Summary:
This is a proposal from 42 partners from 33 institutes to form a NoE that will seek to integrate European malaria research that is directed towards a better understanding of the basic biology of the parasite, its vector and of the biology of the interactions between the parasite and both its mammalian host and vectors. All the member institutes and researchers have demonstrated both their excellence and their ability to contribute to a successful network. The structure of the proposed network significantly evolves prior concepts of network structure introducing new modes of research that have recently emerged. Comprising of 4 research clusters the core activities will include molecular cell biology of the parasite, host immunity, vector biology and systems biology. One arm of the network activities will be concerned with the timely and effective translation of research respecting the IP rights of partner institutes. The network will also contribute significantly to the production of the next generation of malaria researchers through the operation of an expanded European PhD School for malaria research based at EMBL, students enjoying two supervisors based in different member states. Bespoke training courses for PhD students and network personnel will be offered throughout the duration of the network to maximise individual potential. To create a long term benefit from network activities a limited programme of post-doctoral fellowships within the network will be established. Furthermore, individual career mentoring facilities will continue to guide and engage network graduates. New members will be affiliated on a competitive basis with an emphasis on young, emerging Principle Investigators. In an attempt to extend the reach of the Network activities, the Network will develop an exchange programme with the Australian Malaria Research in the form of OzEMaR that will foster bilateral research projects. This initiative may also be extended to other suitable malaria research networks and married to individual outreach activities such as presenting the network and its research at international meetings such as those organised by the Multilateral Initiative on Malaria (MIM). Through the establishment of an umbrella Foundation and active lobbying of government and non-government funding agencies as well as the establishment of a charitable profile the network will strive to become self-determining.

Problem:
Malaria remains an enormous public health problem in the tropical regions of the world, despite decades of endeavour fully effective vaccines have no been developed and the repertoire of effective drugs is diminishing due to parasite resistance. These shortcomings are due in no small measure due to our continuing lack of fundamental understanding of the biology of the parasite and its interactions with its host and vector, the female Anopheles mosquito. The region most affected by malaria is sub-Saharan Africa where more than 1 million deaths occur each year due to infection with Plasmodium falciparum.

Aim:
This network will undertake basic biological investigations of the host parasite and vector parasite interactions in collaboration with partner laboratories in Africa and India. The aims are numerous but include:

- The pursuit of excellence in the investigation of malaria parasite biology and parasite interactions with host and vector.
- Harmonisation and integration of basic malaria research across the European economic region and improvement of participants interactions with researchers in disease endemic regions with a view to establishing long lasting joint research efforts.
Training of the next generation of European and African malaria researchers will take place within the context of a European Malaria Graduate Research School (EMGRS) working in partnership with the participating institutions.

Generation of interfaces of communication of the Network with applied research entities (academic, Governmental, NGO and industrial) that can exploit network generated knowledge for the production of malaria treatments.

Expected results:

- A greatly improved understanding of the biology of the malaria parasite integrated with a deeper knowledge of its evolving interactions with both host and vector
- The establishment of the EMGRS as an internationally recognised endeavour that produces graduates capable of forming the next generation of malaria researchers
- The establishment of a Legal Entity that will seek to continue the network initiated activities beyond this funding cycle

Potential applications:

Transfer of network-generated knowledge to the appropriate bodies for its exploitation in directly translatable research leading to the generation of measures to reduce the disease burden of malaria in the disease endemic regions of the world.

Project web-site:  www.evimalar.org

Key words: Malaria, Africa, Anopheles, Plasmodium, Mosquito, Host-Pathogen interactions, Integrative Biology, Network, Translation

Coordinator:
Name: Andrew Waters
Institution address: Division of Infection & Immunity
Faculty of Biological Life Sciences
University of Glasgow
GBRC Building
120 University Place
Glasgow
G12 8TA
United Kingdom
Email: Waters@bio.gla.ac.uk

Partners
Principal Investigators (PI)  Institutional Address
European partners
Part.1 : University of Glasgow (UoG)  120 University Place, G12 8TA, Glasgow, UK
RT 1: Waters  waters@bio.gla.ac.uk
RT 2: Muller  sm162g@udcf.gla.ac.uk

Part. 2 : Institut Pasteur, [IP]  25, 28 rue du Docteur Roux, 757242 Paris Cedex 15, France
RT 3: Scherf  ascherf@pasteur.fr
RT 4: Puijalon  omp@pasteur.fr
RT 5: Menard
The Ridgeway, Mill Hill, London NW7 1AA, UK
rmenard@pasteur.fr

Part. 3 : National Institute for Medical Research, [NIMR]
RT 6: Blackman
mblackm@nimr.mrc.ac.uk
RT 7: Holder
aholder@nimr.mrc.ac.uk
RT 8: Langhorne
jlangho@nimr.mrc.ac.uk

Part. 4: University of Leiden [LUMC]
RT 9: Janse
C.J.Janse@lumc.nl

Part. 5: University of Nijmegen [KUN]
RT 10: Sauerwein
r.sauerwein@mmmb.umcn.nl

Part. 6: Biomedical Primate Research Center [BPRC]
Lange Kleiweg 139, 2288 GJ Rijswijk, the Netherlands
Kocken@bprc.nl

Part. 7: University of Oxford, [UOXF + H4].
University Offices, Wellington Square, Oxford, OX1 2JD, UK
david.roberts@ndcls.ox.ac.uk
CNewbold@hammer.imm.ox.ac.uk
twilliams@kilifi.kemri-wellcome.org

Part. 8: Centre National de la Recherche Scientifique [CNRS]
Campus Gérard-Mégie, 3 rue Michel-Ange - F-75794, France
vial@univ-蒙p2.fr
E.Levashina@ibmc.u-strasbg.fr

Part. 9: Institut National de la Sante et de la Recherche Medicale (INSERM)
1, Avenue Oscar Lambret. 59000 Lille, France

Part. 10: University of Heidelberg, [UKHD]
Grabengasse 1, 69117 Heidelberg, Germany
michael_lanzer@med.uni-heidelberg.de
Markus.Meissner@med.uni-heidelberg.de
Freddy.Frischknecht@med.uni-heidelberg.de

Part. 11: Swedish Institute for Infectious Disease Control (SMI)
Smittskyddsinstitutet (SMI), 171 82 Solna, Sweden
Mats.Wahlgren@mtc.ki.se

Part. 12: University of Stockholm [SU]
SE-106 91 Stockholm, Sweden
marita@imun.su.se

Part. 13: Istituto Superiore di Sanita [ISS]
299 Viale Regina Elena, 00161 - Rome (I), Italy
marta.ponzi@iss.it
alano@iss.it

Part. 14 University of Rome [UR]
Piazzale Aldo Moro 5, 00185 Rome, Italy
david.modiano@uniroma1.it

Part. 15: Imperial College of Science, Technology & Medicine [IC]
Exhibition Road, London SW7 2AZ, UK
r.sinden@imperial.ac.uk
Part. 16 : The Wellcome Trust Sanger Institute, [WTSI]  
RT 29: Berriman  
RT 30: Billker  
RT 31: Kwiatkowski  
Genome Campus, Hinxton, Cambridge CB10 1SA  
mb4@sanger.ac.uk  
o.billker@imperial.ac.uk  
Dominic.Kwiatkowski@paediatrics.ox.ac.uk

Part. 17 : Foundation for Research and Technology-Hellas. Institut of Molecular Biology and Biotechnology [FORTH-IMBB]  
RT 32: Louis  
Nikolaou Plastira 100, GR-70013, Heraklion, Crete, Greece  
louis@imbb.forth.gr

Part. 18: University of Geneva, (Unige)  
RT 33: Soldati  
24 rue du Général-Dufour, CH - 1211 Genève 4, Switzerland  
dominique.soldati-favre@medecine.unige.ch

Part. 19: Liverpool School of Tropical Medicine (LSTM)  
RT34/Urban  
B Urban@kilifi.kemri-wellcome.org  
ag craig@ liverpool.ac.uk

Part. 20: Philippus University of Marburg (PUM)  
RT 36: K. Lingelbach  
Biegenstr. 10, 35032 Marburg, Germany  
lingelba@staff.uni-marburg.de

Part. 21: University of Torino (Unito)  
RT 37: P. Arese  
C.Svizzera, 185 - 10149 Turin, Italy  
paolo.arese@unito.it

Part. 22: Centre for Medical Parasitology University of Copenhagen (CMP)  
RT 38: L. Hviid  
Nørregade 10, Postboks 2177, 1017 Copenhagen, Denmark  
lars.hviid@ rh.hosp.dk

Part. 23: L’institut de Recherche pour le Développement (IRD)  
RT 39: D. Fontenille  
Le Sextant 44, bd de Dunkerque, CS 90009, 13572 Marseille Cedex 02, France  
fontenil@mpl.ird.fr

Part. 24: London School of Hygiene & Tropical Medicine (LSHTM)  
RT 40: E. Riley  
Keppel St, London, WC1E 7HT, UK  
Eleanor.Riley@lshtm.ac.uk

Part. 25: Instituto de Medicina Molecular (IMM)  
RT 41: M. Mota  
Av. Professor Egas Moniz 1649-028 Lisbon, Portugal  
mmota@fm.ul.pt

Part. 26: Bernhardt Nocht Institute For Tropical Medicine (BNITM)  
RT 42: V. Heussler  
Bernhard-Nocht-Strasse 74, D-20359 Hamburg, Germany  
heussler@bni-hamburg.de

**DER partners**  
Part. 27: Makerere University, Uganda [MUK]  
RT 43 : Kironde  
P.O. Box 7072, Kampala, Uganda.  
kironde@starcom.co.ug

Part. 28: University of Khartoum, Sudan [IEDK]  
RT 45: Ibrahim  
Gamma Ave, Khartoum, Sudan  
mibrahim@iend.org
Part. 29: University of Ibadan, Nigeria (UoI)
   RT 46: Amodu
   Ibadan, Oyo, Nigeria
   amkemi@hotmail.com

Part. 30: International Centre for Genetic Engineering and Biotechnology (ICGEB)
   RT 47: Chitnis
   Aruna Asaf Ali Marg, 110067 New Delhi, India
   cchitnis@icgeb.res.in

Part. 31: The Biotechnology Centre, University of Yaounde I (BTC)
   RT 48: Mbacham
   B.P. 337 Yaounde - Cameroon
   wfmbacham@yahoo.com

Part. 32: European Molecular Biology Laboratory (EMBL)
   RT 49: Irving
   Meyerhofstraße 1, 69117 Heidelberg, Germany
   irving@embl.de

Part 33 University of Melbourne, (UNIMELB)
   RT 50: McFadden
   Victoria 3010, Australia
   gim@unimelb.edu.au

Part 34 Max Planck Institute Berlin, (MPG)
   RT 50: Matuschewski
   Charitéplatz 1, D-10117 Berlin, Germany
   Kai.Matuschewski@med.uni-heidelberg.de