

# Marc Choisy

## Address

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## Education and Qualifications

**2005-2006** Post-Doc in *Disease Ecology*. University of Georgia, USA.  
**2001-2004** PhD in *Integrative Biology*. University of Montpellier, France.  
**2000-2001** MSc in *Biostatistics*. University of Montpellier, France.  
**1999-2000** MSc in *Evolutionary Biology and Ecology*. University of Montpellier, France.  
**1998-1999** Credits in *Quantitative Ecology*. University of Wisconsin, USA.  
**1998-1999** Credits in *Wildlife Population Dynamics*. University of Wisconsin, USA.  
**1996-1998** Engineer in *Agronomy*. Montpellier-SupAgro, France.  
**1994-1996** Two-year intensive preparation to enter Montpellier-SupAgro.  
**1993-1994** High School Diploma. Honours, Science Major. Valence, France.

## Grants and Awards

**2016-2018** IRD-JEAI (50,000 €)  
**2016-2017** BioAsia (Campus France) (42,000 €)  
**2015** "ACIP" from Réseau International des Instituts Pasteur (3,400 €).  
**2012** "Action incitative" from IRD (2,000 €).  
**2011-2014** Dengue dynamics in Vietnam section of the Vaccine Modeling Initiative project (regional PI). Bill & Melinda Gates project (90,000 US\$) sub-project of VMI (www.vaccinemodeling.org).  
**2011-2013** Alternatives methods to fight against Triatoma, vectors of the Chagas disease: PI of task 2 (71,760 €) of ARN project #21655 (PI: Frédéric Lardeux, 260,936 €).  
**2009-2012** Scientific excellence award from IRD.  
**2005-2006** Lavoisier Fellowship from the French Minister of Foreign Affairs.  
**2001-2004** PhD grant, co-funded by CNRS and Région Languedoc-Roussillon.  
**1999-2000** MSc grant from the French Minister of Agriculture.  
**1998-1999** Graduate Studentship, University of Wisconsin, McIntire-Stennis Pjt #3885.

## Post-doctorates supervision

**2013-2014** Guilhem Rascalou: "Control of Chagas disease vectors" (Funding: ANR).  
Co-direction with Frédéric Lardeux.

- 2013** Soudeh Ehsani: “Emergence of antibiotic resistance in hospitals” (Funding: Pasteur Institute).  
Co-direction with Heiman Wertheim.
- 2012** Étienne Kouokam: “Age-structured models of infectious diseases” (Funding: AUF).  
Co-direction with Jean-Daniel Zucker.

## PhD students supervision

- 2017-2020** Gonché Danesh, PhD in Integrative Biology, University of Montpellier.  
“Phylogenetic analysis of transmission and virulence of HIV and coinfecting viruses”.  
Co-supervision with Samuel Alizon.
- 2016-2020** Nguyen Van Cuong, PhD in Epidemiology, Open University.  
“Antimicrobial Reduction in Chicken Production in Vietnam”. Co-supervision with Juan J. Carrique-Mas.
- 2016-2019** Vu Tien Viet Dung, PhD in Ecology & Evolution, University of Montpellier.  
“Optimizing surveillance network for efficiently monitor and control antibiotic resistance in Vietnam”. Co-supervision with Marisa Peyre.
- 2015-2018** Hannah E. Brindle, PhD in Medical Sciences, University of Liverpool.  
“Encephalitis in Northern Vietnam: aetiology and epidemiology”. Co-supervision with Behzad Nadjm and Rob Christley.
- 2015-2018** Nguyen Hoang Pham, PhD in Computer Sciences, University of Paris 6.  
“Causality in epidemiological time series”. Co-supervision with Jean-Daniel Zucker.
- 2012-2016** Tran Thi Cam Giang, PhD in Computer Sciences, University of Paris 6.  
“Optimisation of vaccine policies”. Co-supervision with Jean-Daniel Zucker.
- 2012-2015** Lê Việt Thanh, PhD in Ecology & Evolution, University of Montpellier 2.  
“Phylodynamics of dengue viruses in Hanoi”.  
Co-supervision with Heiman F. L. Wertheim.
- 2010-2013** Pham Quang Thai, PhD in Epidemiology, Open University, UK.  
“Spatial dynamics of seasonal human influenza in Vietnam”. Co-supervision with Peter Horby.

## MSc Students supervision

- 2018** Dang Duy Hoang Giang, MSc, University College London, London, UK.
- 2017** James Mbinta Fenibe, MPH, Hanoi Medical University, Hanoi, Vietnam.
- 2017** Tatiana Ngassa Tchoudjeuh, MSc in Computer Sciences, IFI, Hanoi, Vietnam.
- 2016** Jakub Voznica, MSc in Ecology and Evolution, ENS, Cachan, France.
- 2016** Sara Bosshardt, MSc in Ecology and Evolution, ENS, Paris, France.
- 2015** Lionel Jaderne Houssou, MSc in Computer Sciences, IFI, Hanoi, Vietnam.
- 2015** Damien Philippon, MSc in Computer Sciences, IFI, Hanoi, Vietnam.
- 2014** Progress Udoh, MSc in Computer Sciences, USTH, Hanoi, Vietnam.
- 2014** Nguyen Ngoc Anh, MSc in Pharmacology/Biotechnology, USTH, Hanoi, Vietnam.
- 2013** Noy Souliyaseng, MSc in Tropical Medicine, IFMT, Vientiane, Laos.
- 2013** Selain Kasereka, MSc in Computer Sciences, IFI, Hanoi, Vietnam.
- 2012** Philavanh Sitboulang, MSc in Tropical Medicine, IFMT, Vientiane, Laos.
- 2012** Malyvanh Vongpanhya, MSc in Tropical Medicine, IFMT, Vientiane, Laos.
- 2011** Tran Thi Cam Giang, MSc in Computer Sciences, IFI, Hanoi, Vietnam.
- 2011** Fanny Gascuel, MSc in Ecology and Evolution, ENS, Lyon, France.
- 2009** Ségolène Charaudeau, MSc in Biomathematics, Supélec, Paris, France.
- 2009** Fred Andayi, MPH, French School of Public Health, Paris, France.
- 2009** Étienne Gignoux, MPH, French School of Public Health, Paris, France.

- 2008** Mohamed Rafik, MSc in Applied Mathematics, University of Toulouse, France.  
**2007** Lamine Condet, MSc in Applied Mathematics, University of Toulouse, France.  
**2004** Benjamin Roche, MSc in Biomathematics, University of Paris, France.

## Research assistant supervision

- 2017** Lucie Contamin, VI-IRD (French ministry of Foreign Affairs).  
**2016** Anagha Prasanna, Princeton University, USA (OUCRU-Princeton exchange program).  
**2016** Maria Malik, Princeton University, USA (OUCRU-Princeton exchange program).  
**2012-2013** Mai Ngoc Khuong, Hanoi School of Public Health, Vietnam (VMI project).  
**2012-2013** Raaka Kumbhakar, Columbia University, USA (Fulbright fellowship).

## PhD Advising Committees

- 2013-2016** Malyna Suong, RPB, Montpellier / Hanoi.  
**2009-2012** Ève Miguel, CIRAD, Montpellier.  
**2009-2012** Marion Vittecoq, GEMI, Montpellier.

## Teaching Responsibilities

- 2014:** Molecular Phylogenetics for Epidemiology, Hanoi, 15-18 December 2014.  
**2008-2012** “Global Environmental Changes and Health”, Master of Public Health, French School of Public Health, Paris, 30 hours.  
**2007-2012** “Épidémiologie Quantitative” (co-responsible), Master of Science, “Biology of Parasites”, University of Montpellier, 30 hours.

## Teaching

- 2016** (3 hours) *Modeling of vector-borne infectious diseases*, Introduction to Modeling of Infectious Diseases, 30 Oct.-4 Nov. 2016, Pasteur Institute, Ho Chi Minh city.
- Since 2012** (3 hours) Epidemiology of arboviroses, IFMT, Vientiane, Laos.  
**Since 2011** (3 hours) Modeling for the study of infectious diseases, USTH, Hanoi, Vietnam.  
**2008-2012** (6 h/yr). *Global Environmental Changes and Health*.  
Master Level. French School of Public Health, Paris, France.
- 2006-2012** (7 h/yr). *Modelling in epidemiology*.  
Master Level. University of Montpellier, France.
- 2011** (3 hours) Modeling for the study of infectious diseases, USTH, Hanoi, Vietnam.  
**2011** (30 hours). *The R software and basic statistics*  
Training to the NIHE staff, Hanoi, Vietnam.
- 2010** (30 hours). *The R software and basic statistics*  
Training to the NIHE staff, Hanoi, Vietnam.
- 2008** (3 hours). *The HIV story*.  
Master Level. University of Orsay, France.
- 2004** (3.5 hours). *Dynamic aspects of vaccination*.  
Master Level. University of Montpellier, France.
- 2004** (3.5 hours). *Modelling in epidemiology*.  
Bachelor Level. University of Montpellier, France.
- 2003** (3.5 hours). *Modelling in epidemiology*.  
Bachelor Level. University of Montpellier, France.
- 1999** (2 hours). *The exponential law in biology*.

Bachelor Level. University of Wisconsin, Stevens Point, USA.

## Research Groups

- 2016-2018** IRD/LMI “résistance” Leader: Anne-Laure Bañuls, IRD, Hanoi, Vietnam.
- Since 2012** “Tropical Diseases Modelling Network” (TMod.Net). Leader: Lisa J White, Oxford Tropical Medicine Research Unit, Mahidol University, Bangkok, Thailand.
- 2013-2017** GDRI “Biodiversity and Infectious Diseases in Vietnam, Cambodia and Laos”. Funded by CNRS. Leader: Dr. Anne-Laure Banuls (IRD Montpellier, France) & Dr. Nguyen Thi Van Anh (NIHE, Hanoi, Vietnam).
- 2010-2011** “Zoonotic Diseases and the Risk for Agronomic Stock”. Funded by NIH and the US Department of Homeland Security. Leader: Prof Leslie A Real, Emory University, USA
- 2009-2012** GDRI “Biodiversity and Infectious Diseases in Vietnam”. Funded by CNRS. Leader: Dr. Anne-Laure Banuls (IRD Montpellier, France) & Dr. Nguyen Thi Van Anh (NIHE, Hanoi, Vietnam).
- 2004** “Cultural diversity, economic development and societal instability”. Funded NFS, Santa-Barbara, USA. Leader: Dr. Michael Hochberg, CNRS Montpellier, France.

## Employments and Visits

- 2012-2017** National Institute of Hygiene & Epidemiology (NIHE), Hanoi, Vietnam.
- 2012-2017** Oxford University Clinical Research Unit (OUCRU, [www.oucru.org](http://www.oucru.org)), Hanoi, Vietnam.
- 2012** (3 months) National Institute of Hygiene & Epidemiology, Hanoi, Vietnam.  
Topic: Modeling epidemiology of infectious diseases.
- 2011** (3 months) National Institute of Hygiene & Epidemiology, Hanoi, Vietnam.  
Topic: Modeling epidemiology of infectious diseases.
- 2010** (3 months) National Institute of Hygiene & Epidemiology, Hanoi, Vietnam.  
Topic: Modeling epidemiology of infectious diseases.
- 2005** (2 years) Odum School of Ecology, University of Georgia, Athens, USA.  
Advisor: Dr. Pejman Rohani.  
Topic: Ecological disease dynamics interference and vaccination.
- 2002** (2 weeks) Department of Biology, Moscow State University, Russia.  
Advisor: Prof. Anatoli T. Teriokhin.  
Topic: Global study of repartition, prevalence and virulence of HIV strains.
- 2001** (1 month) Department of Zoology, University of Oxford, UK.  
Advisor: Dr. David L. Robertson.  
Topic: Maximum likelihood analysis of adaptive evolution in HIVs and SIVs.
- 2001** (4 months) CEPM, UMR CNRS-IRD, Montpellier, France.  
Advisors: Drs. Jean-François Guégan & Eric Elguero.  
Topic: Modelling human retroviruses virulence evolution.
- 2000** (8 months) CBGP, UMR INRA-ENSAM-IRD-CIRAD, Montpellier, France.  
Advisor: Dr. Jean-Marie Cornuet.  
Topic: Comparing methods of estimating genetic introgressive rate.
- 2000** (1 month) MERC, University of Hanoi, Vietnam.  
Advisors: Drs. Ester Serraõ & Claire Billot.  
Topic: Population dynamics of *Avicennia marina* mangrove trees.
- 1999** (10 months) Department of Forest Ecology, University of Wisconsin, USA.  
Advisor: Prof. Mark S. Boyce.  
Topic: Population dynamics of Jack Pine budworm (*Choristoneura p. pinus*).
- 1999** (1 month) College of Natural Resources, University of Wisconsin, USA.  
Advisor: Dr. Evelyn H. Merrill.  
Topic: Courtship behaviour of the Greater Prairie Chicken (*T. c. pinnatus*).

- 1998** (6 months) Australian School of Env. Science, Griffith University, Australia.  
Advisor: Dr. Ronda J. Green.  
Topic: Foraging behaviour of frugivorous birds in tropical rainforest.
- 1997** (1 year) Chaire d'Ecologie Animale, ENSAM, Montpellier, France.  
Advisors: Prof. Serge Kreiter & Dr. Marie-Jeanne Perrot-Minot.  
Topic: Foraging behaviour of Lesser Kestrel (*Falco naumanni*).
- 1997** (2 months) Instituto de Ecología, UNAM, México DF, México.  
Advisor: Dr. Rodrigo A. Medellín.  
Topic: Seed dispersal by birds, bats and opossums in tropical rainforest.

## Research Papers

Ho T.H., Thompson C., Le N.T.N., Hoang M.T.V., Nguyen T.D., Tran M.P., Vo M.Q., Nguyen T.H., Ha M.T., Nguyen V.V.C., Wolbers M., Thwaites G.E., **Choisy M.** & Baker S. (2017) The spatial and temporal distribution of acute respiratory tract infections in Ho Chi Minh city, Vietnam *BMJ Open* In Press.

Lefèvre T., Ohm J., Dabiré K., Cohuet A., **Choisy M.**, Thomas M. & Cator L. (2017) Transmission traits of malaria parasites within the mosquito: genetic variation, phenotypic plasticity, and consequences for control *Evolutionary Applications* In Press.

Delabougli A., **Choisy M.**, Phan D.T., Antoine-Moussiaux N., Peyre M., Vu D.T., Pfeiffer D.U. & Fournié G. (2017) Seasonality of demand for livestock products driving infectious diseases dynamics: the case of avian influenza in Vietnam *Scientific Reports* **7**(1): 5905.

**Choisy M.**, Keomalaphet S., Xaydalasouk K., Quet F., Latthaphasavang V. & Buisson Y. (2017) Prevalence of hepatitis B virus (HBV) infection among pregnant women attending antenatal clinics in Vientiane, Laos, 2008-2014 *Hepatitis Research and Treatment* **2017**: 1284273.

Boithias L., **Choisy M.**, Souliyaseng N., Jourden M., Quet F., Buisson Y., Thammahacksa C., Silvera N., Sengtaheuanghoung O., Pierret A., Rochelle-Newall E., Becerra S. & Ribolzi O. (2016) Hydrological regime and water shortage as drivers of the seasonal incidence of diarrheal diseases in a tropical montane environment *PLoS Negl Trop Dis* **10**(12): e0005195.

Nguyen T.V.A., Bañuls A.-L., Tran T.H.T., Pham K.L.T., Nguyen T.S., Nguyen H.V., Nguyen N.L.T., Nguyen N.L.T., Dang D.A., Marks G.B. & **Choisy M.** (2016) *Mycobacterium tuberculosis* lineages and anti-tuberculosis drug resistance in reference hospitals across Vietnam *BMC Microbiology* **16**(1): 167.

Mai D.T., Peacock T.P., Bich V.T.N., Fabrizio T., Dang N.H., Tho N.D., Diep N.T., Minh N., Hoa L.N.M., Trang H.T.T., **Choisy M.**, Inui K., Newman S., Trung N.V., van Doorn F.R., To T.L., Iqbal M. & Bryant J.E. (2016) Prevalence and diversity of H9N2 avian influenza in chickens of Northern Vietnam, 2014 *Infect. Genet. Evol.* **44**: 530-540.

Chazel M., Marchandin H., Keck N., Terru D., Carrière C., Ponsada M., Jacomo V., Panteix G., Bouzinbi N., Bañuls A.-L., **Choisy M.**, Aubrey A. & Godreuil S. (2016) Evaluation of the SLOMYCO Sensititre® Panel for testing the antimicrobial susceptibility of *Mycobacterium marinum* isolates *Ann. Clin. Microbiol. Antimicrob.* **15**: 30.

Peyre M., **Choisy M.**, Sobhy H., Kilany W.H., Gély M., Tripodi A., Dauphin G., Saad M., Roger F., Lubroth J. & Jobre Y. (2016) Added value of avian influenza (H5) day old chick vaccination for disease control in Egypt *Avian Diseases* **60**(1 Suppl): 245-252.

van Panhuis W.G., **Choisy M.**, Xiong X., Chok N.S., Akarasewi P., Iamsirithaworn S., Lam S.K., Chong C.K., Lam F.C., Phommasak B., Vongphrachanh P., Bouaphanh K., Rekol H., Hien N.T., Duong T.N., Thai P.Q., Chuang J.-H., Liu Y.-L., Ng L.C., Shi Y., Tayag E.A., Roque V.G., Suy L.L.L., Jarman R.G., Gibbons R.V., Velasco J.M.S., Yoon I.-K., Burke D.S. & Cummings D.A.T. (2015) Region-wide synchrony and traveling waves of dengue across eight countries in Southeast Asia *Proc. Natl. Acad. Sci. USA* **112**(42): 13069-13074.

Trang N.V., **Choisy M.**, Nakagomi T., Chinh N.T.M., Doan Y.H., Yamashiro T., Bryant J.E., Nakagomi O. & Anh D.D. (2015) Determination of cut-off cycle threshold values in routine RT-PCR assays to assist differential diagnosis of norovirus in children hospitalized for acute gastroenteritis *Epidemiology & Infection* **143**(15): 3299-3299.

Le Viet T., **Choisy M.**, Bryant J.E., Vu T.D., Pham Q.T., Le Q.M., Horby P., Nguyen T.H. & Wertheim H.F.L. (2015) A dengue outbreak on a floating village at Cat Ba island in Vietnam *BMC Public Health* **15**: 940.

Thai P.Q., **Choisy M.**, Duong T.N., Thiem V.D., Yen N.T., Hien N.T., Weiss D.J., Boni M.F. & Horby P. (2015) Seasonality of absolute humidity explains seasonality of influenza-like illness in Vietnam *Epidemics* **13**: 65-73.

Hoa L.N.M., Bryant J.E., **Choisy M.**, Nguyet L.A., Bao N.T., Trang N.H., Chuc N.T.K., Toan T.K., Saito T., Takemae N., Horby P.W., Wertheim H.F.L. & Fox A. (2015) Population susceptibility to a variant swine-origin influenza virus A/H3N2 in Vietnam, 2011-2012 *Epidemiology & Infection* **143**(14): 2959-2964.

Do T.T.T., Martens P., Luu N.H., Wright P. & **Choisy M.** (2014) Climatic-driven seasonality of emerging dengue fever in Hanoi, Vietnam *BMC Public Health* **14**: 1078.

**Choisy M.** & de Roode J.C. (2014) The ecology and evolution of animal medication: genetically fixed response versus phenotypic plasticity. *The American Naturalist* **184** (Suppl. 1): S31-46.

Roche B., Broutin H., **Choisy M.**, Godreuil S., Constantin de Magny G., Chevaleyre Y., Zucker J.-D., Breban R., Cazelles B. & Simard F. (2014) The niche reduction approach: an opportunity for optimal control of infectious diseases in low-income countries? *BMC Public Health* **14**: 753-761.

Gascuel F., **Choisy M.**, Duplantier J.-M., Débarre F. & Brouat C. (2013) Host resistance, population structure and the long-term persistence of bubonic plague: contributions of a modelling approach in the Malagasy focus. *PLoS Comput Biol* **9**(5): e1003039.

Berngruber W.T., Froissart R., **Choisy M.** & Gandon S. (2013) Evolution of virulence in emerging epidemics. *PLoS Pathog* **9**(3): e1003209.

Vale P.F., **Choisy M.** & Little T.J. (2013) Host nutrition alters the variance in parasite transmission potential. *Biology Letters* **9**(2): 20121145.

Kouokam E., Zucker J.-D., Fondjo F. & **Choisy M.** (2013) Disease control in an age-structured population. *ISRN Epidemiology* **2013**: 703230.

Vale P.F., **Choisy M.**, Froissart R., Sanjuan R. & Gandon S. (2012) The distribution of mutational fitness effects of phage ΦX174 on different hosts. *Evolution* **66**(11): 3495-3507. **Faculty of 1000**

Nguyễn T.V.A., **Choisy M.**, Nguyễn D.H., Trần T.H.T., Phạm K.L.T., Đinh P.T.T., Philippe J., Nguyễn T.S., Hồ M.L., Trần S.V., Bañuls A.L. & Đăng D.A. (2012) High prevalence of Beijing and EAI4-VNM genotypes among *M. tuberculosis* isolates in northern Vietnam: sampling effect, rural and urban disparities. *PLoS ONE* **7**(9): e45553.

**Choisy M.** & Rohani P. (2012) Changing spatial epidemiology of pertussis in continental USA. *Proc. R. Soc. B* **279**(1747): 4574-4581.

Broutin V., Bañuls A.L., Aubry A., Keck N., **Choisy M.**, Bernadet J.-F., Michel C., Raymond J.-C., Libert C., Barnaud A., Stragier P., Portaels F., Terru D., Belon C., Dereure O., Gutierrez C., Boschirolì M.-L., Van de Perre P., Cambau E. & Godreuil S. (2012) Genetic diversity and population structure of *Mycobacterium marinum*: New insights into host and environmental specificities. *Journal of Clinical Microbiology* **50**(11): 3627-3634.

Gimonneau G., Pombi M., **Choisy M.**, Morand S., Dabire R. & Simard F. (2012) Larval habitat segregation between the molecular forms of the mosquito *Anopheles gambiae* in a rice field area of Burkina Faso, West Africa. *Medical and Veterinary Entomology*. **26**(1): 9-17.

Faye B., Bañuls A.L., Bucheton B., Diome M.M., Bassanganam O., Hide M., Dereure J., **Choisy M.**, Ndiaye J.L., Konaté O., Claire M., Senghor M.W., Faye M.N., Sy I., Niang A.A., Molez J.F., Victoir K., Marty P., Delaunay P., Knecht R., Mellul S., Diedhiou S. & Gaye O. (2010) Canine visceral leishmaniasis caused by *Leishmania infantum* in Senegal: risk of emergence in humans? *Microbes and Infection* **12**(14-15): 1219-1225.

**Choisy M.** & de Roode J.C. (2010) Mixed infections and the evolution of virulence: effects of resource competition, parasite plasticity and impaired host immunity. *The American Naturalist* **175**(5): E105-E118. **Faculty of 1000**



- Godreuil S., Renaud, F., **Choisy M.**, Depina J., Garnotel E., Morillon M., de Perre P.V. & Bañuls A.L. (2010) Highly structured genetic diversity of Mycobacterium tuberculosis population in Djibouti. *Clinical Microbiology and Infection* **16**: 1023-1026.
- Prugnolle F., **Choisy M.** & de Meeûs T. (2008) Clonality v0.4: a randomization-based program to test for heterozygosity-genet size relationship in clonal organisms. *Molecular Ecology Resources* **8**(5) : 954-956.
- Neettle D., Grace J.B., **Choisy M.**, Cornell H.V., Guégan J.-F & Hochberg M.E. (2007) Cultural diversity, economic development and societal instability. *PLoS ONE* **2**(9): e929.
- Choisy M.**, Guégan J.-F & Rohani P. (2006) Dynamics of infectious diseases and pulse vaccination. *Physica D* **223**(1): 26-35.
- Choisy M.** & Rohani P. (2006) Harvesting can increase severity of wildlife disease epidemics. *Proc R. Soc B* **273**(1597): 2025-2034. **Faculty of 1000**
- Choisy M.**, Hide M., Bañuls A.-L. & Guégan J.-F. (2004) Rocking the curve. *Trends in Microbiology* **12**(12): 534-536.
- Prugnolle F., **Choisy M.**, Théron A., Durand P., de Meeûs T. (2004) Sex-specific correlation between heterozygosity and clone size in the trematode *Schistosoma mansoni*. *Molecular Ecology* **13** : 2859-2864.
- Fargette D., Pinel A., Abubakar Z., Traoré O., Brugidou C., Fatogoma S., Hébrard H., **Choisy M.**, Yacouba S., Fauquet C. & Konaté G. (2004) Inferring the evolutionary history of Rice Yellow Mottle Virus from genomic, phylogenetic, and phylogeographic studies. *Journal of Virology* **78** (7): 3253-3261.
- Choisy M.**, Franck P. & Cornuet J.-M. (2004) Estimating admixture proportions with microsatellites: comparison of methods based on simulated data. *Molecular Ecology* **13** : 955-968.
- Choisy M.**, Woelk C.H., Guégan J.-F. & Robertson D.L. (2004) Comparative study of adaptive molecular evolution in different human immunodeficiency virus groups and subtypes. *Journal of Virology* **78** (4): 1962-1970.
- Choisy M.**, Brown S.P., Lafferty K.D. & Thomas F. (2003) Evolution of trophic transmission in parasites: Why add intermediate hosts? *The American Naturalist* **162** (2): 172-181.

## Book Chapters

- Choisy M.** (2016) The control of infectious diseases in a regional context. In *Shared Challenges for Development within ASEAN – Applied and Analytical Methods*. (Lagrée S. ed), Knowledge Publishing House.
- Choisy M.**, Sitboulang P., Vongpanhya M., Saiyavong C., Khamphongphanh B., Phommasack B., Quet F., Buisson Y., Zucker J.-D. & van Pahuiss W. G. (2015) Rescuing public health data. In *Environmental Changes and Infectious Diseases in Asia*. (Morand S., Dujardin J.-P., Lefait-Robin R., Apiwathnasorn C. eds), Springer-Verlag, Singapore.
- Choisy M.** (2015) Origine et évolution du VIH. In *Santé, Médecine et Sciences de l'Évolution : les Maladies Infectieuses*. (Vittecoq M., Prugnolle F., Roche B., Renaud F., Thomas F. eds), de Boeck-Solal, Bruxelles, Belgique. Pp. 35-46.
- Choisy M.** (2010) Modélisation mathématique en épidémiologie. In *Écologie de la santé et conservation*. (Gauthier-Clerc M., Thomas F. eds), de Boeck Université, Bruxelles, Belgique. Pp. 159-182.
- Choisy M.**, Cazelles B. (2008) Conséquences des dynamiques épidémiques en santé publique : Rôle des modèles mathématiques. In *Introduction à l'Épidémiologie Intégrative des maladies infectieuses et parasitaires*. (Guégan J.F., **Choisy M.** eds), de Boeck Universités, Bruxelles, Belgique. Pp. 3-40.
- Choisy M.**, Guégan J.F., Rohani P. (2007) Mathematical modeling of infectious disease dynamics. In *Encyclopedia of Infectious Diseases – Modern Methods* (Tibayrenc M. ed), John Wiley and Sons, Chichester, USA. Pp. 379-404.
- de Meeûs T., Théron A., Prugnolle F., Durand P., Caillaud D., **Choisy M.**, Roze D., Jarne P., Jabbour-Zahad R., Alonso S., Pointier J.P. & Boissier J. (2006) Les co-structures génétiques d'un parasite (*Schistosoma mansoni*) et de ses hôtes (mammifères et mollusques) dans la mangrove dulçaquicole de Guadeloupe : échelles spatiale, fonctionnelle et coévolutive. In *Ecosystèmes tropicaux : actes du*

2<sup>ème</sup> colloque de restitution du programme de recherche (Bonhême I., Appora V., Atramentowicz M. & Gillon Y. eds), ECOFOR, Paris, France. Pp. 61-68.

Constantin de Magny G., **Choisy M.** (2004) Mathematical and technological tools: when cholera meets the satellite. In *Biodiversity and Global Change. Social Issues and Scientific Challenges* (Barbault R., Chevassus-au-Louis B. eds), ADPF, Paris, France. Pp. 123-125.

## Book

Guégan J.F., **Choisy M.** (eds.) (2008) *Introduction à l'Épidémiologie Intégrative des maladies infectieuses et parasitaires*. de Boeck Universités.

## Posters presented to congresses

**Choisy M.**, Rohani P., Guégan J.-F. *Dynamics of infectious diseases and pulse vaccination: teasing apart the embedded resonance effects*. Gordon Research Conference (GRC) on the Metabolic Basis of Ecology, July 4<sup>th</sup>-9<sup>th</sup> 2004, Lewiston, USA (poster). Lodging and registration **Graduate Student Grant award** from the GRC to attend the congress.

**Choisy M.**, Woelk C.H., Guégan J.-F., Robertson D.L. *Comparative study of adaptive molecular evolution in different HIV clades*. 11<sup>th</sup> Conference on Retroviruses and Opportunistic Infections (CROI), February 8<sup>th</sup>-11<sup>th</sup> 2004, San Francisco, USA (poster). Travel, lodging, and registration **Graduate Student Grant award** from the 11<sup>th</sup> CROI to attend the congress.

## Speeches given to congresses

**Choisy M. (invited)** Turning traditional surveillance systems into Big Data: Vietnam as a case study. Workshop on Big Data for the surveillance and control of infectious diseases in low and middle income countries, 30 October – 1 November 2017, NIH, Bethesda, USA.

**Choisy M. (invited)** Modeling aspects related to biodiversity and health. Symposium on Biodiversity and Health, 17-19 November 2014, Phnom Penh, Cambodia.

**Choisy M. (invited)** Spatial dynamics of infectious diseases: mathematical models, statistical approaches and public health applications. Diseases Modeling Workshop, 5 September 2014, Kuching, Malaysia.

**Choisy M. (invited)** Spatial dynamics of infectious diseases: consequences for their control. Challenges in Asia: scientific research and policy making, 4-6 June 2014, Jakarta, Indonesia.

**Choisy M. (invited)** Latitudinal gradients and climate associations of influenza-like illness in Vietnam. Regional Symposium on Emerging Infectious Diseases in Southeast Asia, 11-12 March 2014, Phnom Penh, Cambodia.

**Choisy M.** & Zucker J.-D. Dengue spatial dynamics in Southeast Asia. ID-BIO: Infectious Diseases, Biodiversity and Health Risk in Southeast Asia, 26-28 November 2012, Hanoi, Vietnam.

**Choisy M.**, Zucker J.-D., van Pahuus W., Vu D.T., Tran N.D & Nguyen T.H. Rescuing surveillance data for mathematical modeling, SEDID (Social and Ecological Dimensions of Infectious Diseases), 6-7 October 2011, Bangkok, Thailand.

**Choisy M. (invited)** Host demography and the spread of infectious diseases, RAPIDD workshop, 22-24 March 2010, Emory University, USA.

**Choisy M.** & de Roode J. Mixed-infections and the evolution of virulence: bridging the gap between experiments and theory. 93<sup>rd</sup> Meeting of the Ecological Society of America (ESA), 4-8 August 2008, Milwaukee, USA.

**Choisy M.**, Guégan J.-F. & Rohani P. Dynamics of infectious diseases and pulse vaccination: teasing apart the embedded resonance effects. 92<sup>nd</sup> Meeting of the Ecological Society of America (ESA), 4-10 August 2007, San José, USA.

**Choisy M.** & Rohani P. Harvesting can increase severity of wildlife disease epidemics. 91<sup>st</sup> Meeting of the Ecological Society of America (ESA), 6-11 August 2006, Memphis, USA.



**Choisy M.**, Woelk C.H., Guégan J.-F. & Robertson D.L. *A comparative study of adaptive molecular evolution in different HIV clades*. 9<sup>th</sup> Meeting of PhD Students in Evolutionary Biology, 11-16 September 2003, Fiesch, Switzerland.

**Choisy M.**, Woelk C.H., Guégan J.-F. & Robertson D.L. Maximum likelihood analysis of adaptive evolution in primate lentiviruses. 8<sup>th</sup> Meeting of PhD Students in Evolutionary Biology, 28 August – 1 September 2002, Lohja, Finland.

**Choisy M.**, Woelk C.H., Guégan J.-F. & Robertson D.L. Maximum likelihood analysis of adaptive evolution in primate lentiviruses. 6<sup>th</sup> International Meeting on Molecular Epidemiology and Evolutionary Genetics of Infectious Diseases (MEEGID), 24-27 July 2002, Institut Pasteur, Paris, France.

## Services

**Reviewer** for *Infections, Genetics & Evolution, Parasitology, Trends in Parasitology, PloS NTD, Proceedings B* (named **Top-30 Referee in 2012**), *Evolution, The American Naturalist, Ecology Letters, Proceedings of the National Academy of Sciences of the USA, Methods in Ecology and Evolution, Theoretical Population Biology, Interface, Journal of Wildlife Diseases*: between 1 and 2 manuscripts per month.

**Since 2015**: Jury member of PhD fellowship attribution, on behalf of the French Embassy in Vietnam.

**Since 2012**: Jury member of PhD fellowship attribution, “Pharma-Biotech” department, University of Science & Technology of Hanoi (USTH), Vietnam.

**Since 2012**: Jury member of Master-2 “Pharma-Biotech” of the University of Science & Technology of Hanoi (USTH), Vietnam.

**2009-2012**: Expert committee in the Training Department of IRD.

**2008**: Expert committee for hiring an associate professor at the University of Lyon, France.

**Expert reviewer** for grant applications:

**2013**: AIRD (International Agency of Research for Development): PEERS, BSTD, JEA

**2012**: MRC (Medical Research Council): Infections and Immunity – Viral Diseases”

**2011**: ANR (Agence National de la Recherche): “Retour Post-doctorants”

**2008**: NSF (National Science Foundation): “Population and Evolutionary Processes”

**2007**: ANR (Agence National de la Recherche): “Santé-Environnement et Santé-Travail”

## Meeting Organisations

**2016** Computational Biology for Infectious Diseases, September 18<sup>th</sup>-25<sup>th</sup> 2016, USTH, Hanoi, Vietnam ([www.cbid.asia](http://www.cbid.asia))

**2014** Molecular phylogenetics training, December 15<sup>th</sup>-18<sup>th</sup> 2014, USTH, Hanoi, Vietnam.

**2014** Population genetics training, December 1<sup>st</sup>-4<sup>th</sup> 2014, Press Club, Hanoi, Vietnam.

**2013** Metarisk conference, November 6<sup>th</sup>-8<sup>th</sup> 2014, Press Club, Hanoi, Vietnam.

**2012** ID-BIO conference, November 26<sup>th</sup>-28<sup>th</sup> 2012, Press Club, Hanoi, Vietnam ([www.mivegec.ird.fr/id-bio](http://www.mivegec.ird.fr/id-bio)).

**2002** 2<sup>nd</sup> Host-Parasite Evolutionary Dynamics Workshop, September 16<sup>th</sup>-20<sup>th</sup> 2002, Le Pous, Notre Dame de Londres, France.

**2001** 1<sup>st</sup> Host-Parasite Evolutionary Dynamics Workshop, September 25<sup>th</sup>-28<sup>th</sup> 2001, Agropolis International, Montpellier, France.

**1997** Staff of the 7<sup>th</sup> International Theriological Congress (ITC), September 6<sup>th</sup>-12<sup>th</sup> 1997, Acapulco, México.