

## Prof.ssa Stefania Stefani

**Academic carrier:** PhD and Post -doc in Microbiology and Virology, 1989; Associate Professor 1991- 2001; Full Professor in Microbiology from 2001;

**Current position:** Full Professor of Microbiology

Orcid ID 0000-0003-1594-7427

**Teaching activity:** Medical Microbiology, Applied Molecular Microbiology, Antibiotic Resistance and Pathogenicity,

### Academic and scientific qualification:

- Member of the board IDSA-ESCMID for S.aureus bacteremia BSA guidelines (2017)
- Member of the Board of the Italian Minister of Health for the Antimicrobial Resistance Plan (2016-2017)
- President of the Research and Innovation Technology Lab (BRIT) (2016)
- Member of College PhD in "Translational Bio-medicine" (since 2014)
- Board of Trustees of the International Society of Chemotherapy (ISC) – (2013)
- Rector's Delegate for the Scientific Research of the University of Catania (2013-2016).
- Editor in Chief of Journal of Global Antimicrobial Resistance JGAR (Elsevier) since 2012
- Editorial Scientific Board: Section Editor of International Journal Antimicrob Agents since 2006, Annals of Microbiology since 2009, Libyan Journal of Medicine since 2010, Microbiology since 2013
- Member of the National Board of evaluation of Italian professorship (ASN) 2013-2014
- Reviewer: Journal Chemotherapy, Annals of Microbiology, Medical Science Monitor, Infezioni in Medicina, Research in Microbiology, J. Infectious Diseases, J. Hospital Infections, Expert Opinion in Pharmacology, Key Opinions, Clinical Microbiology and Infection, Journal Antimicrobial Chemotherapy, Microbiology, Future in microbiology, Frontiers in Microbiology.
- Member of the sub Committee for antimicrobial resistance EUCAST subcommittee of the ESCMID;
- Member of the Scientific Board of: Società Italiana di Microbiologia (SIM); Società Italiana Microbiologia Generale Biotecnologie Microbiche (SIMGBM); Società italiana di microbiologia medica, odontoiatrica e clinica (SIMMOC); Italian Society of Clinical Microbiology (AMCLI); Società Italiana di Chemioterapia (SIC); American Society for Microbiology (ASM), International Society of Chemotherapy (ISC).
- Scientific Advisory Committee (SAC) dell' European Society of Clinical Microbiology and Infectious diseases (ESCMID) (until 2012)
- General Secretary of Società Mediterranea di Chemioterapia (MSC)
- Treasure of 'Accademia Gioenia.(until 2012)
- Patent N. RM2010A000163 – SIB B 4106R – Use of *S.salivarius* in the treatment of respiratory infections
- Consultant at the University Hospital, under contract with the Cannizzaro hospital for Advanced molecular diagnostics (since 2012)

Projects: Good experience as principal investigator of Projects funded by National or International Grant Agencies (PRIN, VI and VII FP –EU).

Experience as project evaluator (V, VI FP and VII of the EU) and for the Vinci and Galileo projects (Italy-France cooperation projects)

Experience as project evaluator for the Italian Ministero della Salute. Experience as project evaluator for the Universities of Milan and Naples.

Activity of supervisions of PhD students, Postdoctoral fellows and Research students since 1990.

### Research topics:

- Study of the mechanisms of resistance responsible for resistance in Gram-positive and Gram-negative bacteria utilizing PCR and Real Time PCR, designing primers with Vector NTI program and sequencing.
- Expression studies in Staphylococci and their mechanisms of resistance and virulence
- Characterization of mobile genetic elements such as transposons and plasmids carrying resistance determinants; transfer of these elements among Gram-positive bacteria i.e. Staphylococci, Streptococci and Enterococci
- Study of biofilm production in Staphylococci and Pseudomonas
- Study of gene expression and signalling (quorum-sensing)
- Study of *Acinetobacter baumannii* isolated in nosocomial settings: molecular characterization of resistance strains and characterization of the major clones by MLST
- Typing studies in Gram-positive and Gram-negative bacteria by means of ribotyping, PFGE and MLST
- Susceptibility studies to determine the activity of investigational drugs
- Molecular identification of microorganisms (sequencing of 16S r RNA, *tuf*, *soda*)
- Study of Bacterial genomic organization

Publications: ( 2012-2015)

1. Cafiso V, Bertuccio T, Spina D, Purrello S, Campanile F, Di Pietro C, Purrello, M, **Stefani S**. Modulating activity of vancomycin and daptomycin on the expression of autolysis cell-wall turnover and membrane charge genes in hVISA and VISA strains. PLoS One. 2012;7(1)
2. Santagati M, Scillato M, Patanè F, Aiello C, **Stefani S**. Bacteriocin-producing oral streptococci and inhibition of respiratory pathogens. FEMS Immunol Med Microbiol. 2012 Jun;65(1):23-31. doi: 10.1111/j.1574-695X.2012.00928.x. Epub 2012. Feb 3. PubMed PMID: 22243526.
3. **Stefani S**, Chung DR, Lindsay JA, Friedrich AW, Kearns AM, Westh H, Mackenzie FM. Meticillin-resistant *Staphylococcus aureus* (MRSA): global epidemiology and harmonisation of typing methods. Int J Antimicrob Agents. 2012 Apr;39(4):273-82. Epub 2012 Jan 9. PubMed PMID: 22230333.
4. Sarti M, Campanile F, Sabia C, Santagati M, Gargiulo R, **Stefani S**. Polyclonal diffusion of beta-lactamase-producing *Enterococcus faecium*. J Clin Microbiol. 2012 Jan;50(1):169-72. Epub 2011 Nov 9. PubMed PMID: 22075588; PubMed Central PMCID: PMC3256721
5. Falcone M, Russo A, Pompeo ME, Vena A, Marruncheddu L, Ciccaglioni A, Grossi P, Mancini C, Novelli A, **Stefani S**, Venditti M. Retrospective case-control analysis of patients with staphylococcal infections receiving daptomycin or glycopeptide therapy. Int J Antimicrob Agents. 2012 Jan;39(1):64-8. Epub 2011 Nov 1. PubMed PMID: 22047703
6. Perilli M, Segatore B, Mugnaioli C, Celenza G, Rossolini GM, **Stefani S**, Luzzaro F, Pini B, Amicosante G. Persistence of TEM-52/TEM-92 and SHV-12 extended-spectrum  $\beta$ -lactamases in

- clinical isolates of Enterobacteriaceae in Italy. *Microb Drug Resist.* 2011 Dec;17(4):521-4. Epub 2011 Oct 4. PubMed PMID:21970626
7. Campanile F, Bongiorno D, Falcone M, Vailati F, Pasticci MB, Perez M, Raglio A, Rumpianesi F, Scuderi C, Suter F, Venditti M, Venturelli C, Ravasio V, Codeluppi M, **Stefani S**. Changing Italian nosocomial-community trends and heteroresistance in *Staphylococcus aureus* from bacteremia and endocarditis. *Eur J Clin Microbiol Infect Dis.* 2012 May;31(5):739-45. Epub 2011 Aug 7. PubMed PMID:21822974; PubMed Central PMCID: PMC3319882
  8. Vena A, Falcone M, Comandini E, Meledandri M, Novelli A, Campanile F, **Stefani S**, Venditti M. Daptomycin plus trimethoprim/sulfamethoxazole combination therapy in post-neurosurgical meningitis caused by linezolid-resistant *Staphylococcus epidermidis*. *Diagn Microbiol Infect Dis.* 2013 Feb 26. doi:pii: S0732-8893(13)00057-6. 10.1016/j.diagmicrobio.2013.01.021. [Epub ahead of print] PubMed PMID: 23453066.
  9. Campanile F, Mongelli G, Bongiorno D, Adembri C, Ballardini M, Falcone M, Menichetti F, Repetto A, Sabia C, Sartor A, Scarparo C, Tascini C, Venditti M, Zoppi F, **Stefani S**. Worrisome trend in new multiple mechanisms of linezolid-resistant *Staphylococcal* clones diffused in Italy. *J Clin Microbiol.* 2013 Jan 23. [Epub ahead of print] PubMed PMID: 23345292.
  10. Gesualdo F, Bongiorno D, Rizzo C, Bella A, Menichella D, **Stefani S**, Tozzi AE. MRSA Nasal Colonization in Children: Prevalence Meta-Analysis, Review of Risk Factors and Molecular Genetics. *Pediatr Infect Dis J.* 2013 Jan 21. [Epub ahead of print] PubMed PMID: 23340553
  11. Campanile F, Mongelli G, Bongiorno D, Adembri C, Ballardini M, Falcone M, Menichetti F, Repetto A, Sabia C, Sartor A, Scarparo C, Tascini C, Venditti M, Zoppi F, **Stefani S**. Worrisome trend of new multiple mechanisms of linezolid resistance in *staphylococcal* clones diffused in Italy. *J Clin Microbiol.* 2013 Apr;51(4):1256-9. doi: 10.1128/JCM.00098-13. Epub 2013 Jan 23.
  12. Vena A, Falcone M, Comandini E, Meledandri M, Novelli A, Campanile F, **Stefani S**, Venditti M. Daptomycin plus trimethoprim/sulfamethoxazole combination therapy in post-neurosurgical meningitis caused by linezolid-resistant *Staphylococcus epidermidis*. *Diagn Microbiol Infect Dis.* 2013 May;76(1):99-102. doi: 10.1016/j.diagmicrobio.2013.01.021. Epub 2013 Feb 26.
  13. Ceccarelli G, Falcone M, Giordano A, Mezzatesta ML, Caio C, **Stefani S**, Venditti M. Successful Ertapenem-Doripenem Combination Treatment of Bacteremic Ventilator-Associated Pneumonia Due to Colistin-Resistant KPC-Producing *Klebsiella pneumoniae*. *Antimicrob Agents Chemother.* 2013 Jun;57(6):2900-1. doi: 10.1128/AAC.00188-13. Epub 2013 Apr 9.
  14. Taglietti F, Principe L, Bordi E, D'Arezzo S, Di Bella S, Falasca L, Piacentini M, **Stefani S**, Petrosillo N. Telavancin and Daptomycin activity against methicillin-resistant *Staphylococcus aureus* strains after vancomycin resistance selection in vitro. *J Med Microbiol.* 2013 Apr 18.
  15. Mezzatesta ML, Gona F, Caio C, Adembri C, Dell'utri P, Santagati M, **Stefani S**. Emergence of an extensively drug-resistant ArmA- and KPC-2-producing ST101 *Klebsiella pneumoniae* clone in Italy. *J Antimicrob Chemother.* 2013 May 10.
  16. Cacopardo B, **Stefani S**, Cardì F, Cardì C, Pinzone MR, Nunnari G. Surgical Site Infection by *Corynebacterium macginleyi* in a Patient with Neurofibromatosis Type 1. *Case Report Inf Dis* 2013; 2013:970678. doi: 10.1155/2013/970678. Epub 2013 May 30.
  17. Cafiso V<sup>1</sup>, Bertuccio T<sup>1</sup>, Purrello S<sup>1</sup>, Campanile F<sup>1</sup>, Mammìna C<sup>2</sup>, Sartor A<sup>3</sup>, Raglio A<sup>4</sup>, **Stefani S**<sup>5</sup>. *dltA* overexpression: A strain-independent keystone of daptomycin resistance in methicillin-resistant *Staphylococcus aureus*. *Int J Antimicrob Agents.* 2014 Jan;43(1):26-31. doi: 10.1016/j.ijantimicag.2013.10.001. Epub 2013 Oct 16.
  18. **Stefani S**, Dowzicky MJ. Longitudinal Assessment of Antimicrobial Susceptibility among Gram-Negative and Gram-Positive Organisms Collected from Italy as Part of the Tigecycline Evaluation and Surveillance Trial between 2004 and 2011. *Pharmaceuticals (Basel).* 2013 Nov 7;6(11):1381-406. doi: 10.3390/ph6111381.
  19. Fagiuoli S<sup>1</sup>, Colli A<sup>2</sup>, Bruno R<sup>3</sup>, Craxì A<sup>4</sup>, Gaeta GB<sup>5</sup>, Grossi P<sup>6</sup>, Mondelli MU<sup>7</sup>, Puoti M<sup>8</sup>, Sagnelli E<sup>9</sup>, **Stefani S**<sup>10</sup>, Toniutto P<sup>11</sup>, Burra P<sup>12</sup>; 2011 AISF Single Topic Group. Management of infections pre- and post-liver transplantation: Report of an AISF consensus conference. *J Hepatol.* 2013 Dec 30. pii: S0168-8278(13)00890-8. doi: 10.1016/j.jhep.2013.12.021.
  20. Gesualdo F<sup>1</sup>, Onori M, Bongiorno D, Campanile F, Carloni E, Mancinelli L, Russo C, Villani A, Valentini D, Raponi M, Tozzi AE, **Stefani S**. Methicillin-resistant *Staphylococcus aureus* nasal

colonization in a department of pediatrics: a cross-sectional study. *Ital J Pediatr.* 2014 Jan 10;40:3. doi: 10.1186/1824-7288-40-3.

21. Cascio A<sup>1</sup>, Mezzatesta ML<sup>2</sup>, Odierna A<sup>3</sup>, Di Bernardo F<sup>4</sup>, Barberi G<sup>5</sup>, Iaria C<sup>6</sup>, **Stefani S<sup>2</sup>**, Giordano S. Extended-spectrum beta-lactamase-producing and carbapenemase-producing *Enterobacter cloacae* ventriculitis successfully treated with intraventricular colistin S2014 Mar;20:66-7. doi: 10.1016/j.ijid.2013.11.012.
22. Gona F<sup>1</sup>, Barbera F, Pasquariello AC, Grossi P, Gridelli B, Mezzatesta ML, Caio C, **Stefani S**, Conaldi PG. In vivo multiclonal transfer of blaKPC -3 from *Klebsiella pneumoniae* to *Escherichia coli* in surgery patients. *Clin Microbiol Infect.* 2014 Jan 30. doi: 10.1111/1469-0691.12577. [Epub ahead of print]
23. Santagati M, Spanu T, Scillato M, Santangelo R, Cavallaro F, Arena V, Castiglione G, Falcone M, Venditti M, **Stefani S**. Rapidly fatal hemorrhagic pneumonia and group A *Streptococcus* serotype M1. *Emerg Infect Dis.* 2014 Jan;20(1):98-101. doi: 10.3201/eid2001.130233.
24. Corcione S<sup>1</sup>, Motta I, Fossati L, Campanile F, **Stefani S**, Cavallo R, Di Perri G, Ranieri VM, De Rosa FG. Molecular epidemiology of methicillin-resistant *S. aureus* in the ICU setting. *Intensive Care Med.* 2014 Mar 14. [Epub ahead of print]
25. Principe L, Piazza A, Giani T, Bracco S, Caltagirone MS, Arena F, Nucleo E, Tammaro F, Rossolini GM, Pagani L, Luzzaro F, AMCLI CRAB survey participants. Epidemic diffusion of oxa-23 producing *A.baumannii* isolates in Italy: results of the first cross-sectional countrywide survey. *J.Clin Microbiol* 2014; 52(8): 3004
26. Falcone M, Vena A, Mezzatesta ML, Gona F, Cacio C, Goldoni P, Trancassini AM, Conti C, Orsi GB, Carfagna P, Stefani S, Venditti M. Role of empirical and targeted therapy in hospitalized patients with bloodstream infections caused by ESBL-producing *Enterobacteria*. *An Ig* 2014; 26(4): 293
27. Mezzatesta ML, Caio C, Gona F, Cormaci R, Salerno I, Zingali T, Denaro C, Gennaro M, Quattrone C, Stefani S. Carbapenem and multidrug resistance in Gram-negative bacteria in a single center in Italy: considerations on in vitro assay of active drugs. *Int J Antimicrob Agents* 2014; 44: 112-116
28. Matteo Bassetti<sup>1\*</sup>, Elda Righi<sup>1</sup>, Gennaro De Pascale<sup>2</sup>, Raffaele De Gaudio<sup>3</sup>, Antonino Giarratano<sup>4</sup>, Teresita Mazzei<sup>5</sup>, Giulia Morace<sup>6</sup>, Nicola Petrosillo<sup>7</sup>, Stefania Stefani<sup>8</sup> and Massimo Antonelli<sup>2</sup> How to manage aspergillosis in non-neutropenic intensive care unit patients. *Crit Care* 2014; 18(4): 458
29. Corno G, Coci M, Giardina M, Plechiuk S, Campanile F, Stefani S. Antibiotics promote aggeragtion within aquatic bacterial communities. *Front. Microbiol* 2014; 1; 5: 297
30. Nagendra N. Mishra, Arnold S. Bayer, Christopher Weidenmaier, Timo Grau Stefanie Wanner, Stefania Stefani, Viviana Cafiso, Taschia Bertuccio, Michael R. Yeaman Cynthia C. Nast, Soo-Jin Yan Phenotypic and Genotypic Characterization of Daptomycin-Resistant Methicillin-Resistant *Staphylococcus aureus* Strains: Relative Roles of mprF and dlt Operons PLOs One 2014 Sep 16;9(9):e107426
31. Iannelli F., Santagati M, Santoro F, Oggioni MR, Stefani S, Pozzi G. Nucleotide sequence of conjugative prophage Phi 1207.3 (formerly Tn1207.3) carrying the mefA/msrD genes for efflux resistance to macrolides in *Streptococcus pyogenes*. *Front Microbiol* 2014 Dec 9; 5: 687
32. Alessandro Russo<sup>a,1</sup>, Floriana Campanile<sup>b,1</sup>, Marco Falcone<sup>a</sup>, Carlo Tascini<sup>c</sup>, Matteo Bassetti<sup>d</sup>, Paola Goldoni<sup>a</sup>, Maria Trancassini<sup>a</sup>, Paola Della Siega<sup>d</sup>, Francesco Menichetti<sup>c</sup>, Stefania Stefani<sup>b</sup>, Mario Venditti<sup>a</sup>. Linezolid-resistant staphylococcal bacteraemia: A multicentre case–case–control study in Italy. *In J Antimicrob Agents* 2015; Mar;45(3):255-61.

33. Marchisio P, Santagati M, Scillato M, Baggi E, Fattizzo M, Rosazza C, Stefani S, Esposito S, Principi N. *Streptococcus salivarius* 24SMB administered by nasal spray for the prevention of acute otitis media in otitis-prone children. *Eur J Clin Microbiol Infect Dis*. 2015 Sep 18. [Epub ahead of print]
34. Mongelli G, Bongiorno D, Agosta M, Benvenuto S, Stefani S, Campanile F. High Resolution Melting-Typing (HRMT) of methicillin-resistant *Staphylococcus aureus* (MRSA): The new frontier to replace multi-locus sequence typing (MLST) for epidemiological surveillance studies. *J Microbiol Methods*. 2015 Oct;117:136-8. doi: 10.1016/j.mimet.2015.08.001. Epub 2015 Aug 5.
35. Santagati M, Scillato M, Muscaridola N, Metoldo V, La Mantia I, Stefani S. Colonization, safety, and tolerability study of the *Streptococcus salivarius* 24SMBc nasal spray for its application in upper respiratory tract infections. *Eur J Clin Microbiol Infect Dis*. 2015 Oct;34(10):2075-80. doi: 10.1007/s10096-015-2454-2. Epub 2015 Jul 24.
36. Stefani S, Campanile F, Santagati M, Mezzatesta ML, Cafiso V, Pacini G. Insights and clinical perspectives of daptomycin resistance in *Staphylococcus aureus*: A review of the available evidence. *Int J Antimicrob Agents*. 2015 Sep;46(3):278-89. doi: 10.1016/j.ijantimicag.2015.05.008. Epub 2015 Jun 19. Review.
37. Parisi SG, Bartolini A, Santacatterina E, Castellani E, Ghirardo R, Berto A, Franchin E, Menegotto N, De Canale E, Tommasini T, Rinaldi R, Basso M, Stefani S, Palù G. Prevalence of *Klebsiella pneumoniae* strains producing carbapenemases and increase of resistance to colistin in an Italian teaching hospital from January 2012 To December 2014. *BMC Infect Dis*. 2015 Jun 27;15:244. doi: 10.1186/s12879-015-0996-7.
38. Mongelli G, Romeo MA, Denaro C, Gennaro M, Frassetto F, Stefani S. Added value of multi-pathogen probe-based real-time PCR SeptiFast in the rapid diagnosis of bloodstream infections in patients with bacteraemia. *J Med Microbiol*. 2015 Jul;64(7):670-5. doi: 10.1099/jmm.0.000074. Epub 2015 Apr 29.
39. Berendonk TU, Manaia CM, Merlin C, Fatta-Kassinos D, Cytryn E, Walsh F, Bürgmann H, Sørum H, Norström M, Pons MN, Kreuzinger N, Huovinen P, Stefani S, Schwartz T, Kisand V, Baquero F, Martinez JL. Tackling antibiotic resistance: the environmental framework. *Nat Rev Microbiol*. 2015 May;13(5):310-7. doi: 10.1038/nrmicro3439. Epub 2015 Mar 30.
40. Russo A, Campanile F, Falcone M, Tascini C, Bassetti M, Goldoni P, Trancassini M, Della Siega P, Menichetti F, Stefani S, Venditti M. Linezolid-resistant staphylococcal bacteraemia: A multicentre case-case-control study in Italy. *Int J Antimicrob Agents*. 2015 Mar;45(3):255-61. doi: 10.1016/j.ijantimicag.2014.12.008. Epub 2014 Dec 30.
41. Floriana Campanile, Dafne Bongiorno, Marianna Perez, Gino Mongelli, Laura Sessa, Sabrina Benvenuto, Floriana Gona, AMCLI – *S. aureus* Survey Participants, Pietro E. Varaldo, Stefania Stefani. Epidemiology of *Staphylococcus aureus* in Italy: First nationwide survey, 2012. *Journal of Global Antimicrobial Resistance* 07/2015; 169:1-8. DOI:10.1016/j.jgar.2015.06.006.

42. Mezzatesta ML, Caio C, Gona F, Zingali T, Salerno I, Stefani S. Colistin Increases the Cidal Activity of Antibiotic Combinations Against Multidrug-Resistant *Klebsiella pneumoniae*: An In Vitro Model Comparing Multiple Combination Bactericidal Testing at One Peak Serum Concentration and Time-Kill Method. *Microb Drug Resist*. 2016 Feb 24. [Epub ahead of print]

43. Marco Falcone, Ercole Concia, Massimo Giusti, Antonino Mazzone, Claudio Santini, Stefania Stefani, Francesco Violi - Acute bacterial skin and skin structure infections in internal medicine wards: old and new drugs - *Intern Emerg Med* 2016, April [Epub ahead of print]

Chiara Caio

20/01/17