



EDEN International Conference

Parallel sessions programme

Version May 7th, 2010

Tuesday 11th May 2010 - 11h30-13h00

Session 1 - Predictive and quantitative models for vector-borne diseases

Chairman : Hans Heesterbeek (University of Utrecht, The Netherlands)

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| 11h30-11h45 | A user-friendly, Windows based risk mapping program (David Morley, University of Oxford, UK) |
| 11h45-12h00 | Bayesian Spatial Discriminant Analysis for Risk Mapping (Luigi Sedda, University of Oxford, UK) |
| 12h00-12h15 | Understanding the abiotic and biotic drivers of vector-borne disease emergence (Bethan Purse, Centre for Ecology and Hydrology Edinburgh, UK) |
| 12h15-12h30 | Ecosystem complexity, biodiversity dynamics and infectious diseases. An introduction to community epidemiology (Benjamin Roche, Institut de Recherche pour le Développement, France) |
| 12h30-12h45 | R0; models and risk maps (Nienke Hartemink, University of Utrecht, The Netherlands) |
| 12h45-13h00 | Discussion |

Session 2 - Tick-borne diseases (Tick-borne pathogen distribution and prevalence)

Chairman : Ana-Luisa Garcia-Perez (NEIKER, Spain)

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| 11h30-11h45 | Detection of tick-borne pathogens in Estonia (Julia Geller, Tallinn University of Technology, Estonia) |
| 11h45-12h00 | Lyme disease and human granulocytic anaplasmosis in Latvia, epidemiological situation and molecular analysis in ticks (Irina Lucenko, Latvian Infectology Centre, Latvia) |
| 12h00-12h15 | Spatio-temporal distribution of <i>Ixodes ricinus</i> ticks and prevalence of tick-borne pathogens in Slovakia (Maria Kazimirova, Slovak Academy of Sciences, Slovakia) |
| 12h15-12h30 | Genetic characterization of TBE virus obtained from <i>Ixodes ricinus</i> and <i>Dermacentor reticulatus</i> ticks (Maciej Kondrusik and Irina Golovljova, Department of Virology, National Institute for Health, Poland) |
| 12h30-12h45 | The prevalence of Crimean-Congo haemorrhagic fever virus in the host seeking ticks in an endemic area of Turkey (Zati Vatansver, Kafkas University Faculty of Veterinary Medicine, Kars, Turkey) |
| 12h45-13h00 | Discussion |

Session 3 – From the tropics to Europe

Chairman : Dominique Martinez (Centre International de Coopération en Recherche Agronomique, France)

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| 11h30-11h45 | Rift Valley fever surveillance systems in Senegal, West Africa (Yaya Thiongane, Institut Sénégalais de Recherche Agricole, Senegal) |
| 11h45-12h00 | <i>Culex neavei</i> (Diptera, Culicidae), a potential West Nile vector bridging birds and horses in Ross Bethio, Senegal (Assane Gueye Fall, Institut Sénégalais de Recherche Agricole, Senegal) |
| 12h00-12h15 | Changes in mosquito fauna of Tunisia (Ali Bouattour, Pasteur Institute of Tunis, Tunisia) |
| 12h15-12h30 | West Nile virus circulation among a sentinel horse population in the Senegal River Delta (Nicolas Diouf, Direction Elevage, Senegal) |
| 12h30-12h45 | West Nile disease in Morocco wild birds (Ouafaa Fassi Fihri, Institut Agro-Vétérinaire Hassan II, Morocco) |
| 12h45-13h00 | Discussion |



Session 4 – Leishmaniasis (Mediterranean environments of leishmaniasis)

Chairmen : Jean-Pierre Dedet (Université Montpellier 1, France), Paul Ready (Natural History Museum, UK)

- 11h30-11h45 Can we predict the distribution of canine leishmaniasis in Western Europe using historical seroprevalence data and environmental variables? (Ana Franco, London School of Hygiene and Tropical Medicine, UK)
- 11h45-12h00 Phlebotomine sand fly vectors of *Leishmania* in Algarve Region, Portugal (Carla Maia, Instituto de Higiene e Medicina Tropical, Portugal)
- 12h00-12h15 Visceral leishmaniasis in Tunisia: spatial distribution and association with climatic factors (Aïda Bouratbine, Pasteur Institute of Tunis, Tunisia)
- 12h15-12h30 Spatial and environmental models for human and canine leishmaniasis in the Aydın Mountains in western Turkey
- (Yusuf Ozbel, Ege University, Turkey)
- 12h30-12h45 Leishmaniasis and Toscana virus infections in sandfly populations in two regions in the south of France (Frédéric Pagès, IRBA, France)
- 12h45-13h00 Discussion

LUNCH

Tuesday 11th May 2010 - 14h30-16h00

Session 5 – Malaria

Chairman : Didier Fontenille (Institut de Recherche pour le Développement, France)

- 14h30-14h45 Risk maps for the re-emergence of Malaria in Portugal (Carla A. SOUSA, Instituto de Higiene e Medicina Tropical, Portugal)
- 11h45-15h00 Receptivity to malaria in a previously endemic area in Spain: A Risk assessment approach for Malaria re-emergence (Jose Manuel Latorre Estivalis (Universidad de Valencia, Spain)
- 15h00-15h15 The use of multi-agent simulations in spatial epidemiology: advantages, challenges and example application (Catherine Linard, Université Libre de Bruxelles, Belgium)
- 15h15-15h30 Characterization of immunogenic proteins of *P. falciparum* -infected salivary glands of *An.gambiae*: Toward a biomarker of infecting bite? (Sylvie Cornelie, Institut de Recherche pour le Développement, France)
- 15h30-15h45 The *Anopheles gambiae* gSG6 salivary protein: a serological marker of exposure to African malaria vectors (Bruno Arca, Università Federico II, Italy)
- 15h45-16h00 Discussion

Session 6 – Tick-borne diseases (Ecological impacts on epidemiology)

Chairman : Annapaola Rizzoli (Fondazione Edmund Mach, Italy)

- 14h30-14h45 Infestation with ticks and prevalence of *Anaplasma phagocytophilum* in roe deer in Germany (Philippe Gil de Mendonça, Ludwig-Maximilians-Universität München, Germany)
- 14h45-15h00 Empirical assessment of deer density threshold for tick-borne encephalitis risk under natural conditions (Francesca Cagnacci, Fondazione Edmund Mach, Italy)
- 15h00-15h15 The role of co-feeding transmission in the ecology of *Borrelia afzelii*: a glance at the intra-specific level (Lise Gern, Université de Neuchâtel, Switzerland)
- 15h15-15h30 Role of sand lizards in the ecology of Lyme and other tick-borne diseases in the Netherlands (Ellen Tijssen Klases, National Institute for Public Health and Environment, The Netherlands)
- 15h30-15h45 Strong genetic differentiation between Eurasian and North-African *Ixodes ricinus* ticks (Rim Noureddine, INRA-ENV Nantes, France)
- 15h45-16h00 Discussion



Session 7 - From the tropics to Europe

Chairman : Stéphane de la Rocque (Food and Agriculture Organization, Italy)

- 14h30-14h45 Rift Valley Fever (RVF) in Barkedji (Senegal), Zones Potentially Occupied by Mosquitoes (ZPOMs), dynamics, mapping and RVF risks (Cécile Vignolles, CNES, France)
- 14h45-15h00 A diffusion model to predict spatial and temporal population dynamics of Rift Valley fever vectors in Northern Senegal (Valérie Soti, Nevantropic SA and CIRAD, France)
- 15h00-15h15 From high-spatial resolution remote sensing to modeling the dynamics of habitats of mosquito vectors of Rift Valley Fever vs rainfall in Barkedji area, Senegal (Dominique Bicout, Ecole Nationale Vétérinaire de Lyon, France)
- 15h15-15h30 O, deer! Modeling the role of wildlife in potential spread and persistence of Rift Valley Fever Virus in The Netherlands and Belgium (Egil Fischer, Central Veterinary Institute, part of Wageningen UR, The Netherlands)
- 15h30-15h45 Impact of vector and host distribution on the processes of introduction, amplification and emergence of a multi-host infectious disease (Annelise Tran, CIRAD, France)
- 15h45-16h00 Discussion

Session 8 – Leishmaniasis (Evidence for the emergence of leishmaniasis in Europe)

Chairmen : Maria Antoniou (University of Crete, Greece) & Paul Ready (Natural History Museum, UK)

- 14h30-14h45 The emergence of zoonotic visceral leishmaniasis in northern Italy: a compendium of 2005-2009 studies (Marina Gramiccia, Istituto Superiore di Sanita, Italy)
- 14h45-15h00 Is leishmaniasis wide-spread in Spain? First data on canine leishmaniasis in the province of Lerida (NE Spain) (Montserrat Gallego, Universidad de Barcelona, Spain)
- 15h00-15h15 Surveillance of leishmaniasis in Madrid Region (Spain) (Andres Iriso, Dirección Gral de Ordenación e Inspección, Comunidad de Madrid, Spain)
- 15h15-15h30 Validation of a novel approach to estimating prevalence of canine leishmaniasis [in Cyprus] (Maria Antoniou, University of Crete, Greece)
- 15h30-15h45 Surveys for the presence and spatial distributions of canine leishmaniasis and its sandfly vectors (Diptera: Psychodidae) in Hungary (Róbert Farkas, Szent István University, Hungary)
- 15h45-16h00 Discussion

COFFEE BREAK & POSTERS

Tuesday 11th May 2010 - 16h30-18h00

Session 9 – Malaria

Chairman : Maria-Dolores Bargues (University of Valencia)

- 16h30-16h45 *Anopheles darlingi* (Diptera: culicidae) is not the only malaria vector in French Guiana (Romain GIROD, Institut Pasteur, Guyana)
- 16h45-17h00 Evolution of the risk of malaria re-emergence in Romania (Gabriela Nicolescu, NIRD MIC, Romania)
- 17h00-17h15 Effects of environmental changes on malaria vectors in Algeria (Zoubir Harrat, Institut Pasteur Alger, Algeria)
- 17h15-17h30 Impact of human activities on the dynamics of insecticide resistance in *Anopheles gambiae*: Case of Benin (West Africa), (Luc Djogbénou, Institut Régional de Santé Publique, Benin)
- 17h30-17h45 Why is there no anopheline in the Seychelles? (Vincent Robert, Institut de Recherche pour le Développement, France)
- 17h45-18h00 Discussion



Session 10 – Tick-borne diseases (Environmental and human factors in risk of TBDs)

Chairman : Sarah Randolph (University of Oxford, UK)

16h30-16h45	Mapping the risk of tick-borne encephalitis in Sweden by use of low-resolution remote-sensing (Gert Olsson, Swedish University of Agricultural Sciences, Sweden)
16h45-17h00	Landscape and vector-borne and zoonotic diseases: a complex interaction illustrated with tick-borne encephalitis in Latvia (Sophie Vanwambeke, Université Catholique de Louvain, Belgium)
17h00-17h15	Nature's calendar: Spatial and temporal variation in Ixodes ricinus, associated Borrelia burgdorferi sensu lato genospecies and tick bites in the Netherlands (Fedor Gassner, Wageningen University and Research Centre, The Netherlands)
17h15-17h30	Animal disease risk in the countryside: providing appropriate information, avoiding alarm (Mariella Marzano, Forest Research, UK)
17h30-17h45	Human-tick interaction: developing an agent-based model of risk of tick bites during recreation (Jennifer Taylor, Oxford University, UK)
17h45-18h00	Discussion

Session 11 – Rodent-borne diseases (Hanta epidemiology)

Chairman : Jean-François Cosson (Institut National de la Recherche Agronomique, France)

16h30-16h45	Hantavirus infections in Europe: from virus carriers to major health problem (Åke Lundkvist, SMI, Sweden)
16h45-17h00	Why is Nephropathia epidemica so common in Finland? (Liina Voutilainen, METLA, Finland)
17h00-17h15	Spatio-temporal variation in bank vole hantavirus infection and relation to nephropathia epidemica in humans during an epizootic (Tersago Katrien, University of Antwerp, Belgium)
17h15-17h30	Predicting high risk of human hantavirus infections in Sweden (Gert Olsson, Swedish University of Agricultural Sciences, Sweden)
17h30-17h45	Network "rodent-borne pathogens" in germany: molecular epidemiology of hantavirus and leptospira infections in rodent hosts (Rainer Ulrich, Frieddrich Loeffler Institute, Germany)
17h45-18h00	Discussion

Session 12 – West Nile in Europe

Chairman : Véronique Chevalier (Centre International en Recherche Agronomique pour le Développement, France)

16h30-16h45	Identification of West Nile virus vectors in France (Thomas Balenghien, CIRAD, France)
16h45-17h00 Republic)	Mosquito surveillance for West Nile virus in central Europe (Zdenek Hubalek, IVB, Czech
17h00-17h15	West Nile virus circulation in Doñana, Spain (2003-2009) (Jordi Figuerola, CSIC, Spain)
17h15-17h30 NIRD MIC, Romania)	West Nile virus circulation in Romania – the past and the present (Gabriela Nicolescu,
17h30-17h45	West Nile virus circulation in Emilia-Romagna (Italy) in 2009: an integrated surveillance system (Paola Angelini, Emilia-Romagna Region, Italy)
17h45-18h00	Discussion



Wednesday 12th May 2010 - 11h00-12h30

Session 13 – Malaria

Chairman : *Nurdan Ozer (HUESRL, Turkey)*

- 11h00-11h15 Multigenic and phylogenetic analyses of anopheles species from Spain, inferred from ribosomal and mitochondrial DNA markers (Maria Dolores BARGUES, Universidad de Valencia, Spain)
- 11h15-11h30 Population structure of the European malaria vector *Anopheles atroparvus* (João Pinto, Instituto de Higiene e Medicina Tropical, Spain)
- 11h30-11h45 Risk assessment of malaria reintroduction in Italy (Roberto Romi, Istituto Superiore di Sanita, Italy)
- 11h45-12h00 Factors affecting the size of a Anopheline population in a favourable environment (Priscilla Cailly, INRA/ENV Nantes, France)
- 12h00-12h15 Malaria vector larval control: why, where, when and how ? (Sander Koenraadt, Wageningen University and Research Centre, The Netherlands)
- 12h15-12h30 Discussion

Session 14 - Tick-borne diseases (Biological features in the emergence of TBDs)

Chairman : *Lise Gern (Université de Neuchatel, Switzerland)*

- 11h00-11h15 Infection by *Borrelia burgdorferi* sensu lato influences *Ixodes ricinus* survival under challenging climate conditions (Coralie Hermann, Université de Neuchatel, Switzerland)
- 11h15-11h30 Ticks, birds and tick-borne diseases: the terrestrial cycle (Dieter Heylen, University of Antwerp, Belgium)
- 11h30-11h45 Ticks and tick-borne pathogens transmitted by birds in Norway and Lithuania (Algimantas Paulauskas, Vytautas Magnus University, Lithuania)
- 11h45-12h00 Is the introduced Siberian chipmunk (*Tamias sibiricus*) a reservoir hosts for *Borrelia burgdorferi* sensu lato in suburban forests? (Maud Marsot, INRA, France)
- 12h00-12h15 Ticks and tick-borne disease in South Bohemia (Czech Republic) (Vaclav Honig, University of South Bohemia, Czech Republic)
- 12h15-12h30 Discussion

Session 15 - Rodent-borne diseases (Ecology of Puumala hantavirus)

Chairman : *Heikki Henttonen (Finnish Forest Research Institute, Finland)*

- 11h00-11h15 Degree of synchrony in dynamics of bank vole populations and Puumala hantavirus persistence: a study through stochastic modelling (Frank Sauvage, Université Lyon I, France)
- 11h15-11h30 The role of maternal antibodies in the transmission dynamics of Puumala hantavirus in vole populations (Eva Kallio, University of Liverpool, UK)
- 11h30-11h45 Does the Puumala virus impact the survival of its host, the Bank Vole *Myodes glareolus*? Insights from a capture mark recapture analysis (Laurent Crespín, INRA, France)
- 11h45-12h00 Risks of Hantavirus occurrence and emergence: insights from rodent immunogenetics at regional and European geographic scales (Nathalie Charbonnel, INRA, France)
- 12h00-12h15 Immunogenetics in wild population reservoir: a key for landscape epidemiology (Emmanuel Guivier, INRA-CBGP, France)
- 12h15-12h30 Discussion



Session 16 – West Nile in Europe

Chairman : Paul Reiter (Institut Pasteur, France)

11h00-11h15	Transmission of West Nile virus in resident birds in Italy (Ilaria Pascucci, Istituto Zooprofilattico Sperimentale, Italy)
11h15-11h30	The Danube Delta: birds, mosquitoes and West Nile virus at the crossroads (Mihai Marinov, Danube Delta National Institute, Romania)
11h30-11h45	Spatial modelling of biodiversity hotspots for mosquito species endemic in temperate Europe: implications for field sample design and spatial MBD risk analysis (Eva De Clercq, Avia-Gis, Belgium)
11h45-12h00	A metapopulation model to simulate West Nile virus circulation in southern Europe and the Mediterranean basin (Véronique Chevalier, CIRAD, France)
12h00-12h15	Epidemic West Nile virus: Experiences in Indiana and Texas (Michael Ward, University of Sidney, Australia)
12h15-12h30	Discussion

LUNCH & POSTERS

Wednesday 12th May 2010 - 14h00-15h30

Session 17 – Leishmaniasis (Predicting the emergence of leishmaniasis in Europe and its territories)

Chairmen : Paul Ready (Natural History Museum, UK), Annelise Tran (CIRAD, France)

14h00-14h15	Impact of human activities on diversity of phlebotomine sand flies (Diptera: psychodidae) in the Amazonian forest, region of Cacao, French Guiana (Romain Girod, Institut Pasteur, French Guiana)
14h15-14h30	Modelling sand fly vector distribution in Madrid (Central Spain region) using a geographic information system (Rosa Galvez, Instituto de Salud Carlos III, Spain)
14h30-14h45	Uncertainties in Predicting Future Habitat Suitability of European Sandflies in the Face of Climate Change (Dominik Fischer, University of Bayreuth, Germany)
14h45-15h00	Ecological risk mapping of canine leishmaniasis in France (Annelise Tran, CIRAD, France)
15h00-15h15	R0 maps for canine leishmaniasis (Nienke Hartemink, University of Utrecht, The Netherlands)
15h15-15h30	Discussion

Session 18 – From the tropics to Europe

Chairman : Eric Etter (Centre International en Recherche Agronomique pour le Développement, France)

14h00-14h15	Geographical multifactorial analysis of risk of dengue transmission in Guadeloupe according to urban contexts (Laurent Girdary, Institut Pasteur, Guadeloupe)
14h15-14h30	Risk Assessment of the emergence of arboviruses diseases transmitted by mosquitoes (Diptera: Culicidae). A case study in the Autonomous Province of Trento: the RISK TIGER project (David Roiz Pereda, Fondazione Edmund Mach, Italy)
14h30-14h45	The Chikungunya Disease in Réunion Island: Chemical control versus Biological control (Yves Dumont, CIRAD, France)
14h45-15h00	Potential transmission of Rift Valley Fever in Europe: Preliminary review of candidate mosquito vectors (Thierry Baldet, CIRAD, France)
15h00-15h15	Discussion



Session 19 – Rodent-borne diseases (Other than rodent hantas)

Chairman : Herwig Leirs (University of Antwerp, Belgium)

14h00-14h15	Masting, rodent dynamics and tick-borne encephalitis risk (Anapaola Rizzoli, Fondazione Edmund Mach, Italy)
14h15-14h30	A mathematical epidemiological model of Bartonella infections in the invasive Rattus rattus (Roumen Anguelov, University of Pretoria, USA)
14h30-14h45	Presence of Mopeia Virus, an African arenavirus, related to individual host characteristics and biotope (Benny Borremans, University of Antwerp, Belgium)
14h45-15h00	An emerging paradigm shift in Hantavirus evolution from the identification of newfound soricid and talpid reservoir hosts (Richard Yanagihara, University of Hawaiï, USA)
15h00-15h15	Isolation and characterization of novel insectivore-borne hantaviruses from Finland (Tarja Sironen, University of Helsinki, Finland)
15h15-15h30	Discussion

Session 20 – West Nile in Europe

Chairman : Rossella Lelli (Istituto Zooprofilattico Sperimentale, Italy)

14h00-14h15	West Nile viruses responsible for the 2008 and 2009 Italian outbreaks (Federica Monaco, Istituto Zooprofilattico Sperimentale, Italy)
14h15-14h30	A Multiplex-PCR to identify Vertebrate hosts from mosquito bloodmeals (Marco Di Luca, Istituto Superiore di Sanità, Italy)
14h30-14h45	West Nile virus in the Mediterranean: The significance of the newly arising NS3-249Pro genotype (Miguel Angel Jimenez-Clavero, Centro de Investigación en Sanidad Animal del Instituto Nacional de Investigación y Tecnología Agraria y Alimentaria, Spain)
14h45-15h00	Serologic evidence of West Nile virus infection in patients with exanthema in Hungary, 2008 (Nemethne Szomor Katalin, National Center for Epidemiology, Hungary)
15h00-15h15	Risk of introduction and establishment of African Horse Sickness in the Netherlands (Clazien de Vos, Central Veterinary Institute of Wageningen, part of Wageningen UR, The Netherlands)
15h15-15h30	Discussion

