

CURRICULUM VITAE - A. P. WATERS, Ph.D.

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PERSONAL

Name: Andrew Paul Waters

D.o.B: 3rd September, 1957

Age: 49 years

Nationality: British

Home Address:
Sint Pancrassteeg 3,
2312KL Leiden
The Netherlands

PROFESSIONAL

Qualifications:

1979 B.Sc. (Hons), Biochemistry, University of Leeds, U.K.
1983 Ph.D., Biochemistry, University of Glasgow, U.K.
Thesis Title: The transcriptional effects of the anti-oestrogen, Tamoxifen, on the immature rat uterus.

Positions Held:

1982-1986 Post-doctoral Research Assistant, Department of Chemical Pathology, Guy's Hospital, London, U.K.
1987-1989 Visiting Associate, Malaria Section, Laboratory of Parasitic Diseases, National Institute of Allergy and Infectious Disease, National Institutes of Health, Bethesda, MD, USA.
1990-1991 Visiting Scientist, Malaria Section, Laboratory of Parasitic Diseases, National Institute of Allergy and Infectious Disease, National Institutes of Health, Bethesda, MD, USA.
1991-1993 Group Leader, Universitair Docent (Assistant Professor), Department of Parasitology, University of Leiden, Leiden, The Netherlands.
1993-1997 Group Leader, Universitair Docent (Associate Professor), Department of Parasitology, University of Leiden, Leiden, The Netherlands.
1998-2004 Group Leader, Universitair Hoofd Docent (Senior Associate Professor/Reader), Department of Parasitology, Leiden University Medical Centre, Leiden, The Netherlands.
2004- Professor in Molecular Parasitology, Department of Parasitology, Leiden University Medical Centre, Leiden, The Netherlands.

Honours:

2001- Visiting Fellow, Gulbenkian Institute of Science, Oeiras, Portugal
2003-2008 Honorary Reader, Imperial College, London, UK.
2006-2008 Visiting Professor, Edinburgh University, Scotland, UK.

Professional Organisations:

1996 -2001 Royal Society of Tropical Medicine and Hygiene, UK.
1998 - Dutch Parasitological Society (NVP)

PUBLICATIONS

Peer-reviewed Research Articles (most significant papers)

1981

1. Waters, A.P. & Knowler, J.T. (1981) *J. Ster. Biochem.* **14**, 625-30. A Comparison Of the Effects of Oestrogen and Tamoxifen on the Synthesis of Uterine RNA in Immature Rats.
2. Waters, A.P. & Knowler, J.T. (1981) *FEBS Letters* **129**, 17-20. A Comparison of the Effects of Oestrogen and Tamoxifen on the Synthesis of Uterine High Molecular Weight RNA.

1982

3. Waters, A.P. & Knowler, J.T. (1982) *J. Reprod. Fertil.* **66**, 379-81. The Activity of a Lignin (HPMF) in the Immature Rat Uterus.

1983

4. Waters, A.P., Wakeling, A.R. & Knowler, J.T. (1983) *J. Ster. Biochem.* **18**, 7-11. A Comparison of the Effects of the Metabolites of Tamoxifen, other Anti-oestrogens and Oestrogens on the Synthesis of Uterine RNA in the Immature Rat.
5. Waters, A.P., Wakeling, A.R. & Knowler, J.T. (1983) *Mol. Cell. Endocrinol.* **32**, 233-44. Tamoxifen-induced Changes in the Polyribosomes and Associated mRNA of the Rat Uterus.

1987

6. Gunderson, J.H., Sogin, M.L., Woollett, G., Hollingdale, M., De La Cruz, V.F., Waters, A.P. & McCutchan, T.F. (1987) *Science* **238**, 933-937. Structurally Distinct, Stage-specific Ribosomes Occur in *Plasmodium*.

1988

7. Deans, J.A. Knight, A.M., Jean, W.J., Waters, A.P., Cohen, S. & Mitchell, G.H. (1988) *Parasite Immunology* **10**, 535-552. Vaccination Trials in Rhesus Monkeys with a Minor, Invariant, *P. knowlesi* 66kD Merozoite Antigen.

1989

8. Waters, A.P., Unnasch, T.R., Wirth, D.F. & McCutchan, T.F. (1989) *Nucl. Acids Res.* **17**, 1763. Sequence of a small ribosomal RNA gene from *P. lophurae*.
9. Waters, A.P. & McCutchan, T.F. (1989) *Nucl. Acids Res.* **17**, 2135. Partial sequence of the asexually expressed SSU rRNA gene of *P. vivax*.
10. Waters, A.P. & McCutchan, T.F. (1989) *The Lancet* **8651 (1)**, 1343-1346. Rapid, sensitive diagnosis of malaria based on ribosomal RNA.
11. Rosenberg, R., Wirtz, R.A., Lanar, D.E., Sattabongkot, J., Hall, T., Waters, A.P. & Prasittisuk, C. (1989) *Science* **245**, 973-976. Circumsporozoite protein heterogeneity in the human malaria parasite *P. vivax*.
12. Waters, A.P., Syin, C. & McCutchan, T.F. (1989) *Nature* **342**, 438-440. Developmental Regulation of Stage Specific Ribosome Populations in *Plasmodium*.

1990

13. Zhu, J., Waters, A.P., Appiah, A., Lal, A., McCutchan, T.F. & Hollingdale, M. (1990) *J. Biol.*

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Chem. **265**. 12740-12744. Stage-specific ribosomal RNA expression of *P. berghei* switches during sporozoite invasion of hepatocytes.

14. Thomas, A.W., Bannister, L.H. & Waters, A.P. (1990) *Parasite Immunology*. **12**. 105-114. 66kDa-related antigens of *P. knowlesi* are merozoite surface antigens associated with the apical prominence.
15. Thomas, A.W., Waters, A.P. & Carr, D. (1990) *Mol. Biochem. Parasitol.* **42**. 285-288. Analysis of variation in PF83 an erythrocyte merozoite vaccine candidate antigen of *P. falciparum*.
16. Waters, A.P., Thomas, A.W., Deans, J.A., Mitchell, G.H., Hudson, D.E., Miller, L.H., McCutchan, T.F. & Cohen, S. (1990) *J. Biol. Chem.* **265**. 17974-79. A Merozoite Receptor Protein for *Plasmodium knowlesi* is Highly Conserved and Distributed throughout *Plasmodium*.

1991

17. Waters, A.P., Thomas, A.W., Mitchell, G.H. & McCutchan, T.F. (1991) *Mol. Biochem. Parasitol.* **44**. 141-144. Intra-generic conservation and limited inter-strain variation in a protective minor surface antigen of *Plasmodium knowlesi* merozoites.
18. Waters, A.P., Higgins, D.H. & McCutchan, T.F. (1991) *Proc. Nat. Acad. Sci. (USA)*. **88**. 3140-3144. *Plasmodium falciparum* appears to have arisen as a result of lateral transfer between avian and human hosts.
19. Ali, P.O., Simpson, A.J.G., Allen, R., Waters, A.P., Humphries, C.J. Johnston, D.A. & Rollinson, D. (1991) *Mol. Biochem. Parasitol.* **46**. 201-208. Sequence of a small subunit rRNA gene of *Schistosoma mansoni* and its use in phylogenetic analysis.
20. Brindley, P.J., Heath, S., Waters, A.P., McCutchan, T.F. & Sher, A. (1991) *Proc. Nat. Acad. Sci. (USA)* **88**. 7754-58. Characterisation of a programmed alteration in an 18S rRNA gene that accompanies the experimental induction of drug resistance in *Schistosoma mansoni*.

1992

21. McCutchan, T.F., Lal, A.A., do Rosario, V. & Waters, A.P. (1992) *Mol. Biochem. Parasitol.* **50**. 37-45. A cytotoxic T-cell epitope on the surface of *P. falciparum* sporozoites is a target of natural selection.
22. Geber, A., Higgins, D.E., Waters, A.P. Bennett, J.E. & McCutchan, T.F. (1992) *J. Gen. Microbiol.* **138**. 395-399. Small Subunit Ribosomal RNA of *Blastomyces Dermatitidis* - Sequence and Phylogenetic Analysis.
23. Brindley, P.J., Gazzinelli, R.T., Denkers, E.Y., Davis, S.W., Dubey, J.P., Belfort, R. Jr., Martins, M-C., Silveira, C., Jamra, L., Waters, A.P. & Sher, A. (1993) *Am. J. Hyg. Trop. Med.* **48**. 447-456. Differentiation of *Toxoplasma gondii* from closely related coccidia by riboprint and surface antigen gene polymerase chain reaction.

1993

24. Waters, A.P., Higgins, D.G. & McCutchan, T.F. (1993) *Mol. Biol. Evol.* **10**. 914-923. Evolutionary Relatedness of Some Primate Models of *Plasmodium*.
25. Paton, M.G., Barker, G.C., Matsuoka, H., Ramesar, J., Janse, C.J., Waters, A.P. & Sinden, R.E. (1993) *Mol. Biochem. Parasitol.* **59**. 263-275. Structure and expression of a conserved and post-transcriptionally regulated gene encoding a surface protein of the sexual stages of

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the malaria parasite *Plasmodium berghei*.

1994

26. Janse, C.J., Waters, A.P., Kos, J. & Lucht, C.B. (1994) *Int. J. Parasitol.* **24**. 594-598. Comparison of *in vivo* and *in vitro* antimalarial activity of artemisinin, dihydroartemisinin and sodium artesunate in the *Plasmodium berghei*-rodent model.
27. Janse, C.J., Camargo, A., del Portillo, H., Herrera, S., Kumlien, S., Mons, B., Thomas, A. & Waters, A.P. (1994) *Annals Trop. Med. Para.* **88**. 213-216. Removal of leucocytes from *Plasmodium vivax*-infected blood.
28. van Dijk, M.R., McConkey, G.A., Vinkenoog, R., Waters, A.P. & Janse, C.J. (1994) *Mol. Biochem. Parasitol.* **68**. 167-171. Mechanisms of pyrimethamine resistance in two different strains of *Plasmodium berghei*.
29. Janse, C.J., Carlton, J.M-R., Walliker, D. & Waters, A.P. (1994) *Mol. Biochem. Parasitol.* **68**. 285-296. Conserved location of genes on polymorphic chromosomes of four species of malaria parasites.
30. Vervenne, R.A.W., Dirks, R.W., Ramesar, J., Waters, A.P. & Janse, C.J. (1994) *Mol. Biochem. Parasitol.* **68**. 259-266. Differential expression in blood stages of the gene coding for the 21kDa surface protein of ookinetes of *Plasmodium berghei* as detected by RNA *in situ* hybridisation.

1995

31. **van Dijk, M.R., Waters, A.P. & Janse, C.J. (1995) *Science* **268**. 1358-62. Stable transfection of malaria parasites.**
32. Vinkenoog, R., Veldhuisen, B., Sperança, M.A., del Portillo, H.A., Janse, C. & Waters, A.P. (1995) *Mol. Biochem. Parasitol.* **71**. 233-241. Comparison of introns in a *cdc2*-homologous gene within a number of *Plasmodium* species.
33. Waters, A.P. White, W. & McCutchan, T.F. (1995) *Mol. Biochem. Parasitol.* **72**. 227-237. The structure of the large subunit rRNA expressed in blood stages of *Plasmodium falciparum*.
34. Li, J., Wirtz, R.A., McConkey, G.A., Sattabongkot, J., Waters, A.P. & McCutchan, T.F. (1995) *Exp. Parasitol.* **81**. 182-90. *Plasmodium*: Genus-conserved primers for species identification and quantitation.

1996

35. **van Dijk, M.R., Janse, C.J. & Waters, A.P. (1996) *Science*, **271**. 662-665. Expression of a *Plasmodium* gene introduced into the sub-telomeric region of *P. berghei* malaria chromosomes.**
36. Waters, A.P., Wirth, D.F., Wellems, T.E. & del Portillo, H.A. (1996) *Parasitology Today*, **12**. 129-132. Transfection of Malaria Parasites.
37. Rogers, M.J., Gutell, R.R., Damberger, S.H., Li, J., McConkey, G.A., Waters, A.P. & McCutchan, T.F. (1996) *RNA* **2**. 134-145. Structural features of the large subunit rRNA expressed in *Plasmodium falciparum* sporozoites that distinguish it from the asexually expressed large subunit rRNA.

1997

38. **Menard, R., Sultan, A., Cortes, C., Altszuler, R., van Dijk, M., Janse, C., Waters, A.P.,**

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- Nussenzweig, R.S. & Nussenzweig, V. (1997). *Nature* **385**. 336-40. Circumsporozoite protein is required for development of malaria sporozoites in mosquitoes.
39. Waters, A.P., van Spaendonk, R.M.L., Thompson, J., Vervenne, R.A.W., Dirks, R.W. & Janse C.J. (1997) *J. Biol. Chem.* **272**. 3583-89. Species specific regulation and switching of transcription between stage specific ribosomal RNA genes in *Plasmodium berghei*. (6.963)
40. van Dijk, M.R., Vinkenoog, R., Ramesar, J., Vervenne, R.A.W., Waters, A.P. & Janse, C.J. (1997) *Mol. Biochem. Parasitol.* **86**. 155-62. Replication, expression and segregation of plasmid-borne DNA in genetically transformed malaria parasites.
41. van der Wel, A.M., Tomas, A.M., Kocken, C.H.M., Malhotra P, Janse, C.J., Waters, A.P. & Thomas, A.W. (1997) *J. Exp. Med.* **185**. 1499-503. Transfection and *in vivo* selection of the primate malaria parasite, *Plasmodium knowlesi*. (14.384)
42. van der Wel, A.M., Kocken, C.H.M. Dubbeld, M.A., , Janse, C.J., Waters, A.P. & Thomas, A.W. (1997) *Immunology Letters* **56**. 424-425. "Plasmodium falciparum vaccine candidate antigen Pf83/AMA-1 is expressed in the rodent malaria *P. berghei*: infected mice produce PF83/AMA antibodies." (2.009)
- 1998**
43. Vinkenoog, R., Speranca, M.A., Williamson, D., van Breemen, O., Thomas, A.W., Ramesar, J., Janse, C.J., del Portillo, H.A., & Waters, A.P.(1998) *Mol. Biochem. Parasitol.* **94**. 1-12.
Malaria parasites contain two identical copies of an Elongation Factor 1 alpha gene. (2.397)
44. Carlton, J. M-R., Vinkenoog, R., Waters, A.P. & Walliker, D. (1998) *Mol. Biochem. Parasitol.* **93**. 285-294. Gene synteny in species of Plasmodium. (2.397)
45. Kocken, C.H.M., van der Wel, A.M., Dubbeld, M.A., Narum, D.L., van de Rijke, F.M., van Gemert, G.-J., van der Linde, X., Bannister, L.H., Janse, C.J., Waters, A.P. & Thomas, A.W. (1998) *J. Biol. Chem.* **273**: 15119-15124. Precise timing of expression of a *Plasmodium falciparum* derived transgene in *P. berghei* is a critical determinant of subsequent subcellular location. (7.199)
46. Margos, G., van Dijk, M.R., Ramesar, J., Janse, C.J., Waters, A.P. & Sinden, R.E. (1998) *Infect. Immun.* **66**. 3884-3891. Transgenic expression of a mosquito stage malarial protein, Pbs21, in blood stages of transformed *Plasmodium berghei* and the induction of an immune response upon infection (4.212)
47. Vinkenoog, R., Sperança, M.A., Ramesar, J., Thomas, A.W., Janse, C.J., del Portillo, H.A. & Waters, A.P. (1998) *Mol. Biochem. Parasitol.* **95**. 229-40. Characterization of the cdc2-homologous CRK2 gene from *Plasmodium knowlesi* and *Plasmodium berghei*. (2.397)
48. de Koning-Ward, T.F., Thomas, A.W., Waters, A.P. & Janse, C.J. (1998) *Mol. Biochem. Parasitol.* **97**. 247-52. Stable expression of green fluorescent protein in blood and mosquito stages of Plasmodium berghei. (2.397)
- 1999**
49. Thompson, J., van Spaendonk, R.M.L., Choudhuri, R., Sinden, R.E., Janse, C.J. & Waters, A.P. (1999) *Mol. Micro.* **31**. 253-60. Heterogeneous ribosome populations are present in *Plasmodium berghei* during development in its vector. (6.361)
50. Kocken, C.H.M., Dubbeld, M.A., van der Wel, A., Pronk, J.T., Waters, A.P., Langermans,

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- J.A.M. & Thomas, A.W. (1998) *Infect. Imm.* **67**. 43-9. High level expression of *Plasmodium vivax* apical membrane antigen 1 (AMA-1) in *Pichia pastoris*: strong immunogenicity in *Macaca mulatta* immunized with *P. vivax* AMA-1 and adjuvant SBAS2. (4.212)
51. van Spaendonk, R.M.L., McConkey, G.A., Gabrielin, A., Ramesar, J., McCutchan, T.F., Janse, C.J. & Waters, A.P. (1999) *Mol. Biochem. Parasitol.* **99**:193-205. Identification of the transcriptional initiation site of the rRNA genes expressed in the bloodstages of the malaria parasite, *Plasmodium berghei*. (2.397)
52. Ming, M., van Wye, J, Janse, C.J., Waters, A.P. & Haldar K. (1999) *Mol. Biochem. Parasitol.* **100**: 217-222. Gene organisation of rab6, a marker for the novel Golgi in *Plasmodium*. (2.397)
53. de Koning-Ward, T.F., Sperança, M.A., Waters, A.P. & Janse, C.J. (1999) *Mol. Biochem. Parasitol.* **100**. 141-146. Analysis of stage specificity of promoters in *Plasmodium berghei* using luciferase as a reporter. (2.397)
54. Wengelnik, K., Spaccapelo, R., Naitza, S., Robson, K.J.H., Janse, C.J, Bistoni, F., Waters, A.P., Crisanti, A. (1999) *EMBO J.* **18**. 5195-204. The A-domain and the thrombospondin-related motif of *Plasmodium falciparum* TRAP are implicated in the invasion process of mosquito salivary glands. (12.459)
- 2000**
55. van Spaendonk, R.M.L., Ramesar, J., Janse, C.J., Waters, A.P. (2000) *Mol. Biochem. Parasitol.* **105**. 169-174. "The rodent malaria parasite *Plasmodium berghei* does not contain a typical O-type small subunit ribosomal RNA gene" (2.397)
56. de Koning-Ward, T.F., Fidock, D., Menard, R. Thathy, V., van Spaendonk, R.M.L. Waters, A.P. Janse, C.J. (2000) *Mol. Biochem. Parasitol.* **106**. 199-212. Human dihydrofolate reductase: a new selectable marker that enables sequential genetic manipulation of the *Plasmodium berghei* genome. (2.397)
57. Pace, T., Scotti, R., Janse, C.J., Waters, A.P., Birago, C. and Ponzi, M. (2000) *Genome Res.* **10**. 1414-1420. Targeted terminal deletions as a tool in functional genomics and position effect studies in *Plasmodium*. (7.615)
58. Siden-Kiamos I, Vlachou D, Margos G, Beetsma A, Waters AP, Sinden RE, Louis C (2000) *J Cell Sci.* **113**. 3419-3426. Distinct roles for Pbs21 and Pbs25 in the in vitro ookinete to oocyst transformation of *Plasmodium berghei*.
- 2001**
59. M.R. van Dijk, C.J Janse, J. Thompson, A.P. Waters, A. Braks, H. Dodemont, H. G. Stunnenberg, G.-J. van Gemert, R. W. Sauerwein, W. Eling (2001) *Cell.* **104**. 153-164. A Central Role for P48/45 in Malaria Parasite Male Gamete Fertility. (29.219)
60. Tomas, A.M., Margos, G., Dimopoulos, G., van Lin, L.H.M., de Koning-Ward, T.F. Sinha, R., Lupetti, P., Beetsma, A.L., Rodriguez, M.C., Karras, M., Hager, A., Mendoza, J., Butcher, G.A., Kafatos, F.C., Janse, C.J., Waters, A.P., Sinden, R.E. (2001) *EMBO J.* **20**. 3975-3983. The conserved P25/28 Proteins of the Malaria Ookinete Surface Have Multiple, Important and Partially Redundant Functions. (12.459)
61. Lin, L.H.M, Pace, T, Janse, C.J., Birago, C., Ramesar, J., Picci, L., Ponzi M., Waters, A.P. (2001) *Nucl. Acids Res.* **29**. 2059-68. Interspecific Conservation of Gene Order and Intron-

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Exon Structure in a Genomic Locus of High Gene Density and Complexity in *Plasmodium*. (6.373)

62. van Spaendonk, R.M.L., Ramesar, J., van Wigcheren, A., Eling, W., Beetsma, A.L., van Gemert, G.-J., Hooghof, J., Janse, C.J., Waters, A.P. (2001) *J. Biol. Chem.* **276**:22638-47. Functional equivalence of structurally distinct ribosomes in the malaria parasite *Plasmodium berghei*. (7.258)
63. Speranca MA, Vinkenoog R, Ocampos M, Fischer K, Janse CJ, Waters AP, del Portillo HA. (2001) *Exp. Parasitol.* **97**:119-128. Primary structure of the *Plasmodium vivax* crk2 Gene and Interference of the Yeast Primary Cell Cycle upon Its Conditional Expression. (1.434)
64. de Koning-Ward, T.F., Waters A.P. & Crabb, B.S. (2001) *Mol. Biochem. Parasitol.* **117**:155-60 Puromycin N-acetyltransferase as a selectable marker for use in *Plasmodium falciparum*. (2.397)

2002

65. Williamson, D.H., Janse, C.J., Moore, P.W., Waters, A.P., Preiser, P.R. (2002) *Nucl. Acids Res.* **30**(3):726-31. Topology and replication of a nuclear episomal plasmid in the rodent malaria *Plasmodium berghei*. (7.051)
66. Lasonder, E., Ishihama, Y., Andersen, J.S., Vermunt, A., Pain, A., Sauerwein, R.W., Eling, W., Hall, N., Waters, A.P., Stunnenberg, H.G., & Mann, M. (2002) *Nature* **419**:537-42. Analysis of the *Plasmodium falciparum* proteome by high accuracy mass spectrometry (27.995)
67. Carlton, J.M., Angiuoli, S.V., Suh, B.S., **Kooij, T.W.**, Silva, J.C., Pertea, M., Ermolaeva, M.D., Allen, J.E., Selengut, J.D., Koo, H.L., Peterson, J.D., Pop, M., Kosack, D.S., Shumway, M.F. *, Bidwell, S.L., Shallom, S.J., van Aken, S.E., Riedmuller, S.B., Feldbylum, T.V., Cho, J.K., Quackenbush, J., Sedegah, M., Shoaibi, M., Cummings, L.M., Florens, L., Yates III, J.R., Raine, J.D., Sinden, R.E., Harris, M.A., Cunningham, D.A., Preiser, P.R., Bergman L.W., Vaidya, A.B., **van Lin, L.H., Janse, C.J., Waters, A.P.**, Smith, H.O., White, O.R., Salzberg, S.L., Venter, J.C., Fraser, C.M., Hoffman, S.L., Gardner, M.G., Carucci, D.C. (2002) *Nature*. **419**:512-9. Genome sequence and comparative analysis of the model rodent malaria parasite *Plasmodium yoelii yoelii* (27.995)

2003

68. Janse, C.J., Haghparast, A., del-Portillo, H.A., Speranca, M.A., Ramesar, J. Kroeze, J., & Waters, A.P. (2003) *Mol. Microbiol.* **50**: 1539–1551. Malaria parasites disrupted in *ef-1 α* have a normal S/M phase yet proliferate more slowly as a result of a prolonged G1 phase. (5.563)
69. Alavi, Y., Arai, M., Mendoza, J., Tufet-Bayona, M., Sinha, R., Fowler, K., Billker, O., Franke-Fayard, B., Janse, C.J., Waters, A.P., Sinden, R.E. (2003) *Int. J. Parasitol.* **33**:933-43. The dynamics of interactions between *Plasmodium* and the mosquito: a study of the infectivity of *Plasmodium berghei* and *Plasmodium gallinaceum*, and their transmission by *Anopheles stephensi*, *Anopheles gambiae* and *Aedes aegypti*.

2004

70. Franke-Fayard, B., Khan, S.M., Ramesar, J., van der Keur, M., van der Linden, R., Sinden, R.E., Waters, A.P. & Janse, C.J. (2004) *Mol. Biochem. Parasitol.* **137**: 23-33. A *Plasmodium berghei* reference line that constitutively expresses GFP at a high level throughout the complete life cycle.

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71. Vlachou, D, Zimmermann, T, Janse, CJ, Waters, AP, & Kafatos, FC (2004) *Cell. Micro.* **6**. 671-85. Real-time, *in vivo* analysis of malaria ookinete locomotion and mosquito midgut invasion.
72. Uzureau, P., Barale, J.-C., Janse, C.J., Waters, A.P., Braun-Breton, C. (2003) *Cell. Microbiol.* **6**:65-78. Gene targeting demonstrates that the *Plasmodium berghei* subtilisin PbSUB2 is essential for red cell invasion and reveals spontaneous genetic recombination events.
73. Blandin, S., Shiao, S.-H., Moita, L.F., Janse, C.J., Waters, A.P., Kafatos, F.C., Levashina E.A. (2004) *Cell.* **116**:661-70. Complement-like protein TEP1 is a determinant of vectoral capacity in the malaria vector *Anopheles gambiae*.
74. Thompson, J., Cooke, R.E., Moore, S., Anderson, L.F., Janse, C.J. & Waters, A.P. (2004) *Mol. Biochem. Parasitol.* **134**(2):225-32. PTRAMP; A Conserved *Plasmodium* Thrombospondin-Related Apical Merozoite Protein.

2005

75. Hall, N., Karras, M., Raine, J.D., Carlton, J.M., Kooij, T.W.A., Berriman, M., Florens, L., Janssen, C., Pain, A., Christophides, C.K., James, K., Rutherford, K., Harris, B., Harris, D., Churcher, C., Quail, M.A., Ormond, D., Doggett, J., Trueman, H.E., Mendoza, J., Bidwell, S., Rajandream, M.A., Carucci, D.A., Yates, J.R. III, Kafatos, F.C., Janse, C.J., Barrell, B., Turner, C.M.R., Waters, A.P., Sinden, R.E. (2005) *Science* **307**. 82-6. An integrated survey of gene expression during the life cycle of malaria parasites. (30.927)
76. Vontas, J., Siden-Kiamos, I., Papagiannakis, G., Karras, M., Waters, A.P., Louis C. (2005) *Mol. Biochem. Parasitol.* **139**. 1-13. Gene expression in *Plasmodium berghei* during the invasion of insect cells (2.733)
77. van Dijk, M.R., Douradinha, B., Franke-Fayard, B., Heussler, V., van Dooren, M.W., van Schaijk, B., van Gemert, G.-J., Sauerwein, R.W., Mota, M.M., Waters, A.P. & Janse, C.J. (2005) *PNAS*. **102**. 12194-99 P36p deficient sporozoites arrest during liver development and induce an inhibitory immune response against malaria infection. (10.231)
78. Voza, T., Vigário, A.M., Belnoue, E. Grüner, A.G., Deschemin, J.-C., Kayibanda, M., Delmas, F., Janse, C.J., Franke-Fayard, B., Waters, A.P., Landau, I., Snounou, G., Rénia, L. (2005) *Infect. Imm.* **73**. 4777-86. Species-specific abrogation of cerebral malaria in mixed *Plasmodium* infections of mice (3.933)
79. Khan, S.M., Franke-Fayard, B., Mair, G.R., Lasonder, E., Janse, C.J, Mann, M. & Waters, A.P. (2005) *Cell* **121**: 675-87. Proteome analysis of separated male and female gametocytes reveals novel sex specific *Plasmodium* biology. (29.431) **With accompanying commentary: See also Nature Genetics (37. 669)**
80. Kooij, T.W.A., Carlton, J.M., Bidwell, S.L., Hall, N., Ramesar, J., Janse, C.J., Waters, A.P. (2005) *PLoS Pathogens*. **1**. e44. 349-361. A synteny map of four *Plasmodium* species identifies breakpoints as foci for species-specific genes and origins of multigene families
81. Franke-Fayard, B., Janse, C.J., Cunha-Rodrigues, M., Ramesar, J., Büscher, P., Que, I., Löwik, C., Voshol, P.J., van Duinen, S.G., Febbraio, M., Mota M.M, Waters, A.P. (2005) *PNAS* **102**. 11468-73. Imaging of murine malaria parasite sequestration: CD36 is the major receptor but has no influence on cerebral malaria. **Article "From The Cover"** (10.231)
82. Kooij, T.W.A., Franke-Fayard, B., Renz, J., Kroeze, J., van Dooren, M.W., Ramesar, J.,

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Augustijn, K.D., Janse, C.J., Waters, A.P. (2005) *Mol. Biochem. Parasitol.* **144**:16-26. *Plasmodium berghei* α -tubulin II: a role in both male gamete formation and asexual blood stages. (2.733)

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83. Janse, C.J., Franke-Fayard, B., Mair, G.R., Ramesar, J., Thiel, C., Engelmann, S., Matuschewski, K., van Gemert, G.J., Sauerwein, R.W., Waters, A.P. (2006) *Mol. Biochem. Parasitol.* **145**: 60-70. High efficiency transfection of *Plasmodium* facilitates novel selection procedures (2.733)
84. Pace, T., Olivieri, A., Sanchez, M., Albanesi, V., Picci, L., Siden-Kiamos, I., Janse, C.J., Waters, A.P., Pizzi, E. & Ponzi, M. (2006) *Mol Micro* **60**: 870-82. Set regulation in asexual and sexual *Plasmodium* parasites reveals a novel mechanism of stage-specific expression. (6.203)
85. Braks, J.A.M., Franke-Fayard, B., Kroeze, J., Janse, C.J. & Waters, A.P. (2006) *Nucl. Acids Res.* **34** e39. Development and application of a positive-negative selectable marker system for use in reverse genetics in *Plasmodium*. (7.552)
86. Janse, C.J., Ramesar, J., Waters, A.P. (2006) *Nat. Protocols.* **1**: 346-56. High efficiency transfection and drug-selection of genetically transformed blood stages of the rodent malaria parasite, *P. berghei*.
87. Franke-Fayard, B., Waters, A.P., Janse, C.J. (2006) *Nat. Protocols.* **1**: 476-85. Real time *in vivo* imaging of sequestration of transgenic, bioluminescent schizonts of the rodent malaria parasite *P. berghei* in mice.
88. Janse, C.J., Franke-Fayard, B., Waters, A.P. (2006) *Nat. Protocols.* **2**: 614–23. Selection by flow-sorting of genetically transformed, GFP-expressing blood stages of the rodent malaria parasite, *Plasmodium berghei*
89. Mair, G.R. Braks, J.A.M., Garver, L.S., Wiegant, J.C.A.G., Hall, N., Dirks, R.W., Khan, S.M., Dimopoulos, G., Janse, C.J., Waters, A.P. (2006) *Science* **313**: 667-9. Regulation of sexual development of *Plasmodium* by translational repression. **With accompanying Perspective see Hajduk, S. (2006) Science 313: 626-7. (30.927)**
90. van Schaijk BC, van Dijk MR, van de Vegte-Bolmer M, van Gemert GJ, van Dooren MW, Eksi S, Roeffen WF, Janse CJ, Waters AP, Sauerwein RW. (2006) *Mol. Biochem. Parasitol.* **149**:216-22. Pfs47, paralog of the male fertility factor Pfs48/45, is a female specific surface protein in *Plasmodium falciparum*. (2.733)
91. Maier AG, Braks JA, Waters AP, Cowman AF. (2006) *Mol Biochem Parasitol.* **150**:118-21 Negative selection using yeast cytosine deaminase/uracil phosphoribosyl transferase in *Plasmodium falciparum* for targeted gene deletion by double crossover recombination. (2.733)
92. Ramjanees, S., Robertson, J.S., Franke-Fayard, B., Sinha, R., Waters, A.P., Janse, C.J., Wu, Y., Blagborough, A., Saul, A., Sinden, R.E. (2006) *Vaccine.* **E-pub** The use of transgenic *Plasmodium berghei* expressing the *Plasmodium vivax* antigen P25 to determine the transmission-blocking activity of sera from malaria vaccine trials. (2.822)

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- 93 Augustijn, K.D., Kleemann, R., Thompson, J., Kooistra, T., Crawford, C.E., Reece, S.E., Pain, A., Siebum, A.H.G., Janse, C.J., Waters, A.P. (2007) *Infect. Imm.* **In Press**. Functional

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characterization of the *Plasmodium* homologue of Macrophage Migration Inhibitory Factor (MIF) (3.933)

94. Thompson J, Fernandez-Reyes D, Sharling L, Moore SG, Kyes SA, Newbold CI, Kafatos FC, Janse CJ & Waters AP. (2007) *Cellular Microbiology In press*. *Plasmodium* CRMP1-4: complex proteins with roles throughout the malaria parasite lifecycle. (6.333)

Book Chapters/Reviews:

1. Waters, A.P. & McCutchan, T.F. (1990) *Parasitol. Today* 6, 56-59. Ribosomal RNA - Nature's Own Polymerase Amplified Target for Diagnosis.
2. McConkey, G.A., Waters, A.P. & McCutchan, T.F. (1990) *Ann. Rev. Microbiol.* 44. 479-498. The Generation of Genetic Diversity in *Plasmodium*.
3. Waters, A.P., Higgins, D.G. & McCutchan, T.F. (1993) *Parasitol. Today*. 9. 246-250. The phylogeny of malaria: a useful study.
4. Waters, A.P. (1994) *Adv. Parasitol.* 34. 33-79. The ribosomal RNA genes of *Plasmodium*.
5. Li, J., McConkey, G.A., Rogers, M.J., Waters, A.P. & McCutchan, T.F. (1994) *Exp. Parasitol.* 78. 437-441. *Plasmodium*: The developmentally regulated ribosome.
6. Janse, C.J. & Waters, A. P. (1995) *Parasitol. Today*. 11. 138-143. *Plasmodium berghei*: The application of cultivation and purification techniques to molecular studies of malaria parasites.
7. McCutchan, T.F., Li, J., McConkey, G.A., Rogers, M.J., & Waters, A.P. (1995) *Parasitol. Today*. 11. 134-138. The cytoplasmic ribosomal RNAs of *Plasmodium* spp.
8. Waters, A.P., van Dijk, M.R., Thomas, A.W. & Janse, C.J. (1997) Transfection of Malaria Parasites. in *Methods: A Companion to Methods in Enzymology - Analysis of Apicomplexan parasites* 13. 134-147. Academic Press, New York, NY.
9. Weng, H., Craig, A.G. & Waters, A.P. (1997) Application of Transfection to Parasitology. Publication from the EU/China High Tech Conference, November. Published by the Department for Technology Transfer, Beijing, Peoples' Republic of China.
10. Contributor to the final report of the Biology Commission of the Royal Scientific Society of The Netherlands. *Biology: The central life*. ISBN 90-6984-200-9 November 1997.
11. Newbold, C.J., Craig, A.G. & Waters, A.P. (1999) Report to the WHO summarising proceedings and policy recommendations for improvement in reverse genetics systems in malaria parasites for functional analysis. January.
12. Tomas, A.M., van der Wel, A.M., Thomas, A.W., Janse, C.J. & Waters, A.P. (1998) *Parasitol. Today* 14. 245-9. Transfection systems for animal models of malaria. (6.197)
13. Craig, A. G. Waters, A.P. Ridley, R.G. (1999) *Parasitol. Today* 15. 211-214. The Malaria Genome Project Task Force - Improvement of Reverse Genetic Systems in Malaria Parasites for Functional Analysis (6.197)
14. van Lin, L.H.M., Janse, C.J. & Waters, A.P. (2000) *Int. J. Parasitol.* 30. 357-370. Genome organisation of non-Falciparum malaria species: The need to know more. (2.814)

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15. de Koning-Ward, T.F., Janse, C.J. & Waters, A.P. (2000) *Ann. Rev. Microbiol.* 54. 157-85. The development of genetic tools for dissecting the biology of malaria parasites. (11.447)
16. Waters, A.P. (2000) Stable transfection of *Plasmodium berghei*: A Crash Course. In *Biology of Parasitism*. pp. 43-72. Eds. C. Tschudi & E.J. Pearce. Kluwer, Boston.
17. Horrocks, P. Bowman, S., Kyes, S., Waters, A.P. & Craig, A.G. (2000) *WHO Bull.* 78 1424-1437. Entering the post-genomic era of malaria research.
18. Thompson, J., Janse, C.J., Waters A.P. (2001) *Mol. Biochem. Parasitol.* 118. 147-154. Comparative genomics in *Plasmodium*: a tool for the identification of genes and functional analysis. (2.397)
19. Kafatos, F., Dimopoulos, G., Waters, A.P., Sinden, R.E. (2002) *Chemical Reviews*, Academic Press. 80:27-49. Malaria parasite interactions with the anopheline vector. (21.044)
20. Waters, A.P. & Janse, C.J. (2002) *Methods Mol Med.* 72:305-15. Episomal transformation of *Plasmodium berghei* (2.363)
21. Janse, C.J. & A.P. Waters (2004) Sexual development of malaria parasites. In "Malaria parasites: genomes and molecular biology". 445-474. Caister Academic Press, Wymondham, UK. Eds. A.P. Waters & C.J. Janse
22. McCutchan, T.F., Spaendonk, R., Janse, C.J., Fang, J., Waters, A.P. (2004) Regulation of rRNA transcription and processing during the *Plasmodium* life cycle. In "Malaria parasites: genomes and molecular biology". pp 229-247 Caister Academic Press, Wymondham, UK. Eds. A.P. Waters & C.J. Janse.
23. Horrocks, P., Bowman, S., Kyes, S., Waters, AP and Craig, A. (2004) Entering the post-genomic era of malaria research. In "Drugs against parasitic diseases: R&D methodologies and issues. Discoveries and drug development" Section II pp.41-62
24. Vernick, K.D. & Waters, A.P. (2004) *New Eng. J. Med.* 351. 1901-5 Genomics and Malaria Control.
25. Khan, S.M. & Waters A.P. (2004) *Trends in Para.* 20. 575-80. Malaria transmission stages: an update.
26. Lingelbach, K., Kirk, K., Rogerson, S., Langhorne, J., Carucci, D.J. & Waters, A.P. (2004) *Mol Micro.* 54. 575-587. Meeting Report: Molecular Approaches to Malaria.
27. Kooij, T.W.A., Karras, M., Janse, C.J. & Waters, A.P. (2006) *Nat Micro. Rev.* 4. 344-57. *Plasmodium* genomics – better the bug you know?
28. Amino, R., Franke-Fayard, B., Janse, C.J., Waters, A.P. Ménard, R., Frischknecht, F. (2007) Visualising parasites in vivo in "Imaging Cellular and Molecular Biological Function", F. Frischknecht, J. Pawley, S. Shorte (eds.), Springer-Verlag, Berlin, **In Press**

Invited Papers:

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1. Cohen, S., Deans, J.A., Mitchell, G.H., Thomas, A.W., Waters, A.P. & Alderson, T. (1985) *In Vaccines '85* Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY. 19-24. Putative Protective Antigens of *P. knowlesi* Parasites.
2. McCutchan, T.F., Waters, A.P. & Sogin, M.L. (1988) 33-35 Stage-specific Ribosomes of *P. berghei* in Current Communications in Molecular Biology The Molecular Genetics of Parasitic Protozoa. Cold Spring Harbor Press, New York.
3. Van Belkum, A., van Doorn, L-J., Waters, A.P., McCutchan, T.F., Janse, C., Mons, B. & Schellekens, H. (1990) The rodent malaria parasite *P. berghei* as a model system for the study of gene expression during gametocytogenesis in "Parasites: Molecular Biology, Drug and Vaccine Design" pp 7-25. Wiley-Liss, Inc., New York.
4. McCutchan, T.F. & Waters, A.P. (1990) *Immunology Letters*. **25**. 23-26. Mutations with Multiple Origins in Surface Antigens Mark the Targets of Biological Selective Pressure.
5. Waters, A.P., Higgins, D.G. & McCutchan, T.F. (1991) *Acta Leidensia*. **60**. 37-41. The relative evolution of *Plasmodium*.
6. Janse, C.J. & Waters, A.P. (1993) *Parassitologia*. **35**. 51-53. Genome organisation, chromosome translocation and size polymorphism in rodent malaria parasites.
7. Sinden, R.E., Barker, G.C., Paton, M.J., Fleck, S.L., Butcher, G.A., Waters, A., Janse, C.J., & Rodriguez, M.H. (1993) *Parassitologia*. **35**. 107-112. Factors regulating natural transmission of *Plasmodium berghei* to the mosquito vector and the cloning of a transmission-blocking immunogen.
8. Janse, C.J., Ponzi, M., Sinden, R.E. & Waters, A.P. (1994) *Mem. Inst. Oswaldo Cruz*. **89**. 41-44. Chromosomes and sexual development of rodent malaria parasites.
9. Waters, A.P. (1997) Report of the Joint China/EU Workshop: Biotechnology and Health (Shanghai 27th-29th Jan. 1997). China EC Biotechnology Center Newsletter, **12**. 5-7.
10. Waters, A.P., van Dijk, M.R., Ramesar, J. & Janse, C.J. (1997) *Ann. Trop. Med. Parasitol.* **97**. S63-68. Stable transfection of malaria parasite blood stages.
11. Waters, A.P. (1998) *Nature Med.* **4**. 11-12. Chloroquine resistance - discovering the missing link? (27.907)
12. Waters A.P. (1998) *The Genetic Engineer and Biotechnologist* vol 17 (4) Chinese /EC cooperation on Biotechnology - a new initiative?
13. Kocken, C., van der Wel, A., Dubbeld, M., Narum, D., van de Rijke, F., Bannister, L., Janse, C., Waters, A. & Thomas, A. The Proceedings of ICOPA IX (I. Tada, S. Kojima, M. Tsuji, editors) pp 469-474 (1998). Molecular studies on *Plasmodium falciparum* apical membrane antigen 1, a critical antigen involved in red cell invasion, using transgenic *P. berghei*.
14. Waters, A.P. (1999) *Trends Microbiol.* **7**. 135-7 ARMed and more dangerous? (6.523)
15. Walliker, D. & Waters, A.P. (1999) *Parassitologia*. **41**. 125-7 Data acquisition, verification and their application to phylogenetic inferences.
16. Waters, A.P. & Janse, C.J. (1999) *Parassitologia*. **41**. 453-9 The development of and perspectives for genetic engineering of malaria parasites.

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17. Waters, A.P. (2002) *Philos Trans R Soc Lond B Biol Sci.* **357**: 55-63 Orthology between the genomics of *Plasmodium falciparum* and rodent malaria parasites: possible practical applications. (3.066)
18. Waters, A.P. (2003) *Science* **310**:1481-2. Guilty until proven innocent - Perspective
19. Waters, A.P. Mota, M.M., van Dijk, M.R. & Janse C.J. (2005) *Science* **307**:528-30 Malaria Vaccines: Back to the Future? - Perspective
20. Waters, A.P. (2005) *Cell.* **122.** 149-51. Plasmodium's Sticky Fingers - Preview
21. Waters, A.P. (2006) *Cell* **124.** 689-93. Malaria: new vaccines for old?

Scientific Correspondence:

1. Waters, A.P. & McCutchan, T.F. (1989) *Parasitology Today.* **5.** 9-10. Diagnostic DNA Amplification - Not the Complete Answer?
2. Waters, A.P. (1990) *Science* **248.** 422. Letter to the Editor.
3. Waters, A.P. & McCutchan, T.F. (1992) *Parasitology Today.* **8.** 91-92. *Plasmodium falciparum*: Birds to Human.
4. Waters, A.P., van Dijk, M.R. & Janse, C.J. (1996) *Trends in Micro.* **4.** 45. Letter to the editor.
5. Thomas, A., Waters, A., Druilhe, P., Lanzer, M., Coluzzi, M. (1997) *Nature* **387.** 119. Letter to the Editor. The dog did nothing in the night-time.
6. Waters, AP. Sauerwein, R. Arnot D. (2000) *Nature Medicine* **6.** 234. Malaria vaccine research - setting the record straight.
7. Doolan DL, Coppel RL, Waters AP. (2001) *Mol Biochem Parasitol.* 118(2):127-8. Foreword--MBP thematic issue on genomics.

Books

Editor (with C.J. Janse) of "Malaria parasites: genomes and molecular biology". Caister Academic Press, Wymondham, UK. 2004

Patents

P78343US00 Title: New plasmodium mutant and vaccine for treatment of malaria. Filed 14.08.2006

Services to the Community

- 1995 Organiser, International Workshop. Transfection of Malaria – development of tools for the future. Oegstgeest, The Netherlands, July. Funded by EU/WHO.
- 1996 Rapporteur and Treasurer – Joint Sino/European Union high technology conference, Beijing. 25-27 November.
- 1997 Organiser, rapporteur, treasurer and convenor, EU sponsored workshop Biotechnology and Health. Shanghai, China, January 27-29.

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- 1997 Member Malaria Genome Focus group NIH initiative, Washington DC. April.
- 1997 Member of international organising committee, symposium chair and speaker, Ross Centenary meeting, Hyderabad, India. August.
- 1997 Peer reviewer, INCO-DC programme of the European Community, Brussels, October.
- 1998 - Member Advisory Editorial Board: Parasitology Today (from January 1998).
- 1998 – 2000 Resident faculty, Biology of Parasitism Course, Woods Hole, MA, USA.
- 2000 Reviewer, German Molecular Parasitology Consortium, Bonn, Germany, October.
- 2000 – 2005 Member Editorial Board & Reviews Editor: Molecular & Biochemical Parasitology.
- 2001 – present Managing Editor: Molecular & Biochemical Parasitology (from January).
- 2001 Member, External Evaluation Committee, Department of Immunology, Institut Pasteur, Paris, June.
- 2001-04 Member, Infection & Immunity Panel, Wellcome Trust.
- 2001- present Member, Microbiology Grants Panel, ALW, NWO.
- 2002-05 Member Scientific Advisory Panel, MR4, ATCC, Manassas, VA, USA.
- 2003 Vice chairman, Gordon Research Conference on Malaria, Oxford, UK.
- 2004-06 Joint Organiser, Molecular Parasitology Meeting, Woods Hole, MA, USA
- 2004-09 Member Executive Scientific Steering Committee and Scientific Cluster Co-ordinator, European Community FP6, Network of Excellence, Biology of Malaria Parasites (BIOMALPAR)
- 2005 Chairman, Gordon Research Conference on Malaria. Oxford, UK, August
- 2005 - Member Parasite Transfection Task Force and Drug Resistance. WHO
- 2005- Member Editorial Advisory Board, *Future Microbiology*.
- 2006 Lead organiser, EU FP6 NoE BIOMALPAR Annual Meeting, Heidelberg
- 2006-9 Member of External Scientific Advisory Committee, ANTIMAL an EC funded network
- 2006 Appointed INSERM expert peer reviewer
- 2006 - present NWO Rubicon award, review panel member
- 2006-2008 WHO/TDR PLUS Review panel member for parasite applied genomics
- 2007 Member External review Committee for Wellcome Trust PhD Programme

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Inter Alia

- 1986-2000 Invited speaker at 46 international congresses and symposia (details available on request).
- 2001 Invited Speaker, "Functional Genomics of Protozoan Parasites", Royal Society of Great Britain. London, UK, February.
- 2001 Plenary Speaker, British Society for Parasitology, Keele, UK, March.
- 2001 Invited participant, 11th Malaria Genome Meeting, Wellcome Trust, Hinxton, UK, June.
- 2001 Invited speaker, Molecular Parasitology Course, Woods Hole, MA, USA, June.
- 2001 Invited speaker, Gordon Malaria Conference, Oxford, UK, August.
- 2001 External reviewer PhD. Thesis, Rebecca O'Donnell, Melbourne University, Australia, October.
- 2001 Opponent, PhD. Defence Luis Fernandez, Karolinska Institute, Stockholm, Sweden, November.
- 2002 Examiner, Ph.D Defence Jayne Carey, Imperial College, London, UK. February.
- 2002 Plenary speaker, SUMP, Kidrogan, Scotland, April.
- 2002 Invited speaker, Vector Pathogen interactions meeting, Tucson, AZ, USA, May.
- 2002 Speaker, external lecture series, University of Umea, Sweden, June.
- 2002 Invited speaker, Molecular Parasitology Course, Woods Hole, MA, USA, June.
- 2002 Session Chair, Molecular Parasitology Meeting, Woods Hole, MA, USA. September
- 2002 External examiner, HDR, Dr Nathalie Boulanger, University of Strasbourg, France. September
- 2002 Invited Speaker, Pathology of Malaria, Meeting, Karolinska Institute, Sweden. November
- 2003 Invited Speaker, Wellcome Institute for Parasitology Lecture Series, University of Glasgow, Scotland, U.K. February.
- 2003 Invited speaker, University of Edinburgh, Scotland, UK. February.
- 2003 Plenary Speaker, Biennale Reunion Protozoologists, Aubiere, France, March
- 2003 Invited Speaker, Dutch Microbiological Society, de Uithof, Urecht, April
- 2003 Symposium speaker, "Phacilitate" Vaccine development Congress, Amsterdam, NL. May

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- 2003 British Society for Parasitology Kindrogan Speaker, SUMP, Kindrogan, Scotland, May.
- 2003 Invited Speaker, University of Southern Denmark, Odense, Denmark, May
- 2003 Symposium speaker, "Post Genomics Applied to Processes: Advances in Eukaryotic Microbiology", Society for General Microbiology, Manchester, U.K. September.
- 2003 Plenary Speaker, European Conference on Computational Biology 2003 (ECCB 2003) Paris. September.
- 2003 Invited speaker, ZDF Spearpoint programme, University of Heidelberg, Germany. November.
- 2004 Invited Speaker, Molecular Approaches to Malaria, Nanyang Technological University, Singapore, February.
- 2004 Invited Speaker & Session Chair, MAM04, Lorne, Australia, February.
- 2004 Invited Speaker, 2nd Malaria Conference of the Malaria Institute, Johns Hopkins University, Baltimore MD, USA, March.
- 2004 Invited Keynote Speaker, British Society for Parasitology, Annual meeting, Chester, April.
- 2004 Invited Speaker at "Dynamic Imaging Microscopy & Analysis for Biologists" Workshop held at Institut Pasteur, Paris. June.
- 2004 Invited Speaker, Biology of Parasitism course, Woods Hole, July
- 2004 Invited Speaker, Keynote Lecture Series, NIMR, Mill Hill, London, July.
- 2004-6 Co-organiser, Molecular Parasitology Meeting, Woods Hole, MA
- 2004 Invited participant in New Frontiers in Malaria Parasite and Anopheles Mosquito Engineering, Fondation des Treilles, Les Treilles, France, September.
- 2004 Invited Speaker and Discussant, WHO Workshop, "The impact of genetic engineering of *Plasmodium* on parasite drug resistance" Bangkok, Thailand, September.
- 2004 Invited speaker at Walter and Elisa Hall Institute, Melbourne, Australia. September.
- 2004 Invited Speaker, Symposium on "Transmission Blocking Vaccines", ASTMH Meeting, Miami, November.
- 2005 Examiner & Rapporteur, Ph.D. Thesis, Teresa Carvalho, Institut Pasteur, Paris, January.
- 2005 Invited participant, "Future of Malaria Genomics". Policy forum sponsored by Burroughs Wellcome Fund and Wellcome Trust, Boston, USA, April.

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- 2005 Invited Speaker, Biology of Parasitism course, Woods Hole, USA, July
- 2005 Organiser and Chairman, Malaria Gordon Conference, Oxford, UK, August
- 2005 Ad hoc Reviewer, Wellcome Trust Academic Appraisal Committee, September
- 2005 Invited Panelist, Meeting, "Future of Anti-Parasitic Vaccines", Merieux Foundation, Veyrier du Lac France, September.
- 2005 Co-organiser, Molecular Parasitology Meeting, Woods Hole, MA, September
- 2005 Course Faculty, Malaria Parasite Transfection Workshop, 2005, New Delhi, India, October.
- 2005 Invited Speaker ESF-EMBO Conference, Comparative genomics of eukaryotic microorganisms: eukaryotic genome evolution, approaches with yeasts and fungi. San Feliu de Guixols, Spain, November.
- 2005 Invited Speaker, *Plasmodium* pre-erythrocytic development; genomic/proteomic approaches to intervention. Washington, DC, USA. December
- 2006 Invited Speaker, University of Puerto Rico, January
- 2006 Invited Speaker, Keystone Symposium on Malaria: Functional Genomics to Biology to Medicine, Taos, New Mexico, March
- 2006 Invited Speaker, University of Dundee, March
- 2006 Invited Speaker, Federation of Biomedical Scientific Societies (FMWV-NWO), Leiden, NL. May
- 2006 Invited Speaker, COST 857 Conference, Dresden, May.
- 2006 Invited Speaker, Gordon Research Conference on the Biology of Host-Parasite Interactions, Rhode Island, USA June.
- 2006 Invited Speaker, Biology of Parasitism Course, MBL, Woods Hole, MA, July
- 2006 Invited Speaker, ICOPA, Glasgow, August.
- 2006 External Examiner, Thesis Jaysree Iyer, University of Nan-Yang, Singapore, October
- 2006 Invited Speaker, Matsuyama International Symposium on Cell-Free Sciences, Japan, October.
- 2006 Invited Speaker, University of Glasgow, Division of Life Sciences, November.
- 2006 Invited Speaker, "Knockouts (and knock-ins) in parasites: promises and challenges" pre-meeting workshop of the American Society of Tropical Medicine and Hygiene (ASTMH) meeting, Atlanta, Georgia, USA. November.
- 2006 Invited Speaker, workshop on Severe Malaria, Israeli Society for Parasitology, Protozoology and Tropical Diseases (ISPPTD), Jerusalem, December

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- 2007 Invited Speaker University of Bern Graduate School Cell Biology, February.
- 2007 Course Faculty, Malaria Parasite Transfection Workshop, Bangkok, Thailand, March.
- 2007 External Examiner PhD Thesis, Damien Cordery, University of Oxford (Supervisor Dr. B. Urban), April.
- 2007 Invited Speaker, XXXVI Annual Meeting of the Brazilian Society of Biochemistry and Molecular Biology (SBBq), Salvador, Bahia, May.
- 2007-01-16 Invited Speaker – Department of Microbiology, Washington University, St. Louis, USA. May
- 2007 Invited Speaker, Biology of Parasitism Course, MBL, Woods Hole, MA, July
- 2007 Invited Speaker, 2nd ESF-EMBO Symposium Comparative Genomics of Eukaryotic Microorganisms: Eukaryotic Genome Evolution from Yeasts to Parasites and Pathogens”. San Feliu de Guixols, SPAIN October.

Review activities in the last 5 years:

Peer reviewer for: Cell, Science, Nature, Nature Medicine, Journal of Cell Biology, EMBO Journal, EMBO reports, PNAS, Molecular Cell, PLoS Pathogens, PLoS Biology, Molecular Microbiology, Nucleic Acids Research, Genome Biology, Journal of American Pathologists, Parasitology Today, Molecular and Biochemical Parasitology, Journal of Neurobiology, Parasitology Research, Biochimica Biophysica Acta, Cellular Microbiology, FEBS Journal, Experimental Parasitology, European Journal of Biochemistry and others.

Project reviewer for: The Wellcome Trust; The Leverhulme Trust; Nederlands Organisatie voor Wetenschappelijk Onderzoek (Dutch Science Research Council); The Medical Research Council, UK; BBSRC, UK, The European Community, DGXII INCO-DC programme. Human Frontiers Programme, WHO, Volkswagen Foundation, Rockefeller Foundation, The Thresher Foundation,

Member Advisory Editorial Board: Trends in Parasitology (formerly Parasitology Today) from January 1998.

Member Editorial Board & Reviews Editor: Molecular & Biochemical Parasitology (from January, 2000)

Executive Editor: Molecular & Biochemical Parasitology (from January, 2001)

Member Scientific Advisory Panel, MR4, ATCC, Manassas, VA, USA (from September, 2002-2006)

Member Editorial Board, Future Microbiology – (from September 2005)

Ph.D. Students Examined

- 1998 External reviewer PhD. Thesis, Justin Rubio, Melbourne University, Australia, October.
- 2000 External examiner, PhD Thesis, Ross Waller, Melbourne University, Australia, April
- 2001 External reviewer PhD. Thesis, Rebecca O'Donnell, Melbourne University, Australia,

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- October.
Opponent, PhD. Defence Luis Fernandez, Karolinska Institute, Stockholm, Sweden, November.
- 2002 Opponent, Ph.D Defence Jayne Carey, Imperial College, London, UK. February.
Opponent, Ph.D. Defence, Luisa Figuerida, University of Porto, Portugal, August.
External examiner, HDR, Dr Nathalie Boulanger, University of Strasbourg, France. September
- 2005 Examiner & Rapporteur, Ph.D. Thesis, Teresa Carvalho, Institut Pasteur, Paris, January.
External examiner, Ph.D., Louise van Poppel, University of Utrecht, March.
- 2006/7 External examiner, Ph.D., Jayasree Iyer, Nanyang Technical University, Singapore, January.

Grants Awarded

- 1992 European Union STD3. Gametocyte network. Regulation of sexual development in malarial parasites and design of logical intervention strategies. Contract ts3*-CT92-0116 - Ecu 48,750).
- 1992-95 European Union STD3. Asexual vaccine network. Investigation of AMA-1 homologue in *Plasmodium berghei* (Contract ts3*-CT92-0147 - NLG 68,400)
- 1993-96 European Union STD3. Epidemiology of Chloroquine resistance. Investigation of the linkage of rRNA genes of *P. falciparum* to chloroquine resistance (Contract ts3*-CT93-0224 - NLG 73,960)
- 1993-96 WHO/TDR. Genetic transformation of *P. berghei*. Immal work group funded for 15 months (Contract 930326 US\$ 50,500 and 15,500) - funding continued under auspices of Pathogenesis work group after reorganisation. (Contract 940351 Year 1, US\$ 46,000; Year 2, US\$ 46,000).
- 1993-96 European Union STD3. Gametocyte network. Regulation of sexual development in malarial parasites and design of logical intervention strategies (Contract ts3*-CT92-0229 - Ecu 184,000).
- 1995-99 NWO/SLW. Transcriptional control of the developmentally regulated rRNA genes of *P. berghei*. 4 year PhD studentship. Contract: 805 29 041 (48,000 NLG)
- 1995 EU/WHO. Funding for transfection of malaria parasites, an international workshop meeting. Contracts EU: CT94-1053 (Ecu 40,000), WHO: 950272 (US\$ 15,000).
- 1996-98 Co-ordinator. European Union INCO-DC contract ERB3514PL950047. IC18-CT95-0022 The application of transfection technology to malaria vaccine development. (ECU 270,030).
- 1996-99 Partner with Dr. A. Crisanti (Imperial College, London, UK.). Wellcome Foundation Project grant ref 046200/Z/95/Z/JRS/CS. The molecular biology of the sporozoite ligand TRAP in *P. berghei*. (GBP 154,080).
- 1996 Co-ordinator EU-contract funding high tech conference between European Union RTD and China, November 25-27, Beijing. Contract number. (110,000 ECU)

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- 1996-1998 Joint Co-ordinator. European Union INCO-DC contract ERB3514PL950547. IC18CT960052 Regulation of development in malaria parasites. (ECU 120,000).
- 1997 Co-ordinator. EU DGXII - Chinese SSTC workshop Application of biotechnology to health. Contract ERBIC18CT969065. Shanghai, January 27-29, 1997. (ECU 45,000).
- 1997-2000 Co-ordinator and project leader: Development of malaria transfection technology for vaccine development: comparative analysis of functional parasite moieties and introduction of immuno-modulatory elements in natural and artificial host/parasite systems. NWO/SLW programme grant award also made to Dr. A.W. Thomas, BPRC, Rijswijk. (Postdoctoral position and HFL 60,000 for 2 years) Code 805-33.331-P
- 1997-1998 Network member of Molecular Basis of Drug and Vaccine Targets against Malaria. Funded by the National Institutes of Health, USA. (Ref. AI37091) USD 17,500 for one year in the first instance.
- 1997-1999 Malaria Stichting grant: The analysis of the molecular biology of the tandem EF-1a genes of *Plasmodium*. (200,000 NLG).
- 1998-2001 RUL aio-Poolplaats, number AC37. An investigation of the biology and molecular biology of the Pbs21 protein, a malaria vaccine candidate, using transfection of malaria parasites. Began January 1998.
- 1998-2000 European Union INCO-DC, Proposal ERB3514PL972944 The analysis of cell-cell interactions in the life cycle of malaria - implications for intervention. (87,000 ECU).
- 1998-2001 Structure & function analysis of ookinete surface proteins. WHO/TDR committee for Pathogenesis. (Ref: 980693). USD 40,000 pa
- 1999-2001 Structure & function analysis of ookinete surface antigens of *P. berghei*. ALW/NWO post-doctoral grant. Code P. 890.35.001 Salary & 16,000 NLG p.a.
- 1999-2002 Co-ordinator: New genetic technologies: application to generate attenuated malaria parasites. EU DG XII INCO-DEV ICA4-1999-10022 (Value 1,493,000 Euro. Receive 440,000 Euro)
- 1999-2003 Interruption of malaria transmission: vaccine strategies. EU DG XII Key Action 2 project QLRT-PL1999-00753 (Value 2,500,000 Euro. Receive 175,000 Euro).
- 2000-2004 Insect innate immunity and the critical stages of malaria-mosquito interactions. EU DG XII RTM project. RTN1-1999-00008. (Value 1,400,000 Euro receive 200,000).
- 2001-2003 Investigation of the biology of gamete surface proteins of *Plasmodium* belonging to the 6-cys domain gene superfamily. TMR/WHO USD 35,000 pa for 2 years (Ref. A00505, T23/181/225)
- 2002-2006 Investigation and exploitation of the biology of the members of the conserved 48/45 gene superfamily of *Plasmodium* – a family of surface proteins with proven vaccine potential. MW/NWO programme: 2 staff positions (Post-doc & Technician) (Ref:912-02-083). Value: €440,000
- 2002-2005 Cysteine-rich modular proteins of *Plasmodium berghei*: further characterisation and functional analysis of surface proteins expressed in mosquito stages that are members of a small, conserved gene family. 1 postdoc Plus consumables ALW/NWO (Ref: ALW5PJ/02-08)

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- 2002-2006 The *Plasmodium* “externome”. A comprehensive comparative analysis of the surface molecules involved in host-pathogen and vector-pathogen interactions of malaria parasites – A short cut to therapies? NWO/ Genomics 050-10-053 Value 1 Meuro. In association with BPRC, KUN.
- 2002-2007 Parasite-host interactions in malaria pathogenesis and transmission. Wellcome Trust, Post Genomics Initiative (3 staff positions – 9 man years + consumables). 660,000GBP of 7,000,000 (Ref GR066742MA)
- 2002-2005 Structure function and vaccine potential of the vir multigene family in malaria - VIRIMAL QPRT-2001-0853 (1 staff position 2.5 years) €196,000
- 2003-2008 BIOMALPARS – A Network of Excellence (NoE) €70,000 p.a. (Award made for 18 months in the first instance) – Dutch Co-ordinator.
- 2005 EMBO Course and Workshop, award €25,000. Ref: WPC2005/4. “Malaria Parasite Transfection Workshop, 2005”, to be held in New Delhi, India.
- 2005 Burroughs Wellcome Fund, Gates’ Foundation, Merck Research laboratories ,Glaxo Smith Kline, UK & Belgium, awards to subsidise Gordon Research Conference meeting “Malaria”, Oxford August 2005, Total \$115,000.
- 2006-2011 ZoN/MW. Visualisation of malaria parasite sequestration in vivo: generation and exploitation of a humanised rodent model Ref: 40-00812-98-06-135. 0.5 M euros
- 2007-2008 ALW. *Plasmodium* MIF: a novel strategy for parasitic subversion of immune responses. Ref. ALW2PJ/05114, 200k euros.
- 2007-2011** “TI Pharma. Development of a malaria vaccine consisting of attenuated parasites” Total value 14M Eurps

Contracts:

- 1993 ACF, Multiplant Holding B.V., Maarsen. Testing of artemisine derivatives and metabolites for anti-malarial activity in the *P. berghei* model (RUL Ref. 6-62301. NLG 26.620).
- 1991-95 TNO. Contract for the production of anopheline mosquitoes for malaria studies (RUL ref 6-62300, NLG 90,000).

FELLOWSHIPS:

- 1997- 1999 nwo-mw (GB-MW) Ref.nr. 901-15-079 Personal Fellowship, M.R. van Dijk, Evaluation of candidate proteins of a major class of malaria vaccines against the human malaria parasite, *Plasmodium falciparum*: the investigation of the (molecular) biology and immunology of Pfs45/48 proteins using transfection technology. (Salary and NLG 27,000).

TEACHING

Ph.D. Students

Dr. M.R. van Dijk.

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Thesis subject: Transfection of malaria parasites. Graduated, University of Leiden, Medical faculty. September, 1997 *Cum Laude*.

Dr. R. Vinkenoog.

Thesis subject: Cell cycle control genes of *P. berghei*. Graduated, University of Leiden, Medical Faculty. June 1998.

Dr. R.M.L. van Spaendonk.

Thesis subject: Further characterisation of the ribosomal RNA genes of a rodent malaria parasite, *Plasmodium berghei*. Graduated University of Leiden, Medical Faculty, September, 2002

drs. T.W. Kooij

Thesis subject. "Comparative genomics of *Plasmodium* and its practical exploitation in *P. berghei*". March 2006, *cum laude*.

M.Sc. Students:

Abdallah Abdallah: Graduated, June 2003.

B.Sc. Students

30 or so individuals have spent periods of 3-12 months working in the laboratory as training for their degree

Teach and design all 4 years of a Biomedical Research degree module "Host-Pathogen Interactions".

LAB ALUMNI

Dr. Rinke Vinkenoog, Senior Lecturer, University of Northumberland, UK.

Dr. Ana Tomas, University Lecturer, University of Porto, Portugal

Dr. Tania de Koning-Ward, Personal Re-Entry Fellowship, Australian Medical Research Council, Walter & Eliza Hall Institute, Melbourne, Australia.

Dr. Joanne Thompson, MRC Career Development Fellowship, ICAPB, University of Edinburgh, UK.

Dr. Dina Vlachou, Group leader at Imperial College, London, UK.

Dr Taco Kooij, Post-doctoral Fellow at National Health Services Blood Transfusion Laboratories, Oxford.

Other:

Bio(medical) and Biology undergraduate students: Afstudeerstagen - Laboratory based training of periods from 3 months - 1 year.

Erasmus host laboratory: Training for Medical Students in Parasitology from Edinburgh University.

Parasitology course for Biomedical undergraduates - 2 weeks pa.

Participation in National Postgraduate training courses.

Host laboratory for training of technicians for den Helder & Leeuwarden, Noordelijke Hogeschool.

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REFEREES

1. Dr. Louis H. Miller, MD, Ph.D.,
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Bethesda, MD 20892,
USA.

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FAX. +1 301-402-0079.
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2. Prof. Jules Hoffmann
President French Academy of Sciences,
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5. Dr. Alan W. Thomas, Ph.D.,
Chairman of Parasitology,
Biomedical Primate Research Centre,
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2280 HV Rijswijk,
The Netherlands.

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FAX: +31 15 2843896.
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6. Dr. Chris J. Janse, Ph.D.,
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