

Annual report
2006

**Eijkman Graduate School
for
Immunology & Infectious Diseases**

Colophon annual report Eijkman Graduate School 2006

Editors

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Lay out

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PROGRAMME: IMMUNE DISORDERS

Chronic inflammatory pulmonary diseases 66
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**MISSION OF THE EIJKMAN GRADUATE SCHOOL
(2006)**

To train graduate students in the broad field of infection and immunity within a high quality multidisciplinary scientific environment, and to understand, prevent and cure (re)emerging infections and chronic inflammatory diseases.

PREFACE

Although 2006 seemed a normal year in the Eijkman Graduate School for immunology and infectious diseases (EGS), behind the screens, many things have changed. The Utrecht Graduate School of Life Sciences (UGS-LS) is now firmly in place and we, as a part of that greater good, have set up a startling new curriculum. Not only the PhD program but also the master (MSc) program is now an integral part of the EGS. This new educational program is ready for embedding in the new UGS and equipped to meet the demands of new standards at the national and even European level. We are prepared. Aside from those standards, we are convinced that the changes have improved the quality of the MSc and PhD educational program that we now offer.



Furthermore the changes in the educational part of the PhD program will add to the primary aspect of a PhD program; the Science. We are convinced that solid scientific experiments and observations together with philosophical theorems form the basis of a PhD degree. The educational support is the guiding rope that we can offer.

The school is booming: The number of new PhD students is higher than ever before. The scientific output of EGS over the last couple of years was high in quantity but especially in quality, both as measured in impact of publications as well as measured by the number of new grants. This is now reflected in the increase of new students, who in turn will increase the output....and so on.

The yearly Post doc retreat is getting mature. The EGS would like to contribute more to all postdoctoral programs that play a crucial role in the output of the EGS. Next to that, it is my feeling that post docs have become an essential part of the input into the School. Their experience, often from abroad, is crucial in innovation and improvement. We need your involvement to contribute to the position of the postdoctoral fellows.

We do not know exactly what the future of the UGS-LS will mean to us, but independent of that we will continue as EGS to form a solid structure where science can strengthen and expand through collaborations, education, collaborative meetings and seminars and an amenable atmosphere focused on joint research interests in Infection and Immunity.

Prof. Dr. Jos van Strijp, Vice-chairman

Prof. Dr. Jos van Putten, Chairman of the board
Prof. Dr. Frank Miedema, Scientific Director

ORGANIZATION CHART
EIJKMAN GRADUATE SCHOOL FOR IMMUNOLOGY & INFECTIOUS DISEASES

Board Eijkman Graduate School

| | |
|--|-------------------|
| Prof.dr. J.P.M. v. Putten (<i>chairman</i>) | (VET MED) |
| Prof. dr. J.A.G. van Strijp (<i>vice-chairman</i>) | (UMCU) |
| Prof. dr. J.W.J. Bijlsma | (UMCU) |
| Dr. J. Garssen | (FAR) |
| Prof. dr. J.P.M. Tommassen | (BIO) |
| Dr. C. Boog | (NVI) |
| Prof.dr.M.P.G Koopmans | (RIVM) |
| Prof.dr. F. Miedema (<i>scientific director</i>) | (UMCU) |
| Ms. Dr. E.J.G. van Wilsem | Managing Director |

DB

Prof.dr. F. Miedema (*scientific director*)
Ms. Dr. E.J.G. van Wilsem
Ms. J.A.M. van der Hoorn, (*secretary*)

Educational Committee

| | |
|---|--------------------|
| Dr. J.A.G. van Strijp (<i>chairman</i>) | (UMCU) |
| Ms. Dr. G.v.d.Dobbelsteen | (NVI) |
| MS. Dr. K. Denzer | (UMCU, Master I&I) |
| Dr. P.A.J. Hendricks | (FAR) |
| Ms Dr. L. Meygaard | (UMCU) |
| Ms. Dr. F. Hauet | (VET MED) |
| Drs. M.Houben | (UMCU) |
| Ms. Drs J. Bestebroer | (UMCU) |
| Drs. B. Schouten | (FAR) |
| Ms. Drs. L. Wieten | (VET MED) |
| Ms. Drs. L. van Alphen | (VET MED) |
| Ms. Dr. E.J.G. van Wilsem | Managing Director |
| Ms. J.A.M. van der Hoorn | secretary |

FACTS & FIGURES

NUMBER OF PHD STUDENTS ACCORDING TO FINANCIAL SOURCES

(Reference date 31-12-2006)

| | 1* | 2* | 3* | 4* | 5* | Total |
|---|-----------|-----------|-----------|-----------|-----------|------------|
| Faculty of Medicine | 48 | 12 | 9 | 13 | 12 | 94 |
| Faculty of Veterinary Sciences | 6 | 4 | - | 1 | - | 11 |
| Faculty of Pharmacy | 6 | - | 1 | - | - | 7 |
| Faculty of Biology | 1 | 3 | - | - | 2 | 6 |
| Institute for Risk Assessment Sciences | 4 | 1 | - | - | - | 5 |
| Netherlands Vaccine Institute | 1 | - | - | 1 | 2 | 4 |
| National Institute of Public Health and the Environment | - | - | - | 2 | 1 | 3 |
| Fungal Biodiversity Centre (CBS) | - | - | - | - | 1 | 1 |
| Total | 66 | 20 | 10 | 17 | 18 | 131 |

- * 1 = Faculty of VET - PHAR - MED (UMCU)
- 2 = NWO
- 3 = Charity fund
- 4 = Industry - EU ministry - Econ.Aff. or WVS - Contract research
- 5 = Others

NUMBER OF PHD STUDENTS MALE/FEMALE

(reference date 31-12-2006)

| | Female | Male | Total |
|---|-----------|-----------|------------|
| Faculty of Medicine | 59 | 35 | 94 |
| Faculty of Veterinary Sciences | 8 | 3 | 11 |
| Faculty of Pharmacy | 3 | 4 | 7 |
| Faculty of Biology | 2 | 4 | 6 |
| Institute for Risk Assessment Sciences | 5 | - | 5 |
| Netherlands Vaccine Institute | 1 | 3 | 4 |
| National Institute of Public Health and the Environment | 2 | 1 | 3 |
| Fungal Biodiversity Centre (CBS) | 1 | - | 1 |
| Total | 81 | 50 | 131 |

NUMBER OF SCIENTIFIC STAFF

(reference date 31-12-2006)

| | Post doc | Staff | Total |
|---|-----------|------------|------------|
| Faculty of Medicine | 25 | 103 | 128 |
| Faculty of Veterinary Sciences | 15 | 19 | 34 |
| Faculty of Pharmacy | 3 | 18 | 21 |
| National Institute of Public Health and the Environment | 1 | 10 | 11 |
| Netherlands Vaccine Institute | 1 | 8 | 9 |
| Faculty of Biology | 4 | 3 | 7 |
| Fungal Biodiversity Centre | 1 | 2 | 3 |
| Institute for Risk Assessment Sciences | 1 | 1 | 2 |
| Total | 52 | 164 | 215 |

PHD TRAINING PROGRAMME

Post Graduate Course Immunology

January 9 - 13, 2006

Place: UMC Utrecht

Organization: dr. E. van Wilsem

Participants: 21

Post Graduate Course Infection Biology

March 6 - 10, 2006

Place: UMC Utrecht - Veterinary Sciences

Organization: dr. E. van Wilsem

Participants: 16

Post Graduate Course Psychoneuroimmunology

March 27 - 29, 2006

Place: UMC Utrecht

Organization: prof. dr. C. Heijnen, dr. A. Kavelaars

Participants: 13

Post Graduate Course Lymphocytes Development and Function

April 4 - 6, 2006

Place: A.A. Hijmans van den Bergh Building

Organization: dr. K. Tesselaar, dr. D. van Baarle

Participants: 31

Epidemiological Principles of Infectious Diseases

June 19 - 22, 2006

Place: A.A. Hijmans van den Bergh Building

Organization: dr. D. van de Vijver, prof. dr. M. Bonten

Participants: 17

Pathogenesis, Diagnosis and Treatment of Infectious Diseases – Part II

October 30 – November 3, 2006

Place: UMC Utrecht – RIVM Bilthoven – ASG Lelystad

Organization: dr. H. Snippe

Participants: 17

EIJKMAN SEMINAR SERIES 2006

January 12, 2006

Rene van Lier, Amsterdam

"How to deal with persisting viruses"

February 9, 2006

Renato Monteiro, Paris

"Dual function of the IgA receptor in immunology"

March 9, 2006

Mark Ginsberg, San Diego

"Integrins in Inflammation and Cancer"

March 28, 2006

Sangkot Marzuki, Jakarta

"From Human Mitochondria to Malaria Research: Evolution and Drug Development"

April 6, 2006

Alessandro Sette, San Diego

"Bioinformatic and immunological analysis of immune recognition of pox and influenza viruses"

May 18, 2006

Ab Osterhaus, Rotterdam

"Pandemic flu, are we prepared?"

June 15, 2006

Derek Smith, Cambridge

"The antigenic and genetic evolution of influenza viruses"

September 13, 2006

Yvette van Kooyk, Amsterdam

"Dendritic Cells and the recognition of glycan structures to mediate cellular communication and immune responses"

October 12, 2006

Xavier Nassif, Paris

"How a commensal like Neisseria meningitides crosses the blood brain barrier"

November 2, 2006

Peter Doherty, Melbourne

"Plagues, pestilences and influenza"

December 14, 2006

Richard Blumberg, Boston

"X-box binding protein 1 regulation of Paneth cell function and intestinal inflammation"

HIGHLIGHTS

Beijerinck Premie (€ 50.000) of the Dutch Royal Academy of Science (KNAW) for virologist Dr. Xander de Haan for his work on genetics of coronaviruses.

High Potentials

The battle against infectious disease.

Immunodominance and protection through HLA B-alleles: an in vitro, ex-vivo and in silico approach.

Mw.dr. D. van Baarle (UMC Utrecht - immunology)

Mw.dr. C. Kesmir (Sciences-biology)

Hosting coronavirus infection.

Subversion of the cellular machinery of autograph.

Dr. C.A.M. de Haan (Veterinary Medicine - virology)

VENI

With the VENI-grant NWO rewards young and outstanding scientists pursuing innovative research.

The grants amounts to 208,000 euro. One of our Eijkmanschool researchers Suzan Rooijackers, PhD, received the grant (Experimental microbiology)

VICI

Fighting bacteria with mathematic modelling.

Prof. dr. M.J.M. (Marc) Bonten (m) 16-10-1964, Weert, UMCU - Julius Centrum.

Rubicon

MicroRNAs in hematopoiesis: tiny workhorses with big impact.

Dr. Ir. R.J. Lebbink to University of California (VS) for 24 months.

Inaugurations

10 March 2006

Prof.dr. E.A.M. Sanders, Faculty of Medicine

Immunodeficiency and recurrent infections

6 June 2006

Prof.dr. T. Willemse, Faculty of Veterinary Medicine

Veterinary clinical immunology

17 October 2006

Prof.dr. P.J. Coffey, Faculty of Medicine

Pediatric Immunology

RESEARCH GROUPS OF THE EIJKMAN GRADUATE SCHOOL

1. Epidemiology & multistdrug resistance (viruses & bacteria)

| | | |
|-------------|-----------------------------|--|
| M. Bonten | Medical Microbiology (UMCU) | Molecular epidemiology of hospital infection |
| C. Boucher | Medical Microbiology (UMCU) | Pathogenesis & epid. of viral infection in humans |
| J. Verhoef | Medical Microbiology (UMCU) | Mechanisms of microbial resistance and virulence |
| T. Kimman | RIVM | Mol. epid., immune-response & prevention of inf. |
| M. Koopmans | RIVM | Population oriented virology |
| M. Bracke | Faculty of Science (PHAR) | Pharmaco-epidemiology of pulmonary diseases |
| Th. Verheij | Julius Centre (UMCU) | Epid. and therapy of infection in general practice |

2. Pathogenesis & vaccines (virulence, immune evasion, immunity)

| | | |
|---------------|-----------------------------|--|
| P. Rottier | Virology (VET) | Pathobio. and molec. Epid. of veterinary virus |
| J. van Putten | Infection Biology (VET) | Molecular infection biology |
| F. Jongejan | Infection Biology (VET) | Utrecht Centre for tick-borne diseases |
| J. Tommassen | Faculty of Science (BIO) | Molecular microbiology |
| C. Boog | NVI | Unit research and development |
| J. van Strijp | Medical Microbiology (UMCU) | Experimental Microbiology |
| D. Van Baarle | Immunology (UMCU) | Clinical (Viro)-immunology |
| R. Liskamp | Faculty of Science (PHAR) | Drug design for immune intervention |
| W. Hennink | Faculty of Science (PHAR) | Liposomes for immune intervention |
| T. Boekhout | CBS | Yeast research group |
| I. Hoepelman | Infectious dis. (UMCU) | Inf. & inflam. of the immuno compromised host |

3. Immune regulation (Ag presentation, lymphocyte dynamics & signal transduction)

| | | |
|--------------|--------------------------|------------------------------------|
| L. Meyaard | Immunology (UMCU) | Regulation of immune cell function |
| P. Coffier | Immunology (UMCU) | Molecular Immunology |
| R. de Boer | Faculty of Science (BIO) | Theoretical Immunology |
| K. Tesselaar | Immunology (UMCU) | Clinical (Viro)-immunology |
| F. Miedema | Immunology (UMCU) | Clinical (Viro)-immunology |

4. Immune disorders (allergy/ chron inflammation / auto-immunity)

| | | |
|----------------------------|----------------------------|---|
| L. Koenderman / J. Lammers | Pulmonary diseases (UMCU) | Chronic inflammatory pulmonary diseases |
| C. Bruijnzeel / E. Knol | Dermat./Allergology (UMCU) | Cutaneous and food allergy |
| J. Bijlsma / F. Lafeber | Rheumatology (UMCU) | Inflammatory joint diseases |
| R. de Weger | Pathology (UMCU) | Immunology of transplantation |
| A. Rothova | Ophthalmology (UMCU) | Inflammation of the inner eye |
| C. Heijnen / A. Kavelaars | PsychoNeuroImmunology | PsychoNeuroImmunology |
| J. Kimpen / W. Kuis | Paediatric Immunology | Paediatric Immunology and Infectious diseases |
| W. van Eden | Immunology (VET) | Regulation of antigen specific defence mechanisms |
| H. van Loveren | RIVM | Effects of exogenous factors on the immune system |
| R. Pieters | Faculty of Science (IRAS) | Immunotoxicology |

5. Immune therapy/ transplantation

| | | |
|--------------------------|-------------------|--------------------------------|
| A. Bloem / H. Lokhorst | Immunology (UMCU) | Multiple myeloma |
| A. Martens / S. Ebeling | Immunology (UMCU) | Experimental Haematology |
| J. Leusen / J. vd Winkel | Immunology (UMCU) | Fc receptors and Immunotherapy |
| F. Nijkamp | Pharmacology | Immunopharmacology |

PUBLICATIONS

Leader

M.J.M. Bonten

Staff

R.J.L. Willems

Post doc

W.J.B. van Wamel

PhD students

E. Heikens

A. Hendrickx

H.L. Leavis

J. Top

Titles PhD projects

- E. Heikens: Genomic and proteomic based identification of determinants to combat multi-resistant hospital-adapted *Enterococcus faecium* belonging to CC17
- A. Hendrickx: Vaccine development to combat the emergence of vancomycin-resistant *Enterococcus faecium*
- H. Leavis: Virulence and transmission potential of T *faecium*: the role of a recently identified putative pathogenicity island
- J. Top: The epidemiology and pathogenesis of *enterococcus faecium*

Thesis

Nijssen, S. (1 September 2006). Antibiotic Resistance in Intensive Care Units: Dynamics of colonization. Prom./coprom.: Prof.dr. M.J.M. Bonten, Prof.dr. I.M. Hoepelman, & Dr. A.C. Fluit.

International publications

- Jansen, W.T.M., Beitsma, M.M., Koeman, C.J., Wamel, W.J.B. van, Verhoef, J., & Fluit, A.C. Novel mobile variants of staphylococcal cassette chromosome mec in *Staphylococcus aureus*. *Antimicrobial Agents and Chemotherapy*, 50(6), 2072-2078.
- Leavis, H.L., Willems, R.J.L., Putten - Top, J. van der, & Bonten, M.J.M. High-level ciprofloxacin resistance from point mutations in *gyrA* and *parC* confined to global hospital-adapted clonal lineage CC17 of *Enterococcus faecium*. *Journal of Clinical Microbiology*, 44(3), 1059-1064.
- Leavis, H.L., Bonten, M.J.M., & Willems, R.J.L. Identification of high-risk enterococcal clonal complexes: global dispersion and antibiotic resistance. *Current Opinion in Microbiology*, 9(5), 454-460.
- Nijssen, S., Bootsma, M., & Bonten, M.J.M. Potential confounding in evaluating infection-control interventions in hospital settings: changing antibiotic prescription. *Clinical Infectious Diseases*, 43(5), 616-623.
- Rooijackers, S.H.M, Ruyken, M., Roon, J. van, Kessel, C.P.M. van, Strijp, J.A.G. van, & Wamel, W.J.B. van Early expression of SCIN and CHIPS drives instant immune evasion by *Staphylococcus aureus*. *Cellular microbiology*, 8(8), 1282-1293.
- Ruiz, P., Bonten, M.J.M., Robinson, D.A., Top, J., Nallapareddy, S.R., Torres, C., Coque, T.M., Canton, R., Baquero, F., Murray, B.E., Campo, R. del, & Willems, R.J.L. Multilocus sequence typing scheme for *Enterococcus faecalis* reveals hospital-adapted genetic complexes in a background of high rates of recombination. *Journal of Clinical Microbiology*, 44(6), 2220-2228.
- Titze-de-Almeida, R., Belkum, A. van, Felipe, M.S., Zanella, R.C., Top, J., & Willems, R.J.L. (2006). Multilocus sequence typing of hospital-associated *Enterococcus faecium* from Brazil reveals their unique evolutionary history. *Microbial drug resistance : -mechanism, epidemiology, and disease*, 12(2), 121-125.

Wamel, W.J.B. van, Rooijackers, S.H.M, Ruyken, M., Kessel, C.P.M. van, & Strijp, J.A.G. van. The innate immune modulators staphylococcal complement inhibitor and chemotaxis inhibitory protein of *Staphylococcus aureus* are located on beta-hemolysin-converting bacteriophages. *Journal of Bacteriology*, 188(4), 1310-1315.

| Input | | FTE 2006 | | FTE 2006 |
|------------------|---------------|-----------------|---------------------|-------------------|
| Leader | | | PhD students | |
| | M.J.M. Bonten | 0,6 | | E. Heikens 0,75 |
| Staff | | | | A. Hendrickx 0,75 |
| | R. Willems | 1,0 | | H. Leavis 0,75 |
| Post docs | | | | J. Top 0,75 |
| | W. van Wamel | 1,0 | | |

Research group

Pathogenesis and epidemiology of viral infections in humans
(UU UMC 2.1.7)

Leader

C.A.B. Boucher
A.M. van Loon

Staff

G.J. Boland
R. Schuurman
M. Nijhuis
H.S.L.M. Nottet

Post docs

J.D.F. de Groot – Mijnes
D.A.M.C. van de Vijver

PhD students

M.P.D. Deege
M.C. Huigen
A. van de Pol
H. van Soest
L. de Visser
A. Wensing
M. Riedijk

Titles PhD projects

M.P.D. Deege: The role of EBV as a respiratory pathogen
M. Huigen: HIV-1 reverse transcriptase inhibitor resistant and its consequences for viral virulence
A. van de Pol: Clinical impact of PCR in children with lower respiratory tract infection
H. van Soest: Treatment of chronic hepatitis C
L. de Visser: Etiology and pathogenesis of infectious uveitis
A. Wensing: Transmission of drug resistant HIV
M. Riedijk: Virological and immunological consequences of HIV-1 entry inhibitor failure

Thesis

Maarseveen, N.M. van (26 April 2006). Evolution of HIV-1 protease inhibitor resistance.
Prom./coprom.: Prof.dr. J. Verhoef, Dr. C.A.B. Boucher, & Dr. M. Nijhuis.

International publications

Andriessse, G.I., Weersink, A.J.L., & Boer, J.H. de. Visual impairment and deafness in young children: consider the diagnosis of congenital infection with cytomegalovirus, even years after birth.
Archives of ophthalmology, 124(5), 743-743.

Baxter, J.D., Schapiro, J.M., Boucher, C.A.B., Kohlbrenner, V.M., Hall, D.B., Scherer, J.R., & Mayers, D.L. Genotypic changes in human immunodeficiency virus type 1 protease associated with reduced susceptibility and virologic response to the protease inhibitor tipranavir.
Journal of Virology, 80(21), 10794-10801.

Brabers, N.A.C.H., & Nottet, H.S.L.M. Role of the pro-inflammatory cytokines TNF- α and IL-1 β in HIV-associated dementia.
European Journal of Clinical Investigation, 36(7), 447-458.

Bui-Xuan, E.F., Li, Q., Chen, X.Z., Boucher, C.A.B., Sandford, R., Zhou, J., & Basora, N. More than colocalizing with polycystin-1, polycystin-L is in the centrosome.
American Journal of Physiology-Lung Cellular and Molecular Physiology, 291(2), F395-406.

Derdelinckx, I., Wainberg, M.A., Lange, J.M.A., Hill, A., Halima, Y., & Boucher, C.A.B. Criteria for drugs used in pre-exposure prophylaxis trials against HIV infection.
PLoS medicine, 3(11), e454.

- Groot - Mijnes, J.D.F. de, & Rothova, A. Diagnostic testing of vitrectomy specimens.
American Journal of Ophthalmology, 141(5), 982-983.
- Groot - Mijnes, J.D.F. de, Rothova, A., Loon, A.M. van, Schuller, M., Dam-van Loon, N.H. ten, Boer, J.H. de, Schuurman, R., & Weersink, A.J.L. Polymerase Chain Reaction and Goldmann-Witmer Coefficient Analysis Are Complimentary for the Diagnosis of Infectious Uveitis.
American Journal of Ophthalmology, 141(2), 313-318.
- Groot - Mijnes, J.D.F. de, Visser, L. de, Rothova, A., Schuller, M., Loon, A.M. van, & Weersink, A.J.L. Rubella virus is associated with fuchs heterochromic iridocyclitis.
American Journal of Ophthalmology, 141 (1), 212-214.
- Hayden, M.K., Bonten, M.J.M., Blom, D.W., Lyle, E.A., Vijver, D.A.M.C. van de, & Weinstein, R.A. Reduction in acquisition of vancomycin-resistant enterococcus after enforcement of routine environmental cleaning measures.
Clinical Infectious Diseases, 42(11), 1552-1560.
- Hoefnagel, J.G.M., Lee, M.J. van der, Koopmans, P.P., Schuurman, R., Jurriaans, S., Sighem, A.I. van, Gras, L., Wolf, F. de, & Burger, D.M. The genotypic inhibitory quotient and the (cumulative) number of mutations predict the response to lopinavir therapy.
AIDS, 20(7), 1069-1071.
- Hoekstra, C.E., Riedijk, M., Matute, A.J., Hak, E., Delgado, E., Alonso, R.E., Benavides, MD, Loon, A.M. van, & Hoepelman, I.M. Prevalence of HIV and syphilis in pregnant women in Leon, Nicaragua. *American Journal of Tropical Medicine and Hygiene*, 75(3), 522-525.
- Lindstrom, A., Ohlis, A., Huigen, M., Nijhuis, M., Berglund, T., Bratt, G., Sandstrom, E., & Albert, J. HIV-1 transmission cluster with M41L 'singleton' mutation and decreased transmission of resistance in newly diagnosed Swedish homosexual men.
Antiviral Therapy, 11, 1031-1039.
- Lowe, S.H., Wensing, A.M.J., Droste, J.A., Kate, R.W. ten, Jurriaans, S., Burger, D.M., Borleffs, J.C.C., Lange, J.M., & Prins, J.M. No virological failure in semen during properly suppressive antiretroviral therapy despite subtherapeutic local drug concentrations.
HIV Clinical Trials, 7(6), 285-290.
- Maarseveen, N.M. van, Huigen, M.C., Jong, D. de, Smits, A.M., Boucher, C.A.B., & Nijhuis, M. A novel real-time PCR assay to determine the relative replication capacity for HIV-1 protease variants and/or reverse transcriptase variants.
Journal of virological methods, 133(2), 185-194.
- Maarseveen, N.M. van, Jong, J. de, Boucher, C.A.B., & Nijhuis, M. An increase in viral replicative capacity drives the evolution of protease inhibitor-resistant human immunodeficiency virus type 1 in the absence of drugs.
Journal of Acquired Immune Deficiency Syndromes, 42(2), 162-168.
- Pol, A.C. van de, Wolfs, T.F.W., Jansen, N.J.G., Loon, A.M. van, & Rossen, J.W.A. Diagnostic value of real-time polymerase chain reaction to detect viruses in young children admitted to the paediatric intensive care unit with lower respiratory tract infection.
Critical Care [E], 10(2), R61.
- Rendi-Wagner, P., Shouval, D., Genton, B., Lurie, Y., Rumke, H.C., Boland, G.J., Cerny, A., Heim, M., Bach, D., Schroeder, M., & Ilaritsch, H. Comparative immunogenicity of a PreS/S hepatitis B vaccine in non- and low responders to conventional vaccine.
Vaccine, 24(15), 2781-2789.
- Sluijs, K.F. van der, Elden, L.J.R. van, Xiao, Y., Arens, R., Nijhuis, M., Schuurman, R., Florquin, S., Jansen, H.M., Lutter, R., & Poll, T. van der. IL-12 deficiency transiently improves viral clearance during the late phase of respiratory tract infection with influenza A virus in mice.
Antiviral Research, 70(2), 75-84.
- Sluijs, K.F. van der, Nijhuis, M., Levels, J.H., Florquin, S., Mellor, A.L., Jansen, H.M., & Poll, T. van der. Influenza-induced expression of indoleamine 2,3-dioxygenase enhances interleukin-10 production and bacterial outgrowth during secondary pneumococcal pneumonia.
Journal of Infectious Diseases, 193(2), 214-222.
- Sluijs, K.F. van der, Elden, L.J.R. van, Nijhuis, M., Schuurman, R., Florquin, S., Shimizu, T., Ishii, S., Jansen, H.M., & Poll, T. van der. Involvement of the platelet-activating factor receptor in host defense against *Streptococcus pneumoniae* during postinfluenza pneumonia.
American Journal of Physiology-Lung Cellular and Molecular Physiology, 290(1), L194-199.
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Journal of Clinical Microbiology, 44(3), 1108-1110.

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National publications

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- Wijk, P. van, Leeuwen, P. van, & Boland, G.J. Landelijk meldpunt prikaccidenten. *Infectieziekten-bulletin*, 17(8), 277-278.

Input

| | FTE 2006 | | FTE 2006 |
|------------------------|----------|---------------------|----------|
| Leader | | PhD students | |
| C.A.B. Boucher | 0,5 | M.P.D. Deege | 0,2 |
| A.M. van Loon | 0,1 | M. Huigen | 0,75 |
| Staff | | A. van de Pol | 0,2 |
| G.J. Boland | 0,15 | M. Riedijk | 0,4 |
| R. Schuurman | 0,4 | H. van Soest | 0 |
| M. Nijhuis | 0,78 | L. de Visser | 0,75 |
| H.S.L.M. Nottet | 0,8 | A. Wensing | pm |
| Post docs | | | |
| J. de Groot – Mijnes | 0,35 | | |
| D.A.M.C. van de Vijver | 0,8 | | |

Research group
Mechanisms of microbial resistance and virulence
(UU UMC 2.1.2)

Leader
J. Verhoef

Staff
T. vd Bruggen
A. Fluit
W. Jansen
M. Leverstein – van Hall
A. Troelstra
M. Visser
A. Weersink

PhD students
M. Ekkelenkamp
M. Feijen
R. Ikawaty
A. Paauw
B. Ridwan
M. Schijffelen
M. Wassenberg

Titles PhD projects

M. Ekkelenkamp: Antibacterial activity of staphylococcal proteins
M. Feijen: Unraveling the genes that promote spread and virulence of *S. aureus*
R. Ikawaty: Fighting antimicrobial resistant organisms
A. Paauw: Genetic characteristics that increased the epidemic behaviour of an *Enterobacter cloacae* outbreak strain
B. Ridwan: Vancomycin resistant Enterococci
M. Schijffelen: *Staf. aureus*
M. Wassenberg: Rapid diagnostic testing of MRSA and the influence on our Search and Destroy policy

Thesis

Nijssen, S. (1 September 2006). Antibiotic Resistance in Intensive Care Units: Dynamics of colonization.
Prom./coprom.: Prof.dr. M.J.M. Bonten, Prof.dr. I.M. Hoepelman, & Dr. A.C. Fluit.
Vlaminckx, B.J.M. (15 September 2006). Invasive Group A Streptococcal Disease. National Epidemiology and Genetic Analysis.
Prom./coprom.: Prof.dr. J. Verhoef, Dr. W.T.M. Jansen, & J.F.P. Schellekens.

International publications

Ammerlaan, H.S.M., & Bonten, M.J.M. Daptomycin: graduation day.
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Bonten, M.J.M., & Weinstein, R.A. Antibiotic cycling in intensive care units: the value of organized chaos? *Critical Care Medicine*, 34(2), 549-551.
Bonten, M.J.M., & Prins, J.M. Antibiotics in pandemic flu.
British Medical Journal, 332(7536), 248-249.
Bonten, M.J.M., & Krueger, W.A. Selective decontamination of the digestive tract: cumulating evidence, at last?
Seminars in Respiratory and Critical Care Medicine, 27(1), 18-22 review.
Bonten, M.J.M. Selective digestive tract decontamination--will it prevent infection with multidrug-resistant gram-negative pathogens but still be applicable in institutions where methicillin-resistant *Staphylococcus aureus* and vancomycin-resistant enterococci are endemic?
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National publications

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- Kerkhoffs, A.P.M., Akkermans, L.M.A., Samson, M., Berge Henegouwen, G.P. van, & Visser, M.R. Sampling Microbiota in the Human Gastrointestinal Tract. In A.C. Ouwehand & E.E. Vaughan (Eds.), *Gastrointestinal Microbiology* (pp. 25-50).
- Leeuwen, H.J. van, & Verhoef, J. Pathogenesis of sepsis. In Spence, Hay, & Johnson (Eds.), *Infection in the cancer patients* (pp. 1-42).
- Werner, G., Dahl, H., & Willems, R.J.L. Composite elements encoding antibiotic resistance in *Enterococcus faecium* and *Enterococcus faecalis*. In N. Kobayashi (Ed.), *Drug Resistance of Enterococci: Epidemiology and Molecular Mechanisms* (pp. 157-208).

Input

| | FTE 2006 | | FTE 2006 |
|--------------------------|----------|---------------------|----------|
| Leader | | PhD students | |
| J. Verhoef | 0,2 | M. Ekkelenkamp | 0 |
| Staff | | M. Feijen | 0,75 |
| T. vd Bruggen | 0 | R. Ikawaty | 0,75 |
| A. Fluit | 0,6 | A. Paauw | 0,75 |
| W. Jansen | 0,6 | B. Ridwan | 0,2 |
| M. Leverstein – van Hall | 0,2 | M. Schijffelen | 0,75 |
| A. Troelstra | 0 | M. Wassenberg | 0 |
| M. Visser | 0 | | |
| A. Weersink | 0 | | |

National Institute of Public Health and the Environment, Bilthoven
Laboratory for Vaccine-Preventable Diseases (LTR)

Research group

Molecular epidemiology, immune-response and prevention of infection

Leader

T.G. Kimman

Staff

G. Berbers
R. van Binnendijk
H. Boot
A. Buisman
F. van der Klis
F. Mooi
M. van Oosten
L. Schouls
P. Vermeer

PhD student

R. de Voer

Title PhD project

R. de Voer: Longevity of Memory after MenC Conjugate Vaccination

International publications

- Banus, H.A., Vandebriel, R.J., de Ruiter, H., Dormans, J.A., Nagelkerke, N.J., Mooi, F.R., Hoebee, B., van Kranen, H.J., Kimman, T.G. Host genetics of Bordetella pertussis infection in mice: significance of Toll-like receptor 4 in genetic susceptibility and pathobiology.
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- Terhaar Sive Droste, J.S., Heine, G.D., Craanen, M.E., Boot, H., Mulder, C.J. On attitudes about colorectal cancer screening among gastrointestinal specialists and general practitioners in the Netherlands. *World J Gastroenterol.* 2006 Aug 28;12(32):5201-4.

Input

| | FTE 2006 | | FTE 2006 |
|--------------------|----------|-------------------|----------|
| Leader | | Staff | |
| T.G. Kimman | 1,0 | G. Berbers | 0,75 |
| PhD student | | R. van Binnendijk | 0,75 |
| R. de Voer | 0,75 | H. Boot | 0,75 |
| | | A. Buisman | 0,75 |
| | | F. van der Klis | 0,75 |
| | | F. Mooi | 0,75 |
| | | M. van Oosten | 0,75 |
| | | L. Schouls | 0,75 |
| | | P. Vermeer | 0,75 |

National Institute of Public Health and the Environment, Bilthoven
Diagnostic laboratory for infectious diseases and perinatal screening

Research group
Population oriented virology

Leader
M. Koopmans

Staff
H. van der Avoort
E. Duizer
M. van der Lubben
A. Meijer
H. Vennema
B. Wilbrink

Post doc
A. Kroneman
L. Verhoef

PhD Student
M. Jonges (Erasmus MC)
J. Reimerink (RIVM, Bilthoven)
S. van der Sanden (Erasmus MC)
J. Siebenga (Erasmus MC)
S. Svraka (Erasmus MC)

Title PhD project

M. Jonges: Tools for avian influenza preparedness
J. Reimerink: Modulation of allergic responses by enteric infections
S. van der Sanden: Molecular evolution of poliovirus
J. Siebenga: Norovirus molecular epidemiology and evolution
S. Svraka: Unexplained gastroenteritis and hepatitis

International publications

- Mattner, F., Sohr, D., Heim, A., Gastmeier, P., Vennema, H., & Koopmans, M. Risk groups for clinical complications of norovirus infections: an outbreak investigation.
Clin. Microbiol. Infect. 2006; 12: 69-74
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Book, book chapters & proceedings

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Input

| | FTE 2006 | | FTE 2006 |
|--------------------|----------|-------------------|----------|
| Leader | | Staff | |
| M. Koopmans | 0,4 | H. van der Avoort | 0,1 |
| Post doc | | E. Duizer | 0,5 |
| A. Kroneman | 0,8 | M. van der Lubben | 0,8 |
| L. Verhoef | 0,8 | A. Meijer | 0,4 |
| PhD Student | | H. Vennema | 0,5 |
| J. Reimerink | 0,8 | B. Wilbrink | 0,1 |

Research group

Pharmaco-epidemiology of pulmonary diseases
(UU PHARM 6)

Leader

M. Bracke
H.G.M. Leufkens
J.A.M. Raaijmakers

Staff

T.P. van Staa
A.H. Maitland – van der Zee

PhD students

T.T. Menckeberg
M.G.P. Zuidgeest
W. ten Hove
F. de Vries

Titles PhD projects

T.T. Menckeberg: Asthma and compliance
M.G.P. Zuidgeest: Effectiveness and safety of medication with young children: asthma as a model
W. ten Hove: Pharmacogenetics of allergic asthma: use of gene expression profiles to optimise patient-tailored pharmacotherapy
F. de Vries: Disease severity in asthma/COPD as important variable in molecular/pharmacoepidemiologic research

International publications

Brandsma, D., Ulfman, L., Reijneveld, J.C., Bracke, M., Taphoorn, M.J.B., Zwaginga, J.J., Gebbink, M.F.B.G., Boer, H. de, Koenderman, L., & Voest, E.E. Constitutive integrin activation on tumor cells contributes to progression of leptomeningeal metastases. *Neuro-Oncology*, 8(2), 127-136.

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Florentinus, S.R., Souverein, P.C., Griens, F.A.M.G., Groenewegen, P.P., Leufkens, H.G.M., & Heerdink, E.R. Linking community pharmacy dispensing data to prescribing data of general practitioners. *BMC Medical Informatics and Decision Making*, 6, 18.

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In *Farma Merk Waardig* (pp. 141-145). Farma Innovatie Discussie Platform.

Maitland-van der Zee, A.H., Boerwinkle, E., Arnett, D.K., Davis, B.R., Leiendecker-Foster, C., Miller, M.B., Klungel, O.H., Ford, C.E., & Eckfeldt, J.E. Absence of an Interaction between the Angiotensin Converting Enzyme (ACE) Insertion-Deletion Polymorphism and Pravastatin on Cardiovascular Disease in High-Risk Hypertensives: The GenHAT Study.

In *Pharmacoepidemiology and Drug Safety* (pp. S19).

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In *Pharmacoepidemiology and Drug Safety* (pp. S34).

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Souverein, P.C., Speksnijder, N., Staa, T.P. van, Olivier, B., Egberts, A.C.G., & Leufkens, H.G.M. Use of Oral Glucocorticoids and Risk of Suicide: A Cohort Study in the General Practice Research Database.

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Vries, F. de, Pouwels, S., Bracke, M., Lammers, J.W.J., Leufkens, H.G.M., Zuidgeest, M.G.P., & Staa, T.P. van. Inhaled Corticosteroids and Risk of Hip/Femur Fracture: Disease or Drugs? A

Population-Based Case Control Study.

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Wammes-van der Heijden, E.A. van der, Rahimtoola, H., Leufkens, H.G.M., Tijssen, C.C., & Egberts, A.C.G. (2006). Overuse of Triptans and Ergotamine and the Risk of Vasoconstrictive Complications.

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Zuidgeest, M.G.P., Bracke, M., Smit, H.A., Brunekreef, B., & Leufkens, H.G.M. Is Use of Asthma Medication in Preschool Children Consistent with the Clinical Wheezing Phenotype.

In *Pharmacoepidemiology and Drug Safety* (pp. S145).

Input

| | FTE 2006 | | FTE 2006 |
|-----------------------------|----------|---------------------|----------|
| Leader | | PhD students | |
| M. Bracke | 0,5 | T.T. Menckeberg | 0,5 |
| H.G.M. Leufkens | 0,05 | M.G.P. Zuidgeest | 0,75 |
| J.A.M. Raaijmakers | 0,05 | W. ten Hove | 0,66 |
| Staff | | F. de Vries | 0,6 |
| T.P. van Staa | 0,05 | | |
| A.H. Maitland – van der Zee | 0,05 | | |

Research group

Epidemiology and therapy of infection in general practice
(UU UMC 2.1.9)

Leader

M.J.M. Bonten
Th.J.M. Verheij

Staff

T. van Essen
E. Hak
A.W. Hoes
M. Kuyvenhoven
M.M. Rovers
A.P.E. Sachs
N. de Wit

PhD students

J. Bont
L. Broekhuizen
C. van den Dool
A. Jansen
L. Muller

Titles PhD projects

- J. Bont: Prognosis of Lower Respiratory Tract Infections in elderly primary care patients
- L. Broekhuizen: Detecting COPD in persons with persistent cough in general practice: comparison of cost-effectiveness of diagnostic strategies
- C. van den Dool: Mathematical modelling as an alternative for clinical trials in predicting effectiveness of preventive measures against influenza in healthcare settings
- A. Jansen: Effectiveness and costs of combined influenza and pneumococcal vaccination in pre-school children with recurrent respiratory tract infections: a general practice-based randomized controlled trial
- L. Muller: Development and evaluation of an educational program on the prevention of complicated infections in patients with diabetes: towards an optimal treatment strategy.

Thesis

- Duijn, H.J. van (23 May 2006). Role of patients' and doctors' views on the management of respiratory tract infections.
Prom./coprom.: Prof.dr. Th.J.M. Verheij, & Dr. M.M. Kuyvenhoven.

International publications

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- Duijn, H.J. van, Kuyvenhoven, M.M., Schellevis, F.G., & Verheij, Th.J.M. Views on respiratory tract symptoms and antibiotics of Dutch general practitioners, practice staff and patients.
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- Garde, E.M.W. van de, Hak, E., Souverein, P.C., Hoes, A.W., Bosch, J.M.M. van den, & Leufkens, H.G.M. Statin treatment and reduced risk of pneumonia in patients with diabetes.
Thorax, 61(11), 957-961.
- Geijer, R.M.M., Sachs, A.P.E., Verheij, Th.J.M., Salome, Ph.L., Lammers, J.W.J., & Hoes, A.W. Incidence and determinants of moderate COPD (GOLD II) in male smokers aged 40-65 years: 5-year follow up.
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- Hak, E., Buskens, E., Nichol, K.L., & Verheij, Th.J.M. Do recommended high-risk adults benefit from a first influenza vaccination?
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- Hak, E., Rovers, M.M., Kuyvenhoven, M.M., Schellevis, F.G., & Verheij, Th.J.M. Incidence of GP-diagnosed respiratory tract infections according to age, gender and high-risk co-morbidity: the Second Dutch National Survey of General Practice.
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- Hak, E., Meijboom, M.J., & Buskens, E. Modelling the health-economic impact of the next influenza pandemic in The Netherlands.
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- Hattum, E.S. van, Balemans, W.A.F., Rovers, M.M., Zielhuis, G.A., Schilder, A.G.M., & Ent, C.K. van der Adenoidectomy and/or tonsillectomy in childhood is not associated with atopic disease later in life.
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- Hayden, M.K., Bonten, M.J.M., Blom, D.W., Lyle, E.A., Vijver, D.A.M.C. van de, & Weinstein, R.A. Reduction in acquisition of vancomycin-resistant enterococcus after enforcement of routine environmental cleaning measures.
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- Hoekstra, C.E., Riedijk, M., Matute, A.J., Hak, E., Delgado, E., Alonso, R.E., Benavides, MD, Loon, A.M. van, & Hoepelman, I.M. Prevalence of HIV and syphilis in pregnant women in Leon, Nicaragua.
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- Hoogwerf, M., Oosterheert, J.J., Hak, E., Hoepelman, I.M., & Bonten, M.J.M. Prognostic factors for early clinical failure in patients with severe community-acquired pneumonia.
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Sanders, E.A.M., Gils, E. van, Hak, E., Veenhoven, R., & Alphen, L. van. Pneumokokkenvaccinatie en onderzoek naar mogelijke neveneffecten.

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Huisarts en Wetenschap, 49(7), 353-355.

Book, book chapters & proceedings

Dekhuijzen, P.N.R., Sachs, A.P.E., & Lammers, J.W.J. Diagnostiek en monitoring. In B.S. Boot & H.A.M. Kerstjens (Eds.), *Zorg rondom COPD (Zorg rondom)*.

Hak, E., Rovers, M.M., Kuyvenhoven, M.M., & Verheij, Th.J.M. Respiratory tract infections in general practice according to age, sex and high-risk comorbidity. In G.P. Westert, L. Jabaij, & F.G. Schellevis (Eds.), *Morbidity, performance and Quality in Primary Care* (pp. 97-104).

Sachs, A.P.E. (2006). Definitie en epidemiologie. In B.S. Boot & H.A.M. Kerstjens (Eds.), *Zorg rondom COPD (Zorg rondom)*.

Sachs, A.P.E., & Aalderen, W.M.C van. Tractus respiratorius. In W.J.H.M. van den Bosch, A.J. van der Heijden, R.N. Sukhai, & J. Zwaveling (Eds.), *Het pediatrisch formularium (Formulariumreeks)*.

Verheij, Th.J.M. Cough and acute bronchitis. In A Torres, S Ewig, L Mandell, & M Woodhead (Eds.), *Respiratory infections* (pp. 259-264).

Input

| | FTE 2006 | | FTE 2006 |
|---------------------|----------|----------------|----------|
| Leader | | Staff | |
| M.J.M. Bonten | 0,3 | T. van Essen | 0,2 |
| Th.J.M. Verheij | 0,3 | E. Hak | 1,0 |
| PhD students | | A.W. Hoes | 0,3 |
| J. Bont | 0,5 | M. Kuyvenhoven | 0,3 |
| L. Broekhuizen | 0,5 | M.M. Rovers | 0,3 |
| C. van den Dool | 0,75 | A.P.E. Sachs | 0,2 |
| A. Jansen | 0,75 | N. de Wit | 0,2 |
| L. Muller | 0,75 | | |

Research group

Pathobiology and molecular epidemiology of veterinary virus
(UU VET SIB)

Leader

P.J.M. Rottier

Staff

H.F. Egberink
R.J. de Groot
C.A.M. de Haan
B.J. Bosch

Post doc

M.H. Verheije

PhD students

M. Oostra
M. Raaben
M.W. Vogels

Titles PhD projects

M. Oostra: The development of "Trojan Horse" vaccine viruses

M. Raaben: Functional analysis of the coronavirus group-specific genes: role in virus-host interactions

M.W. Vogels: Interactions of intracellular pathogens with the Golgi apparatus

Thesis

E.M.A. van Rooij (23 January 2006) DNA vaccination in the pig using pseudorabies virus infection as a model.

Prom./co-prom.: Prof.dr. P.J.M. Rottier & Prof.dr. J.H.M. Verheijden / Dr. A.T.J. Bianchi

T. Würdinger (1 February 2006) Tumor-selective coronaviruses as potential anti-cancer agents.

Prom.: Prof.dr. P.J.M. Rottier

International publications

Antonis, A.F.G., Claassen, E.A., Groot, R.J. de, Groot-Mijnes, J.D. de, Schrijvers, R.S., & Most, R.G. van der. Kinetics of antiviral CD8 T cell responses during primary and post-vaccination secondary bovine respiratory syncytial virus infection.
Vaccine, 24(10), 1551-1561.

Archambault, D., Kheyar, A., Vries, A.A. de, & Rottier, P.J.M. The intraleader AUG nucleotide sequence context is important for equine arteritis virus replication.
Virus Genes, 33(1), 59-68.

Groot, R.J. de. Structure, function and evolution of the hemagglutinin-esterase proteins of corona- and toroviruses.
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Haan, C.A.M. de, Lintelo, E. te, Li, Z., Raaben, M., Würdinger, T., Bosch, B.J., & Rottier, P.J.M. Cooperative involvement of the S1 and S2 subunits of the murine coronavirus spike protein in receptor binding and extended host range.
Journal of Virology, 80(22), 10909-10918.

Haan, C.A.M. de, & Rottier, P.J.M. Hosting the severe acute respiratory syndrome coronavirus: specific cell factors required for infection.
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Huang, I.C.*, Bosch, B.J.*, Li, W., Farzan, M., Rottier, P.J.M., & Choe, H. H. SARS-CoV, but not HCoV-NL63, utilizes cathepsins to infect cells: viral entry.
Advances in Experimental Medicine and Biology, 581, 335-338 (* equal contribution)

Huang, I.C.*, Bosch, B.J.*, Li, F., Li, W., Lee, K.H., Ghiran, S., Vasilieva, N., Dermody, T.S., Harrison, S.C., Dormitzer, P.R., Farzan, M., Rottier, P.J.M., & Choe, H. SARS coronavirus, but not human

- coronavirus NL63, utilizes cathepsin L to infect ACE2-expressing cells.
Journal of Biological Chemistry, 281(6), 3198-3203 (* equal contribution)
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Journal of Virology, 80(8), 4157-4167.
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Journal of Virology, 80(3), 1250-1260.
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Leukemia, 20(12), 2182-2184.

National publications

- Egberink, H.F., & Gerritsen, K. Jaarlijkse hervaccinatie van gezelschapsdieren.
Tijdschrift voor diergeneeskunde, 131(13), 488-489

Book, book chapters & proceedings

- Meer, F.J.U.M. van der, Schuurman, N.M.P., Balzarini, J., Haan, C.A.M. de, Haijema, B.J., & Egberink, H.F. Carbohydrate binding plant lectins targeting the N-glycosylation of the nidovirus envelope.
 In Proceedings of the ESVV Meeting .

| Input | FTE 2006 | | FTE 2006 |
|----------------|----------|---------------------|----------|
| Leader | | Post doc | |
| P.J.M. Rottier | 1,0 | H. Verheije | 1,0 |
| Staff | | PhD students | |
| H. Egberink | 0,5 | M. Oostra | 0,75 |
| R. de Groot | 0,5 | M. Raaben | 0,75 |
| C.A.M. de Haan | 0,5 | M. Vogels | 0,75 |
| B.J. Bosch | 0,5 | | |

Research group
Molecular Infection Biology
(UU VET SIB)

Leader
J.P.M. van Putten

Staff
W. Gaastra
M.M.S.M. Wösten

Post docs
R.A.M.H. van Aubel
N.M. Bleumink – Pluym
S.A.M. Genevrois
L.J.J.M. Steeghs

PhD students
L. van Alphen
A. van Mourik
Z. Zivkovic
M.R. de Zoete

Titles PhD projects

- L. van Alphen: Virulence strategies of the bacterial pathogen *Campylobacter jejuni*
A. van Mourik: Functional analysis of *Campylobacter jejuni* two component systems involved in pathogenesis
Z. Zivkovic: Molecular interaction between ticks and tick-borne pathogen *Anaplasma marginale*
M.R. de Zoete: Molecular interactions between *Campylobacter* and the host intestinal mucosa

International publications

- Bergen, M.A. van, Putten, J.P.M. van, & Wagenaar, J.A. Global detection and identification of *Campylobacter fetus* subsp. *venerealis*.
Revue scientifique et technique / Office International des Epizooties, 3, 1017-1026.
- Bergen, M.A.P. van, Graaf-van Bloois, L. van der, Visser, I.J.R., Putten, J.P.M. van, & Wagenaar, J.A. Molecular epidemiology of *Campylobacter fetus* subsp. *fetus* on bovine artificial insemination stations using pulsed field gel electrophoresis.
Veterinary microbiology, 112(1), 65-71.
- Geurtsen, J., Steeghs, L.J.J.M., Hamstra, H.J., Hove, J. ten, Haan, A. de, Kuipers, B., Tommassen, J., & Ley, P. van der. Expression of the lipopolysaccharide-modifying enzymes PagP and PagL modulates the endotoxic activity of *Bordetella pertussis*.
Infection and Immunity, 74(10), 5574-5585.
- Kooyman, F.N.J., Ploeger, H.W., Hoglund, J., & Putten, J.P.M. van. Differential N-glycan- and protein-directed immune responses in *Dictyocaulus viviparus*-infected and vaccinated calves.
Parasitology, 134, 269-279.
- Nishino, K., Hsu, F.F., Turk, J., Cromie, M.J., Wosten, M.M.S.M., & Groisman, E.A. Identification of the lipopolysaccharide modifications controlled by the *Salmonella* PmrA/PmrB system mediating resistance to Fe(III) and Al(III).
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Vaccine, 24(11), 1858-1867.
- Steeghs, L.J.J.M., Vliet, S.J. van, Uronen-Hansson, H., Mourik, A. van, Engering, A., Sanchez-Hernandez, M., Klein, N., Callard, R., Putten, J.P.M. van, Ley, P. van der, Kooyk, Y. van, & Winkel, J.G.J. van de. *Neisseria meningitidis* expressing IgtB lipopolysaccharide targets DC-SIGN and modulates dendritic cell function.
Cellular microbiology, 2, 316-325.

Wosten, M.M.S.M., Parker, C.T., Mourik, A. van, Guilhabert, M.R., Dijk, L. van, & Putten, J.P.M. van.
 The *Campylobacter jejuni* PhosS/PhosR operon represents a non-classical phosphate-sensitive two-component system.
Molecular Microbiology, 62(1), 278-291.

| Input | | FTE 2006 | | FTE 2006 |
|-----------------------|-----|-----------------|---------------------|-----------------|
| Leader | | | Staff | |
| J.P.M. van Putten | 0,6 | | W. Gaastra | 0,5 |
| Post docs | | | M.M.S.M. Wösten | 1,0 |
| R.A.M.H. van Aubel | 0,8 | | PhD students | |
| N.M. Bleumink – Pluym | 0,8 | | L. van Alphen | 0,75 |
| S.A.M. Genevrois | 0 | | A. van Mourik | 0,75 |
| L.J.J.M. Steeghs | 0,8 | | Z. Zivkovic | 0,75 |
| | | | M.R. de Zoete | 0,75 |
| | | | | |

Research group
 Utrecht Centre for Tick-borne Diseases (UCTD)
 (UU VET SIB)

Leader
 F. Jongejan

Staff
 A. Taoufik
 J.A.W. Coetzer

Post doc
 M. Postigo

PhD student
 Z. Zivkovic

Title PhD project

Z. Zivkovic: Anaplasma virulence factors

International publications

Butler, C.M., Houwers, D.J., Jongejan, F., & Kolk, J.H. van der. Borrelia burgdorferi infections with special reference to horses. A review.

Veterinary Quarterly, 4, 146-156.

Estrada-Pena, A., Bouattour, A., Camicas, J.L., Guglielmone, A., Horak, I., Jongejan, F., Latif, A., Pegram, R., & Walker, A.R. The Known Distribution and Ecological Preferences of the Tick Subgenus Boophilus (Acari: Ixodidae) in Africa and Latin America.

Molad, T., Mazuz, M.L., Fleiderovitz, L., Fish, L., Savitsky, I., Krigel, Y., Leibovitz, B., Molloy, J., Jongejan, F., & Shkap, V. Molecular and serological detection of A. centrale- and A. marginale-infected cattle grazing within an endemic area.

Veterinary microbiology, 113, 55-62.

Uilenberg, G., Thiaucourt, F., & Jongejan, F. Mycoplasma and Eperythrozoon (Mycoplasmataceae). Comments on a recent paper.

Input

| | FTE 2006 | | FTE 2006 |
|----------------|----------|--------------------|----------|
| Leader | | Post doc | |
| F. Jongejan | 1,0 | M. Postigo | 0,6 |
| Staff | | PhD student | |
| A. Taoufik | 1,0 | Z. Zivkovic | 0,75 |
| J.A.W. Coetzer | 0,1 | | |

Research group
Molecular Microbiology
(UU BIO 0.12)

Leader
J.P.M. Tommassen

Staff
M.C. Koster

Post doc
M. Bos
J.P. van Ulsen

PhD student
J.J.G. Geurtsen

Title PhD project

J. Geurtsen: Lipid A engineering in vaccine development against Bordetella Pertussis

International publications

- Geurtsen, J.J.G., Steeghs, L.J.J.M., Hamstra, H.J., Hove, J. ten, Haan, A. de, Kuipers, B., Tommassen, J.P.M., & Ley, P. van der. Expression of LPS-modifying enzymes PagP and PagL modulates the endotoxic activity of Bordetella pertussis. *Infection and Immunity*, 74, 5574-5585.
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plays a role in rhizosphere competence through maintaining the structure and function of the outer membrane. *FEMS Microbiology Ecology*, 58, 205-213.

Books, book chapters & proceedings

Ulsen, J.P. van, Gros, P., & Tommassen, J.P.M. Structure and function of the translocator domain of bacterial autotransporters. In R. Grishammer & S. Buchanan (Eds.), *Structural biology of membrane proteins* (pp. 270-287).

| Input | | FTE 2006 | | FTE 2006 |
|--------------------|-----|-----------------|--------------------|-----------------|
| Leader | | | Post doc | |
| J.P.M. Tommassen | 0,5 | | M. Bos | 0,4 |
| | | | J.P. van Ulsen | 1,0 |
| Staff | | | PhD student | |
| M.C. Koster | 1,0 | | J.J.G. Geurtsen | 0,75 |

Research groups
Vaccine Research and
Test Development and Formulations

Leader

C.J.P. Boog

Staff

G.P. van den Dobbelen
C.A. van Els
P. Hoogerhout
G. Kersten
P. van der Ley
W. Luytjes
M. Widjoatmodjo
B. Metz
H. Hirschberg
H. Meiring

Post doc

E. Soethout

PhD students

F. Fransen
J. Geurtsen
W. van den Kieboom
W.M. Liu
R. Stenger

Titles PhD projects

F. Fransen: Role played by innate immunity receptors in the mechanisms by which adjuvants influence the specific immune response to vaccines
J. Geurtsen: Lipid A engineering in vaccine development against Bordetella Pertussis
W. van den Kieboom: Development of in vitro immune response models to study immunogenicity of vaccine
W.M. Liu: Identification of Improved Correlates of Protection for Influenza
R. Stenger: Defining cellular immune responses critical to bordetella pertussis reemergence

International publications

Angell-Petersen E, Spetalen S, Madsen SJ, Sun CH, Peng Q, Carper SW, Sioud M, Hirschberg H. Influence of light fluence rate on the effects of photodynamic therapy in an orthotopic rat glioma model. *J Neurosurg.* 2006 Jan;104(1):109-17
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Hirschberg H, Sun CH, Krasieva T, Madsen SJ. Effects of ALA-mediated photodynamic therapy on the invasiveness of human glioma cells. *Lasers Surg Med.* 2006 Dec;38(10):939-45

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Virology. 2006 Aug 15;352(1):157-68
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Lasers Surg Med. 2006 Jun;38(5):555-64
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Lasers Surg Med. 2006 Jun;38(5):540-8
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J Environ Pathol Toxicol Oncol. 2006;25(1-2):453-66
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Crit Care. 2006 Feb;10(1):R33.

Input

| | FTE 2006 | | FTE 2006 |
|--------------------------|-----------------|---------------------|-----------------|
| Leader | | Post doc | |
| C.J.P. Boog | 1,0 | E. Soethout | 0,5 |
| Staff | | PhD students | |
| G.P. van den Dobbelsteen | 0,9 | F. Fransen | 0,75 |
| C.A. van Els | 0,8 | J. Geurtsen | 0,75 |
| H. Hirschberg | 0,7 | W. van den Kieboom | 0,7 |
| P. Hoogerhout | 1,0 | W.M. Liu | 0,2 |
| G. Kersten | 1,0 | R. Stenger | 0,75 |
| P. van der Ley | 1,0 | | |
| W. Luytjes | 1,0 | | |
| H. Meiring | 1,0 | | |
| B. Metz | 1,0 | | |
| M. Widjoatmodjo | 0,8 | | |

Research group
Experimental Microbiology
(UU UMC 2.1.3)

Leader
J.A.G. van Strijp

Staff
E. Boel
C. de Haas
K. van Kessel
H. van Leeuwen
A. Weersink

Post docs
F. Coenjaerts
N. Georgiou
S. Rooijackers

PhD students
B. Bardoel
J. Bestebroer
B. Herpers
I. Jongerius
A. Laarman
T.N. Le
A. Stemerding

Titles PhD projects

B. Bardoel: Bacterial Toll like receptor antagonists
J. Bestebroer: Characterisation of SSLS I-II
B. Herpers: Genetic and functional aspects of ficolin-2 health and disease
I. Jongerius: Characterization of a new Pathogenicity Island in Staphylococci
A. Laarman: Lectin pathway of Complement: Inhibitors and mechanisms
T.N. Le: Sepsis
A. Stemerding: Bacterial Fc receptor antagonists

Thesis

Haas, P.J.A. (12 May 2006). Staphylococcal Drug Discovery.
Prom./coprom.: Prof.dr. J. Verhoef, Dr. C.J.C. de Haas, Dr. C.P.M. van Kessel, & Dr. J.A.G. van Strijp.
Kartikasari, A.E.R. (13 February 2006). Iron modulates phagocyte-endothelial cell interactions.
Implications for atherosclerosis.
Prom./coprom.: Prof.dr. J.J.M. Marx, Dr. N.A. Georgiou, & Dr. F.L.J. Visseren.
Postma, B. (30 May 2006). Chemotaxis Inhibitory Protein of Staphylococcus aureus: targets and mechanisms.
Prom./coprom.: Prof.dr. J. Verhoef, Dr. C.J.C. de Haas, Dr. J.A.G. van Strijp, & Dr. C.P.M. van Kessel.

International publications

A, D.L. van der, Peeters, P.H.M., Grobbee, D.E., Roest, M., Marx, J.J.M., Voorbij, H.A.M., & Schouw, Y.T. van der. HFE mutations and risk of coronary disease in middle-aged women.
European Journal of Clinical Investigation, 36(10), 682-690.
A, D.L. van der, Marx, J.J.M., Grobbee, D.E., Kamphuis, M.H., Georgiou, N.A., Kats-Renaud, J.H. van, Breuer, W., Cabantchik, Z.I., Roest, M., Voorbij, H.A.M., & Schouw, Y.T. van der. Non-transferrin-bound iron and risk of coronary heart disease in postmenopausal women.
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FEMS yeast research, 6(2), 312-317.

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- Georgiou, N.A., Bruggen, J.T. van der, Healy, D.M., Tienen, C. van, Bie, P. de, Oudshoorn, M., Marx, J.J.M., & Asbeck, B.S. van. Bleomycin has antiviral properties against drug-resistant HIV strains and sensitises virus to currently used antiviral agents. *International Journal of Antimicrobial Agents*, 27(1), 63-68.
- Higgins, J., Loughman, A., Kessel, C.P.M. van, Strijp, J.A.G. van, & Foster, T.J. Clumping factor A of *Staphylococcus aureus* inhibits phagocytosis by human polymorphonuclear leucocytes. *FEMS Microbiology Letters*, 258(2), 290-296.
- Kartikasari, A.E.R., Georgiou, N.A., Geest, M.C. de, Kats-Renaud, J.H. van, Bouwman, J.J., Asbeck, B.S. van, Marx, J.J.M., & Visseren, F.L.J. Iron enhances endothelial cell activation in response to Cytomegalovirus or *Chlamydia pneumoniae* infection. *European Journal of Clinical Investigation*, 36(10), 743-752.
- Kartikasari, A.E.R., Georgiou, N.A., Visseren, F.L.J., Kats-Renaud, H., Asbeck, B.S. van, & Marx, J.J.M. Endothelial activation and induction of monocyte adhesion by non-transferrin-bound iron present in human sera. *FASEB Journal*, 20(2), 353-5.
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- Rooijackers, S.H.M., Ruyken, M., Roon, J. van, Kessel, C.P.M. van, Strijp, J.A.G. van, & Wamel, W.J.B. van. Early expression of SCIN and CHIPS drives instant immune evasion by *Staphylococcus aureus*. *Cellular microbiology*, 8(8), 1282-1293.
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- Wamel, W.J.B. van, Rooijackers, S.H.M., Ruyken, M., Kessel, C.P.M. van, & Strijp, J.A.G. van. The innate immune modulators staphylococcal complement inhibitor and chemotaxis inhibitory protein of *Staphylococcus aureus* are located on beta-hemolysin-converting bacteriophages. *Journal of Bacteriology*, 188(4), 1310-1315.

National publication

- Marx, J.J.M., & Metz, M. de. Manipulatie van de hemoglobineconcentratie door EPO. *Nederlands Tijdschrift voor Klinische Chemie en Laboratoriumgeneeskunde*, 31, 263-269.

Input

| | FTE 2006 | | FTE 2006 |
|-------------------|-----------------|---------------------|-----------------|
| Leader | | PhD students | |
| J.A.G. van Strijp | 0,8 | B. Bardoel | 0,75 |
| Staff | | J. Bestebroer | 0,75 |
| E. Boel | 0,4 | B. Herpers | 0,3 |
| C. de Haas | 0,7 | I. Jongerius | 0,75 |
| K. van Kessel | 0,8 | A. Laarman | 0,75 |
| H. van Leeuwen | 0,1 | T.N. Le | 0,3 |
| A. Weersink | 0,3 | A. Stemerding | 0,3 |
| Post docs | | | |
| F. Coenjaerts | 0,75 | | |
| N. Georgiou | 0 | | |
| S. Rooijakkers | 0 | | |

Research group
Clinical Viro-immunology
(UU UMC 2.2.6)

Leader
F. Miedema

Staff
D. van Baarle
N.A. Tesselaar

Post docs
J.A.M. Borghans

PhD students
I. den Braber
R. van Gent
P.G.T. Koenen
L. Kwast
F. Pietersma
I. Schellens
J. Scherrenburg

Titles PhD projects

- I. den Braber: Mechanisms of CD4 T cell depletion: T cell dynamics in CD70 and Nef transgenic mice
- R. van Gent: Establishment of the lymphocyte pool in healthy and stem cell or bone marrow transplanted children
- P.G.T. Koenen: Nef remt de functie van CTLA-4
- L. Kwast: Population dynamics of naïve T cells
- F. Pietersma: Features of EBV-specific T cells which predict EBV reactivation and risk of development EBV-related malignancies
- I. Schellens: Viral attenuation through adaptation of HIV to host CTL responses: a major mechanism of HLA-disease association?
- J. Scherrenburg: The role of HIV-induced immune activation on quality of EBV-specific T-cell immunity in the development of AIDS-related NHL

Thesis

Dijk - van Berkel, E.A.T. van (19 april 2006). ICOS and CD28: similar or separate costimulators of T cells? Universiteit Utrecht.
Prom./coprom.: Prof.dr. F. Miedema, Dr. M.A. Oosterwegel, & Dr N.A. Tesselaar.

International publications

- Annels, N.E., Kalpoe, J.S., Bredius, R.G., Claas, E.C.J., Kroes, A.C., Hislop, A.D., Baarle, D. van, Egeler, R.M., Tol, M.J.D. van & Lankester, A.C. Management of Epstein-Barr virus (EBV) reactivation after allogeneic stem cell transplantation by simultaneous analysis of EBV DNA load and EBV-specific T cell reconstitution.
Clinical Infectious Diseases, 42(12), 1743-1748.
- Bekker, V., Scherpbier, H.J., Beld, M., Piriou, E.R., Breda, A. van, Lange, J.M.A., Leth, F. van, Jurriaans, S., Wertheim-van Dillen, P.M.E., Baarle, D. van & Kuijpers, T.W. Epstein-Barr virus infects B and non-B lymphocytes in HIV-1 infected children and adolescents.
Journal of Infectious Diseases, 194(9), 1323-1330.
- Bekker, V., Westerlaken, G.H.A., Scherpbier, H.J., Alders, S., Zaaijer, H., Baarle, D. van & Kuijpers, T.W. Varicella vaccination in HIV-1 infected children after immune reconstitution.
AIDS, 20(18), 2321-2329.
- Borghans, J.A.M., Bredius, R.G., Hazenberg, M.D., Roelofs, H., Jol-van der Zijde, E.C., Heidt, J., Otto, S.A., Kuijpers, T.W., Fibbe, W.E., Vossen, J.M., Miedema, F. & Tol, M.J. Early determinants of long-term T-cell reconstitution after hematopoietic stem cell transplantation for severe combined

immunodeficiency.
Blood, 108(2), 763-769.

- Geels, M.J., Jansen, C.A., Baan, E., Cuyper, I. de, Schijndel, G.J. van, Schuitemaker, H., Goudsmit, J., Pollakis, G., Miedema, F., Praxton, W.A. & Baarle, D. van. CTL escape and increased viremia irrespective of HIV-specific CD4+ T-helper responses in two HIV-infected individuals.
Virology, 345(1), 209-219.
- Jansen, C.A., Baarle, D. van & Miedema, F. HIV-specific CD4+ T cells and viremia: who's in control?
Trends in immunology, 27(3), 119-124.
- Jansen, C.A., Piriou, E., Cuyper, I.M. de, Dort, K., Lange, J.M., Miedema, F. & Baarle, D. van. Long-term highly active antiretroviral therapy in chronic HIV-1 infection: evidence for reconstitution of antiviral immunity.
Antiviral Therapy, 11(1), 105-116.
- Jansen, C.A., Cuyper, I.M. de, Hooibrink, B., Bij, A.K. van der, Baarle, D. van & Miedema, F. Prognostic value of HIV-1 Gag-specific CD4+ T-cell responses for progression to AIDS analyzed in a prospective cohort study.
Blood, 107(4), 1427-1433.
- Leeuwen, E.E.M. van, Koning, J.J. de, Remmerswaal, E.B., Baarle, D. van, Lier, R.A.W. van & Berge, I.J. ten. Differential usage of cellular niches by cytomegalovirus versus Epstein-Barr and Influenza virus-specific CD8+ T cells.
Journal of Immunology, 177(8), 4998-5005.
- Piriou, E.R., Dort, K., Weel, J.F., Bemelman, F.J., Gamadia, L.E., Oers, M.H.J. van & Baarle, D. van. Detailed kinetics of EBV-specific CD4+ and CD8+ T cells during primary EBV infection in a kidney transplant patient.
Clinical Immunology, 119(1), 16-20.
- Tegbaru, B., Wolday, D., Messele, T., Legesse, M., Mekonnen, Y., Miedema, F. & Baarle, D. van. Tuberculin skin test conversion and reactivity rates among adults with and without human immunodeficiency virus in urban settings in Ethiopia.
Clinical and Vaccine Immunology, 13(7), 784-789.
- Visser, J., Baarle, D. van, Hoogeboom, N., Reesink, N., Klip, H., Schuurin, E., Nijhuis, E., Pawlita, M., Bungener, L., Vries-Idema, J. de, Nijman, H., Miedema, F., Daemen, T. & A, Z. van der. Enhancement of human papilloma virus typr 16 E7 specific T cell responses by local invasive procedures in patients with (pre)malignant cervical neoplasia.
International Journal of Cancer, 118(10), 2529-2537.

Book, book chapters & proceedings

- Voer, R.M. de, van der Klis, F., Rijkers, G.T., Sanders, E.A.M., Versteegh, F., Niers, L.E.M. & Berbers, G. Natural immunity to neisseria meningitidis serogroup C during the first year of life. Placental transfer of naturally acquired antibodies to meningococcal serogroups from mother to child. In: Cairns, Australië.

Input

| | FTE 2006 | | FTE 2006 |
|------------------|----------|---------------------|----------|
| Leader | | PhD students | |
| F. Miedema | 0,7 | I. den Braber | 0,75 |
| Staff | | R. van Gent | 0,75 |
| D. van Baarle | 0,9 | L. Kwast | 0,75 |
| N.A. Tesselaar | 0,7 | F. Pietersma | 0,75 |
| Post docs | | I. Schellens | 0,75 |
| J.A.M. Borghans | 1,0 | J. Scherrenburg | 0,75 |

Research group
Liposomes for immune intervention
(UU PHARM 4)

Leader
D.J.A. Crommelin
W.E. Hennink

Staff
W. Jiskoot
G. Storm

International publications

- Aa, M.A.E.M. van der, Mastrobattista, E., Oosting, R.S., Hennink, W.E., Koning, G.A., & Crommelin, D.J.A. The nuclear pore complex: the gateway to successful nonviral gene delivery. *Pharmaceutical Research*, 23(3), 447-459.
- Amidi, M., Romijn, S., Borchard, G., Junginger, H.E., Hennink, W.E., & Jiskoot, W. Preparation and characterization of protein-loaded N-trimethyl chitosan nanoparticles as nasal delivery system. *Journal of Controlled Release*, 111, 107-116.
- Banciu, M., Schiffelers, R.M., Fens, M.H.A.M., Metselaar, J.M., & Storm, G. Anti-angiogenic effects of liposomal prednisolone phosphate on B16 melanoma in mice. *Journal of Controlled Release*, 113, 1-8.
- Bonsted, A., Høgest, A., Mælandsmo, G.M., Prasmickaite, L., d'Oliveira, C., Hennink, W.E., Steenis, J.H van, & Berg, K. van den. Photochemically enhanced transduction of polymer-complexed adenovirus targeted to the epidermal growth factor receptor. *Journal of Gene Medicine*, 8, 286-297.
- Fretz, M.M., Jin, J., Conibere, R., Penning, N.A., Al-Taei, S., Storm, G., Futaki, S., Takeuchi, T., Nakase, I., & Jones, A.T. Effects of Na⁺/H⁺ exchangers inhibitors on subcellular localization of endocytic organelles and intracellular dynamics of protein transduction domains HIV-TAT peptide and octaarginine. *Journal of Controlled Release*, 116, 247-255.
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Input

| | FTE 2006 | | FTE 2006 |
|------------------|-----------------|--------------|-----------------|
| Leader | | Staff | |
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| W.E. Hennink | 0 | G. Storm | 0 |

Research group
 Yeast research group

Leader

T. Boekhout

Staff

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E.E. Kuramae

PhD student

M. Bovers

Title PhD projects

M. Bovers: Speciation and genomic diversity in the *Cryptococcus neoformans* species complex

International publications

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Input

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Titles PhD projects

J. Arends: Causes of immunologic and virologic failure in HIV and HCV coinfecting patients
B. Bardoel: Evasion of Toll-like receptors by bacteria?
M. Riedijk: Mechanisms of resistance towards fusion receptors in HIV
M. Bovers: Diversiteit binnen het *Cryptococcus neoformans* en *Cryptococcus gattii* soorten complex
R. Barth: Antiretroviral therapy in rural South Africa
F. Hagen: Virulence in *cryptococcus gattii*
A. Wensing: Evolution of resistance in HIV

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- Zielhuis, S.W., Seppenwoolde, J.H., Mateus, V.A., Bakker, C.J.G., Krijger, G.C., Storm, G., Zonnenberg, B.A., Schip, A.D. van het, Koning, G.A., & Nijssen, J.F. Lanthanide-Loaded Liposomes for Multimodality Imaging and Therapy. *Cancer biotherapy and radiopharmaceuticals*, 21(5), 520-527.

National publications

- Borleffs, J.C.C. Pro-contradiscussie over medisch onderwijs.
Nederlands Tijdschrift voor Geneeskunde, 150(8), 450.
- Borleffs, J.C.C., Pieters, H.M., Schaik, J.P.J. van, Verbout, A.J., & Wall, E. van der. Een hobbelig traject: problemen met implementatie schakeljaar.
Medisch Contact, 61(40), 1575-1577.
- Disseldorp, J. van, Slingenberg, E.J., Matute, A.J., Delgado, E., Hak, E., & Hoepelman, I.M.
 Application of guidelines on preoperative antibiotic prophylaxis in Leon, Nicaragua.
Netherlands Journal of Medicine, 64(11), 411-416.
- Ekkelenkamp, M.B., & Bonten, M.J.M. Colistin as last resort in 2 patients with pulmonary infection with multiresistant nosocomial bacteria.
Nederlands Tijdschrift voor Geneeskunde, 150(18), 1022-1026.
- Ekkelenkamp, M.B., Sekkat, M., Carpaij, N., Troelstra, A., & Bonten, M.J.M. Endocarditis due to methicillin-resistant *Staphylococcus aureus* originating from pigs.
Nederlands Tijdschrift voor Geneeskunde, 150(44), 2442-2447.
- Muller, L.M.A.J., Gorter, K.J., Hak, E., Goudzwaard, W.L., Schellevis, F.G., Hoepelman, I.M., & Rutten, G.E. Increased risk of infection in patients with diabetes mellitus type 1 or 2.
Nederlands Tijdschrift voor Geneeskunde, 150(10), 549-553.
- Riedijk, M., & Hoepelman, I.M. Dengue: een reizigerziekte.
Nederlands Tijdschrift voor Geneeskunde. Studenteneditie, 9(1).
- Wassenberg, M.W.M., & Hoepelman, I.M. Hoe is het beleid na een splenectomie? Kan men nagaan of er na de splenectomie nog een functionerende miltrest is?
Internisten Vademecum, 24(20).

Input

| | FTE 2006 | | FTE 2006 |
|----------------|----------|---------------------|----------|
| Leader | | PhD students | |
| I.M. Hoepelman | 0,15 | J. Arends | 0,75 |
| Staff | | B. Bardoel | 0,75 |
| J. Borleffs | 0 | M. Riedijk | 0,75 |
| F. Coenjaerts | 0,25 | M. Bovers | 0,75 |
| | | R. Barth | 0,75 |
| | | F. Hagen | 0,75 |
| | | A. Wensing | 0,75 |

Research group
 Regulation of immune cell function

Leader
 L. Meyaard

Post doc
 C.A. Jansen

PhD students
 R.J. Lebbink
 E.S.K. Rijkers
 T.A.M. Steevels

Titles PhD projects

R.J. Lebbink: The role of LAIR-1 engagement by Ep-CAM in tolerance and tumor immunity
 E.S.K. Rijkers: Molecular mechanisms of OX2R signaling
 T.A.M. Steevels: Function of LAIR in hematopoiesis

International publications

Geels, M.J., Jansen, C.A., Baan, E., Cuyper, I. de, Schijndel, G.J. van, Schuitemaker, H., Goudsmit, J., Pollakis, G., Miedema, F., Praxton, W.A., & Baarle, D. van. CTL escape and increased viremia irrespective of HIV-specific CD4+ T-helper responses in two HIV-infected individuals. *Virology*, 345(1), 209-219.

Lebbink, R.J., Ruiter, T. de, Adelmeijer, J., Brenkman, A.B., Helvoort, J.M.L.M. van, Koch, M., Farndale, R.W., Lisman, T., Sonnenberg, A., Lenting, P.J., & Meyaard, L. Collagens are functional, high affinity ligands for the inhibitory immune receptor LAIR-1. *Journal of Experimental Medicine*, 203(6), 1419-1425.

Verbrugge, A., Ruiter, T. de, Geest, C.R., Coffey, P.J., & Meyaard, L. Differential expression of leukocyte-associated Ig-like receptor-1 during neutrophil differentiation and activation. *Journal of Leukocyte Biology*, 79(4), 828-836.

Verbrugge, A., Rijkers, E.S.K., Ruiter, T. de, & Meyaard, L. LAIR-1 has SH2 domain containing phosphatase independent function and recruits Csk. *European Journal of Immunology*, 36, 190-198.

Input

| | FTE 2006 | | FTE 2006 |
|-----------------|-----------------|---------------------|-----------------|
| Leader | | PhD students | |
| L. Meyaard | 1,0 | R.J. Lebbink | 0,75 |
| Post doc | | E.S.K. Rijkers | 0,75 |
| C.A. Jansen | 0,9 | T.A.M. Steevels | 0,75 |

Research group
Molecular Immunology Lab
(UU UMC 2.2.7)

Leader
P.J. Coffe

Post docs
M. Buitenhuis
J.M. Beekman

PhD students
C. Geest
A.G.M. van Gorp
J. van Loosdregt
K. van der Vos

Titles PhD projects

- C. Geest: Characterisation of signalling defects in granulocytes and myeloid precursor cells from myelodysplasia patients
A.G.M. van Gorp: Identification and functional characterisation of novel PKB substrates
J. van Loosdregt: Post-translational regulation of FOXP3
K. van der Vos: Regulation and function of FOXO transcription factors

Thesis

Rosas Rosas, M. (13 June 2006). Characterization and antagonism of cytokine-induced eosinophil priming. Prom./coprom.: Prof.dr. P.J Coffe, & Prof. Dr. L. Koenderman.

International publications

- Gorp, A.G.M. van, Pomeranz, K.M., Birkenkamp, K.U., Hui, R.C., Lam, E.W.-F., & Coffe, P.J Chronic protein kinase B (PKB/c-akt) activation leads to apoptosis induced by oxidative stress-mediated Foxo3a transcriptional up-regulation. *Cancer Research*, 66(22), 10760-10769.
Lindemans, C.A., Coffe, P.J, Schellens, I.M.M., Graaff, P.M.A. de, Kimpen, J.L.L., & Koenderman, L. Respiratory syncytial virus inhibits granulocyte apoptosis through a phosphatidylinositol 3-Kinase and NF-kB-dependent mechanism. *Journal of Immunology*, 176, 5529-5537.
Loosdregt, J. van, Oosterhout, M.F.M. van, Bruggink, A.H., Wichen, D.F. van, Kuik, J. van, Koning, E. de, Baan, C.C., Jonge, N. de, Gmelig Meyling, F.H.J., & Weger, R.A. de. The chemokine and chemokine receptor profile of infiltrating cells in the wall of arteries with cardiac allograft vasculopathy is indicative of a memory T-helper 1 response. *Circulation*, 114(15), 1599-1607.
Rosas Rosas, M., Dijkers, P.F., Lindemans, C.A., Lammers, J.W.J., Koenderman, L., & Coffe, P.J IL-5-mediated eosinophil survival requires inhibition of GSK-3 and correlates with beta-catenin relocalization. *Journal of Leukocyte Biology*, 176(9), 186-195.
Verbrugge, A., Ruiters, T. de, Geest, C.R., Coffe, P.J, & Meyaard, L. Differential expression of leukocyte-associated Ig-like receptor-1 during neutrophil differentiation and activation. *Journal of Leukocyte Biology*, 79(4), 828-836.

Input

| | FTE 2006 | | FTE 2006 |
|------------------|----------|---------------------|----------|
| Leader | | PhD students | |
| P.J. Coffe | 1,0 | C. Geest | 0,75 |
| Post docs | | A.G.M. van Gorp | 0,75 |
| M. Buitenhuis | 1,0 | J. van Loosdregt | 0,75 |
| J.M. Beekman | 1,0 | K. van der Vos | 0,75 |

Research group
Theoretical Immunology
(UU BIO 0.17)

Leader
R.J. de Boer

Staff
C. Kesmir

Post docs
V.V. Ganusov
J.B. Beltman
J.A.M. Borghans

PhD students
L. Kwast
C. Althaus
H.J. van de Ham
T. Mugwagwa
B. Schmid

Titles PhD projects

L. Kwast: Lymphocyte population dynamics
C. Althaus: Modelling immune responses against acute and chronic infections
H.J. van de Ham: Gene regulation and expression in lymphocyte phenotypes
T. Mugwagwa: Modelling T cell dynamics
B. Schmid: The origin of the MHC polymorphism

International publications

Boer, R.J. de, Ganusov, V.V., Milutinovic, D., Hodgkin, P.D., & Perelson, A.S. Estimating Lymphocyte Division and Death Rates from CFSE Data.
Bulletin of mathematical biology, 68, 1011-1031.

Boer, R.J. de. Estimating the role of thymic output in HIV infection.
Current Opinion in HIV and AIDS, 1, 16-21.

Dool, C. van den, & Boer, R.J. de. The effects of age, thymectomy, and HIV infection on alpha and beta TCR excision circles in naive T cells.
Journal of Immunology, 177, 4391-4401.

Ganusov, V.V., & Boer, R.J. de. Estimating costs and benefits of CTL escape mutations in SIV/HIV infection. *PLoS Computational Biology*, 2, 182-187.

Ganusov, V.V., Pilyugin, S.S., Ahmed, R., & Antia, R. How does cross-reactive stimulation affect the longevity of CD8+ T cell memory?
PLoS Computational Biology, 9, e55.

Ganusov, V.V., & Antia, R. Imperfect vaccines and the evolution of pathogens causing acute infections in vertebrates.
Evolution, 60, 957-969.

Korthals Altes, H., Boer, R.J. de, & Boerlijst, M. Role of avidity and breadth of the CD4 T cell response in progression to AIDS.
Proceedings of the Royal Society of London. Series B, Biological Sciences, 68, 1011-1031.

Muller, V., & Boer, R.J. de. The integration hypothesis: An evolutionary pathway to benign SIV infection. *PLoS Pathogens*, 2, 149-151.

Rapin, N., Kesmir, C., Frankild, S., Nielsen, M., Lundegaard, C., Brunak, S., & Lund, O. Modelling the human immune system by combining bioinformatics and systems biology approaches.
Journal of biological physics, 32, 335-353.

Input

| | FTE 2006 | | FTE 2006 |
|------------------|-----------------|---------------------|-----------------|
| Leader | | Staff | |
| R.J. de Boer | 1,0 | C. Kesmir | 0,8 |
| Post docs | | PhD students | |
| V.V. Ganusov | 1,0 | L. Kwast | 0,75 |
| J.B. Beltman | 1,0 | C. Althaus | 0,75 |
| J.A.M. Borghans | 0,25 | H.J. van de Ham | 0,8 |
| | | T. Mugwagwa | 0,75 |
| | | B. Schmid | 0,8 |
| | | | |

Research group

Chronic inflammatory pulmonary diseases
(UU UMC 2.3.1)

Leader

L. Koenderman
J.W.J. Lammers

Staff

E. van de Graaf
P. Zanen

Post docs

E. Fortunati
H. Honing
L. Ulfman

PhD students

F. Hietbrink
W. ten Hove
J. Langereis
J. Pillay

Titles PhD projects

- F. Hietbrink: Immunologic response to trauma
W. ten Hove: Pharmacogenetics of asthma. Use of gene expression profiles to optimise individualised pharmacotherapy
J. Langereis: Mechanisms of systemic inflammation in COPD
J. Pillay: Distinct functional neutrophil phenotypes determine their role in innate immunity

Thesis

- Lindemans, C.A. (1 September 2006). Systemic Innate Immune Response in the Pathogenesis of Wheezing Illnesses in Infants.
Prom./coprom.: Prof. Dr. J.L.L. Kimpen, Prof. Dr. L. Koenderman, & Dr. C.K. van der Ent.
Oudijk, J.D. (10 February 2006). Activation of the systemic innate immune response in COPD.
Prom./coprom.: Prof. Dr. L. Koenderman, & Prof.dr. J.W.J. Lammers.
Rosas Rosas, M. (13 June 2006). Characterization and antagonism of cytokine-induced eosinophil priming. Prom./coprom.: Prof.dr. P.J. Coffey, & Prof. Dr. L. Koenderman.

International publications

- Baas, P., Hullenaar, N van 't, Wagenaar, J.P.M., Kaajan, J.P., Koolen, M.G.J., Schrijver, M., Schlosser, N.J., & Burgers, J.A. Occupational asbestos exposure: how to deal with suspected mesothelioma cases--the Dutch approach.
Annals of Oncology, 17(5), 848-852.
- Bauwens, A.M.M., Graaf, E.A. van de, Ginkel, W.G.J. van, Kessel, D.A., & Otten, H.G. Pre-transplant soluble CD30 is associated with bronchiolitis obliterans syndrome after lung transplantation.
Journal of Heart and Lung Transplantation, 25(4), 416-419.
- Boer, H.C. de, Verseyden, C., Ulfman, L.H., Zwaginga, J.J., Bot, I, Biessen, E.A.L., Rabelink, T.J., & Zonneveld, A.J. van. Fibrin and activated platelets cooperatively guide stem cells to a vascular injury and promote differentiation towards an endothelial cell phenotype.
Arteriosclerosis, Thrombosis and Vascular Biology, 26(7), 1653-1659.
- Brandsma, D., Ulfman, L., Reijneveld, J.C., Bracke, M., Taphoorn, M.J.B., Zwaginga, J.J., Gebbink, M.F.B.G., Boer, H. de, Koenderman, L., & Voest, E.E. Constitutive integrin activation on tumor cells contributes to progression of leptomeningeal metastases.
Neuro-Oncology, 8(2), 127-136.
- Garde, E.M.W. van de, Souverein, P.C., Bosch, J.M.M. van den, Deneer, V.H.M., & Leufkens, H.G.M. Angiotensin-converting enzyme inhibitor use and pneumonia risk in a general population.
European Respiratory Journal, 27, 1217-1222.

- Garde, E.M.W. van de, Souverein, P.C., Bosch, J.M.M. van den, Deneer, V.H.M., Goettsch, W.G., & Leufkens, H.G.M. Prior outpatient antibacterial therapy as prognostic factor for mortality in hospitalized pneumonia patients.
Respiratory Medicine, 100, 1342-1348.
- Geijer, R.M.M., Sachs, A.P.E., Verheij, Th.J.M., Lammers, J.W.J., Salome, Ph.L., & Hoes, A.W. Are patient characteristics helpful in recognizing mild COPD (GOLD I) in daily practice?
Scandinavian journal of primary health care, 24(4), 237-242.
- Geijer, R.M.M., Sachs, A.P.E., Verheij, Th.J.M., Salome, Ph.L., Lammers, J.W.J., & Hoes, A.W. Incidence and determinants of moderate COPD (GOLD II) in male smokers aged 40-65 years: 5-year follow up.
British Journal of General Practice, 56(530), 656-661.
- Goedhart, D.M., Zanen, P., & Lammers, J.W.J. Relevant and redundant lung function parameters in discriminating asthma from COPD.
COPD, 3(1), 33-39.
- Grutters, J.C., & Bosch, J.M.M. van den (2006). Corticosteroid treatment in sarcoidosis.
European Respiratory Journal, 28(3), 627-636.
- Hietbrink, F., Oudijk, E.J., Braams, R., Koenderman, L., & Leenen, L.P.H. Aberrant regulation of polymorphonuclear phagocyte responsiveness in multitrauma patients.
Shock, 26(6), 558-564.
- Hietbrink, F., Koenderman, L., Rijkers, G.T., & Leenen, L.P.H. Trauma: the role of the innate immune system.
World journal of Emergency Surgery [E], 1, 15.
- Hove, W. ten, Houben, L.A., Raaijmakers, J.A.M., Bracke, M., & Koenderman, L. Differential regulation of TNF α and GM-CSF induced activation of P38 MAPK in neutrophils and eosinophils.
Molecular Immunology.
- Hove, W. ten, Houben, L.A., Raaijmakers, J.A.M., Koenderman, L., & Bracke, M.S.G.M. Rapid selective priming of Fc α R on eosinophils by corticosteroids.
Journal of Immunology, 177(9), 6108-6114.
- Hove, W. ten, Houben, L.A., Raaijmakers, J.A.M., Koenderman, L., & Bracke, M. Rapid Selective Priming of Fc α R on Eosinophils by Corticosteroids.
Journal of Immunology, 6108-6114.
- Janssen, R., Kruit, A., Grutters, J.C., Ruven, H.J.T., Gerritsen, W.B., & Bosch, J.M.M. van den. The mucin-1 568 adenosine to guanine polymorphism influences serum Krebs von den Lungen-6 levels.
American Journal of Respiratory Cell and Molecular Biology, 34(4), 496-499.
- Kruit, A., Grutters, J.C., Ruven, H.J.T., Sato, H., Izumi, T., Nagai, S., Welsh, K.I., Bois, R.M. du, & Bosch, J.M.M. van den. Chymase gene (CMA1) polymorphisms in Dutch and Japanese sarcoidosis patients.
Respiration : international review of thoracic diseases, 73(5), 623-633.
- Kruit, A., Grutters, J.C., Ruven, H.J.T., Moorsel, C.H. van, Weiskirchen, R., Mengsteab, S., & Bosch, J.M.M. van den. Transforming growth factor-beta gene polymorphisms in sarcoidosis patients with and without fibrosis.
Chest, 129(6), 1584-1591.
- Lee, I. van der, Es, H.W. van, Noordmans, H.J., Bosch, J.M.M. van den, & Zanen, P. Alveolar Volume Determined by Single-Breath Helium Dilution Correlates with the High-Resolution Computed Tomography-Derived Nonemphysematous Lung Volume.
Respiration : international review of thoracic diseases, 73(4), 468-473.
- Lee, I. van der, Zanen, P., Grutters, J.C., Snijder, R.J., & Bosch, J.M.M. van den. Diffusing capacity for nitric oxide and carbon monoxide in patients with diffuse parenchymal lung disease and pulmonary arterial hypertension.
Chest, 129(2), 378-383.
- Lee, I. van der, Zanen, P., Bosch, J.M.M. van den, & Lammers, J.W.J. Pattern of diffusion disturbance related to clinical diagnosis: The K(CO) has no diagnostic value next to the DL(CO).
Respiratory Medicine, 100(1), 101-109.
- Lindemans, C.A., Coffey, P.J., Schellens, I.M.M., Graaff, P.M.A. de, Kimpen, J.L.L., & Koenderman, L. Respiratory syncytial virus inhibits granulocyte apoptosis through a phosphatidylinositol 3-Kinase and NF- κ B-dependent mechanism.
Journal of Immunology, 176, 5529-5537.
- Lindemans, C.A., Kimpen, J.L.L., Luijk, B., Heidema, J., Kanters, D., Ent, C.K. van der, & Koenderman, L. Systemic eosinophil response induced by respiratory syncytial virus.

- Munnik, P., Zanen, P., & Lammers, J.W.J. A comparison of lung function equipment with emphasis on interchangeability and methods.
Physiological Measurement, 27(6), 445-455.
- Oosterheert, J.J., Bonten, M.J.M., Schneider, M.M.E., Buskens, E., Lammers, J.W.J., Hustinx, W.M.N., Kramer, M.H.H., Prins, J.M., Slee, P.H., Kaasjager, K.A., & Hoepelman, A.I.M. Effectiveness of early switch from intravenous to oral antibiotics in severe community acquired pneumonia: multicentre randomised trial.
British Medical Journal, 333(7580), 1193.
- Otten, H.G., Bosch, J.M.M. van den, Ginkel, W.G.J. van, Loon, M.E. van, & Graaf, E.A. van de. Identification of non-HLA Target Antigens recognized after Lung Transplantation.
Journal of Heart and Lung Transplantation, 25(12), 1425-1430.
- Oudijk, E.J., Gerritsen, W.B., Nijhuis, E.H.J., Kanters, D., Maesen, B., Lammers, J.W.J., & Koenderman, L. Expression of priming-associated cellular markers on neutrophils during an exacerbation of COPD. *Respiratory Medicine*, 100(10), 1791-1799.
- Ravensberg, A.J., Lwijk, B., Westers, P., Hiemstra, P.S., Sterk, P.J., Lammers, J.W.J., & Rabe, K.F. The effect of a single inhaled dose of a VLA-4 antagonist on allergen-induced airway responses and airway inflammation in patients with asthma.
Allergy, 61(9), 1097-1103.
- Rosas Rosas, M., Dijkers, P.F., Lindemans, C.A., Lammers, J.W.J., Koenderman, L., & Coffey, P.J. IL-5-mediated eosinophil survival requires inhibition of GSK-3 and correlates with beta-catenin relocalization. *Journal of Leukocyte Biology*, 176(9), 186-195.
- Rutten, F.H., Cramer, M.J.M., Lammers, J.W.J., Grobbee, D.E., & Hoes, A.W. Heart failure and chronic obstructive pulmonary disease: An ignored combination?
European Journal of Heart Failure, 8(7), 706-711.
- Tramper, G.A., Ent, C.K. van der, Sliker, M.G., Terheggen - Lagro, S.W.J., Teding van Berkhout, F., Kimpen, J.L.L., & Wolfs, T.F.W. Diagnostic value of serological tests against pseudomonas aeruginosa in a large cystic fibrosis population.
Thorax, 61, 689-693.
- Veltkamp, M., Grutters, J.C., Moorsel, C.H. van, Ruven, H.J.T., & Bosch, J.M.M. van den. Toll-like receptor (TLR) 4 polymorphism Asp299Gly is not associated with disease course in Dutch sarcoidosis patients. *Clinical and Experimental Immunology*, 145(2), 215-218.
- Vries, F. de, Bracke, M., Leufkens, H.G.M., Lammers, J.W.J., Cooper, C., & Staa, T.P. van. Fracture Risk With Intermittent High-Dose Oral Glucocorticoid Therapy.
Arthritis & Rheumatism, 56(1), 208-214.
- Vries, F. de, Pouwels, S., Bracke, M., Leufkens, H.G.M., Cooper, C., Lammers, J.W.J., & Staa, T.P. van. Use of beta-2 agonists and risk of hip/femur fracture: a population-based case-control study.
Pharmacoepidemiology and Drug Safety.
- Wasfi, Y.S., Rose, C.S., Murphy, J.R., Silveira, L.J., Grutters, J.C., Inoue, Y., Judson, M.A., & Maier, L.A. A new tool to assess sarcoidosis severity.
Chest, 129(5), 1234-1245.
- Xu, D.M., Gietema, H.A., Koning, H. de, Vernhout, R., Nackaerts, K., Prokop, W.M., Weenink, C., Lammers, J.W.J., Groen, H., Oudkerk, M., & Klaveren, R. van. Nodule management protocol of the NELSON randomised lung cancer screening trial.
Lung cancer, 54(2), 177-184.

National publications

- Bosch, J.M.M. van den. Lung transplantation with the aid of living donors.
Nederlands Tijdschrift voor Geneeskunde, 150(4), 184-188.
- Brummelen, S.E. van, Vries, E., Schneeberger, P.M., Binnendijk, R.S. van, Lestrade, P., & Wever, P.C. Twee patiënten met de bof.
Nederlands Tijdschrift voor Geneeskunde, 150, 1732-1735.
- Hietbrink, F., Koenderman, L., & Leenen, L.P.H. Orgaanfalen na trauma is geassocieerd met modulatie van neutrofiële granulocyten in het perifere bloed.
Nederlands Tijdschrift voor Heelkunde, 15(119).
- Lammers, J.W.J. COPD: nieuwe inzichten.
Nederlands Tijdschrift voor Geneeskunde, 150(22), 1218-1221.
- Mennema-Vastenhout, T.H., Mooijen, W.A.J., Schwartz, M.P., & Schlosser, N.J. Diagnostiek van mediastinale lymfadenopathie: altijd chirurgie of kan het eenvoudiger?
Tijdschrift: tijdelijk onbekend, 59(149-184), 159-160.

- Schweizer, R.C., & Lammers, J.W.J. Is bij het gebruik van codeïne het onderscheid tussen productieve hoest en niet-productieve hoest zinvol?
Vademecum permanente nascholing huisartsen, 24/26, 1-2.
- Spoel, T.I.G. van der, Cramer, M.J.M., Graaf, E.A. van de, Kelder, J.C., Spoel, O.P. van der, & Bauwens, A.M.M. Dyspnoepoli. Multidisciplinaire aanpak van onbegrepen chronische kortademigheid.
Hart Bulletin, 37(4), 82.
- Verheul, A.J., & Lammers, J.W.J. Een verwarde man met hoestklachten.
Nederlands Tijdschrift voor Geneeskunde, 150(24), 1336.

Book, book chapters & proceedings

- Dekhuijzen, P.N.R., Sachs, A.P.E., & Lammers, J.W.J. Diagnostiek en monitoring.
In B.S. Boot & H.A.M. Kerstjens (Eds.), Zorg rondom COPD (Zorg rondom).
- Rhodus, R.J., Bauwens, A.M.M., Spoel, T.I.G. van der, Graaf, E.A. van de, & Cramer, M.J.M. De dyspneupolikliniek.
In B.S. Boot & H.A.M. Kerstjens (Eds.), Zorg rondom COPD (Zorg rondom).
- Velthove, K.J., Bracke, M., Schweizer, R.C., Berg, M.J. ten, Leufkens, H.G.M., & Solinge, W.W. van. Identifying Nonresponders to Asthma Therapy Using Leukocyte Parameters. In *Pharmacoepidemiology and Drug Safety* (pp. S145).
- Vries, F. de, Pouwels, S., Bracke, M., Lammers, J.W.J., Leufkens, H.G.M., Zuidgeest, M.G.P., & Staa, T.P. van. Inhaled Corticosteroids and Risk of Hip/Femur Fracture: Disease or Drugs? A Population-Based Case Control Study.
In Pharmacoepidemiology and Drug Safety (pp. S269).
- Vries, F. de, Pouwels, S., Bracke, M., Lammers, J.W.J., Leufkens, H.G.M., Zuidgeest, M.G.P., & Staa, T.P. van. Use of beta-2 Agonists and Risk of Hip/Femure Fracture: Associations with Daily and Cumulative Dose in a Population-Based Case-Control Study.
In Pharmacoepidemiology and Drug Safety (pp. S9).

Input

| | FTE 2006 | | FTE 2006 |
|------------------|----------|---------------------|----------|
| Leader | | Staff | |
| L. Koenderman | 0,7 | E. van de Graaf | 0,2 |
| J.W.J. Lammers | 0,3 | P. Zanen | 0,2 |
| Post docs | | PhD students | |
| E. Fortunati | 0,8 | F. Hietbrink | 0,75 |
| H. Honing | 0,8 | W. ten Hove | 0,3 |
| L. Ulfman | 0,8 | J. Langereis | 0,75 |
| | | J. Pillay | 0,6 |

Research group
Cutaneous and food allergy
(UU UMC 2.3.2)

Leader
C.A.F.M. Bruijnzeel – Koomen
E.F. Knol

Staff
M. de Bruin – Weller
A. Knulst
V. Sigurdsson

Post doc
E. van Hoffen

PhD students
A. Flinterman
B. Ruiter
D.J. Hijnen

Titles PhD projects

- A. Flinterman: Diagnosis in food allergy in children
B. Ruiter: The identification of T cell epitopes in cow's milk proteins in the context of the search for tolerance inducing hydrolysates. Analysis of differences between children with and without cow's milk allergy
D.J. Hijnen: Fenotyping, monitoring of disease activity and new therapeutic approaches in atopic dermatitis using micro array

Thesis

Oldhoff, J.M. (2 June 2006). In vivo evaluation of therapeutic options in atopic dermatitis.
Prom./coprom.: Prof.dr. C.A.F.M. Bruijnzeel-Koomen, Dr. M.S. de Bruin-Weller, & Dr. E.F. Knol.

International publications

- Fernandez-Rivas, M., Bolhaar, S.T.H.P., Gonzalez-Mancebo, E., Asero, R., Leeuwen, A van, Bohle, B., Ma, Y., Ebner, C., Rigby, N., Sancho, A.I., Miles, S., Zuidmeer, L., Knulst, A.C., Breiteneder, H., Mills, C., Hoffmann-Sommergruber, K., & Ree, R. van. Apple allergy across Europe: how allergen sensitization profiles determine the clinical expression of allergies to plant foods. *Journal of Allergy and Clinical Immunology*, 118(2), 481-488.
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- Hoekstra, M.O., Meijer, Y., Pasmans, S.G.M.A., & Knulst, A.C. Double-blind placebo-controlled cow's milk challenge for children in general hospitals. *Nederlands Tijdschrift voor Geneeskunde*, 150(23), 1278-1280.

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| Input | | FTE 2006 | FTE 2006 |
|------------------------------|-----|----------|---------------------|
| Leader | | | Post doc |
| C.A.F.M. Bruijnzeel – Koomen | 0,2 | | E. van Hoffen |
| E.F. Knol | 0,8 | | PhD students |
| Staff | | | A. Flinterman |
| M. de Bruin – Weller | 0,3 | | B. Ruiter |
| A. Knulst | 0,3 | | D.J. Hijnen |
| V. Sigurdsson | 0,1 | | |

Research group
Inflammatory joint diseases
(UU UMC 2.3.3)

Leader
J.W.J. Bijlsma
F.P.J.G. Lafeber

Staff
R.H.W.M. Derksen
J.W.G. Jacobs
A.A. Kruize

Post docs
A.C.A. Marijnissen
S. Mastbergen
J.A.G. van Roon

PhD students
S.A.Y. Hartgring
N.W.D. Jansen
H. de Jong

Titles PhD projects

S.A.Y. Hartgring: The role of Interleukin-7 in immunopathology
N.W.D. Jansen: Blood induced cartilage damage translations of in vitro and animal in vivo results to clinical practice in treatment of intra articular bleeds
H. de Jong: Self peptide responses in rheumatoid arthritis

International publications

Bijlsma, J.W.J., Hoes, J.N., Everdingen, A.A. van, Verstappen, S.S.M., & Jacobs, J.W.G. Are glucocorticoids DMARDs?
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Fransen, J., Verstappen, S.S.M., Bijlsma, J.W.J., Jacobs, J.W.G., Vliet-Vlieland, T.P., Riel, P.L.C.M. van, & Boers, M. De Nederlandse 'Health Assessment Questionnaire': consensus bereikt.

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Jahangier, Z.N., Jacobs, J.W.G., & Bijlsma, J.W.J. Radiosynovectomie van de knie: klinisch effect, voorspelbaarheid van het effect, werkingsmechanisme en veiligheid.

Nederlands Tijdschrift voor Reumatologie, 9, 21-25.

Lems, W.F., & Bijlsma, J.W.J. Effectiveness of dietary supplements in patients with osteoarthritis: the doubt persists.

Nederlands Tijdschrift voor Geneeskunde, 150(20), 1105-1107.

Luyten, K.M.A.C., & Jacobs, J.W.G. Van welke antireumatica is bekend dat ze de kans op het krijgen van een maligniteit vergroten?

Reumatologen Vademecum, 9(8).

Luyten, K.M.A.C., & Jacobs, J.W.G. Van welke antireumatica is bekend dat ze de kans op het krijgen van een maligniteit vergroten?

Oncologie Vademecum, 3(7).

Tekstra, J., & Jacobs, J.W.G. Wat is het beleid bij gewrichtsklachten en een verhoogde AST (ook op lange termijn)? Is herhaling van bepalingen nodig?

Reumatologen Vademecum, 9, 19.

Book, book chapters, proceedings

Bijlsma, J.W.J., Buttgereit, F., & Jacobs, J.W.G. Systemic and intra-articular glucocorticoids in rheumatoid arthritis.

In G.S. Firestein, G.S. Panayi, & F.A. Wollheim (Eds.), Rheumatoid arthritis. Sec. ed (pp. 337-353).

Groot, Ph.G. de, & Derksen, R.H.W.M. The influence of antiphospholipid antibodies on the protein C pathway.

In M.A. Kamashta (Ed.), Hughes Syndrome/Antiphospholipid syndrome Second Edition (pp. 427-438).

Jacobs, J.W.G. Wat zijn de praktisch consequenties van gegeneraliseerde hypermobiliteit en Ehlers-Danlos syndroom?

In A.M.J. Burgers & I.E. van der Horst Bruinsma (Eds.), Reuma chirurgie congressen 2005. Reumachirurgie en infectie (pp. 31-36).

Roermund, P.M. van, Lafeber, F.P.J.G., & Marijnissen, A.C.A. Joint distraction in the treatment of ankle osteoarthritis.

In S.R. Rozbruch & S. Ilizarov (Eds.), Limb lengthening and reconstruction surgery (pp. 273-278). New York London: Informa healthcare.

Input

| | FTE 2006 | | FTE 2006 |
|------------------|-----------------|---------------------|-----------------|
| Leader | | Post docs | |
| J.W.J. Bijlsma | 0,2 | A.C.A. Marijnissen | 0,5 |
| F.P.J.G. Lafeber | 0,5 | S. Mastbergen | 0,4 |
| Staff | | J.A.G. van Roon | 0,8 |
| R.H.W.M. Derksen | 0,4 | PhD students | |
| J.W.G. Jacobs | 0,3 | S.A.Y. Hartgring | 0,35 |
| A.A. Kruize | 0,1 | N.W.D. Jansen | 0,35 |
| | | H. de Jong | 0,35 |

Research group
Immunology of transplantation
(UU UMC 2.3.5)

Leader

F. Gmelig Meyling
N. de Jonge
M. Tilanus
R. de Weger

Staff

A.M. Alberink
M. Canninga
P.J. van Diest
H.F.J. Dullens
R. Goldschmeding
J.H. Kirkels
C. Klopping
J.A. Kummer
T. Nguen
A.J.M. van Oosterhout
E. Rozemuller
M.E.I. Schipper
J. van de Tweel
A. Vink

Post docs

A.N. Bovenschen
E. van Duijn

PhD students

A.H. Gijsbers - Bruggink
P.J.A. de Koning
A.J. Schellekens

Titles PhD projects

A.H. Gijsbers – Bruggink: The role of TNF α in heart failure and heart transplantation
P.J.A. de Koning: Mestcellen
A.J. Schellekens: The involvement of NK cells in hematopoietic cell transplantation

International publications

Bruggink, A.H., Jonge, N. de, Oosterhout, M.F.M. van, Wichen, D.F. van, Koning, E. de, Lahpor, J.R., Kemperman, J.T.J.H., Gmelig Meyling, F.H.J., & Weger, R.A. de. Brain natriuretic peptide is produced both by cardiomyocytes and cells infiltrating the heart in patients with severe heart failure supported by a left ventricular assist device.

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Bruggink, A.H., Oosterhout, M.F.M. van, Jonge, N. de, Ivangh, B., Kuik, J. van, Voorbij, H.A.M., Cleutjens, J.P.M., Gmelig Meyling, F.H.J., & Weger, R.A. de. Reverse remodeling of the myocardial extracellular matrix after prolonged left ventricular assist device support follows a biphasic pattern.

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Deininger, M., Schleuning, M., Greinix, H., Sayer, H.G., Fischer, T., Martinez, J., Maziarz, R., Olavarria, E., Verdonck, L.F., Schaefer, K., Boque, C., Faber, E., Nagler, A., Pogliani, E., Russell, N., Volin, L., Schanz, U., Doelken, G., Kiehl, M., Fauser, A., Druker, B., Sureda, A., Iacobelli, S., Brand, R., Krahl, R., Lange, T. de, Hochhaus, A., Gratwohl, A., Kolb, H., & Niederwieser, D. The effect of prior exposure to imatinib on transplant-related mortality.

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- Nagler, A., Verdonck, L.F., & Lokhorst, H.M. Prognostic factors for donor lymphocyte infusions following non-myeloablative allogeneic stem cell transplantation in multiple myeloma. *Bone Marrow Transplantation*, 37(12), 1135-1141.
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- Huisman, C., Straaten, H.M van der, Canninga-van Dijk, M., Fijnheer, R., & Verdonck, L.F. Pulmonary complications after T-cell-depleted allogeneic stem cell transplantation: low incidence and strong association with acute graft-versus-host disease. *Bone Marrow Transplantation*, 38(8), 561-566.
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- Loosdregt, J. van, Oosterhout, M.F.M. van, Bruggink, A.H., Wichen, D.F. van, Kuik, J. van, Koning, E. de, Baan, C.C., Jonge, N. de, Gmelig Meyling, F.H.J., & Weger, R.A. de. The chemokine and chemokine receptor profile of infiltrating cells in the wall of arteries with cardiac allograft vasculopathy is indicative of a memory T-helper 1 response. *Circulation*, 114(15), 1599-1607.

National publications

- Hooijkaas, H., Smeenk, R., & Gmelig Meyling, F.H.J. Systemische auto-immuunziekten: passende serologische diagnostiek. *Nederlands Tijdschrift Klinische Chemie en Labgeneeskunde*, 31, 257-268.
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Book, book chapters & proceedings

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Input

| | FTE 2006 | | FTE 2006 |
|--------------------------|----------|-----------------------|----------|
| Leader | | Staff | |
| F. Gmelig Meyling | 0,1 | A.M. Alberink | 0 |
| N. de Jonge | 0,2 | M. Canninga | 0,1 |
| M. Tilanus | 0,3 | P.J. van Diest | 0 |
| R. de Weger | 0,15 | H.F.J. Dullens | 0,1 |
| Post docs | | R. Goldschmeding | 0,3 |
| A.N. Bovenschen | 0,75 | J.H. Kirkels | 0,05 |
| E. van Duijn | 0,75 | C. Klopping | 0,05 |
| PhD students | | J.A. Kummer | 0,3 |
| A.H. Gijsbers - Bruggink | 0,2 | T. Nguen | 0,75 |
| P.J.A. de Koning | 0,75 | A.J.M. van Oosterhout | 0,4 |
| A.J. Schellekens | 0,75 | E. Rozemuller | 0,2 |
| | | M.E.I. Schipper | 0,1 |
| | | J. van de Tweel | 0 |
| | | A. Vink | 0,2 |

Research group
Inflammation of the inner eye
(UU UMC 2.1.1)

Leader
A. Rothova

Staff
J.H. de Boer
N.H. ten Dam
G. Postma

Post docs
J.D.F. de Groot – Meijnes

PhD students
K. Sijssens
L. de Visser

PhD projects

- K. Sijssens: Blindness and visual impairment in pediatric uveitis. Analysis of risk factors determining the visual prognosis.
L. de Visser: Etiology and pathogenesis of infectious uveitis

International publications

- Andriessse, G.I., Weersink, A.J.L., & Boer, J.H. de. Visual impairment and deafness in young children: consider the diagnosis of congenital infection with cytomegalovirus, even years after birth. *Archives of ophthalmology*, 124(5), 743-743.
- Boer, J.H. de, Berendschot, T.T.J.M., Does van der, P, & Rothova, A. Long-term follow up of intermediate uveitis in children. *American Journal of Ophthalmology*, 141(4), 616-621.
- Groot - Mijnes, J.D.F. de, & Rothova, A. Diagnostic testing of vitrectomy specimens. *American Journal of Ophthalmology*, 141(5), 982-983.
- Groot - Mijnes, J.D.F. de, Rothova, A., Loon, A.M. van, Schuller, M., Dam-van Loon, N.H. ten, Boer, J.H. de, Schuurman, R., & Weersink, A.J.L. Polymerase Chain Reaction and Goldmann-Witmer Coefficient Analysis Are Complimentary for the Diagnosis of Infectious Uveitis. *American Journal of Ophthalmology*, 141(2), 313-318.
- Groot - Mijnes, J.D.F. de, Visser, L. de, Rothova, A., Schuller, M., Loon, A.M. van, & Weersink, A.J.L. Rubella virus is associated with fuchs heterochromic iridocyclitis. *American Journal of Ophthalmology*, 141 (1), 212-214.
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Niermeijer, J.M.F., Hetinga, Y.M., Wokke, J.H.J., Rothova, A., & Hart, W. Clinical reasoning and decision-making in practice. A patient with loss of vision and painful legs.
Nederlands Tijdschrift voor Geneeskunde, 150(21), 1173-1178.

Pathanapitoon, K., Sukomboon, S., Kunavisarut, P., Ausayakhun, S., Wattananiorn, S., Leetrakool, N., & Rothova, A. HLA-B27-associated Acute Anterior Uveitis in het University Referral Centre in North Thailand: clinical presentation and visual prognosis.
British Journal of Ophthalmology, 90(12), 1448-1450.

Sijssens, K.M., Rothova, A., Berendschot, T.T.J.M., & Boer, J.H. de. Ocular Hypertension and Secondary Glaucoma in Children with uveitis.
Ophthalmology, 113(5), 853-859.

Input

| | FTE 2006 | | FTE 2006 |
|-----------------------|-----------------|-----------------------|-----------------|
| Leader | | Staff | |
| A. Rothova | 0,2 | J.H. de Boer | 0,1 |
| Post docs | | N. ten Dam – van Loon | 0 |
| J. de Groot – Meijnes | 0,35 | G. Postma | 0 |
| | | PhD students | |
| | | K. Sijssens | 0,75 |
| | | L. de Visser | 0,75 |

Research group
Psychoneuroimmunology
(UU UMC D1105-PERI)

Leader
C.J. Heijnen

Staff
F. van Bel
F. Groenendaal
A.M.A.A. Kavelaars

Post docs
P.M. Cobelens
A. Vroon

PhD students
A. Bikker
N. Eijkelkamp
M.A. Hegeman
W. Kleibeuker
M. van der Kooij
C.H.A. Nijboer
C. van Velthoven

Titles PhD projects

- A. Bikker: Mechanisms of neuronal damage and apoptosis in neonatal hypoxia ischemia
N. Eijkelkamp: G-protein coupled receptor kinases (GRK) involvement in hyperalgesia in irritable and inflammatory bowel disease
M.A. Hegeman: Exploring the beneficial effects of novel therapeutic strategies on the severity of ventilator-induced lung injury and the induction of multi-organ failure and sepsis in clinically relevant animal models
W. Kleibeuker: The role of regulation of G-protein coupled receptors kinases in chronic pain
M. van der Kooij: The putative neuroprotective effects and the mechanisms of G-CSF administration in an animal model for neonatal asphyxia
C.H.A. Nijboer: Hypoxic ischemic cerebral injury in a model of preterm neonate and the role of cytokines and nitric oxide synthase
C. van Velthoven: Mesenchymal stem cells as therapy for neonatal hypoxic-ischemic brain injury

International publications

- Benders, M.J.N.L., Bos, A.F., Rademaker, C.M.A., Rijken, M., Groenendaal, F., Torrance, H.L., & Bel, F. van. Early postnatal allopurinol does not improve short-term outcome after severe birth asphyxia.
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Psychoneuroendocrinology, 31(3), 355-360.
- Elsenbruch, S., Lucas, A., Holtmann, G., Haag, S., Gerken, G., Riemenschneider, N., Langhorst, J., Kavelaars, A.M.A.A., Heijnen, C., & Schedlowski, M. Public speaking stress-induced neuroendocrine responses and circulating immune cell redistribution in irritable bowel syndrome.
American Journal of Gastroenterology, 101(10), 2300-2307.
- Groenendaal, F., & Elferink-Stinkens, P.M. Hypoglycaemia and seizures in large-for-gestational-age (LGA) full-term neonates.
Acta Paediatrica, 95, 874-876.
- Groenendaal, F., Lammers, H., Smit, D., & Nikkels, P.G.J. Nitrotyrosine in brain tissue of neonates after perinatal asphyxia.
Archives of Disease in Childhood Fetal and Neonatal Edition, 91(6), F429-F433.

- Groenendaal, F., Benders, M.J.N.L., & Vries, L.S. de. Pre-wallerian degeneration in the neonatal brain following perinatal cerebral hypoxia-ischemia demonstrated with MRI.
Seminars in perinatology, 30, 146-150.
- Hendrikse, J., Vries, L.S. de, & Groenendaal, F. Magnetic resonance angiography of cerebral arteries after neonatal venoarterial and venovenous extracorporeal membrane oxygenation.
Stroke, 37(2), e15-e17.
- Jimenez-Sainz, M.C., Murga, C., Kavelaars, A.M.A.A., Jurado-Pueyo, M., Krakstad, B.F., Heijnen, C., Mayor, F. Jr., & Aragay, A.M. G protein-coupled receptor kinase 2 negatively regulates chemokine signaling at a level downstream from G protein subunits.
Molecular Biology of the Cell, 17(1), 25-31.
- Karemaker, R., Heijnen, C., Veen, S., Baerts, W., Samsom, J.N., Visser, G.H.A., Kavelaars, A.M.A.A., Doornen, L.J.P. van, & Bel, F. van. Differences in behavioral outcome and motor development at school age after neonatal treatment for chronic lung disease with Dexamethasone versus Hydrocortisone.
Pediatric Research, 60(6), 745-750.
- Kavelaars, A.M.A.A., & Heijnen, C. Stress, genetics, and immunity.
Brain Behavior and Immunity, 20(4), 313-316.
- Kesteren, C. van, Benders, M.J.N.L., Groenendaal, F., Bel, F. van, Ververs, F.F.T., & Rademaker, C.M.A. Population Pharmacokinetics of Allopurinol in Full-Term Neonates With Perinatal Asphyxia.
Therapeutic Drug Monitoring, 28(3), 339-344.
- Kloet, C.S. de, Vermetten, E., Geuze, E., Kavelaars, A.M.A.A., Heijnen, C., & Westenberg, H.G.M. Assessment of HPA-axis function in posttraumatic stress disorder: pharmacological and non-pharmacological challenge tests, a review.
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- Krediet, T.G., Cirkel, G.A., Vreman, H.J., Wong, R.J., Stevenson, D.K., Groenendaal, F., Egberts, J., & Bel, F. van. End-tidal carbon monoxide measurements in infant respiratory distress syndrome.
Acta Paediatrica, 95, 1075-1082.
- Krediet, T.G., Kavelaars, A.M.A.A., Vreman, H.J., Heijnen, C., & Bel, F. van. Respiratory distress syndrome-associated inflammation is related to early but not late peri/intraventricular hemorrhage in preterm infants.
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- Laan, W., Selten, J.P.C.J., Kahn, R.S., Huisman, A.M., Heijnen, C., Grobbee, D.E., & Burger, H. Acetylsalicylic acid as an adjuvant therapy for schizophrenia.
Trials [E], 7(31).
- Lemmers, P.M.A., Toet, M.C., Schelven, L.J. van, & Bel, F. van. Cerebral oxygenation and cerebral oxygen extraction in the preterm infant: the impact of respiratory distress syndrome.
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- Lucas, A., Holtmann, G., Gerken, G., Pietsch, A., Braun-Lang, U., Gilani, K., Strassburger, K., Gesing, S., Janssen, O.E., Kavelaars, A.M.A.A., Heijnen, C., Schedlowski, M., & Elsenbruch, S. Visceral pain and public speaking stress: neuroendocrine and immune cell responses in healthy subjects.
Brain Behavior and Immunity, 20(1), 49-56.
- Mommersteeg, P.M.C., Heijnen, C., Verbraak, M.J., & Doornen, L.J.P. van. A longitudinal study on cortisol and complaint reduction in burnout.
Psychoneuroendocrinology, 31(7), 793-804.
- Mommersteeg, P.M.C., Heijnen, C., Verbraak, M.J., & Doornen, L.J.P. van. Clinical burnout is not reflected in the cortisol awakening response, the day-curve or the response to a low-dose dexamethasone suppression test.
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- Mommersteeg, P.M.C., Keijsers, G.P., Heijnen, C., Verbraak, M.J., & Doornen, L.J.P. van. Cortisol deviations in people with burnout before and after psychotherapy: a pilot study.
Health Psychology, 25(2), 243-248.
- Mommersteeg, P.M.C., Heijnen, C., Kavelaars, A.M.A.A., & Doornen, L.J.P. van. Immune and endocrine function in burnout syndrome.
Psychosomatic Medicine, 68(6), 879-886.
- Os, S. van, Tweel, E.R.W. van den, Egberts, H., Hopman, J., Ruitenbeek, W., Bel, F. van, Groenendaal, F., & Bor, M. van der. Cerebral cortical tissue damage after hemorrhagic hypotension in near-term born lambs.
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- Rademaker, K.J., Rijpert, M., Uiterwaal, C.S.P.M., Liefink, A, Bel, F. van, Grobbee, D.E., Vries, L.S. de, & Groenendaal, F. Neonatal hydrocortisone treatment related to 1H-MRS of the hippocampus and short-term memory at school age in preterm born children. *Pediatric Research*, 59(2), 309-313.
- Rey, A. del, Renigunta, V., Dalpke, A.H., Leipziger, J., Matos, J.E., Robaye, B., Zuzarte, M., Kavelaars, A.M.A.A., & Hanley, P.J. Knock-out mice reveal the contributions of P2Y and P2X receptors to nucleotide-induced Ca²⁺ signaling in macrophages. *The Journal of Biological Chemistry [E]*, 281(46), 35147-35155.
- Toet, M.C., Lemmers, P.M.A., Schelven, L.J. van, & Bel, F. van. Cerebral oxygenation and electrical activity after birth asphyxia: their relation to outcome. *Pediatrics*, 117(2), 333-339.
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- Tweel, E.R.W. van den, Kavelaars, A.M.A.A., Lombardi, M.S., Nijboer, C.H.A., Groenendaal, F., Bel, F. van, & Heijnen, C. Bilateral molecular changes in a neonatal rat model of unilateral hypoxic-ischemic brain damage. *Pediatric Research*, 59(3), 434-439.
- Tweel, E.R.W. van den, Kavelaars, A.M.A.A., Lombardi, M.S., Groenendaal, F., May, M., Heijnen, C., & Bel, F. van. Selective inhibition of nuclear factor-kappaB activation after hypoxia/ischemia in neonatal rats is not neuroprotective. *Pediatric Research*, 59(2), 232-236.
- Verboon-Macielek, M., Groenendaal, F., Cowan, F., Govaert, P., Loon, A.M. van, & Vries, L.S. de. White matter damage in neonatal enterovirus meningoencephalitis. *Neurology*, 66(8), 1267-1269.
- Vreugdenhil, H.A.E., Lachmann, B., Haitsma, J.J., Zijlstra, J., Heijnen, C., Jansen, N.J.G., & Vught, A.J. van. Exogenous surfactant restores lung function but not peripheral immunosuppression in ventilated surfactant-deficient rats. *Experimental Lung Research*, 32(1-2), 1-14.
- Vries, L.S. de, & Bel, F. van. Doppler ultrasound and periventricular leukomalacia. *Pediatrics*, 117(1), 1-2.
- Vries, L.S. de, Verboon-Macielek, M., Cowan, F., & Groenendaal, F. The role of cranial ultrasound and magnetic resonance imaging in the diagnosis of infections of the central nervous system. *Early Human Development*, 82(12), 819-825.
- Vroon, A., Heijnen, C., & Kavelaars, A.M.A.A. GRKs and arrestins: regulators of migration and inflammation. *Journal of Leukocyte Biology*, 80(6), 1214-1221.
- Wolbeek, M. ter, Doornen, L.J.P. van, Kavelaars, A.M.A.A., & Heijnen, C. Severe fatigue in adolescents: a common phenomenon? *Pediatrics*, 117(6), 1078-1086.

National publications

- Groenendaal, F., Vries, L.S. de, & Bel, F. van. Gunstige resultaten van chirurgische behandeling van 43 kinderen met het hypoplastisch linkerhartsyndroom of een equivalente afwijking, 1999/05. *Nederlands Tijdschrift voor Geneeskunde*, 150(9), 2731-2732.

Book, book chapters & proceedings

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Input

| | FTE 2006 | | FTE 2006 |
|--------------------|-----------------|---------------------|-----------------|
| Leader | | PhD students | |
| C.J. Heijnen | 1,0 | A. Bikker | 0,75 |
| Staff | | N. Eijkelkamp | 0,75 |
| F. van Bel | 0,2 | M.A. Hegeman | 0,75 |
| F. Groenendaal | 0,2 | W. Kleibeuker | 0,75 |
| A.M.A.A. Kavelaars | 1,0 | M. van der Kooij | 0,75 |
| Post docs | | C.H.A. Nijboer | 0,75 |
| P.M. Cobelens | 0,75 | C. van Velthoven | 0,4 |
| A. Vroon | 0,5 | | |
| | | | |

Research group

Pediatric Immunology and Infectious diseases
(UU UMC 2.5)

Leader

J.L.L. Kimpen
W. Kuis

Staff

H.G.M. Arets
W. Balemans
M. Bierings
G. van Bleek
L. Bont
M. Bruin
E. Elst
C. van der Ent
B. van Ewijk
J. Frenkel
J.P.J. van Gestel
M.H.J. Goossens
M. Hoekstra
W. de Jager
N.J.G. Jansen
M. Lilien
B. Prakken
A. van Royen – Kerkhof
L. Sanders
A. Versluijs
A.J. van Vught
T. Wolfs
N. Wulffraat

PhD students

J. Aalberse
P.M.A. de Graaff
L. Haveman
M. Houben
B. de Jong
B. Kapitein
E. Koffeman
D. Kruijsen
L. Kuijk
M. Lukens
T. Niers
S.T.A. Roord
J. Ruskamp
A. Schadenberg
M. Slieker
M. van Summeren
S. Terheggen - Lagro
K. van Tilburg
G. Trampler
Y. Vercoulen
M. van der Zalm
E. Zonneveld - Huijssoon

Titles PhD projects

- J. Aalberse: Relationship between allergy and heat shock proteins
P.M.A. de Graaff: Characterization of immunity and disease-enhancing
L. Haveman: Identification of MHC class II restricted T-cell epitopes of adenovirus serotype 5, the first step towards immunotherapy in pediatric allogeneic hematopoietic stem cell recipients
- M. Houben: Predictieve waarde van cytokinen in vruchtwater, navelstrengbloed en placenta voor ontwikkelen van RSV lage luchtweg infectie
- B. de Jong: Wheezing illness study Leidsche Rijn
B. Kapitein: Early differentiation between heterogeneous infant wheezing phenotypes by using gene expression profiles in peripheral blood derived T lymphocytes
- E. Koffeman: Immune suppression or regulation? Unraveling the role of naturally occurring and antigen-induced regulatory T cells in Rheumatoid Arthritis and Juvenile Idiopathic Arthritis
- D. Kruijsen: Interplay of humoral and T cell responses during secondary infections with respiratory syncytial virus. Are Fc gamma-receptors the connections?
- L. Kuijk: Familial Recurrent Inflammatory Syndromes: Basic Etiology (FRISBE)
M. Lukens: Development of a RSV vaccine
T. Niers: The influence of prolonged perinatal administration of probiotics on sensitization in high risk neonates: a clinical and immunological study
- S.T.A. Roord: TNF-alfa pathway
J. Ruskamp: Bovenste luchtweginfecties bij kinderen; de rol van atopie, omgeving, leefstijl en genetica in een prospectief gevolgd geboortecohort.
- A. Schadenberg: Controlling the balance of inflammation after cardiac operation in children; a paradigm for inflammation in the pediatric intensive care
- M. Slieker: Fenotype and genotype in cystic fibrosis; the role of modifier genes
M. van Summeren: Vitamin K-dependent proteins: osteocalcin & bone metabolism, MGP & ectopic calcification
- S. Terheggen – Lagro: Cystic fibrosis
K. van Tilburg: The relationship of humoral and innate immunity with infections in children with acute lymphoblastic leukemia
- G. Tramper: Respiratory infections with *Pseudomonas aeruginosa* in children with Cystic Fibrosis; early surveillance and prevention
- Y. Vercoulen: The role of HSP60 in induction of FoxP3 expressing CD4+CD25+ T cells in JIA patients
- M. van der Zalm: Viral respiratory tract infections in infancy; determinants and predictors
E. Zonneveld – Huijssoon: Re-setting the immune system in chronic arthritis

Thesis

- Balemans, W.A.F. (27 October 2006). The role of childhood respiratory tract infections in the development of asthma and atopic disease.
Prom./coprom.: Prof.dr. E.A.M. Sanders, Dr. C.K. van der Ent, & Dr. M.M. Rovers.
- Berlo, S.E. (15 February 2006). Regulation of proteoglycan-specific immune responses in arthritis.
Prom./coprom.: Prof.dr. W. van Eden, Dr. C.P.M. Broeren, & Dr. A.B.J. Prakken.
- Graaff, P.M.A. de (17 November 2006). T cell responses specific for Respiratory Syncytial Virus.
Prom./coprom.: Prof. Dr. J.L.L. Kimpen, & Dr.ir. G.M. van Bleek.
- Heidema, J. (15 December 2006). Human RSV-specific T cells.
Prom./coprom.: Prof. Dr. J.L.L. Kimpen, & Dr.ir. G.M. van Bleek.
- Katier, N. (20 January 2006). Lung function in early life: origins and consequences.
Prom./coprom.: Prof. Dr. J.L.L. Kimpen, Prof.dr. Th.J.M. Verheij, Dr. C.K. van der Ent, & Dr. C.S.P.M. Uiterwaal.
- Lindemans, C.A. (1 September 2006). Systemic Innate Immune Response in the Pathogenesis of Wheezing Illnesses in Infants.
Prom./coprom.: Prof. Dr. J.L.L. Kimpen, Prof. Dr. L. Koenderman, & Dr. C.K. van der Ent.
- Luijckx, T.A. (8 June 2006). Immunogenicity of meningococcal PorA antigens in OMV vaccines.
Prom./coprom.: Prof.dr. W. van Eden, Dr. ir. G.P.J.M. van der Dobbelen, & C.A.C.M. van Els.
- Terheggen - Lagro, S.W.J. (26 September 2006). Cystic fibrosis: a hereditary inflammatory process.
Prom./coprom.: Prof. Dr. J.L.L. Kimpen, & Dr. C.K. van der Ent.

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Wulffraat, N.M., & Prakken, B.J. Pharmacological treatment: Approach to the management of refractory arthritis. In *Arthritis in children and adolescents* (pp. 431-441).

Input

| | FTE 2006 | | FTE 2006 |
|--------------------------|-----------------|------------------------|-----------------|
| Leader | | Staff | |
| J.L.L. Kimpen | 0,3 | H.G.M. Arets | 0,3 |
| W. Kuis | 0,3 | M. Bierings | 0,1 |
| PhD students | | G. van Bleek | 1,0 |
| J. Aalberse | 0,75 | L. Bont | 0,2 |
| P.M.A. de Graaff | 0,19 | M. Bruin | 0,1 |
| L. Haveman | 0,0 | E. Elst | 0,25 |
| M. Houben | 0,2 | C. van der Ent | 0,3 |
| B. de Jong | 0,75 | B. van Ewijk | 0,5 |
| B. Kapitein | 0,75 | J. Frenkel | 0,3 |
| E. Koffeman | 0,0 | J.P.J. van Gestel | 0,2 |
| D. Kruijsen | 0,75 | M.H.J. Goossens | 0,1 |
| L. Kuijk | 0,75 | M. Hoekstra | 0,3 |
| M. Lukens | 0,75 | W. de Jager | 1,0 |
| T. Niers | 0,38 | N.J.G. Jansen | 0,4 |
| S.T.A. Roord | 0,37 | M. Lilien | 0,2 |
| J. Ruskamp | 0,0 | B. Prakken | 0,4 |
| A. Schadenberg | 0,0 | A. van Royen – Kerkhof | 0,2 |
| M. Slieker | 0,18 | L. Sanders | 0,25 |
| M. van Summeren | 0,75 | A. Versluijs | 0,1 |
| S. Terheggen – Lagro | 0,19 | A.J. van Vught | 0,1 |
| C. van Tilburg | 0,19 | T. Wolfs | 0,3 |
| G. Tramper | 0,75 | N. Wulffraat | 0,3 |
| Y. Vercoulen | 0,75 | | |
| M. van der Zalm | 0,75 | | |
| E. Zonneveld – Huijssoon | 0,6 | | |

Research group
Regulation of antigen specific defense mechanisms
(UU VET SIB)

Leader
W. van Eden
A. Willemse

Staff
G. Arkesteijn
V.P.M.G. Rutten
R. van der Zee
E.J.A.M. Sijts

Post docs
F. Hauet – Broere
A.P. Koets
M.E. van Meeteren
I. van Rhijn
L. Vervelde
D.M.W. Zaiss
D.J.E.B. Krooshoop

PhD students
T. Guichelaar
S.S.N. Reemers
N. de Graaf
L. Wieten

Titles PhD projects

T. Guichelaar: Proteoglycan specific T-cells to study and treat experimental auto immune arthritis
S.S.N. Reemers: Genomics of host-respiratory virus interactions
N. de Graaf: Processing of Listeria antigens
L. Wieten: Helping health, boosting the immune response

International publications

Berlo, S.E., Guichelaar, T., Brink, C.B.M. ten, Kooten, P.J.S. van, Hauet-Broere, F., Ludanyi, K., Eden, W. van, Broeren, C.P.M., & Glant, T. Increased arthritis susceptibility in cartilage proteoglycan-specific T cell receptor-transgenic mice.
Arthritis & Rheumatism, 54(8), 2423-2433.

Cheng, T.Y., Relloso, M., Rhijn, I. van, Young, D.C., Besra, G.S., Briken, V., Zajonc, D.M., Wilson, I.A., Porcelli, S.A., & Moody, D.B. Role of lipid trimming and CD1 groove size in cellular antigen presentation.
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Divekar, A.A., Zaiss, D.M.W., Lee, F., Liu, D., Topham, D.J., Sijts, E.J.A.M., & Mosmann, T.R. Protein vaccines induce uncommitted IL-2-secreting human and mouse cells, whereas infections induce more IFN-gamma-secreting cells.
Journal of Immunology, 176(3), 1465-1473.

Eden, W. van. Immunoregulation of autoimmune diseases.
Human Immunology, 67(6), 446-453.

Eden, W. van. The immuno-regulatory T cell response to heat shock proteins and suppression of experimental autoimmunity.
Transfusion Medicine and Hemotherapy, 32, 400-409.

Guarner, F., Bourdet-Sicard, R., Brandtzaeg, P., Gill, H.S., McGuirk, P., Eden, W. van, Versalovic, J., Weinstock, J., & Rook, G.A. Mechanisms of disease: the hygiene hypothesis revisited.
Nature Clinical Practice Gastroenterology & Hepatology, 3(5), 275-284.

Habich, C., Kempe, K., Gomez, F.J., Lillcrap, M., Gaston, H., Zee, R. van der, Kolb, H., & Burkart, V. Heat shock protein 60: Identification of specific epitopes for binding to primary macrophages.
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- Hauet-Broere, F., Wieten, L., Guichelaar, T., Berlo, J. van, Zee, R. van der, & Eden, W. van. Heat shock proteins induce T cell regulation of chronic inflammation. *Annals of the Rheumatic Diseases*, 65, iii65-iii68.
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- Meeteren, M.E. van, Baron, W., Beermann, C., Dijkstra, C.D., & Tol, E.A. van. Polyunsaturated fatty acid supplementation stimulates differentiation of oligodendroglia cells. *Developmental Neurosciences*, 28(3), 196-208.
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- Peterson, K., Koets, A.P., Rutten, B., Houwers, D.J., & Colenbrander, B. Flowcytometric assessment of circulating peripheral blood monocytes in small ruminants. *Small Ruminant Research*, 65(1-2), 136-141.
- Puijvelde, G.H. van, Hauer, A.D., Vos, P. de, Heuvel, R. van den, Herwijnen, M.J. van, Zee, R. van der, Eden, W. van, Berkel, T.J. van, & Kuiper, J. Induction of oral tolerance to oxidized low-density lipoprotein ameliorates atherosclerosis. *Circulation*, 114(18), 1968-1976.
- Rhijn, I. van, Koets, A.P., Im, J.S., Piebes, D., Reddington, F., Besra, G.S., Porcelli, S.A., Eden, W. van, & Rutten, V.P.M.G. The bovine CD1 family contains group 1 CD1 proteins, but no functional CD1d. *Journal of Immunology*, 176(8), 4888-4893.
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- Zaiss, D.M.W., Yang, L., Shah, P.R., Kobie, J.J., Urban, J.F., & Mosmann, T.R. Amphiregulin, a TH2 cytokine enhancing resistance to nematodes. *Science*, 314, 1746.

Input

| | FTE 2006 | | FTE 2006 |
|--------------------|----------|---------------------|----------|
| Leader | | Staff | |
| W. van Eden | 0,7 | G. Arkesteijn | 0,6 |
| A. Willemse | 0,4 | V.P.M.G. Rutten | 0,6 |
| Post docs | | R. van der Zee | 0,7 |
| F. Hauet – Broere | 1,0 | E.J.A.M. Sijts | 0,7 |
| A.P. Koets | 0,7 | PhD students | |
| M.E. van Meeteren | 0,8 | T. Guichelaar | 0,75 |
| I. van Rhijn | 1,0 | S.S.N. Reemers | 0,75 |
| L. Vervelde | 0,6 | N. de Graaf | 0,75 |
| D.M.W. Zaiss | 1,0 | L. Wieten | 0,75 |
| D.J.E.B. Krooshoop | 0,0 | | |

Research group
Multiple myeloma
(UU UMC 2.3.6)

Leader
A.G. Bloem
H. Lokhorst

Staff
E.J.E.G. Bast
T. Mutis
L. Verdonck

PhD student
E. van Stralen

Title PhD project

E. van Stralen: The occurrence and molecular consequences of the T translocation in multiple myeloma

International publications

- Bauwens, A.M.M., Graaf, E.A. van de, Ginkel, W.G.J. van, Kessel, D.A., & Otten, H.G. Pre-transplant soluble CD30 is associated with bronchiolitis obliterans syndrome after lung transplantation. *Journal of Heart and Lung Transplantation*, 25(4), 416-419.
- Donk, N.W.C.J. van de, Bloem, A.C., Spek, E. van der, & Lokhorst, H.M. (2006). New treatment strategies for multiple myeloma by targeting BCL-2 and the mevalonate pathway. *Current Pharmaceutical Design*, 12(3), 327-340.
- Eurelings, M., Notermans, N.C., Lokhorst, H.M., Kessel, B. van, Jacobs, B.C., Wokke, J.H.J., Sahota, S.S., & Bloem, A.C. Immunoglobulin gene analysis in polyneuropathy associated with IgM monoclonal gammopathy. *Journal of Neuroimmunology*, 175(1-2), 152-159.
- Hagenbeek, A. (2006). Hemato-Oncology. *European Journal of Hospital Pharmacy Practice*, 12, 17-17.
- Hagenbeek, A., Eghbali, H., Monfardini, S., Vitolo, U., Hoskin, P.J., Wolf-Peeters, C. de, MacLennan, K., Staab-Renner, E., Kalmus, J., Schott, A., Teodorovic, I., Negrouk, A., Glabbeke, M. van, & Marcus, R. Phase III intergroup study of fludarabine phosphate compared with cyclophosphamide, vincristine, and prednisone chemotherapy in newly diagnosed patients with stage III and IV low-grade malignant Non-Hodgkin's lymphoma. *Journal of Clinical Oncology*, 24(10), 1590-1596.
- Haveman, L.M., Bierings, M.B., Legger, E., Klein, M., Jager, W. de, Otten, H.G., Albani, S., Kuis, W., Sette, A., & Prakken, A.B.J. Novel pan-DR-binding T cell epitopes of adenovirus induce pro-inflammatory cytokines and chemokines in healthy donors. *International Immunology*, 18(11), 1521-1529.
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- Lokhorst, H.M. (2006). No RIC in high-risk myeloma? *Blood*, 107(9), 3420-3421.
- Mielgo, A., Driel, M. van, Bloem, A.C., Landmann, L., & Gunthert, U. A novel antiapoptotic mechanism based on interference of Fas signaling by CD44 variant isoforms. *Cell Death and Differentiation*, 13(3), 465-477.
- Niermeijer, J.M.F., Eurelings, M., Lokhorst, H.M., Franssen, H., Fijnheer, R., Wokke, J.H.J., & Notermans, N.C. Neurologic and hematologic response to fludarabine treatment in IgM MGUS polyneuropathy. *Neurology*, 67(11), 2076-2079.

- Noordijk, E.M., Carde, P., Dupouy, N., Hagenbeek, A., Krol, A.D., Kluin-Nelemans, J.C., Tirelli, U., Monconduit, M., Thomas, J., Eghbali, H., Aleman, B. M., Bosq, J., Vovk, M., Verschueren, T.A., Peny, A.M., Girinsky, T., Raemakers, J.M., & Henry-Amar, M. Combined-modality therapy for clinical stage I or II Hodgkin's lymphoma: long-term results of the European Organisation for Research and Treatment of Cancer H7 randomized controlled trials.
Journal of Clinical Oncology, 24(19), 3128-3135.
- Oers, M.H.J. van, Klasa, R., Marcus, R.E., Wolf, M., Kimby, E., Gascoyne, R.D., Jack, A., Veer, M.B. van 't, Vranovsky, A., Holte, H., Glabbeke, M. van, Teodorovic, I., Roczewicz, C., & Hagenbeek, A. Rituximab maintenance improves clinical outcome of relapsed/resistant follicular non-Hodgkin lymphoma in patients both with and without rituximab during induction: results of a prospective randomized phase 3 intergroup trial.
Blood, 108(10), 3295-3301.
- Otten, H.G., Bosch, J.M.M. van den, Ginkel, W.G.J. van, Loon, M.E. van, & Graaf, E.A. van de. Identification of non-HLA Target Antigens recognized after Lung Transplantation.
Journal of Heart and Lung Transplantation, 25(12), 1425-1430.
- Schonland, S.O., Lokhorst, H.M., Buzyn, A., Leblond, V., Hegenbart, U., Bandini, G., Campbell, A., Carreras, E., Ferrant, A., Grommisch, L., Jacobs, P., Kroger, N., La Nasa, G., Russell, N., Zachee, P., Goldschmidt, H., Iacobelli, S., Niederwieser, D., & Gahrton, G. Allogeneic and syngeneic hematopoietic cell transplantation in patients with amyloid light-chain amyloidosis: a report from the European Group for Blood and Marrow Transplantation.
Blood, 107(6), 2578-2584.
- Schutgens, R.E.G. Rituximab-induced serum sickness.
British Journal of Haematology, 135(2), 147-147.
- Spek, E. van der, Bloem, A.C., Donk, N.W.C.J. van de, Bogers, L.H., Griend, R. van der, Kramer, M.H.H., Weerd, O. de, Wittebol, S., & Lokhorst, H.M. Dose-finding study of high-dose simvastatin combined with standard chemotherapy in patients with relapsed or refractory myeloma or lymphoma.
Haematologica, 91(4), 542-545.

National publications

- Hagenbeek, A. Rituximab-onderhoudsbehandeling bij patienten met folliculair lymfoom in eerste remissie: de PRIMA/HOVON 73 studie.
Nederlands Tijdschrift voor Hematologie, 3, 77-79.
- Ruth, S. van, Lokhorst, H.M., & Bruijnzeel-Koomen, C.A.F.M. Twee patienten met hypereosinofiel syndroom.
Nederlands Tijdschrift voor Geneeskunde, 150(21), 1193-1196.

| Input | | FTE 2006 | FTE 2006 |
|---------------|-----|--------------------|----------|
| Leader | | Staff | |
| A.G. Bloem | 0,1 | E.J.E.G. Bast | 0,2 |
| H. Lokhorst | 0,1 | T. Mutis | 0,3 |
| | | L. Verdonck | 0,1 |
| | | PhD student | |
| | | E. van Stralen | 0,75 |

Research group
Experimental Hematology
(UU UMC 2.3.7)

Leader
S.B. Ebeling
A. Martens

Staff
H.G. Otten
I.C.M. Slaper – Cortenbach

Post docs
H. Rozemuller

PhD Students
M.J.G. Bakker
S. van Dorp
T. van Meerten
H.J. Prins

Titles PhD projects

M.J.G. Bakker: Stem cell based therapy for muco polysaccharidosis type 1H (Hurler's disease)
S. van Dorp: Anti-CD20 therapy for the treatment of chronic graft-versus-host disease
T. van Meerten: Evaluation of CD20 for its suitability as a suicide gene in allogeneic stem cell transplantation
H.J. Prins: Non-invasive Bioluminescent Imaging (BLI) in animal models for stem cell transplantation, bone tissue engineering and osteoporosis

Thesis

Rijn, R.S. van (23 November 2006). Preclinical evaluation of human T lymphocytes in RAG2-/- γ c-/- mice. Universiteit Utrecht.
Prom./coprom.: Prof.dr. A. Hagenbeek & Dr. S.B. Ebeling.

International publications

Buijs, A., Krijtenburg, P.-J. & Meijer, E. Detection of risk-identifying chromosomal abnormalities and genomic profiling by multiplex ligation-dependent probe amplification in chronic lymphocytic leukemia.
Haematologica, 91(10), 1434-1435.

Dominici, M., Blanc, K. Le, Mueller, I., Slaper-Cortenbach, I.C.M., Marini, F.C., Krause, D.S., Deans, R.J., Keating, A, Prockop, D.J. & Horwitz, E.M. Minimal criteria for defining multipotent mesenchymal stromal cells. The International Society for Cellular Therapy position statement.
Cytotherapy, 8(4), 315-317.

Ivanov, R., Hol, S., Aarts, T.I., Hagenbeek, A. & Ebeling, S.B. T cell receptor-transgenic primary T cells as a tool for discovery of leukaemia-associated antigens.
Clinical and Experimental Immunology, 143(1), 78-84.

Ivanov, R., Hagenbeek, A. & Ebeling, S.B. Towards immunogene therapy of hematological malignancies.
Experimental Hematology, 34(3), 251-263.

Meerten, T. van, Rijn, R.S. van, Hagenbeek, A. & Ebeling, S.B. Complement-induced cell death by rituximab depends on CD20 expression level and acts complementary to antibody-dependent cellular cytotoxicity.
Clinical Cancer Research, 12(13), 4027-4035.

Meerten, T. van, Claessen, M.J., Hagenbeek, A. & Ebeling, S.B. The CD20/alphaCD20 'suicide' system: novel vectors with improved safety and expression profiles and efficient elimination of CD20-transgenic T cells.
Gene therapy, 13(9), 789-797.

Teeling, J.L., Mackus, W.J.M., Wiegman, L.J., Brakel, J.H. van den, Beers, S.A., French, R.R., Meerten, T. van, Ebeling, S.B., Vink, T., Sloodstra, J., Parren, P.W.H.I., Glennie, M.J. & Winkel,

J.G.J. van de. The biological activity of human CD20 monoclonal antibodies is linked to unique epitopes on CD20.
Journal of Immunology, 177, 362-371.

| Input | | FTE 2006 | | FTE 2006 |
|---------------|----------------------------|-----------------|---------------------|-----------------|
| Leader | | | Post docs | |
| | S.B. Ebeling | 1,0 | H. Rozemuller | 0,75 |
| | A. Martens | 1,0 | PhD Students | |
| Staff | | | M.J.G. Backer | 0,75 |
| | H.G. Otten | 0 | S. van Dorp | 0,75 |
| | I.C.M. Slaper – Cortenbach | 0 | T. van Meerten | 0,75 |
| | | | H.J. Prins | 0,75 |
| | | | | |

Research group
Fc receptors and immuno therapy
(UU UMC 2.2.1)

Leader
J.H.W. Leusen
J.G.J. van de Winkel

Post docs
S. de Haij

PhD students
J.E. Bakema
C. E. van der Poel
A.M. Stemerding

Titles PhD projects

J.E. Bakema: Ins and outs of the IgA receptor or FcαRI
C. E. van der Poel: Effector proteins of the high affinity IgG receptor, CD64
A.M. Stemerding: Role of FcRn in phagocytes

Thesis

Otten, M.A. (15 June 2006). Antibody therapeutic approaches for cancer. Universiteit Utrecht
Prom./coprom.: Prof.dr. J.G.J. van de Winkel, Prof.dr. R.H.J. Beelen & M. van Egmond.

International publications

- Bakema, J.E., Haij, S. de, Hartog-Jager, C.F. den, Bakker, J., Vidarsson, G., Egmond, M. van, Winkel, J.G.J. van de & Leusen, J.H.W. Signaling through mutants of the IgA receptor, CD89, and consequences for FcR γ-chain interaction.
Journal of Immunology, 176, 3603-3610.
- Bevaart, L., Goldstein, J., Vitale, L.A., Russoniello, C., Trembl, J., Zhang, J., Graziano, R.F., Leusen, J.H.W., Winkel, J.G.J. van de & Keler, T. Direct targeting of genetically modified tumour cells to FcγRI triggers potent tumor cytotoxicity.
British Journal of Haematology, 132, 317-325.
- Bevaart, L., Jansen, J.H.M., Vugt, M.J. van, Verbeek, J.S., Winkel, J.G.J. van de & Leusen, J.H.W. The high-affinity IgG receptor, FcγRI, plays a central role in antibody therapy of experimental melanoma.
Cancer Research, 66, 1261-1264.
- Brodzik, R., Glogowska, M., Bandurska, K., Okulicz, M., Deka, D., Ko, K., Linden, J.A. van der, Leusen, J.H.W., Pogrebnyak, N., Golovkin, M., Steplewski, Z. & Koprowski, H. Plant-derived anti-Lewis Y mAb exhibits biological activities for efficient immunotherapy against human cancer cells.
Proceedings of the National Academy of Sciences of the United States of America, 103, 8804-8809.
- Lammerts van Bueren, J.J., Bleeker, W.K., Bøgh, H.O., Houtkamp, M., Schuurman, J., Winkel, J.G.J. van de & Parren, P.W.H.I. Effect of target dynamics on pharmacokinetics of a novel therapeutic antibody against the epidermal growth factor receptor: implications for the mechanisms of action.
Cancer Research, 66, 7630-7638.
- Otten, M.A., Groenveld, I., Winkel, J.G.J. van de & Egmond, M. van. Inefficient antigen presentation via the IgA Fc receptor (FcαRI) on dendritic cells.
Immunobiology, 211, 503-510.
- Rodriguez, M., Hellwig, S., Perez Vidakovic, M.L.A., Berbers, G.A.M. & Winkel, J.G.J. van de. Bordetella pertussis attachment to respiratory epithelial cells can be impaired by Fimbriae-specific antibodies.
FEMS Immunology and Medical Microbiology, 46, 39-47.
- Sprong, H., Suchanek, M., Dijk, S.M. van, Remoortere, A. van, Klumperman, J., Avram, D., Linden, J. van der, Leusen, J.H.W., Hellemond, J.J. van & Thiele, C. Release of *Schistosoma mansoni* glycoproteins on host lipoproteins allows antigen endocytosis via the LDL-receptor and lipoprotein endocytosis via the Fc receptor.
Plos Medicine, 3, e253

- Steeghs, L.J.J.M., Vliet, S.J. van, Uronen-Hansson, H., Mourik, A. van, Engering, A., Sanchez-Hernandez, M., Klein, N., Callard, R., Putten, J.P.M. van, Ley, P. van der, Kooyk, Y. van & Winkel, J.G.J. van de. Neisseria meningitidis expressing IgtB lipopolysaccharide targets DC-SIGN and modulates dendritic cell function.
Cellular microbiology, 2, 316-325.
- Teeling, J.L., Mackus, W.J.M., Wiegman, L.J., Brakel, J.H. van den, Beers, S.A., French, R.R., Meerten, T. van, Ebeling, S.B., Vink, T., Slootstra, J., Parren, P.W.H.I., Glennie, M.J. & Winkel, J.G.J. van de. The biological activity of human CD20 monoclonal antibodies is linked to unique epitopes on CD20.
Journal of Immunology, 177, 362-371.
- Vidarsson, G., Stermerding, A.M., Rebers, F.E.M., Haas, M. de & Winkel, J.G.J. van de. FcRn: an IgG receptor on phagocytes with a novel role in phagocytosis.
Blood, 108, 3573-3579.
- Vuuren, A.J. van, Roon, J.A.G. van, Walraven, V., Stuij, I., Harmsen, M.C., McLaughlin, P., Winkel, J.G.J. van de & Thepen, T. CD64-directed immunotoxin inhibits arthritis in a novel CD64 transgenic rat model.
Journal of Immunology, 176, 5833-5838.
- Wolf, D.L. de, Neiderud, A.M., Hinkley, K., Dahlen, G., Winkel, J.G.J. van de & Papapanou, P.N. Fcy receptor polymorphisms and periodontal status: a prospective follow-up study.
Journal of Clinical Periodontology, 33, 691-698.

Input

| | FTE 2006 | | FTE 2006 |
|----------------------|----------|---------------------|----------|
| Leader | | PhD students | |
| J.H.W. Leusen | 0,9 | J.E. Bakema | 0,75 |
| J.G.J. van de Winkel | 0,2 | C. E. van der Poel | 0,75 |
| Post docs | | A.M. Stermerding | 0 |
| S. de Hajj | 0,9 | | |

Research group
Immunopharmacology
(UU PHARM 1)

Leader
F.P. Nijkamp

Staff
F. Engels
G. Folkerts
J. Garssen
P.A.J. Henricks
A. van Houwelingen
A. Kraneveld
F. Redeveld
A. Rijniere

Post docs
L. Bevaart
K. Slot
L. Willemsen

PhD students
B. Schouten
Y.A. Taher

Titles PhD projects

- B. Schouten: Rol van pre- en probiotica in immuunmodulatie in het bijzonder in allergische reacties tegen voedselcomponenten
- Y.A. Taher: Allergen immunotherapy, mechanism & improvements

Thesis

- Rijniere, A.. Neuroimmune regulation of inflammatory responses in inflammatory bowel disease. Prom./coprom.: Prof.dr. F.P. Nijkamp, Dr. A.D. Kraneveld, & Dr. A.S. Koster.

International publications

- Broeke, R. ten, Crom, R. de, Haperen, R. van, Verweij, V.G.M., Leusink-Muis, A., Ark, I. van, Clerck, F. de, Nijkamp, F.P., & Folkerts, G. Overexpression of endothelial nitric oxide synthase suppresses features of allergic asthma in mice. *Respiratory research*, 7.
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Input

| | FTE 2006 | | FTE 2006 |
|---------------------|----------|--------------------|----------|
| Leader | | Staff | |
| F.P. Nijkamp | 0,1 | F. Engels | 0,1 |
| Post docs | | G. Folkerts | 0,3 |
| L. Bevaart | 0,2 | J. Garssen | 0,4 |
| K. Slot | 0,05 | P.A.J. Henricks | 0,2 |
| L. Willemsen | 0,3 | A. van Houwelingen | 0,1 |
| PhD students | | A. Kraneveld | 0,3 |
| B. Schouten | 0,7 | F. Redevelde | 0,5 |
| Y.A. Taher | 0,7 | A. Rijnierse | 0,2 |