

Peter Dambach, M.Sc., PhD

Health Geographer, Vector Control Specialist

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EDUCATION

- 09/2012 – Present **Postdoctoral researcher, currently habilitating**
University of Heidelberg, Heidelberg, Germany
- 06/2008 – 08/2012 **Doctor of Science and Humanities**
Institute of Public Health, University of Heidelberg, Heidelberg, Germany
Research Topic: Remote sensing of environmental factors for malaria risk in Burkina Faso
- 10/2005 – 12/2007 **Master of Science in Geography, Geology and Soil Sciences**
Universities of Cologne and Bonn, Germany
Research Topic: Determining natural and socio economic risk factors for cholera in Douala, Cameroon
- 07/2003 – 10/2005 **Bachelor of Science in Geography**
University of Cologne, Cologne, Germany

PROFESSIONAL AND RESEARCH EXPERIENCE

Research Projects

01/2017 – ongoing

On-site consultant in Dar es Salaam, Tanzania. Projects HPM2 and HAALSI

Involved at: Together with Harvard School of Public Health at two field sites: Muhimbili University and Management and Development for Health, Dar es Salaam, Tanzania

Study overview: *HPM2: HIV and health status of female bar workers. HAALSI: Ageing populations and health in an urban context in sub-Saharan Africa*

04/2013 – 05/2016

Scientific Manager EMIRA Project – Ecologic Malaria Reduction for Africa

Involved at: University of Heidelberg, Heidelberg, Germany
Nouna Health Research Center (CRSN), Nouna, Burkina Faso

Study overview: *Three year intervention trial on ecologic malaria reduction in a health district in North-Western Burkina Faso using biological larvicides*

09/2011 – 03/2016

Co-work package leader in the FP7 Project Dengue Tools

Involved at: University of Heidelberg, Heidelberg, Germany
Center of Excellence for Vectors and Vector-Borne Diseases, Mahidol University, Nkhon Pathom, Thailand
Ministry of Health, Colombo, Sri Lanka

Study overview: *Spatio-temporal risk for dengue and novel approaches for disease transmission control*

01/2011 – 04/2014

Co-project leader in PaluClim – Remote sensing of malaria risk

Involved at: University of Heidelberg, Heidelberg, Germany
French Space Agency (CNES), Toulouse, France
Nouna Health Research Center (CRSN), Nouna, Burkina Faso

Study overview: *Researching the climatic and geographic determinants for malaria transmission in rural Burkina Faso. Development of prediction models and remote sensing based risk maps.*

Seminar hostings

07/2011 – 02/2013

Co-Host of the Heidelberg seminar series “Climate Change and Health”

Institute of Public Health, University of Heidelberg, Heidelberg, Germany

Teaching

Teaching in Postgraduate courses in English and French language

05/2009 – Present

Selected courses taught within the TropEd network (master in international public health):

Disease control – Strategies and policies
Climate change and health / malaria
Public health and disaster management
Vector borne diseases in a changing environment
The role of Bti for Malaria control in sub-Saharan Africa
Introduction to remote sensing for natural hazards
The influence of El Niño / Southern Oscillation on global health

Training / Consultancy

Training of health and field personnel in theory and practice

06/2010 – 12/2015

Selected trainings / consultancies partly within research projects (Burkina Faso, Cameroon, Thailand, Malawi, Tanzania):

Consulting on biological vector control, spraying techniques
Awareness seminars – Community based malaria vector control
GPS as an easy tool to map vector larvae breeding sites
Entomological field methods to assess the success of vector control
Use of measuring sondes to assess water suitability for cholera
Handling and resource efficient use of biolarvicides
Electronic data collection via handheld tablets

WORKSHOPS AND CERTIFICATES

06/2014

Postgraduate course on consultancy for global health

University of Heidelberg, Heidelberg, Germany

Course title: *Consultancy Skills in International Cooperation in Health: Evaluation of Health Facilities, Projects and Programs*

10/2013

Course on climate modeling in health research

University of Nottingham, UK in Heidelberg, Germany

Course title: *Using climate models in health research*

03/2012

Course on time series analysis using the statistical software “R”

University of Umea, Umea, Sweden

Course title: *Time Series Methods in Environmental Epidemiology*

01/2010

Postgraduate course on methods and strategies in public health

University of Umea, Umea, Sweden

Course title: *Climate change, health effects, impact assessment and adaption strategies within the health sector*

09/2009

Advanced course on geographic information systems

University of Heidelberg, Heidelberg, Germany

Course title: Advanced skills in ArcGIS for Geographers

07/2008

Postgraduate course on climate change and global health

University of Heidelberg, Heidelberg, Germany

Course title: Health and Climate Change: Impact and Adaptation Strategies

SCHOLARSHIPS

01/2009 – 12/2011

Individual doctoral scholarship of the federal state Baden Württemberg, Germany

Individual Doctoral Scholarship of the Graduate Academy “Landesgraduiertenförderung Baden Württemberg” within the initiative for excellence of the Heidelberg University

02/2006 – 04/2006

Grant for M.Sc. fieldwork

DAAD (German Academic Exchange Service) grant to perform the M.Sc. fieldwork in Douala, Cameroon

INTERNSHIPS

01/2007 – 03/2007

Internship at Ludwig and Wettengel land surveying

Surveyor’s office Ludwig and Wettengel, Cologne, Germany

Integration into the field team with focus on surveying techniques, GPS mapping, landscape planning, airport and infrastructure optimization.

02/2006 – 04/2006

Internship with the GIZ in a cholera and HIV program in Douala, Cameroon

GIZ (German Corporation for International Cooperation) / Ministry of Health, Douala, Cameroon

Work within the German Cameroonian project on health and HIV/Aids PGCSS (Projet Germano Camerounais Santé Sida). Collaboration within the cholera branch.

ADDITIONAL SKILLS

Languages	German (native) English (proficient) French (proficient) Bambara (intermediate) Swahili (intermediate)
Software	MS Office (proficient) ArcGIS (proficient) Wordpress (proficient) ENVI Sat. image analysis (intermediate)

INTERNATIONAL EXPERIENCE

01/2017 – ongoing	Living and working in Tanzania Living in Dar es Salaam since January 2017 – ongoing, working within two Harvard run projects on population health.
07/2008 – 12/2015	Living and working in Burkina Faso Living in a small town in Burkina Faso for about four years between 2008 and 2015.
02/2006 – 04/2006	Living and working in Cameroon Living in the cities of Douala and Yaoundé.
01/2001 – Present	Diverse professional and private geographical field excursions Trips of several months to: Kenya, Tanzania, Namibia, South Africa, Hawaiian Islands, California, Ghana, Pakistan, India and others.

CONFERENCES

Selected conferences

10/2016	Annual Meeting of the German Society for Tropical Medicine and International Health, Bonn, Germany Biological larviciding against malaria vectors in rural Africa The EMIRA Project in Burkina Faso
11/2015	KABS Symposium biological vector control, Speyer, Germany German Mosquito Control Association Title: EMIRA – Ecologic Malaria Reduction for Africa, an intervention study in Burkina Faso

09/2010

INDEPTH Annual conference, Accra, Ghana

Better Health Information for better Health Policies annual conference

Title: Using satellites for malaria control – Satellite technology to identify areas of high transmission risk

Selected posters

10/2015

PAMCA, Dar es Salaam, Tanzania

Pan African Mosquito Control Association

Title: EMIRA - Widescale application of Bti in an integrated malaria control program in Kossi, Burkina Faso (not present at conference venue)

10/2015

SOVE, Albuquerque, USA

Society for Vector Ecology

Title: EMIRA - Widescale application of Bti in an integrated malaria control program in Kossi, Burkina Faso (not present at conference venue)

PROFESSIONAL AND VOLUNTEER ORGANIZATIONS

2015 – Present

Member of the Roll Back Malaria Vector Control Working Group

2009 – Present

Member of Friends of Nouna, Burkina Faso – Heidelberg

2003 – Present

Member of the Geographical Society of Cologne

PROFESSIONAL AND PRIVATE INTERESTS

Professional

Biological vector control
Vector and water borne diseases
Public health in developing countries
Hands-on work with close contact to people in the field

Private

Travel and nature sports
Languages
Foreign cultures and geography

PEER REVIEWED PUBLICATIONS

- Dambach, P.**, Schleicher, M., Korir, P., Ouedraogo, S., Dambach, J., Sié, A., Dambach, M., Becker, N. Nightly biting cycles of *Anopheles* species in rural Northwestern Burkina Faso. *Journal of Medical Entomology* 2018, doi.org/10.1093/jme/tjy043
- Dambach, P.**, Jorge, M.M., Traoré, I., Phalkey, R., Sawadogo, H., Zabré, P., Kagoné, M., Sié, A., Sauerborn, R., Becker, N., Beiersmann, C., 2018. A qualitative study of community perception and acceptance of biological larviciding for malaria mosquito control in rural Burkina Faso. *BMC Public Health* 18, 399.
- Dambach P.** New approaches for integrated and cost-effective malaria vector control. *Journ. Rare Dis. Treat.* 2018; 3:6–10.
- Dambach P**, Schleicher M, Stahl H-C, Traoré I, Becker N, Kaiser A, et al. 2016. Routine implementation costs of larviciding with *Bacillus thuringiensis israelensis* against malaria vectors in a district in rural Burkina Faso. *Malar. J.* 2016;15:380.
- Dambach P**, Traoré I, Kaiser A, Sié A, Sauerborn R, Becker N. 2016. Challenges of implementing a large scale larviciding campaign against malaria in rural Burkina Faso - lessons learned and recommendations derived from the EMIRA project. *BMC Public Health.* 2016;16:1023.
- Ratanawong P, Kittayapong P, Olanratmanee P, Wilder-Smith A, Byass P, Tozan Y, **Dambach, P.**, et al. Spatial Variations in Dengue Transmission in Schools in Thailand. *PloS One.* 2016;11:e0161895.
- Vignolles C, Sauerborn R, **Dambach P**, Viel C, Soubeyroux J-M, Sié A, et al. Re-emerging malaria vectors in rural Sahel (Nouna, Burkina Faso): The Paluclim Project. *Int. Arch. Photogramm. Remote Sens. Spat. Inf. Sci.* 2016;XLI-B8:237–42.
- Becher, H., Müller, O., **Dambach, P.**, et al. 2016. Decreasing child mortality, spatial clustering, and decreasing disparity in north-western Burkina Faso. *Tropical Medicine & International Health*
- Dambach, P.**, Traoré, I., Becker, N., Kaiser, A., Sié, A., Sauerborn, R., 2014. EMIRA: Ecologic Malaria Reduction for Africa – Innovative tools for integrated malaria control. *Glob Health Action* 7, 25908.
- Louis, V., Phalkey, R., Horstick, O., Ratanawong, P., Wilder-Smith, A., Tozan, Y., **Dambach, P.**, 2014. Parameters and methods for dengue risk mapping - a systematic review. *Int. J. Health Geogr.* 13, 50
- Dambach, P.**, Louis, V.R., Kaiser, A., Ouedraogo, S., Sié, A., Sauerborn, R., Becker, N., 2014. Efficacy of *Bacillus thuringiensis* var. *israelensis* against malaria mosquitoes in Northwestern Burkina Faso. *Parasit. Vectors* 7, 371.
- Nana Yakam, A., Noeske, J., **Dambach, P.**, Bowong, S., Fono, L.A., Ngatchou-Wandji, J., 2014. Spatial analysis of tuberculosis in Douala, Cameroon: clustering and links with socio-economic status. *Int. J. Tuberc. Lung Dis.* 18, 292–297.
- Tozan, Y., Ratanawong, P., Olanratmanee, P., Louis, V., **Dambach, P.**, Kittayapong, P., et al. Cost-effectiveness of a novel technology for dengue prevention in children: insecticide-impregnated school uniforms. *Trop Med Int Health.* 2013 Sep 1;18.

Dambach, P., Machault, V., Lacaux, J.P., Vignolles, C., Sié, A., Sauerborn, R., 2012. Utilization of combined remote sensing techniques to detect environmental variables influencing malaria vector densities in rural West Africa. *IntJHealth Geogr* 11, 8–20.

Malik, AA., Yamamoto, S., Malik, Z., Haque, A., **Dambach, P.**, Sauerborn, R. Unmotivated health workers in Pakistan: the tip of an Iceberg. *Trop Med Int Health*. 2011 Oct 1;16.

Dambach, P., Sié, A., Lacaux, J.-P., Vignolles, C., Machault, V., Sauerborn, R., 2009. Using high spatial resolution remote sensing for risk mapping of malaria occurrence in the Nouna district, Burkina Faso. *Glob. Health Action* 2.

Submitted or in preparation by June 2018

Dambach, P., Mahenge, B., Mashasi I., Muya, A., Bärnighausen, T.W., Spiegelman, D., Harling, G. Socio-Demographic Characteristics and Risk Factors for HIV Transmission in Female Bar Workers in Sub-Saharan Africa: A Systematic Literature Review. *BMC Public Health* (2017 submitted)

Harling, G., Mashasi I., Muya, A., Bärnighausen, T.W., **Dambach, P.**, Barnhart, D., Spiegelman, D. High HIV risk but high interest in Pre-exposure Prophylaxis in Dar es Salaam female bar workers (2018 submitted)

Barnhart, D., Harling, G., Aisa Muya³, Ortblad, K., Mashasi, I., **Dambach, P.**, Ulenga, N., Mboggo, E., Oldenburg, C., Bärnighausen, T. W., Spiegelman, D. Risk factors for HIV Acquisition among Female Bar Workers in Dar es Salaam, Tanzania (2018 submitted)

Dambach, P., Louis, V., Bärnighausen, T.W., Lorenzo, J.B., Sauerborn, R., Kaiser, A., Sié, A., Becker, N. Reduction of malaria vector mosquitoes in a large scale intervention trial in rural Burkina Faso using *Bti* based larval source management. *PNAS* (in preparation)

Dambach, P., Beiersmann, C., Mendes-Jorges, M., Kaiser, Savadogo, H., Zabré, P., S., Sié, A., Sauerborn, R., Becker, Phalkey, R. 2017. Community perception and acceptance of environmental larviciding against malaria with Bti formulations in Burkina Faso. *Lancet Global Health* (in preparation)

Dambach, P., Schleicher, M., Bärnighausen, T.W., Traoré, I., Louis, V., Lorenzo, J.B., Sauerborn, R., Sié, A., Becker, N. Decrease of severe malaria cases after biological larviciding in a rural health district in Burkina Faso (in preparation)