

Name: René Bødker

Date of birth: June 5th 1961

Present position: Senior researcher, Research group leader Vector - Borne Disease Transmission Group, Department of Veterinary and Animal Sciences, Faculty of Health and Medical Sciences, University of Copenhagen

Work address: Department of Veterinary and Animal Sciences; University of Copenhagen, Denmark, Grønnegårdsvej 8, 1870 Frederiksberg C, Denmark. Phone +45 25476974. Email: rebo@sund.ku.dk

Education (Academic Qualifications)

Biologist MSc in Medical Entomology, University of Copenhagen, Denmark (1994)

Ph.D. in Malaria Transmission; Danish Bilharziasis Laboratory / University of Copenhagen Denmark (2000)

Employment

2019-present University of Copenhagen – Faculty of Health and Medical Sciences

2001-2018 Danish Technical University - National Veterinary Institute

1995-2001 Danish Bilharziasis Laboratory

1995-1997 Visiting scientist, National Institute for Medical Research, Tanzania

1994-1995 National Hospital of Denmark, Dept. of Epidemiology and University of Copenhagen, Zoological Institute

Expertise (summary of research activities)

I have worked with modelling of vector borne and other diseases in both humans and animals in Europe and Africa. I mainly work with spatial and quantitative aspects of disease transmission. In the last 12 years, I have almost exclusively worked with quantification and mapping of vector-borne diseases and other infections driven by climate and environment.

Managerial activities

Presently:

- Research Group Leader. Administrator and scientific manager of the National Vector Surveillance Laboratory at University of Copenhagen (staffed by one assistant professor, one research assistant, one Ph.D. student, and one to two student helpers).

Previously:

- Work-package leader and Steering committee member in the EU InterReg funded ScandTick Innovation
- Administrative coordinator of the International Research Centre for Veterinary Epidemiology – EpiLab.
- WP leader and member of the steering committee in FP7 EDENext, Biology and Control of Vector-borne Infections in Europe (43 European partners, budget 16 mio euro).
- Coordinator of EMIDA VICE, Vector-borne infections: risk based and cost effective surveillance systems (9 partners in Western Europe, budget 2.2 mio euro).
- Coordinator of CoVetLab, TickTools (five partners in Western Europe).
- Coordinator of the Nordic Council of Ministers funded NordRisk project www.nordrisk.dk
- Coordinator of 'Opbygning af et Dansk veterinært beredskab for Bluetongue' funded by the Danish Fødevareforskning program with partners from three other Universities
- In the Management Committee in the EU Cost Action EurNegVec
- Fieldwork coordinator in the EFSA/ECDC funded VectorNets Culicoides Group

PhD supervision:

Jonno Stelder, University of Copenhagen. Mechanical vectors and transmission of African Swine Fever and MRSA 2019-2022

Najmul Haider, DTU Veterinary Institute. Biological models of vector borne diseases 2015-2018

Ana Cuellar DTU Veterinary Institute. Statistical models of vectors and vector borne diseases 2015-2018

Carsten Kirkeby, DTU Veterinary Institute. Spatio-temporal abundance and dispersal of Culicoides 2010-13

Grants:

- National Reference laboratory for vectors (budget 1.4 mio DKR in 2020 and more than 11 mio DKR since 2006)
- WP leader and steering committee member in ScandTick Innovation, 2015 (ten Nordic partners, budget 6.7 mio Euro)
- Partner/subcontractor in VectorNet (20 partners in Europe, budget 4 mio euro)
- Coordinator of EMIDA VICE, Vector-borne infections: risk based and cost effective surveillance systems. 2012-15 (nine partners in Western Europe, budget 2.2 mio euro).
- WP leader and member of the steering committee in FP7 EDENext, Biology and Control of Vector-borne Infections in Europe 2012-14 (43 European partners, budget 16 mio euro).
- An atlas of climatic and environmental determinants of presents and future veterinary and zoonotic diseases in the Nordic area. Nordic Council of Ministers. 2010 (0.3 mio DKR)
- Coordinator of Climate change, globalisation and vector borne diseases in the Nordic countries 2008. Nordic Council of Ministers NMDD (0.4 mio DKR)
- Coordinator of Bluetongue distribution and the impact of climate change in the Nordic countries 2009. Nordic Council of Ministers BU. Four Nordic partners.
- Coordinator of 'Opbygning af et Dansk veterinært beredskab for Bluetongue' (four Danish partners 2008-10 DFFE, budget 4.43 mio DKR)

•Personal PhD grant DANIDA 1995

Consultancies:

- ECDE: Reporting failures of neuroborreliosis in EU member states (present)
- EFSA: Echinococcus multilocularis Expert ad hoc group 2015
- European Medicine Agency: Vet Ad Hoc Scientific Advisory Group on BTV vaccine 2010
- EFSA: Schmallenberg Expert ad hoc group 2012

Dissemination:

Developed www.nordrisk.dk for the Nordic Council of ministers and www.myggetal.dk for the National Danish Food and Veterinary Administration. Numerous articles and interviews in Danish media.

Ten peer reviewed publications (selected from January 2019 - September 2020):

Kjær LJ, Klitgaard K, Soleng A, Edgar KS, Lindstedt HEH, Paulsen KM, Andreassen ÅK, Korslund L, Kjelland V, Slettan A, Stuen S, Kjellander P, Christensson M, Teräväinen M, Baum A, Jensen LM, Bødker R (2020). Spatial data of Ixodes ricinus instar abundance and nymph pathogen prevalence, Scandinavia, 2016–2017. *Scientific Data* | (2020) 7:238. <https://doi.org/10.1038/s41597-020-00579-y>

Andreasen AM, Dehlendorff PB, Knudtzen FC, Bødker R, Kjær LJ, Skarphedinsson S (2020) Spatial and temporal patterns of Lyme Neuroborreliosis on Funen, Denmark from 1995–2014. *Sci Rep* 10, 7796 (2020). <https://doi.org/10.1038/s41598-020-64638-5>

Cuellar AC, Kjær LJ, Baum A, Stockmarr A, Skovgaard H, Nielsen SA, Andersson MG, Lindström A, Chirico J, Lühken R, Steinke S, Kiel E, Gethmann J, Conraths FJ, Larska M, Smreczak M, Orłowska A, Hamnes I, Sviland S, Hopp P, Brugger K, Rubel F, Balenghien T, Garros C, Rakotoarivony I, Allène X, Lhoir J, Chavernac D, Delécolle JC, Mathieu B, Delécolle D, Setier-Rio ML, Scheid B, Ángel M Miranda, Barceló C, Lucientes J, Estrada R, Mathis A, Venail R, Tack W, Bødker R (2020) Modelling the monthly abundance of Culicoides biting midges in nine European countries using Random Forests machine learning. *Parasites & Vectors* vol, Article no: 194

Agergaard CN, Rosenstjerne MW, Bødker R, Rasmussen M, Andersen PHS, Fomsgaard A (2019). New tick-borne encephalitis virus hot spot in Northern Zealand, Denmark, October 2019. *Euro Surveill.* 2019;24(43):pii=1900639. <https://doi.org/10.2807/1560-7917.ES.2019.24.43.1900639>.

Kjær, L.J., Soleng, A., Edgar, K.S. Kjellander P., Lindstedt HEH., Paulsen Km., Andreassen ÅK., Korslund L., Kjelland V., Slettan A., Stuen S., Christensson M., Teräväinen M., Baum A., Klitgaard K., Bødker R. (2019) Predicting the spatial abundance of Ixodes ricinus ticks in southern Scandinavia using environmental and climatic data. *Sci Rep* 9, 18144 doi:10.1038/s41598-019-54496-1

Haider N., Kjær LJ, Skovgård H., Nielsen SA, Bødker R. Quantifying the potential for bluetongue virus transmission in Danish cattle farms (2019) *Scientific Report* 9:13466 <https://doi.org/10.1038/s41598-019-49866-8>.

Klitgaard K., Kjær L., Isbrand A., Hansen MF., Bødker R. (2019) Multiple infections in questing nymphs and adult female Ixodes ricinus ticks collected in a recreational forest in Denmark. *Ticks and Tick-borne Diseases*, <https://doi.org/10.1016/j.ttbdis.2019.05.016>

Kjær LJ., Soleng A., Edgar KS., Lindstedt HEH., Paulsen Km., Andreassen ÅK., Korslund L., Kjelland V., Slettan A., Stuen S., Kjellander P., Christensson M., Teräväinen M., Baum A., Klitgaard K., Bødker R. (2019). A large-scale screening for the taiga tick, Ixodes persulcatus, and the meadow tick, Dermacentor reticulatus, in southern Scandinavia, 2016. (2019) *Parasites & Vectors*, 12. <https://doi.org/10.1186/s13071-019-3596-3>

Kjær LJ., Soleng A., Edgar KS., Lindstedt HEH., Paulsen Km., Andreassen ÅK., Korslund L., Kjelland V., Slettan A., Stuen S., Kjellander P., Christensson M., Teräväinen M., Baum A., Klitgaard K., Bødker R. (2019) Predicting and mapping human risk of exposure to Ixodes ricinus nymphs using climatic and environmental data, Denmark, Norway and Sweden, 2016. *Eurosurveillance* Volume 24, Issue 9, 28/Feb/2019

Klitgaard K, Højgaard J, Isbrand A, Madsen JJ, Thorup K, Bødker R. (2019) Screening for multiple tick-borne pathogens in Ixodes ricinus ticks from birds in Denmark during spring and autumn migration seasons. *Ticks Tick Borne Dis.* 2019 Jan 24. pii: S1877-959X(18)30126-2. doi: 10.1016/j.ttbdis.2019.01.007.