmune pathogenesis and immune-suppressive therapies.

Jaap M. Middeldorp
Pathology, location VUmc

My work aims at elucidation of the molecular pathogenesis of various Epstein-Barr virus (EBV) and Cytomegalovirus (CMV) linked acute, chronic (autoimmune) and malignant diseases (lymphoma and carcinoma), and defining novel (early) diagnostic markers and new strategies for therapeutic intervention. We perform careful analysis of virus activity in human (tumor) tissue biopsies and paired (exosomes in) body fluids of patients and controls worldwide, as well as in defined cell and mouse models. Clinical trials to validate our findings are being pursued. The work is conducted via multiple (inter)national collaborations with a clear motivation to transfer knowledge and skills to developing countries.
Suresh Senan  
Radiation Oncology, location VUmc

My research involves study of immunological effects of different forms of radiotherapy and chemo-radiotherapy. Investigator-initiated trials are underway in patients undergoing stereotactic radiotherapy for early-stage lung cancer and oligometastases. We also participate in international trials evaluating immune checkpoint blockade in both non-small cell and small-cell lung cancer.

Michiel Pegtel  
Pathology, location VUmc

Michiel Pegtel is associate professor at the department of Pathology and is PI the Exosomes Research group (ERG) a multidisciplinary laboratory focusing on cancer biology, cancer immunology and autoimmunity. The research lines are connected by the relatively recent realization that most cells secrete small vesicles called ‘exosomes’ that have a key role in cell-cell communication steering many biological processes that can be exploited for clinical purposes. The group focuses on liquid biopsy research in patients with cancer and using omics approaches and drug target discovery with genetic and small molecule screens, live-imaging and mouse models.

Steven T. Pals  
Pathology, location AMC

“Exploring the interactions between malignant B cells and their microenvironment since these represent the Achilles’ heel of these cancers”

My research themes are “B-cell development and neoplasia” and “Cell adhesion and migration in inflammation and cancer”. Mission: i) to advance the insight into the biological processes underlying B cell development and cell migration; ii) to acquire knowledge required to improve the diagnosis and treatment of B cell malignancies and to control inflammation and cancer metastasis.

Tuna Mutis  
Hematology, location VUmc

Research focus: Immunotherapy of Hematological Malignancies.

Suresh Senan  
Radiation Oncology, location VUmc

My research involves study of immunological effects of different forms of radiotherapy and chemo-radiotherapy. Investigator-initiated trials are underway in patients undergoing stereotactic radiotherapy for early-stage lung cancer and oligometastases. We also participate in international trials evaluating immune checkpoint blockade in both non-small cell and small-cell lung cancer.
Arnold Spek  
Center for Experimental and Molecular Medicine (CEMM), location AMC.

My current work focuses on the biology underlying the dismal prognosis of pancreatic cancer and idiopathic pulmonary fibrosis. Both disorders are characterized by excessive proliferation, immune cell infiltration and extracellular matrix production. We aim to understand the cross-talk between the different cellular components in driving disease progression in order to identify alternative targets to combat disease progression.

Hergen Spits  
EXIM, location AMC

The goal of my research is to get an understanding of the functions of human Innate Lymphoid Cells. The focus is on development of these cells and on their roles in cancer and in autoimmune/inflammatory diseases of the lung, skin and intestine.

Victor Thijssen  
Radiation Oncology, location VUmc.

Our research is focused on deciphering the interactions between radiotherapy and the tumor immune microenvironment. The aim is to exploit the cellular responses to fractionated radiotherapy for optimization of combination (immuno)therapies. In addition, we are interested in the dynamic changes of the glycome of vascular cells and immune cells in the tumor microenvironment. In particular, we explore mechanisms that regulate the binding of galectins to the altered glycome. The aim is to learn how tumors use the glycome to crosstalk with the microenvironment and how this can be used to develop novel anti-cancer therapies.

Gestur Vidarsson  
Experimental Immunohematology, location Sanquin

Or work focuses on humoral Immune responses emphasizing on antibody biology in humans. This includes work on Fc-receptors, complement and antibody glycosylation where study its significance in human immune responses. To do this we use antigen-specific IgG glycosylation analysis and glycoengineering, in conjunction single cell B cell techniques. We are also actively putting these tools for diagnostic purposes in antibody testing in pregnancy and for therapeutic purposes.
Monika Wolkers  
Hematopoiesis, Sanquin  
My lab studies how T cell responses against tumors and infections are generated and maintained. We specifically study the role of post-transcriptional gene regulation herein. To tackle this, we use two model systems. Mouse models allow us to study the fundamental aspects of T cell responses. In addition, with our study on tumor-reactive human T cells, we can now translate our findings from model systems to clinically relevant models, and investigate how T cell effector function can be maintained against tumors.

Sandra van Vliet  
Molecular Cell Biology and Immunology, location VUmc  
Cellular glycosylation is a highly dynamic process that alters upon activation, inflammation, and oncogenic transformation. These glycan blue prints are decoded by specific glycan-receptors on immune cells, such as the C-type lectins or the Siglecs. I study how the interaction between lectin receptors and their cancer-associated glycan ligands, including the Tn antigen and the elevated levels of Sialic acids and Lewis antigens, orchestrates immune evasion during cancer progression.

Pieter Wesseling  
Pathology, location VUmc  
My research always concerns teamwork. An important focus of my research is on 1) further elucidation of the molecular underpinnings of especially glial and pediatric tumors of the central nervous system, and 2) translation of this information into clinical practice (improved diagnosis and, whenever possible, identification of targets for innovative therapeutic approaches). Platforms used for this purpose include nowadays methylation profiling, RNA-sequencing, and whole exome sequencing.

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