



**Positions:** Professor, University of Copenhagen. Consultant Microbiologist, Department of Clinical Microbiology, Hvidovre Hospital, Hvidovre, Denmark.

**Responsibilities:** Head of MRSA Knowledge Center. Consultant for Molecular Biology, Virology and Chlamydia section, and Genome Sequencing facility. Head of Research and Development. Founder and Member of Board, Anapa Biotech.

**Academic degrees:** Medical doctor, University of Copenhagen 1980, Specialist in Clinical Microbiology 1994, Business Economy, Copenhagen College of Business 1992, Doctor of Medical Science 1996.

**Areas of Expertise:** Expert in MRSA, VRE, Next generation sequencing methods, Infection control, HIV and Chlamydia. Has consulted for UNICEF (HIV-testing), for Euro Health Group (Laboratory implementation of a HIV treatment program in Mombasa, Kenya), The Danish National Board of Health, The Danish Environmental Protection Agency, The Danish Medicines Agency, The Danish Cancer Society, Ministry of Environment and Food, Vidensråd for forebyggelse and Det Veterinærmedicinske Råd. A founder of Anapa Biotech, a company based on a patent by Henrik Westh and Gorm Lisby. Chairmen of Advisory board SeqNet.org and ONEIDA, ITQB, Portugal.

**Major Research Focus:** The MRSA KnowledgeCenter has been established to control MRSA in our Region. Our research has a practical approach looking at evolution, epidemiology, typing, whole genome sequencing, carriage, characteristics of patients' illnesses and outcomes, infection-control and eradication therapies with the goal of keeping MRSA out of hospitals. Vancomycin resistant *E. faecium* is a second major topic.

**More than 165 scientific papers** and more than 320 presentations at International congresses and meetings. 6300 citations and h-index 42. 17 publications cited more than 100 times and another 16 papers more than 50 times (source Google scholar).

Funding: +60Mkr for Anapa Biotech and currently a budget of +10Mkr per year for genome sequencing

#### Advisor of PhD students

14 PhD defended and 3 Post docs

Currently supervisor of 3 PhD students and 2 Post docs

#### International collaborating partners

Professor Herminia de Lencastre ITQB, Portugal. PhD Maria Miragaia, ITQB, Portugal. Professor Alexander Tomasz, Rockefeller University, NY, USA. Alex Friedrich and Bert Niesters, Gröningen, The Netherlands. Rob Willems, Utrecht, The Netherlands. Uli Nübel, Braunschweig, Germany. Rory Bowden, Oxford, UK.

#### Some recent publications

1. P. Kirstähler, S.S. Bjerrum, A. Friis-Møller, H. Westh, S.J. Pamp. Genomics-based identification of microbial agents in endophthalmitis. *Scientific Reports* 2018 Mar 7;8(1):4126.
2. T.A. Hansen, M.D. Bartels, S.V. Høgh, L. Dons, M. Pedersen, T.G. Jensen, M. Kemp, M.N. Skov, H. Gumpert, P. Worning, H. Westh. Whole Genome Sequencing of Danish *Staphylococcus argenteus* Reveals a Genetically Diverse Collection with Clear Separation from *Staphylococcus aureus*. *Front Microbiol.* 2017 Aug 9;8:1512.
3. J. Rolo, P. Worning, J.B. Nielsen, R. Bowden, O. Bouchami, P. Damborg, L. Guardabassi, V. Perreten, A. Tomasz, H. Westh, H. de Lencastre, M. Miragaia. Evidence for the evolutionary steps leading to mecA-mediated  $\beta$ -lactam resistance in staphylococci. *PLoS Genet.* 2017 Apr 10;13(4):e1006674.
4. J. Haaber, J.J. Leisner, M.T. Cohn, A.C. Moreno, J.B. Nielsen, H. Westh, J.R. Penadés, H. Ingmer. Bacterial viruses enable their host to recruit antibiotic resistance genes from competitors. *Nature Communications*, 2016 Nov 7;7:13333. doi: 10.1038/ncomms13333.
5. B. Davies, K.M.E. Turner, M. Frølund, H. Ward, M. May, S. Rasmussen, T. Benfield, H. Westh and the Danish Chlamydia Study Group. Increased risk of adverse reproductive complications following chlamydial testing: a population-based retrospective cohort study in Denmark. *Lancet Infectious Diseases*, 2016 Sep;16(9):1057-1064.
6. M. Pinholt, H.K. Gumpert, J.B. Nielsen, V. Vorobieva, M. Pedersen, P. Worning, H. Westh. Genomic epidemiology of vancomycin resistant *Enterococcus faecium* reveals broad dissemination of a vanA transposon variant (Tn1546-like) in the Capital Region of Denmark, 2012-14. *Journal of Antimicrobial Chemotherapy*. 2017;72:40-7.
7. Pinholt M, Larner-Svensson H, Littauer P, Moser CE, Pedersen M, Lemming LE, Ejlersten T, Søndergaard TS, Holzknacht BJ, Justesen US, Dzajic E, Olsen SS, Nielsen JB, Worning P, Hammerum AM, Westh H, Jakobsen L. Multiple hospital outbreaks of vanA *Enterococcus faecium* in Denmark, 2012-13, investigated by WGS, MLST and PFGE. *Journal of Antimicrobial Chemotherapy*. 2015 Sep;70(9):2474-82.
8. M.D. Bartels, H. Larner-Svensson, H. Meiniche, K. Kristoffersen, K. Schønning, J.B. Nielsen, S.M. Rohde, L.B. Christensen, A.J.W. Skibsted, J.O. Jarløv, H.K. Johansen, L.P. Andersen, I.S. Petersen, D.W. Crook, R. Bowden, K. Boye, P. Worning, H. Westh. Monitoring MRSA and its spread in Copenhagen, Denmark, through routine whole genome sequencing. *Eurosurveillance*. 2015 Apr 30;20(17). pii: 21112. PubMed PMID: 25955776.
9. M.D. Bartels, A. Petersen, P. Worning, J.B. Nielsen, H. Larner-Svensson, H.K. Johansen, L.P. Andersen, J.O. Jarløv, K. Boye, A.R. Larsen, H. Westh. spa-typing of methicillin resistant *Staphylococcus aureus* comparing whole genome sequencing with Sanger sequencing. *Journal of Clinical Microbiology*. 2014 Dec;52(12):4305-8.
10. A. Tavares, J. B. Nielsen, K. Boye, S.M. Rohde, A. C. Paulo, H. Westh, K. Schønning, H. de Lencastre and M. Miragaia. Insights into alpha-hemolysin (Hla) evolution and expression among *Staphylococcus aureus* clones with hospital and community origin. *PLoS One*. 2014 Jul 17;9(7):e98634. doi: 10.1371/journal.pone.0098634.