# Europass Curriculum Vitae

## Personal information


First name/ Surname: **Rosa Sessa**

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## Occupational field

Associate Professor of Microbiology and Clinical Microbiology ( MED/07) – Faculty of Pharmacy and Medicine, "Sapienza" University, Rome - Italy

Director of Social Disease Research Centre, "Sapienza" University
President of School of Nursing, "Sapienza" University
Member of the Doctoral School of Medicine: "Infectious Diseases, Microbiology and Public Health" "Sapienza" University

## Work experience

2001-present Associate Professor, Faculty of Pharmacy and Medicine, "Sapienza" University
2000-2001 Researcher Faculty of Pharmacy and Medicine, "Sapienza" University
1985-2000 Technical Functionary at the Faculty of Pharmacy and Medicine, "Sapienza" University

Main activities and responsibilities

**Scientific Research**

***Identification of host defence factors towards C. trachomatis genital infection***

Data obtained in research field demonstrated the protective role of vaginal Lactobacilli towards C. trachomatis infection as well as towards C. trachomatis /HSV2- coinfections.Further studies have focused on the identification of lactoferrin as promising candidate against C. trachomatis infection highlighting anti-inflammatory activity of this glycoprotein. These studies also allowed the identification of cellular mechanisms by which lactobacilli and lactoferrin exerted their protective activity against *C. trachomatis*. The role of endocervical microbiota in *C. trachomatis* genital infection was also investigated by studies of metagenomic analysis underlying a network of *Gardnerella vaginalis*, *Prevotella amnii*, *Prevotella buccalis*, *Prevotella timonensis*, *Aerococcus christensenii*, and *Variovorax guangxiensis* as a potential biomarker of *C. trachomatis* infection.

***Study of C. trachomatis role in the pathogenesis of male infertility***

Investigations are in progress to study the interaction between *C. trachomatis* and human Sertoli cells, known to play a key role in the spermatogenesis. The first studies demonstrated the ability of C. trachomatis to impair the cytoskeleton of human primary Sertoli cells, essential for preservation of the homeostasis of the blood-testis barrier. Further studies on innate immune response in human Sertoli cells evidenced a potential mechanism by which C. *trachomatis* can evade intracellular killing, potentially giving rise to a long-term infection.

***Study of Chlamydia-host cell interaction***
Cellular and molecular characterization of chlamydial persistent forms in several *in vitro* models

***Identification of new anti-Chlamydial drugs***
Natural products have been tested as potential anti-chlamydial agents against *C. trachomatis*.

***Study of the etiopathogenic role Chlamydia pneumoniae in the chronic inflammatory diseases***
Epidemiological studies demonstrated the association between C. pneumoniae and atherosclerosis by serological and molecular analysis.
*C.pneumoniae* have also been investigated as a potential cofactor risk in Multiple Sclerosis, osteoporosis and periodontitis. Further studies have been focused on the identification of the cellular and molecular mechanisms of *C. pneumoniae* involved in the inflammatory disease.

**Teaching**
Microbiology and Clinical Microbiology in Medicine School, "Sapienza" University;
Microbiology in Nursing, "Sapienza" University
Clinical Microbiology in Specialization Schools for Microbiology and Virology and Orthopaedics of "Sapienza" University

MAIN OTHER ACTIVIETIES
Director of Social Disease Research Centre at Department of Public Health and Infectious Disease "Sapienza" University - since 2010
Editorial Board Member of European Journal of Inflammation since 2005
Editorial Board Member of ISRN Bacteriology since 2012
Reviewer of international journals on microbiology and clinical microbiology (Environmental Health Perspectives; BMC Infectious Disease; Atherosclerosis; The Anatolian Journal of Cardiology; The Journal of Chemotherapy; Future Microbiology; PLOS ONE, Scientific Report-Nature)

Name and address of employer | Department of Public Health and Infectious Disease "Sapienza" University, P.le A. Moro 5 00185 Rome

## Education and training

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|---|---|
| November 1989 | Specialized with honours in Sciences of Food |
| | "Sapienza" University |
| November 1985 | Specialized with honours in Microbiology and Virology |
| | "Sapienza" University |
| February 1981 | Graduated with honours in Biological Sciences |
| | "Sapienza" University |

Recent Scientific Publication


1. Di Pietro M, Filardo S, Frasca F, Scagnolari C, Manera M, Sessa V, Antonelli G, **Sessa R**. Interferon-γ possesses anti-microbial and immunomodulatory activity on a Chlamydia trachomatis infection model of primary human Synovial fibroblasts. Microorganisms 2020; 8(2): 235.
2. Sarshar M, Scribano D, Tranquilli G, Di Pietro M, Filardo S, Zagaglia C , **Sessa R**, Palamara AT, Ambrosi C. A simple, fast and reliable scan-based technique as a novel approach to quantify intracellular bacteria. BMC Microbiol 2019; 19 (1), 252.
3. Lollobrigida M, Filardo S, **Sessa R**, Di Pietro M, Bozzuto G, Molinari A, Lamazza L, Vozza I , De Biase A. Antibacterial activity and impact of different antiseptics on biofilm-contaminated implant surfaces. Applied Sciences 2019; 9. DOI: 10.3390/app9245467
4. Di Pietro M, Filardo S, Frasca F, Scagnolari C, Manera M, Sessa V, Antonelli G, **Sessa R**. Interferon-γ possesses anti-microbial and immunomodulatory activity on a Chlamydia trachomatis infection model of primary human Synovial fibroblasts. Microorganisms 2020; 8(2): 235.

5. Sarshar M, Scribano D, Tranquilli G, Di Pietro M, Filardo S, Zagaglia C , **Sessa R**, Palamara AT, Ambrosi C. A simple, fast and reliable scan-based technique as a novel approach to quantify intracellular bacteria. BMC Microbiol 2019; 19 (1), 252.
6. Lollobrigida M, Filardo S, **Sessa R**, Di Pietro M, Bozzuto G, Molinari A, Lamazza L, Vozza I , De Biase A. Antibacterial activity and impact of different antiseptics on biofilm-contaminated implant surfaces. Applied Sciences 2019; 9. DOI: 10.3390/app9245467
7. Filardo S, Di Pietro M, Tranquilli G, Latino MA, Recine N, Porpora MG, **Sessa R**. Selected Immunological Mediators and Cervical Microbial Signatures in Women with Chlamydia trachomatis Infection. mSystems. 2019;4(4). pii: e00094-19. doi: 10.1128/mSystems.00094-19.
8. Di Pietro M, Filardo S, Romano S, **Sessa R**. Chlamydia trachomatis and Chlamydia pneumoniae Interaction with the Host: Latest Advances and Future Prospective. Microorganisms. 2019;7(5). pii: E140. doi: 10.3390/microorganisms7050140
9. Filardo S, Skilton RJ, O'Neill CE, Di Pietro M, **Sessa R**, Clarke IN. Growth kinetics of Chlamydia trachomatis in primary human Sertoli cells. Sci Rep. 2019 Apr 10;9(1):5847. doi: 10.1038/s41598-019-42396-3.
10. Filardo S, Di Pietro M, Tranquilli G, **Sessa R**. Biofilm in Genital Ecosystem: A Potential Risk Factor for Chlamydia trachomatis Infection. Can J Infect Dis Med Microbiol. 2019 Jan 22;2019:1672109. doi: 10.1155/2019/1672109.
11. Di Pietro M, Filardo S, Porpora MG, Recine N, Latino MA, **Sessa R**. HPV/Chlamydia trachomatis co-infection: metagenomic analysis of cervical microbiota in asymptomatic women. New Microbiol. 2018 Jan;41(1):34-41.
12. Filardo S, Di Pietro M, Porpora MG, Recine N, Farcomeni A, Latino MA, **Sessa R.** Diversity of Cervical Microbiota in Asymptomatic Chlamydia trachomatis Genital Infection: A Pilot Study. Front Cell Infect Microbiol. 2017;7:321.
13. **Sessa R**, Di Pietro M, Filardo S, Bressan A, Mastromarino P, Biasucci AV, Rosa L, Cutone A, Berlutti F, Paesano R, Valenti P. Lactobacilli-Lactoferrin interplay in Chlamydia trachomatis infection. Pathog Dis. 2017 May 15. doi: 10.1093/femspd/ftx054.
14. **Sessa R**, Di Pietro M, Filardo S, Bressan A, Rosa L, Cutone A, Frioni A, Berlutti F, Paesano R, Valenti P. Effect of bovine lactoferrin on Chlamydia trachomatis infection and inflammation. Biochemistry and Cell Biology, 2017 Feb;95(1):34-40. doi: 10.1139/bcb-2016-0049. Epub 2016 Oct 21
15. Di Pietro M, Filardo S, Falasca F, Turriziani O, **Sessa R**. Infectious Agents in atherosclerotic Cardiovascular Diseases through Oxidative Stress. Int J Mol Sci. 2017 Nov 18;18(11). pii: E2459.
16. **Sessa R**, Di Pietro M, Filardo S, Bressan A, Mazzuti L, Serafino S, Fantauzzi A, Turriziani Lack of association of Chlamydia pneumoniae with cardiovascular diseases in virologically suppressed HIV patients. New Microbiol. New Microbiol. 2017 Jan;40(1):33-37. Epub 2016 Nov 7
17. **Sessa R**, Di Pietro M, Filardo S, Bressan A, Rosa L, Cutone A, Frioni A, Berlutti F, Paesano R, Valenti P. Effect of bovine lactoferrin on Chlamydia trachomatis infection and inflammation. Biochemistry and Cell Biology, 2016 doi 10.1139/bcb-2016-0049
18. Filardo S, Di Pietro M, Schiavoni G, Minniti G, Ortolani E, Romano S, **Sessa R.** *Chlamydia pneumoniae* Clinical Isolate from Gingival Crevicular Fluid: A Potential Atherogenic Strain. Front Cell Infect Microbiol. 2015;5:86.
19. Filardo S, Di Pietro M, Farcomeni A, Schiavoni G, **Sessa R**. *Chlamydia pneumoniae*-Mediated Inflammation in Atherosclerosis: A Meta-Analysis. Mediators Inflamm. 2015;2015:378658.
20. **Sessa R**, Di Pietro M**,** De Santis F, Filardo S, Ragno R, Angiolella L. Effects of Mentha suaveolens Essential Oil on *Chlamydia trachomatis*. Biomed Res Int. 2015;2015:508071.
21. Di Pietro M, Filardo S, De Santis F, Mastromarino P, **Sessa R**. *Chlamydia pneumoniae* and oxidative stress in cardiovascular disease: state of the art and prevention strategies. Int J Mol Sci. 2014;16(1):724-35.
22. **Sessa R**, Di Pietro M, Filardo S, Turriziani O. Infectious burden and atherosclerosis: A clinical issue. World J Clin Cases. 2014; 2(7):240-9.
23. Mastromarino P, Di Pietro M**,** Schiavoni G, Nardis C, Gentile M, **Sessa R.** Effects of vaginal lactobacilli in Chlamydia trachomatis infection. Int J Med Microbiol. 2014;304:654-61.
24. Guarino MP, **Sessa R**, Altomare A, Cocca S, Di Pietro M, Carotti S, Schiavoni G, Alloni R, Emerenziani S, Morini S, Severi C, Cicala M. Human colonic myogenic dysfunction induced by mucosal lipopolysaccharide translocation and oxidative stress. Dig Liver Dis. 2013; 45(12):1011-6.
25. Di Pietro M, Filardo S, De Santis F, **Sessa R**. *Chlamydia pneumoniae* Infection in Atherosclerotic Lesion Development through Oxidative Stress: A Brief Overview. Int J Mol Sci. 2013;14(7):15105-20.
26. Di Pietro M, De Santis F, Schiavoni G, Filardo S, **Sessa R**. Resveratrol in *Chlamydia pneumoniae*-induced foam cell formation and interleukin-17A synthesis. J Biol Regul Homeost Agents. 2013;27(2):509-18.
27. Di Pietro M, Filardo S, De Santis F, **Sessa R**. New insights into Chlamydiae persistence: an energy metabolism strategy? Int J Immunopathol Pharmacol. 2013; 26(2):525-8.
28. Di Pietro M, Filardo S, Cazzavillan S, Segala C, Bevilacqua P, Bonoldi E, D'Amore ES, Rassu M, **Sessa R**. Could past Chlamydial vascular infection promote the dissemination of *Chlamydia pneumoniae* to the brain? J. Biol. Regul. Homeost. Agents 2013; 27(3): 155-64
29. Di Pietro M, Schiavoni G, Sessa V, Pallotta F, Costanzo G, **Sessa R**. *Chlamydia pneumoniae* and osteoporosis-associated bone loss: a new risk factor? Osteoporos Int. 2013;24(5):1677-82.
30. Di Pietro M., De Santis, F., De Biase, D., **Sessa R.** The elusive but pathogenic peptidoglycan of chlamydiae. European Journal of Inflammation 2013; 11:257-260
31. Di Pietro M, Tramonti A, De Santis F, De Biase D, Schiavoni G, Filardo S, Zagaglia C, **Sessa R**. Analysis of gene expression in penicillin G induced persistence of *Chlamydia pneumoniae*. J Biol Regul Homeost Agents. 2012;26(2):277-84.
32. Betto P, Cerimele S, Rassu M, Fornasa CV, Di Pietro M, **Sessa R**. Cutaneous infection of *nocardia altamirensis*: The first case report. European Journal of Inflammation 2011; 9: 301-303.
33. Schiavoni G., Di Pietro M., Ronco C., del Cal M., Cazzavillan S., Rassu M., Nicoletti M., **Sessa R.***Chlamydia pneumoniae* infection as a risk factor for accelerated atherosclerosis in haemodialysis patients. J. Biol. Regul. Homeost. Agents 2010; 24(3): 367-375
34. Di Pietro M., Schiavoni G., del Piano M., Shaik Y., Boscolo P., Caraffa A., Grano M., Teté S., Conti F., **Sessa R.** *Chlamydia pneumoniae* and atherosclerosis: the role of mast cells. J. Biol. Regul. Homeost. Agents 2009; 23:65-69
35. **Sessa R.**, Nicoletti M., Di Pietro M., Schiavoni G., Santino I., Zagaglia C., del Piano M., Cipriani P. *Chlamydia pneumoniae* and atherosclerosis: current state and future prospectives. Int. J. Immunopathol. Pharmacol. 2009;22:9-14.
36. **Sessa R.**, Di Pietro M., Schiavoni G., Macone A., Maras B., Fontana M., Zagaglia C., Nicoletti M., Del Piano M., Morrone S. *Chlamydia pneumoniae* induces T cell apoptosis through glutathione redox imbalance and secretion of TNF-alpha. Int J Immunopathol Pharmacol. 2009;22(3):659-68.