

CV: Jonathan Otter, PhD FRCPath

EDUCATION

Fellow of the Royal College of Pathologists (FRCPath) (2014).

PhD, King's College London, UK (part-time) (2005-2011). '[The molecular epidemiology of community-associated MRSA at a London Teaching Hospital](#)'.

BSc (Hons) Microbiology (1st), University of Nottingham, UK (1998-2001).

BIO

I am an epidemiologist focused on Infection Prevention and Control at Imperial College Healthcare NHS Trust in London, and an Honorary Senior Lecturer in the National Institute for Health Research Health Protection Research Unit (NIHR HPRU) in Healthcare Associated Infections and Antimicrobial Resistance at Imperial College London. I was previously a Research Fellow at the Centre for Clinical Infection and Diagnostics Research (CIDR) (King's College London / Guy's and St. Thomas' NHS Foundation Trust, London) and the Scientific Director of the Healthcare Division at Bioquell. I have a first class honors degree in Microbiology from the University of Nottingham (2001) and a PhD in molecular epidemiology (of MRSA) from King's College London (2011). Research interests include the epidemiology of MRSA, *C. difficile* and multidrug-resistant Gram-negatives (especially CPE), antibiotic and antiseptic resistance, the role of contaminated surfaces in transmission, and molecular typing methods including some recent dabbling in whole genome sequencing. I have published more than 100 peer-reviewed papers. I am a Fellow of the Royal College of Pathologists (FRCPath), alumnus of the Royal Commission for the Exhibition of 1851, and was previously Assistant Editor at the Journal of Hospital Infection, and a member of the Infection Prevention Society (IPS) Scientific Programme Committee. You can find me on [LinkedIn](#) & [Twitter](#). I run a blog on healthcare epidemiology and microbiology with Marc Bonten, Martin Kiernan and Andreas Voss called '[Reflections on Infection Prevention and Control](#)'. You can see an up-to-date list of my CV and publications on my [website](#).

EMPLOYMENT

Oct 15 – present: Imperial College London

I am an Honorary Senior Lecturer in the National Institute for Health Research Health Protection Research Unit (NIHR HPRU) in Healthcare Associated Infections and Antimicrobial Resistance at Imperial College London, which is situated with the Department of Medicine. Research interests include the epidemiology of MRSA, *C. difficile* and multidrug-resistant Gram-negatives, antibiotic and antiseptic resistance, the role of contaminated surfaces in transmission, and molecular typing methods including whole genome sequencing.

Apr 15 – present: Imperial College Healthcare NHS Trust, London

I am a senior manager for the Infection Prevention and Control Service. I lead a multidisciplinary team of 25 expert doctors, nurses, data scientists, technical experts, and administrators to deliver an Infection Prevention and Control service across a group of five hospitals in central London. Also tasked with implementing the findings of an ambitious research programme at Imperial College London in conjunction with Public Health England to improve clinical practice. I am currently a NIHR Imperial Biomedical Research Centre (BRC) Post-doctoral Research Fellow investigating the development of antimicrobial surfaces to tackle HCAI and AMR.

Mar 10 – Mar 15: Centre for Clinical Infection and Diagnostics Research (CIDR) (King's College London / Guy's and St. Thomas' NHS Foundation Trust, London) (part-time)

I was a Research Fellow investigating the epidemiology of key healthcare-associated pathogens including MRSA, *C. difficile*, and resistant Gram-negatives.

Dec 02 – Mar 15: Bioquell UK Ltd, Andover, Hampshire, UK (part-time since 2005)

I was the Scientific Director of Bioquell's Healthcare division, responsible for delivering a high-quality research programme evaluating the impact of Bioquell's products in the healthcare setting.

May – Oct 07: Johns Hopkins Hospital, USA (secondment)

During this secondment I initiated a high-profile study, which demonstrated that Bioquell's HPV product mitigates the increased risk from the prior room occupant (Passaretti *et al. Clin Infect Dis* 2013; 56:27-35).

May – Oct 05: Yale-New Haven Hospital, St. Raphael Campus, USA (secondment)

I was seconded to initiate a successful high-profile research project investigating the environmental and clinical impact of regular decontamination using Bioquell's HPV product (Boyce *et al. Infect Cont Hosp Epidemiol* 2008;29:723-729).

Mar – Sept 03: St. Thomas' Hospital, Department of Infection, London (secondment)

I was seconded to conduct an intervention study to investigate and compare the impact of conventional cleaning with Bioquell's HPV product (French *et al. J Hosp Infect* 2004;57:31-37).

PROFESSIONAL ACTIVITY

- Member of the expert group led by PHE to update national recommendations for the prevention and control of CPE (2018-present).
- Research Director for Clean Hospitals (2018-present).
- Member of the InterClean Healthcare Forum planning committee (2016-present).
- Collaborator with the Antimicrobial Research Collaborative (ARC) and Institute for Molecular Science and Engineering (IMSE) at Imperial College London (2015-present).
- Assistant Editor for the Journal of Hospital Infection (2011-2016).
- Member of the Healthcare Infection Society (HIS) Scientific Programme Committee (2015-2016)
- Member of the Infection Prevention Society (IPS) Scientific Programme Committee (2010-2015).
- Visiting Professor at the Tokyo Healthcare University, Japan (2011-2012).
- IPS representative on the British Society for Antimicrobial Chemotherapy (BSAC) multiresistant Gram-negative bacterial infection Working Group.
- British Standards Institute (BSI) representative on a working group developing a European testing standard for airborne disinfection.
- Peer-reviewer for the Lancet, Lancet Infectious Diseases, British Medical Journal, Journal of Hospital Infection, Infection Control and Hospital Epidemiology, American Journal of Infection Control, Journal of Infection Prevention, Clinical Microbiology and Infection and the European Journal of Clinical Microbiology and Infectious Diseases.
- Member of the Healthcare Infection Society (HIS), Infection Prevention Society (IPS), Society for Healthcare Epidemiologists of America (SHEA) and the Association for Professionals in Infection Control (APIC).
- Author for EIDO Healthcare (patient information leaflets).

GRANTS / AWARDS

- 2020-2025. NIHR Health Protection Research Unit (HPRU) in Healthcare Associated Infections and Antimicrobial Resistance at Imperial College. NHS lead for Practice, Design, and Engineering theme.
- 2019-2021. 'Developing "smart" liquid antimicrobial surfaces' for reducing the transmission of hospital pathogens and reducing antibiotic resistance.' NIHR Imperial Biomedical Research Centre (BRC): Post-doctoral Fellowship. Primary Investigator. £50k.
- 2017. 'Developing "smart" antimicrobial copper-based surfaces to reduce the transmission of antibiotic-resistant hospital pathogens'. EPSRC. Primary Investigator. £1k.
- 2014-2015. 'Enhanced carbapenem-resistant organism surveillance.' Guy's and St. Thomas' Charity. Primary investigator. £130k.

- 2014-2015. 'Evaluation of community-based prevalence and transmission of antibiotic resistant Gram-negative bacteria.' Guy's and St. Thomas' Charity. Co-applicant. £100k.
- 2014-2015. 'Hydrogen Peroxide Vapor (HPV) Decontamination for Reuse of N95 Respirators'. US FDA. Co-applicant. \$450k.
- 2011-2012. 'Epidemiology and virulence of CA-MRSA'. Pfizer Europe Aspire 2010 Investigator Award in Antibacterial Research. Primary investigator. £67k.
- 2009-2012. 'Characterisation, molecular epidemiology and control of evolving strains of MRSA in a London Teaching Hospital and its local community.' Guy's and St. Thomas' Charity. Co-applicant. £294k.
- 2005-2009. Royal Commission for the Exhibition of 1851 PhD Fellowship. Primary investigator. 80k.

PAPERS

Ellington MJ, Davies F, Jauneikaite E, Hopkins KL, Turton JF, Adams G, Pavlu J, Innes AJ, Eades C, Brannigan ET, Findlay J, White L, Bolt F, Kadhani T, Chow Y, Patel B, Mookerjee S, **Otter JA**, Sriskandan S, Woodford N, Holmes AH. A multi-species cluster of GES-5 carbapenemase producing Enterobacteriales linked by a geographically disseminated plasmid. *Clin Infect Dis* accepted.

Birgand G, Troughton R, Marino V, Campbell A, Hettiaratchy S, Hopkins S, **Otter JA**, Holmes AH. How do surgeons feel about the "Getting it Right First Time" national audit? Results from a qualitative assessment. *J Hosp Infect* accepted.

Vink J, **Otter JA**, Edgeworth JD. Carbapenemase-Producing Enterobacteriaceae – once positive always positive? *Current Opinion Gastroenterol* 2019 [Epub ahead of print].

Otter JA. How far can improving environmental hygiene REACH in preventing healthcare-associated infections? *Lancet Infect Dis* 2019;19:345-347.

Otter JA, Natale A, Batra R, Tosas Auguste O, Dyakova E, Goldenberg SD, Edgeworth JD. Individual and community-level risk factors for ESBL Enterobacteriaceae colonization identified by universal admission screening in London. *Clin Microbiol Infect* 2019;25:1259-1265.

Patel A, Parikh P, Dunn AN, **Otter JA**, Thota P, Fraser TG, Donskey CJ, Deshpande A. Effectiveness of daily chlorhexidine bathing for reducing gram-negative infections: A meta-analysis. *Infect Control Hosp Epidemiol* 2019;40:392-399.

Ming DK, **Otter JA**, Ghani R, Brannigan ET, Boonyasiri A, Mookerjee S, Gilchrist M, Holmes AH, Davies F. The Clinical Risk Stratification and Antibiotic Management of NDM and OXA-48 carbapenemase-producing Enterobacteriaceae bloodstream infections the United Kingdom. *J Hosp Infect* 2019;102:95-9.

Mizuno S, Iwami M, Kunisawa S, Naylor N, Yamashita K, Kyratsis Y, Meads G, **Otter JA**, Holmes AH, Imanaka Y, Ahmad R. Comparison of national strategies to reduce meticillin-resistant Staphylococcus aureus infections in Japan and England. *J Hosp Infect* 2018;100:280-298.

Marbach H, Vizcay-Barrena G, Memarzadeh K, **Otter JA**, Pathak S, Allaker RP, Edgeworth JD, Harvey RD. Tolerance of MRSA ST239-TW to chlorhexidine-based decolonization; evidence for keratinocyte invasion as a mechanism of biocide evasion. *J Infect* 2019;78:119-126.

Knight GM, Dyakova E, Mookerjee S, Davies F, Brannigan ET, **Otter JA**, Holmes AH. Fast and expensive (PCR) or cheap and slow (culture)? A mathematical modelling study to explore screening for carbapenem resistance in UK hospitals. *BMC Med* 2018;16:141.

Otter JA, Galletly T, Davies F, Hitchcock J, Gilchrist M, Dyakova E, Mookerjee S, Holmes AH, Brannigan ET. Planning to halve GNBSI: getting to grips with healthcare-associated *Escherichia coli* bloodstream infection sources. *J Hosp Infect* 2018;101:129-133.

Ledwoch K, Dancer SJ, **Otter JA**, Kerr K, Roposte D, Maillard JY. Beware Biofilm! Dry biofilms containing bacterial pathogens on multiple healthcare surfaces; a multicentre study. *J Hosp Infect* 2018;100:e47-e56.

Mookerjee S, Dyakova E, Davies F, Bamford K, Brannigan ET, Holmes A, **Otter JA**. Evaluating the benefit of serial screening cultures to detect carbapenemase-producing Enterobacteriaceae (CPE) following hospital admission. *J Hosp Infect* 2018;100:15-20.

Nellums LB, Thompson H, Holmes A, Castro-Sánchez E, **Otter JA**, Norredam M, Friedland JS, Hargreaves S. Antimicrobial resistance among migrants in Europe: a systematic review and meta-analysis. *Lancet Infect Dis* 2018: S1473-3099(18)30219-6.

Hawkey PM, Warren RE, Livermore DM, McNulty CAM, Enoch DA, **Otter JA**, Wilson APR. Treatment of infections caused by multidrug-resistant Gram-negative bacteria: report of the British Society for Antimicrobial Chemotherapy/Healthcare Infection Society/British Infection Association Joint Working Party. *J Antimicrob Chemother* 2018;73(Suppl 3):iii2-iii78.

Tosas Auget O, Stabler RA, Betley J, Preston MD, Dhaliwal M, Gaunt M, Ioannou A, Desai N, Keradag T, Batra R, **Otter JA**, Marbach H, Clark TG, Edgeworth JD. Frequent undetected MRSA ward-based transmission linked to patient sharing between hospitals. *Clin Infect Dis* 2018;66:840-848.

Otter JA, Doumith M, Davies F, Mookerjee S, Dyakova E, Gilchrist M, Brannigan ET, Bamford K, Galletly T, Donaldson H, Aanensen DM, Ellington MJ, Hill R, Turton JF, Hopkins KL, Woodford N, Holmes A. Emergence and clonal spread of colistin resistance due to multiple mutational mechanisms in carbapenemase-producing *Klebsiella pneumoniae* in London. *Sci Rep* 2017;7:12711.

Mitchell BG, Russo PL, **Otter JA**, Kiernan M, Aveling L. What makes a tweet fly? Analysis of twitter messaging from four infection control conferences. *Infect Control Hosp Epidemiol* 2017;38:1271-1276.

Weber DJ, **Otter JA**, Rutala WA. Can Copper Coated Surfaces Prevent Healthcare-Associated Infections? *Infect Control Hosp Epidemiol* 2017;38:772-776.

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Marbach H, Boakes E, Lynham S, Ward M, **Otter JA**, Edgeworth JD. Identification of a distinctive phenotype for endocarditis-associated clonal complex 22 MRSA isolates with reduced vancomycin susceptibility. *J Med Microbiol* 2017 66:584-591.

Keward J, Bradshaw P, **Otter JA**. Reducing the number of missed isolation days in a paediatric high-dependency unit using semi-permanent pods. *J Infect Prevent* 2017;18:67-71.

Otter JA, Burgess P, Davies F, Mookerjee S, Gilchrist M, Parsons D, Brannigan ET, Robotham JV, Holmes AH. Counting the cost of an outbreak of carbapenemase-producing Enterobacteriaceae: an economic evaluation from a hospital perspective. *Clin Microbiol Infect* 2017;23:188-196.

Boakes E, Marbach H, Lynham S, Ward M, Edgeworth JD, **Otter JA**. A comparative analysis of Phenol Soluble Modulin production and *G. mellonella* killing by community-associated and healthcare-associated MRSA strains. *J Med Microbiol* 2016;65:1429-1433.

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McCord J, Prewitt M, Dyakova E, Mookerjee S, **Otter JA**. Reduction in *Clostridium difficile* infection (CDI) associated with the introduction of hydrogen peroxide vapor (HPV) automated room disinfection. *J Hosp Infect* 2016;94:185-187.

Otter JA. Interpreting the guidelines for cleaning up after carbapenemase-producing organisms: the devil's in the dilution. *J Hosp Infect* 2016;94:108-109.

Vella V, Moore LSP, Robotham J, Davies F, Birgand GJC, **Otter JA**, Brannigan E, Dyakova E, Knight GM, Mookerjee S, Holmes AH. Vella V, Moore LSP, Robotham J, Davies F, Birgand GJC, **Otter JA**, Brannigan E, Dyakova E, Knight GM, Mookerjee S, Holmes AH. Demand and capacity for carbapenemase-producing Enterobacteriaceae screening in a West London hospital network. *J Hosp Infect* 2016;94:118-124.

Brown C, Livermore DM, **Otter JA**, Warren RE, Jenks P, Enoch DA, Newsholme W, Oppenheim B, Leanord A, McNulty C, Tanner G, Bennett S, Cann M, Bostock J, Collins E, Peckitt S, Ritchie L, Fry C, Hawkey P, Wilson AP. Multidrug-resistant (MDR) Gram-negative bacteria information leaflets. *J Hosp Infect* 2016;92:86-87.

Tosas August O, Betley J, Patel A, Marbach H, Stabler R, Hern P, Ayree A, **Otter JA**, Goldenberg SD, Desai N, Karadag T, Grundy C, Gaunt M, Cooper B, Edgeworth J, Kypraios T. Evidence for community transmission of community-associated but not health-care-associated methicillin-resistant *Staphylococcus aureus* strains linked to social and material deprivation: spatial analysis of cross-sectional data. *Plos Med* 2016;13:e1001944.

Horn K, **Otter JA**. Hydrogen peroxide vapor room disinfection and hand hygiene improvements reduce *Clostridium difficile* infection, MRSA, VRE and ESBL by 47%. *Am J Infect Control* 2015;43:1354-1356.

Wilson APR, Livermore DM, **Otter JA**, Warren RE, Jenks P, Enoch DA, Newsholme, Oppenheim B, Leanord A, McNulty C, Tanner G, Bennett S, Cann M, Bostock J, Collins E, Peckitt S, Ritchie L, Fry C, Hawkey PM. Prevention and control of multiresistant Gram-negative bacteria – recommendations from a Joint Working Party. *J Hosp Infect* 2016 Jan;Suppl 1:S1-S44.

Hughes J, Goldenberg SD, Tosas O, Edgeworth JD, **Otter JA**. Recent emergence of carbapenem-resistant organisms in a low prevalence UK setting in London. *J Infect Prevent* 2016;17:130-134.

Otter JA. Reflections from Infection Prevention 2015: beating the bugs, improving the systems and thinking outside the box. *J Infect Prevent* 2016;17:37–41.

Otter JA, Donskey CJ, Yezli S, Douthwaite S, Goldenberg SD, Weber DJ. Transmission of SARS and MERS coronaviruses and influenza virus in healthcare settings: the possible role of dry surface contamination. *J Hosp Infect* 2016;92:235-250.

Otter JA, Mephram S, Athan B, Mack D, Smith R, Jacobs M, Hopkins S. Terminal decontamination of the Royal Free London High Level Isolation Unit (HLIU) following a case of Ebola virus disease using hydrogen peroxide vapour. *Am J Infect Control* 2016;44:233-235.

Fisher D, Long P, Salmon S, Teo C, Cook A, **Otter JA**. Where's all the VRE gone? A successful VRE bundle at a Singapore hospital. *Infect Control Hosp Epidemiol* 2016;37:107-109.

Otter JA, Mutters N, Tacconelli E, Gikas A, Holmes AH. Controversies in guidelines for the control of multidrug-resistant Gram-negative bacteria in EU countries. *Clin Microbiol Infect* 2015;21:1057-1066.

Otter JA. Biofilms mean that the 'environmentome' of hospital surfaces is teeming with life. *J Hosp Infect* 2015;91:218-219.

Otter JA. The inaugural Healthcare Infection Society Middle East Summit: 'No action today. No cure tomorrow. *J Hosp Infect* 2015;91:199-201.

Hughes J, Stabler R, Karadag T, Desai N, Patel A, **Otter JA**, Edgeworth JD, Tosas August O. Clonal variation in high- and low-level phenotypic and genotypic mupirocin resistance of MRSA isolates in South East London. *J Antimicrobial Chemother* 2015;70:3191-3199.

Biswas J, Patel A, **Otter JA**, van Kleef E, Goldenberg SD. Significant contamination of the hospital environment from potential *Clostridium difficile* excretors. *Infect Control Hosp Epidemiol* 2015;36:975-977.

Biswas J, Patel A, **Otter JA**, Wade P, Newsholme W, Goldenberg SD. Reduction in *Clostridium difficile* environmental contamination in hospitalised patients treated with fidaxomicin. *J Hosp Infect* 2015;90:267-270.

Otter JA. What's trending in the infection prevention and control literature? From HIS 2012 to HIS 2014, and beyond. *J Hosp Infection* 2015;89:229-236.

Lemmen S, Scheithauer S, Häfner H, Yezli S, Mohr M, **Otter JA**. Evaluation of hydrogen peroxide vapour for the inactivation of nosocomial pathogens on porous and non-porous surfaces. *Am J Infect Control* 2015;43:82-85.

Otter JA, Vickery K, Walker J, deLancey-Pulcini E, Stoodley P, Salkeld JA, Chewins J, Yezli S, Edgeworth JD. Surface-attached cells, biofilms and biocide susceptibility: implications for hospital cleaning and disinfection. *J Hosp Infect* 2015;89:16-27.

Yezli S, **Otter JA**. Does the inanimate environment play a role in the transmission of pathogens in operating room? *Surg Infect* 2014;15:694-699.

Curran E, **Otter JA**. How to prevent and control outbreaks of carbapenem-resistant Enterobacteriaceae. *J Infect Prevent* 2014;15:193-198.

Otter JA, Tosas O, Herdman MT, Williams B, Tucker D, Edgeworth JD, French GL. Implications of targeted versus universal admission screening for methicillin-resistant *Staphylococcus aureus* carriage in a London hospital. *J Hosp Infect* 2014;87:171-174.

O'Halloran PD, Winter PK, **Otter JA**, Adams NMT, Chewins J. Aqueous oxygen peroxide treatment of venous leg ulcers is associated with improved wound healing in a primary care based randomised, double-blind, placebo-controlled trial. *J Wound Care* 2014;23:176-190.

Goyal SM, Chander Y, Yezli S, **Otter JA**. Evaluating the virucidal efficacy of hydrogen peroxide vapor (HPV). *J Hosp Infect* 2014;86:255-259.

Otter JA, Davies B, Menson E, Klein JL, Watts TL, Kearns AM, Pichon B, Edgeworth JD, French GL. Identification and control of a gentamicin-resistant, meticillin-susceptible *Staphylococcus aureus* outbreak on a neonatal unit. *J Infect Prevent* 2014;15:104-109.

Havill NL, Boyce JM, **Otter JA**. Extended survival of carbapenem-resistant Enterobacteriaceae on dry surfaces. *Infect Control Hosp Epidemiol* 2014;35:445-447.

Otter JA. Infection Prevention 2013 – a potted overview. *J Infect Prevent* 2014;15:9.

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Otter JA, Yezli S, Salkeld JAG, French GL. Evidence that contaminated surfaces contribute to the transmission of hospital pathogens and an overview of strategies to address contaminated surfaces in hospital settings. *Am J Infect Control* 2013;41:S6-S11.

Barbut F, Yezli S, **Otter JA**. Hydrogen peroxide room disinfection: there is no elephant in the room but there's plenty of evidence in the trunk. *J Hosp Infect* 2013;83:355-356.

Otter JA, Patel A, Cliff P, Halligan E, Tosas O, Edgeworth JD. Selection for *qacA* carriage in CC22 but not CC30 MRSA bloodstream infection isolates during a successful institutional infection control programme. *J Antimicrob Chemother* 2013;68:992-999.

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Passaretti CL, **Otter JA**, Reich NG, Myers J, Shepard J, Howard T, Carroll KC, Lipsett P, Perl TM. Environmental decontamination with hydrogen peroxide vapor reduces the risk of patient acquisition of multidrug-resistant organisms. *Clin Infect Dis* 2013;56:27-35.

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Yezli S, **Otter JA**. Does the discovery of biofilms on dry hospital environmental surfaces change the way we think about hospital disinfection? *J Hosp Infect* 2012;81:293-294.

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Otter JA, Yezli S. Are commercially available *Geobacillus stearothermophilus* biological indicators an appropriate standard for hydrogen peroxide vapour systems in hospitals? *J Hosp Infect* 2012;80:272-273.

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Dryden M, Parnaby R, Dailly S, Lewis T, Davis-Blues K, **Otter JA***, Kearns AM. Environmental decontamination with hydrogen peroxide vapor (HPV) in the control of an MRSA outbreak. Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC). September 2007, Chicago.

Otter JA*, Klein J, Watts T, Kearns AM, French GL. P1324. Control of an outbreak of an unusual ciprofloxacin-susceptible variant of methicillin-resistant *Staphylococcus aureus* EMRSA-15 on a

neonatal unit. *Int J Antimicrob Agents* 2007;**29** Suppl. 2:S366. (European Congress of Clinical Microbiology and Infectious Disease (ECCMID)).

Otter JA*, French GL. P1587 The molecular epidemiology of community-associated methicillin-resistant *Staphylococcus aureus* at a London teaching hospital. *Int J Antimicrob Agents* 2007;**29** Suppl. 2:S445-446. (European Congress of Clinical Microbiology and Infectious Disease (ECCMID)).

Schouten M, **Otter JA***, van Zanten A, Houmes-Zielman G, Nohlmans-Paulssen M. P1692 Environmental decontamination of an intensive care unit to control outbreaks of multidrug-resistant Gram-negative rods using hydrogen peroxide vapour. *Int J Antimicrob Agents* 2007;**29** Suppl. 2:S479. (European Congress of Clinical Microbiology and Infectious Disease (ECCMID)).

Hall L*, **Otter JA**, Chewins J, Wengenack NL. Use of hydrogen peroxide vapour for deactivation of *Mycobacterium tuberculosis* in a biological safety cabinet and a room. American Society for Microbiology (ASM), Orlando, Florida, 2006.

Hall L*, **Otter JA**, Chewins J, Wengenack NL. Deactivation of dimorphic fungi using HPV. International Society of Human and Animal Mycology (ISHAM), Paris, France, 2006.

French GL, Shannon KP, **Otter JA***. Survival of nosocomial bacteria dried in air and killing by hydrogen peroxide vapour (HPV). Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC), Washington DC, 2004.

INVITED LECTURES

Infection Prevention Society (IPS) Annual Meeting 2019. '[Developing a business case and service redesign](#)'. Liverpool, UK, 22 – 24 September 2019.

International Conference on Infection Prevention and Control (ICPIC). '[Counting the cost and value of hospital cleaning and disinfection](#)'. Geneva. Switzerland, September 2019.

International Conference on Infection Prevention and Control (ICPIC). '[Automated room decontamination systems: ready for the big time?](#)'. Geneva. Switzerland, September 2019.

Healthcare Infection Society (HIS) Conference. '[Healthcare-associated *C. difficile* infections: acquisition of *C. difficile* not antibiotic use is the most important factor.](#)' Liverpool, UK, November 2018.

Infection Prevention and Control Canada (IPAC) Annual Conference. '[Social media's impact on infection prevention.](#)' Banff, Canada, May 2018.

Infection Prevention and Control Canada (IPAC) Annual Conference. '[The pros and cons of automated room decontamination technologies.](#)' Banff, Canada, May 2018.

Healthcare Infection Society (HIS) Spring Meeting. '[The cost of an outbreak.](#)' London, May, 2018.

European Congress of Clinical Microbiology and Infectious Diseases (ECCMID) 2018. Hands-on infection control – what does actually work to prevent infections? '[Before an outbreak – what to do after first MDR Gram-negatives enter your hospital?](#)' Madrid, Spain, April 2018. [Recording [here](#).]

Lisbon Antimicrobial Resistance and Healthcare Associated Infections 2018 Congress. '[Nine decades of antibiotics; how many years of antibiotic resistance?](#)' Lisbon, Portugal, April 2018.

Lisbon Antimicrobial Resistance and Healthcare Associated Infections 2018 Congress. '[From hospital microbiome to new answers for environmental cleaning and disinfection](#)'. Lisbon, Portugal, April 2018.

Patient First 2017. '[The management of CPE outbreaks panel](#)'. London, November 2017.

Healthcare Infection Society / Federation of Infection Sciences (HIS/FIS) 2016. '[Gastrointestinal infections and the hospital environment](#)'. Edinburgh, Scotland, November 2016.

Patient First, Infection Prevention and Control. '[The growing dangers around CPE](#)'. London, UK, November 2016.

Infection control and innovation (Center for Innovative Medical Technology, Denmark). '[Disinfection of rooms and surfaces – what are the global trends and latest scientific discoveries when it comes to technology and materials?](#)' Odense, Denmark, October 2016.

Infection Prevention Society (IPS) 2016. '[Social media for healthcare professionals: useful or a waste of time?](#)' Harrogate, UK, September 2016.

Infection Prevention Society (IPS) 2016. '[Meet the expert: Using the PHE Toolkit to build a CPE Policy](#).' Harrogate, UK, September 2016.

Healthcare Infection Society (HIS) Spring Meeting 2016. Debate with Peter Hoffman. '[The healthcare environment: automated disinfection provides more effective infection prevention than manual disinfection](#).' Birmingham, UK, May 2016.

European Congress of Clinical Microbiology and Infectious Diseases (ECCMID) 2016. '[Selling your work to colleagues and society: how to use social media](#)'. Amsterdam, The Netherlands, April 2016.

International Federation of Infection Control (IFIC) 2016. '[CRE/CPE/CRO – demystifying the microbiology and opportunities for genome sequencing](#)'. Vienna, Austria, March 2016.

International Federation of Infection Control (IFIC) 2016. '[My favourite papers on...environmental decontamination](#)'. Vienna, Austria, March 2016.

Infection Prevention Society (IPS) 2015. '[How to assess scientific posters: a practical guide](#)'. Liverpool, UK, September 2015.

Healthcare Infection Society (HIS) Middle East Infection Prevention Summit 2015. '[European approaches to prevention and control of MDR Gram-negatives](#)'. Dubai, June 2015.

20th Infection and Sepsis Symposium 2015. '[The English MRSA Miracle](#)'. Portugal, March 2015.

20th Infection and Sepsis Symposium 2015. '[Containing CRE spread](#)'. Portugal, March 2015.

Healthcare Environment & Infrastructure (HEI) London 2014. '[Ebola: coming to a hospital near you? Infection, prevention, control and preparedness considerations](#).' London, UK, November 2014.

Healthcare Infection Society (HIS) 2014. '[What's trending in the infection prevention and control literature?](#)' Lyon, France, November 2014.

Healthcare Estates 2014. 'What do emerging microbial threats mean to hospital cleaning and disinfection: from MRSA to MERS to multidrug-resistant Gram-negative bacteria'. Manchester, UK, October 2014.

Infection Prevention Society (IPS) 2014. Pro-Con Debate with Dr Ian Gould: 'Universal vs. targeted interventions in infection prevention and control: the case for a targeted strategy'. Glasgow, Scotland, September 2014.

Infection Prevention Society (IPS) 2014. 'How to assess scientific posters: a practical guide'. Glasgow, Scotland, September 2014.

Healthcare Infection Society (HIS) & Infection Prevention Society (IPS) Joint Meeting 2014. 'Dissecting the epidemiology of resistant Enterobacteriaceae and non-fermenters'. Birmingham, UK, April 2014.

World Forum for Hospital Sterile Supply (WFHSS) and Japanese Society of Medical Instrumentation (JSMI) Annual Conference 2012. 'Is there a role for hydrogen peroxide vapour disinfection in the prevention of healthcare-associated infection?' Osaka, Japan, November 2012.

Association for Professionals in Infection Control and Epidemiology (APIC) 2012. 'The role of environmental surfaces in disease transmission.' San Antonio, Texas, USA, June 2012.

Japanese Society for Environmental Infection (JSEI) Annual Meeting 2012. 'The bed location lottery: the MDRO status of the prior bed occupant affects the risk of acquisition.' Fukouka, Japan, February 2012.

Infection Prevention Society (IPS) Annual Meeting 2011. 'CA-MRSA: coming to an A&E near you?' Bournemouth, UK, September 2011.