

Silvia Vivarelli, PhD

Tenure-Track Researcher (RTT)
Section of General Pathology
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Silvia Vivarelli's research focuses on the molecular and pathogenic mechanisms underlying chronic diseases, with a particular interest in cancer. Her work brings together *in vitro* and *ex vivo* experimental models, studies involving workers and patients, and computational and biostatistical approaches to investigate disease-associated biological alterations and identify biomarkers of susceptibility, exposure, and effect.

EDUCATION AND TRAINING

2019–2020

Second-Level University Master's Degree in Nutraceuticals and Gut Microbiota Modulation in Oncology

Department of Biomedical and Biotechnological Sciences, University of Catania

Final grade: 110/110 cum laude

2006–2010

PhD in Translational and Molecular Medicine (DIMET), 22nd cycle

School of Medicine and Faculty of Sciences, University of Milano-Bicocca

1999–2005

Master's Degree in Pharmaceutical Biotechnology

Department of Pharmacy and Biotechnology, University of Bologna

Final grade: 110/110 cum laude

RESEARCH AND ACADEMIC EXPERIENCE

1 October 2026–present

Tenure-Track Researcher (RTT)

Area 06 – Medical Sciences, Academic Discipline MEDS-02/A

University of Catania

31 December 2021–30 September 2026

Fixed-Term Researcher (RTD-A)

Area 06 – Medical Sciences, Academic Discipline MEDS-25/B

University of Messina

2017–2021

Senior Postdoctoral Fellow

University of Catania

2015–2017

Senior Research Scientist

Horizon Discovery Ltd, Cambridge, United Kingdom

February 2015–July 2015

Associate Scientist II

MedImmune Ltd, Cambridge, United Kingdom

2010–2015

Postdoctoral Research Associate

Gurdon Institute, University of Cambridge, United Kingdom

2006–2010

PhD Student

University of Milano-Bicocca

EDITORIAL ROLES

- Guest Editor, Special Issue “*Circadian Biology in Cancer: Molecular Mechanisms, Biomarkers, and Therapeutic Implications*”, *Oncology Research* (Tech Science Press, IF 4.6)
- Topic Editor, Research Topic “*Closing the Gap: Occupational Health and Safety for Women in the Workforce*”, *Frontiers in Public Health* (Frontiers Media SA, IF 3.4)
- Topic Editor, Research Topic “*Chronic Diseases: From Occupational Exposure Assessment to Precision Prevention and Early Diagnostics*”, *Frontiers in Public Health* (Frontiers Media SA, IF 3.4)
- Guest Editor, Collection “*Occupational Cancers: From Environmental Risk to Mechanistic Insights, Precision Prevention and Cutting-Edge Diagnostics*”, *Discover Oncology* (Springer Nature, IF 2.9)
- Guest Editor, Special Issue “*Advancing Occupational Health Through Omics Technologies*”, *International Journal of Molecular Sciences* (MDPI, IF 4.9)
- Guest Editor, Special Issue “*Molecular Insights into Environmental Toxicology in Cancer*”, *International Journal of Molecular Sciences* (MDPI, IF 4.9)
- Guest Editor, Special Issue “*Signaling Pathways and Immune-Checkpoint Regulation in Cancers*”, *Biomolecules* (MDPI, IF 4.8)
- Academic Editor, Open Access Book “*Occupational Cancers – From Pathogenesis to Early Detection and Emerging Risk Assessment Technologies*” (ISBN: 978-0-85014-905-0), IntechOpen
- Associate Editor, *Occupational Health and Safety, Frontiers in Public Health* (Frontiers Media SA, IF 3.4)
- Review Editor, *Neurodegeneration, Frontiers in Neuroscience* (Frontiers Media SA, IF 3.2)

AWARDS AND DISTINCTIONS

- *National Scientific Qualification (Abilitazione Scientifica Nazionale) for appointment as Associate Professor*, Competition Sector 06/A2 (GSD 06/MEDS-02) – General Pathology and Clinical Pathology, awarded 17 December 2023.
- *Winner of the Erasmus+ Staff Mobility for Teaching (STA) call, Academic Year 2024/2025*. Erasmus+ Staff Mobility for Teaching at the University of Iceland, Department of Pharmaceutical Sciences, Reykjavík, Iceland, 28 April–5 May 2025.
- *Young Researchers Award for Research Activity, Young Researchers in Occupational Medicine Session*, awarded by the Permanent Committee of University Faculty of the Italian Society of Occupational Medicine (SIML), 86th SIML National Congress of Occupational Medicine, 25–27 September 2024, Pisa, Italy, for the study “Identification of early susceptibility biomarkers in benzene-exposed workers: integrated analysis of gene expression, microRNA expression, and DNA methylation datasets”.
- *Best Master’s Thesis Award in Oncology*, awarded by LILT Catania, 30 September 2022. Thesis title: “Gut microbiota and cancer: Focus on the *in vitro* antiproliferative activity of the probiotic *Lactobacillus rhamnosus* GG”.
- *Best Paper Award, Cancers (Basel)*, awarded on 17 May 2021 for Vivarelli et al., “Gut Microbiota and Cancer: From Pathogenesis to Therapy” (*Cancers* 2019, 11(1), 38; doi: 10.3390/cancers11010038).

LABORATORY SKILLS

1. Molecular Biology and Molecular Diagnostics

- DNA, RNA, and protein extraction from organs, tissues, and cells
- Molecular cloning and DNA mutagenesis
- PCR, RT-PCR, real-time quantitative PCR (qPCR), and droplet digital PCR (ddPCR)
- Western blotting and protein enrichment protocols, including immunoprecipitation and co-immunoprecipitation
- Purification of active recombinant enzymes and antibodies for downstream applications

2. Cell Biology

- 2D and 3D cell-based assays, including tumor organoids, tumor spheroids, and 3D agar colony formation
- Transfection, gymnosis, and preparation, titration, and transduction of lentiviral and retroviral particles
- Gene silencing using shRNA, siRNA, LNA, and CRISPR/Cas9, and generation of stable cell lines
- Cell proliferation assays (3H-thymidine, BrdU)
- Cell viability assays (Sytox, MTT, ATPlite, 3D CellTiter-Glo)
- Bioluminescence-based assays, including luciferase activity assays

3. Immunostaining and Imaging Techniques

- Immunocytochemistry (ICC)
- RNA fluorescence *in situ* hybridization (FISH)
- Bimolecular fluorescence complementation (BiFC) assays
- Cell-surface binding assays
- Enzyme-linked immunosorbent assay (ELISA)
- Confocal and fluorescence microscopy
- Flow cytometry

4. In Vivo and Ex Vivo Experience in Murine Models

- UK Home Office Personal Licence (Modules I, II, III, IV; 18–21 October 2010, Cambridge, UK)
- Animal Welfare Course (27 September 2017, Catania, Italy)
- Monitoring of animal health and handling of mice
- Minor procedures, including injections, body-weight measurements, and tumor-mass assessment

- Genotyping
- Isolation of lymphoid organs, including spleen and lymph nodes, and tumor tissues
- *Ex vivo* cultures from organs, tissues, and tumor masses

5. Pharmaceutical Analysis

- Enzyme immobilization on solid supports
- High-performance liquid chromatography (HPLC)
- Spectrophotometry
- Enzyme activity and inhibition assays

LANGUAGE SKILLS

Native language: Italian

Other language: English

- **Reading:** Fluent (C2 level)
- **Writing:** Fluent (C2 level)
- **Spoken interaction and production:** Fluent (C2 level)

PEER-REVIEWED PUBLICATIONS

1. **Vivarelli, S.;** Falzone, L.; Fiorino, F.S.; Giambò, F.; Libra, M.; Fenga, C. Night-shift work is associated with peripheral clock gene dysregulation and circadian transcriptional network remodeling in female healthcare workers. *Front. Endocrinol.* **2026**. doi:10.3389/fendo.2026.1934310.
Co-first author; corresponding author.
2. **Vivarelli, S.;** Cullurà, M.; Fiorino, F.S.; Giambò, F.; Spatari, G.; Fenga, C. Multi-level inflammatory profiling reveals a cytokine signature associated with night-shift work exposure in female healthcare workers. *Sci. Rep.* **2026**. doi:10.1038/s41598-026-68409-6.
First author; corresponding author.
3. **Vivarelli, S.;** Formica, T.; Fiorino, F.S.; Pollicino, M.; Savasta, S.; Oliveri, C.; Trifilò, L.; Giambò, F.; Fenga, C. Night shift work exposure shapes neurobehavioral and cardiometabolic profiles in female healthcare workers: A cross-sectional study. *Front. Public Health* **2026**. doi:10.3389/fpubh.2026.1860519.
First author; corresponding author.
4. Pittalà, M.G.G.; Leggio, L.; Paternò, G.; Giusto, E.; Civiero, L.; Cunsolo, V.; **Vivarelli, S.;** De Francesco, A.; Alpi, E.; Iraci, N.; Saletti, R. SPROUTS_DB: An implemented database of contaminants for extracellular vesicle proteomics studies. *Proteomics* **2026**. doi:10.1002/pmic.70128.
5. Fiorino, F.S.; Oliveri, C.; **Vivarelli, S.;** Fenga, C. The rising tide of workplace violence in the healthcare sector: a global scoping review of burden, determinants, and prevention strategies (2021–2025). *Front. Public Health* **2026**. doi:10.3389/fpubh.2026.1851734.
Corresponding author.
6. **Vivarelli, S.;** De Francesco, C.; Paba, E.; Giambò, F.; Fenga, C. The resistome bridge between livestock and workers: Novel frameworks for early detection and monitoring of antimicrobial resistance. *Front. Public Health* **2026**. doi:10.3389/fpubh.2026.1746385.
First author; corresponding author.
7. **Vivarelli, S.;** Falzone, L.; Fenga, C.; Libra, M. YY1 in four dimensions: From context-dependent transcription factor to spatiotemporal gene regulator. *Biochim. Biophys. Acta Rev. Cancer* **2026**. doi:10.1016/j.bbcan.2025.189526.
First author; corresponding author.
8. **Vivarelli, S.;** Formica, T.; Puliatti, Y.; Spatari, G.; Fenga, C. Night shift work and breast cancer: From etiopathology to precision risk analysis. *NPJ Breast Cancer* **2025**. doi:10.1038/s41523-025-00863-3.
First author; corresponding author.
9. **Vivarelli, S.;** Oliveri, C.; Savasta, S.; Fiorino, F.S.; Fenga, C. Workplace harassment is associated with differences in personality traits, coping strategies and work ability: Cross-sectional study among healthcare professionals. *Front. Public Health* **2025**. doi:10.3389/fpubh.2025.1641654.
First author; corresponding author.
10. **Vivarelli, S.;** Sevim, C.; Giambò, F.; Fenga, C. Integrated computational analysis reveals early genetic and epigenetic AML susceptibility biomarkers in benzene-exposed workers. *Int. J. Mol. Sci.* **2025**, 26. doi:10.3390/ijms26031138.
First author; corresponding author.
11. **Vivarelli, S.;** Marconi, A.; Matera, S.; Falzone, L.; Fenga, C. Review Article: Night shift work, circadian disruption, and the gut microbiome: Implications for human health. *Crit. Rev. Oncog.* **2025**. doi:10.1615/CritRevOncog.2025059579.
First author; corresponding author.
12. Leggio, L.; Paternò, G.; Cavallaro, F.; Falcone, M.; **Vivarelli, S.;** Manna, C.; Calogero, A.E.; Cannarella, R.; Iraci, N. Sperm epigenetics and sperm RNAs as drivers of male infertility: Truth or myth? *Mol. Cell. Biochem.* **2024**. doi:10.1007/s11010-024-04962-w.
13. Italia, S.; **Vivarelli, S.;** Teodoro, M.; Costa, C.; Fenga, C.; Giambò, F. Effects of pesticide exposure on the expression of selected genes in normal and cancer samples: Identification of predictive biomarkers for risk assessment. *Environ. Toxicol. Pharmacol.* **2024**. doi:10.1016/j.etap.2024.104524.
Co-first author.

14. **Vivarelli, S.**; Spatari, G.; Costa, C.; Giambò, F.; Fenga, C. Computational analyses reveal deregulated clock genes associated with breast cancer development in night shift workers. *Int. J. Mol. Sci.* **2024**, *25*. doi:10.3390/ijms25168659.
First author; corresponding author.
15. **Vivarelli, S.**; Fenga, C. Workplace health promotion program: An integrated intervention to promote well-being among healthcare workers. *Public Health Toxicol.* **2024**. doi:10.18332/pht/192700.
First author.
16. Bui, I.; **Vivarelli, S.**; Falzone, L.; Libra, M.; Bonavida, B. Chapter 5—Overexpression of antiapoptotic gene products and resistance to trastuzumab treatment of breast cancer. In *Overcoming Cancers Resistance to HER-2 Antibodies*; Elsevier, **2024**. doi:10.1016/B978-0-12-816408-2.00002-6.
17. Romano, H.; Lin, K.; **Vivarelli, S.**; Falzone, L.; Libra, M.; Bonavida, B. Chapter 2—Resistance of HER2-expressing breast cancer patients treated with trastuzumab: Underlying mechanisms of resistance and reversals. In *Overcoming Cancers Resistance to HER-2 Antibodies*; Elsevier, **2024**. doi:10.1016/B978-0-12-816408-2.00013-0.
18. Salemi, R.; **Vivarelli, S.**; Ricci, D.; Scillato, M.; Santagati, M.; Gattuso, G.; Falzone, L.; Libra, M. Lactobacillus rhamnosus GG cell-free supernatant as a novel anti-cancer adjuvant. *J. Transl. Med.* **2023**. doi:10.1186/s12967-023-04036-3.
Co-first author.
19. **Vivarelli, S.**; Italia, S.; Teodoro, M.; Pollicino, M.; Vitello, C.; De Vita, A.; Alibrandi, A.; Costa, C.; Fenga, C. Salivary biomarkers analysis and neurobehavioral assessment in nurses working rotation shifts: A pilot study. *Int. J. Environ. Res. Public Health* **2023**, *20*. doi:10.3390/ijerph20075376.
Co-first author.
20. Leggio, L.; Paternò, G.; **Vivarelli, S.**; Bonasera, A.; Pignataro, B.; Iraci, N.; Arrabito, G. Label-free approaches for extracellular vesicle detection. *iScience* **2023**. doi:10.1016/j.isci.2023.108105.
21. Leone, G.M.; Candido, S.; Lavoro, A.; **Vivarelli, S.**; Gattuso, G.; Calina, D.; Libra, M.; Falzone, L. Clinical relevance of targeted therapy and immune-checkpoint inhibition in lung cancer. *Pharmaceutics* **2023**, *15*. doi:10.3390/pharmaceutics15041252.
22. Moghaddam, M.; **Vivarelli, S.**; Falzone, L.; Libra, M.; Bonavida, B. Cancer resistance via the downregulation of the tumor suppressors RKIP and PTEN expressions: Therapeutic implications. *Explor. Target. Anti-Tumor Ther.* **2023**. doi:10.37349/etat.2023.00128.
23. **Vivarelli, S.**; Costa, C.; Teodoro, M.; Giambò, F.; Tsatsakis, A.M.; Fenga, C. Polyphenols: A route from bioavailability to bioactivity addressing potential health benefits to tackle human chronic diseases. *Arch. Toxicol.* **2023**. doi:10.1007/s00204-022-03391-2.
First author.
24. **Vivarelli, S.**; Falzone, L.; Grillo, C.M.; Bonavida, B.; Crimi, C.; La Mantia, I.; Libra, M. Computational analyses of YY1 and its target RKIP reveal their diagnostic and prognostic roles in lung cancer. *Cancers* **2022**, *14*. doi:10.3390/cancers14040922.
First author.
25. Costa, C.; Teodoro, M.; Giambò, F.; Catania, S.; **Vivarelli, S.**; Fenga, C. Assessment of mancozeb exposure, absorbed dose, and oxidative damage in greenhouse farmers. *Int. J. Environ. Res. Public Health* **2022**, *19*. doi:10.3390/ijerph191710486.
Corresponding author.
26. Leggio, L.; L'Episcopo, F.; Magrì, A.; Ulloa-Navas, M.J.; Paternò, G.; **Vivarelli, S.**; Bastos, C.A.P.; Tirolo, C.; Testa, N.; Caniglia, S.; et al. Small extracellular vesicles secreted by nigrostriatal astrocytes rescue cell death and preserve mitochondrial function in Parkinson's disease. *Adv. Healthc. Mater.* **2022**. doi:10.1002/adhm.202201203.
27. Gattuso, G.; Falzone, L.; Costa, C.; Giambò, F.; Teodoro, M.; **Vivarelli, S.**; Libra, M.; Fenga, C. Chronic pesticide exposure in farm workers is associated with the epigenetic modulation of hsa-miR-199a-5p. *Int. J. Environ. Res. Public Health* **2022**, *19*. doi:10.3390/ijerph19127018.
28. Lin, K.; Baritaki, S.; **Vivarelli, S.**; Falzone, L.; Scalisi, A.; Libra, M.; Bonavida, B. The breast cancer protooncogenes HER2, BRCA1 and BRCA2 and their regulation by the iNOS/NOS2 axis. *Antioxidants* **2022**, *11*. doi:10.3390/antiox11061195.
29. **Vivarelli, S.**; Falzone, L.; Candido, S.; Bonavida, B.; Libra, M. YY1 silencing induces 5-fluorouracil-resistance and BCL2L15 downregulation in colorectal cancer cells: Diagnostic and prognostic relevance. *Int. J. Mol. Sci.* **2021**, *22*. doi:10.3390/ijms22168481.
First author.
30. **Vivarelli, S.**; Falzone, L.; Leonardi, G.; Salmeri, M.; Libra, M. Novel insights on gut microbiota manipulation and immune checkpoint inhibition in cancer. *Int. J. Oncol.* **2021**. doi:10.3892/IJO.2021.5255.
First author.
31. **Vivarelli, S.**; Falzone, L.; Basile, M.S.; Candido, S.; Libra, M. Nitric oxide in hematological cancers: Partner or rival? *Antioxid. Redox Signal.* **2021**. doi:10.1089/ars.2019.7958.
First author.
32. **Vivarelli, S.**; Falzone, L.; Salmeri, M.; Libra, M. Role of microbiota in lung cancer: Focus on immune-checkpoint inhibition. *Onco Ther.* **2021**. doi:10.1615/ForumImmunDisTher.2021038938.
First author; corresponding author.
33. Kosasih, F.R.; **Vivarelli, S.**; Libra, M.; Bonavida, B. Chapter 21—Involvement of natural killer cells in the pathogenesis of lymphomas: Therapeutic implications. In *Successes and Challenges in NK Immunotherapy*; Elsevier, **2021**. doi:10.1016/B978-0-12-824375-6.00020-5.
34. Leggio, L.; Paternò, G.; **Vivarelli, S.**; Falzone, G.G.; Giachino, C.; Marchetti, B.; Iraci, N. Extracellular vesicles as novel diagnostic and prognostic biomarkers for Parkinson's disease. *Aging Dis.* **2021**. doi:10.14336/AD.2021.0527.

35. Bonavida, B.; **Vivarelli, S.**; Falzone, L.; Libra, M. Immunosuppressive mechanisms of tumor-associated macrophages: Bioinformatic analyses and targeting. *Onco Ther.* **2021**. doi:10.1615/ForumImmunDisTher.2021041300.
36. Ung, W.; **Vivarelli, S.**; Falzone, L.; Libra, M.; Bonavida, B. Regulation of the c-myc oncogene by the circadian clock and oncogenesis. *Crit. Rev. Oncog.* **2021**. doi:10.1615/CritRevOncog.2022042689.
37. **Vivarelli, S.**; Falzone, L.; Libra, M. Chapter 2—YY1 and noncoding RNAs: A two-way relationship. In *YY1: Control, Pathogenesis, Drug Resistance and Cancer*; **2021**. doi:10.1016/B978-0-12-821909-6.00012-2.
First author.
38. **Vivarelli, S.**; Falzone, L.; Torino, F.; Scandurra, G.; Russo, G.; Bordonaro, R.; Pappalardo, F.; Spandidos, D.; Raciti, G.; Libra, M. Immune-checkpoint inhibitors from cancer to COVID-19: A promising avenue for the treatment of patients with COVID-19. *Int. J. Oncol.* **2020**. doi:10.3892/ijo.2020.5159.
First author.
39. **Vivarelli, S.**; Falzone, L.; Ligresti, G.; Candido, S.; Garozzo, A.; Magro, G.; Bonavida, B.; Libra, M. Role of the transcription factor Yin Yang 1 and its selectively identified target Survivin in high-grade B-cell non-Hodgkin lymphomas: Potential diagnostic and therapeutic targets. *Int. J. Mol. Sci.* **2020**, *21*. doi:10.3390/ijms21176446.
First author.
40. **Vivarelli, S.**; Candido, S.; Caruso, G.; Falzone, L.; Libra, M. Patient-derived tumor organoids for drug repositioning in cancer care: A promising approach in the era of tailored treatment. *Cancers* **2020**, *12*. doi:10.3390/cancers12123636.
First author.
41. **Vivarelli, S.**; Falzone, L.; Grillo, C.M.; Scandurra, G.; Torino, F.; Libra, M. Cancer management during COVID-19 pandemic: Is immune checkpoint inhibitors-based immunotherapy harmful or beneficial? *Cancers* **2020**, *12*. doi:10.3390/cancers12082237.
First author.
42. Leggio, L.; Arrabito, G.; Ferrara, V.; **Vivarelli, S.**; Paternò, G.; Marchetti, B.; Pignataro, B.; Iraci, N. Mastering the tools: Natural versus artificial vesicles in nanomedicine. *Adv. Healthc. Mater.* **2020**. doi:10.1002/adhm.202000731.
43. Leggio, L.; Paternò, G.; **Vivarelli, S.**; L'Episcopo, F.; Tirolo, C.; Raciti, G.; Pappalardo, F.; Giachino, C.; Caniglia, S.; Serapide, M.F.; Marchetti, B.; Iraci, N. Extracellular vesicles as nanotherapeutics for Parkinson's disease. *Biomolecules* **2020**, *10*. doi:10.3390/biom10091327.
44. Marchetti, B.; Leggio, L.; L'Episcopo, F.; **Vivarelli, S.**; Tirolo, C.; Paternò, G.; Giachino, C.; Caniglia, S.; Serapide, M.F.; Iraci, N. Glia-derived extracellular vesicles in Parkinson's disease. *J. Clin. Med.* **2020**, *9*. doi:10.3390/jcm9061941.
45. **Vivarelli, S.**; Falzone, L.; Basile, M.; Nicolosi, D.; Genovese, C.; Libra, M.; Salmeri, M. Benefits of using probiotics as adjuvants in anticancer therapy. *World Acad. Sci. J.* **2019**. doi:10.3892/wasj.2019.13.
First author.
46. **Vivarelli, S.**; Salemi, R.; Candido, S.; Falzone, L.; Santagati, M.; Stefani, S.; Torino, F.; Banna, G.L.; Tonini, G.; Libra, M. Gut microbiota and cancer: From pathogenesis to therapy. *Cancers* **2019**, *11*. doi:10.3390/cancers11010038.
First author.
47. Candido, S.; Lupo, G.; Pennisi, M.; Basile, M.S.; Anuso, C.D.; Petralia, M.C.; Gattuso, G.; **Vivarelli, S.**; Spandidos, D.A.; Libra, M.; Falzone, L. The analysis of miRNA expression profiling datasets reveals inverse microRNA patterns in glioblastoma and Alzheimer's disease. *Oncol. Rep.* **2019**. doi:10.3892/or.2019.7215.
48. L'Episcopo, F.; Tirolo, C.; Serapide, M.F.; Caniglia, S.; Testa, N.; Leggio, L.; **Vivarelli, S.**; Pluchino, S.; Marchetti, B. Microglia polarization, gene-environment interactions and Wnt/ β -catenin signaling: Emerging roles of glia-neuron and glia-stem/neuroprogenitor crosstalk for dopaminergic neurorestoration in aged Parkinsonian brain. *Front. Aging Neurosci.* **2018**, *10*. doi:10.3389/fnagi.2018.00012.
49. Leggio, L.; **Vivarelli, S.**; L'Episcopo, F.; Tirolo, C.; Caniglia, S.; Testa, N.; Marchetti, B.; Iraci, N. MicroRNAs in Parkinson's disease: From pathogenesis to novel diagnostic and therapeutic approaches. *Int. J. Mol. Sci.* **2017**, *18*. doi:10.3390/ijms18122698.
Co-first author.
50. **Vivarelli, S.**; Lenzken, S.C.; Ruepp, M.-D.; Ranzini, F.; Maffioletti, A.; Alvarez, R.; Mühlemann, O.; Barabino, S.M.L. Paraquat modulates alternative pre-mRNA splicing by modifying the intracellular distribution of SRPK2. *PLoS ONE* **2013**. doi:10.1371/journal.pone.0061980.
Co-first author.
51. **Vivarelli, S.**; Wagstaff, L.; Piddini, E. Cell wars: Regulation of cell survival and proliferation by cell competition. *Essays Biochem.* **2012**, *53*. doi:10.1042/BSE0530069.
Co-first author.
52. Ruepp, M.-D.; **Vivarelli, S.**; Pillai, R.S.; Kleinschmidt, N.; Azzouz, T.N.; Barabino, S.M.L.; Schümperli, D. The 68 kDa subunit of mammalian cleavage factor I interacts with the U7 snRNP and participates in 3'-end processing of animal histone mRNAs. *Nucleic Acids Res.* **2010**. doi:10.1093/nar/gkq613.
53. Ruepp, M.-D.; Aringhieri, C.; **Vivarelli, S.**; Cardinale, S.; Paro, S.; Schümperli, D.; Barabino, S.M.L. Mammalian pre-mRNA 3' end processing factor CF Im 68 functions in mRNA export. *Mol. Biol. Cell* **2009**. doi:10.1091/mbc.E09-05-0389.

CONFERENCE PROCEEDINGS AND PAPERS

1. **Vivarelli, S.**; Fenga, C. P04-04 Downregulation of CLOCK, PER1 and TEF clock genes in female healthcare workers exposed to night shifts: Relevance for breast cancer susceptibility. *Toxicol. Lett.* **2026**, 423, 112140. doi:10.1016/j.toxlet.2026.112140.
2. **Vivarelli, S.**; Giambò, F.; Fenga, C. OS03-01 Exploring the role of YY1 in clock genes regulation and breast cancer in night shift workers. *Toxicol. Lett.* **2025**, 411, S60. doi:10.1016/j.toxlet.2025.07.172.
3. **Vivarelli, S.**; Fenga, C.; Giambò, F. OS03-10 Early biomarkers of cancer susceptibility in benzene-exposed workers: Integrated analysis of gene expression, microRNA alterations, and DNA methylation datasets. *Toxicol. Lett.* **2024**, 399, S66–S67. doi:10.1016/j.toxlet.2024.07.183.
4. Leggio, L.; L'Episcopo, F.; Magrì, A.; Ulloa-Navas, M.J.; Paternò, G.; **Vivarelli, S.**; Tirolo, C.; Testa, N.; Caniglia, S.; Bastos, C.; et al. Astrocytes from distinct nigrostriatal brain regions secrete extracellular vesicles able to mediate neuroprotection in cellular models of Parkinson's disease. *Glia* **2021**, 69, E300–E302, Suppl. 1, Special Issue, Meeting Abstract T09-041C. WOS:000666583100341.
5. Falzone, L.; **Vivarelli, S.**; Crimi, S.; Bianchi, A.; Candido, S.; Libra, M. Diagnostic and prognostic significance of microRNA modulation in oral cancer. *Cancer Res.* **2020**, 80, Suppl. 16, Meeting Abstract 4836. doi:10.1158/1538-7445.AM2020-4836.
6. **Vivarelli, S.**; Falzone, L.; Candido, S.; Bonavida, B.; Libra, M. Oncogenic role of the transcription factor YY1 and its target Survivin in non-Hodgkin's lymphoma. *Cancer Res.* **2020**, 80, Suppl. 16, Meeting Abstract 4687. doi:10.1158/1538-7445.AM2020-4687.
7. Leggio, L.; L'Episcopo, F.; **Vivarelli, S.**; Tirolo, C.; Testa, N.; Caniglia, S.; Bastos, C.; Faria, N.; Navas, M.J.U.; Verdugo, J.M.G.; et al. Ultrastructural and molecular characterization of astrocyte-derived extracellular vesicles from nigrostriatal brain regions: Implications for dopaminergic neuroprotection. *Glia* **2019**, 67, E380–E381, Suppl. S1, Meeting Abstract T09-090C. WOS:000502867402077.
8. **Vivarelli, S.**; Candido, S.; Salemi, R.; Falzone, L.; Libra, M. Role of the transcription factor Yin Yang 1 in cancer. *Int. J. Mol. Med.* **2018**, 42, S30, Suppl. 1, Meeting Abstract 204. WOS:000452818300105.
9. **Vivarelli, S.**; Piddini, E. Notum inhibits TRAIL-induced cytotoxicity. *FEBS J.* **2014**, 281, 490, Suppl. 1, Special Issue, Meeting Abstract TUE-173. WOS:000359666803166.
10. Lenzken, S.C.; **Vivarelli, S.**; Zolezzi, F.; Cordero, F.; Beffa, C.D.; Calogero, R.A.; Barabino, S. Genome-wide search for splicing defects associated with amyotrophic lateral sclerosis. In *Proceedings of the 2009 International Conference on Complex, Intelligent and Software Intensive Systems (CISIS 2009)*; **2009**; Vols. 1–2, p. 795. doi:10.1109/CISIS.2009.22.

NATIONAL CONFERENCES AND MEETINGS

7–9 October 2026

Speaker, Local Scientific Committee, Bologna, 88th National Congress of Occupational Medicine, SIML — *Clock genes as early biomarkers of circadian desynchronization in female healthcare workers exposed to night shift work: evidence from a cross-sectional study.*

5 October 2026

Invited Speaker, Catania, 6th Edition of the Congress “Il Corpo Ritrovato. La donna dopo il trattamento” — *Night shift work exposure and metaflammation in female healthcare workers.*

14 April 2026

Speaker, Scientific Secretariat, Messina, *Night-Shift Work and Breast Cancer* — *Clock genes and circadian desynchronization in female healthcare workers exposed to night shift work.*

5 December 2025

Speaker, Scientific Secretariat, Messina, BRIC Seminar “Impact of the Work Environment on the Gut Microbiome of Workers in Pig Farming Companies in Southern Italy” — *Gut microbiome in livestock farming: occupational exposure and implications for antimicrobial resistance.*

23–24 October 2025

Speaker, Enna, 10th Mediterranean Meeting on Industrial and Environmental Hygiene, AIDII — *Identification of novel early genetic and epigenetic biomarkers of susceptibility to acute myeloid leukemia in benzene-exposed workers.*

6 October 2025

Invited Speaker, Catania, 5th Edition of the Congress “Il Corpo Ritrovato. La donna dopo il trattamento” — *Assessment of occupational risk factors for breast cancer.*

1–3 October 2025

Speaker, Bologna, 87th National Congress of Occupational Medicine, SIML — *The role of the transcription factor YY1 in the regulation of clock genes in female night shift workers with breast cancer.*

25–27 September 2024

Speaker, Young Researchers Award, Pisa, 86th National Congress of Occupational Medicine, SIML — *Identification of early susceptibility biomarkers in benzene-exposed workers: integrated analysis of gene expression, microRNA expression, and DNA methylation datasets.*

24 September 2024

Invited Speaker, Catania, 4th Edition of the Congress “Il Corpo Ritrovato. La donna dopo il trattamento” — *Night shift work and breast cancer.*

28 June 2024

Invited Speaker, Messina, International Workshop “Stress and Violence in the Workplace: An Occupational Health Perspective” — *Prevalence of workplace harassment among healthcare workers: a pilot study.*

20–22 September 2023

Speaker, Turin, 85th National Congress of Occupational Medicine, SIML — *Night shift work and breast cancer: identification of a panel of genetic susceptibility biomarkers.*

19–20 May 2023

Invited Speaker, Catania, AMCI Meeting “Technology-Driven Medicine between Experimentation and Innovation: Bioethical and Clinical Considerations” — *Postbiotics in the integrated treatment of cancer: an experimental model using tumor organoids*.

2 February 2023

Invited Speaker, Catania, 9th Etnean Occupational Medicine Workshop “The Future of Occupational Medicine: Workers’ Wellbeing” — *Night shift work and its impact on workers’ wellbeing*.

19 January 2023

Invited Speaker, Catania, First Young Researchers’ Symposium on Recent Advances in Translational Medicine — *Mancozeb exposure and oxidative damage in greenhouse farmers*.

23 June 2022

Speaker, Messina, BIOMORF Departmental Seminar, University of Messina — *Characterization of genetic and epigenetic alterations induced by occupational exposure to chemical compounds*.

4 November 2022

Invited Speaker, Catania, Workshop “Maintaining or Restoring Gut Eubiosis: Therapeutic Implications in Oncology and Gastroenterology” — *Role of Lactobacillus rhamnosus GG (LGG) in oncology: evidence from in vitro tumor models*.

29 September–1 October 2022

Invited Speaker, Best Master’s Thesis Award, Catania, LILT Centenary 1922–2022 “Io Donna: Female Cancers from Prevention to Treatment” — *Role of Lactobacillus rhamnosus GG in cancer treatment: preclinical and clinical evidence*.

23–25 October 2018

Poster, Catania, 34th National Congress of the Italian Society of Pathology and Translational Medicine (SIPMeT) — *Role of the transcription factor Yin Yang 1 in cancer*.

INTERNATIONAL CONFERENCES AND MEETINGS

6–8 November 2025

Speaker, Catania, Italy, 30th International Conference on Molecular Medicine — *Transcriptional control of circadian clock genes by the transcription factor Yin Yang 1 in night shift-related breast cancer*.

14–17 September 2025

Speaker, Athens, Greece, 59th Congress of the European Societies of Toxicology, EUROTOX 2025 — *Exploring the role of YY1 in clock gene regulation and breast cancer in night shift workers*.

9–11 April 2025

Invited Speaker, Krakow, Poland, Second International Symposium “Prognostic and Therapeutic Implications of RKIP and YY1 in Cancer, Autoimmune and Inflammatory Diseases” — *YY1, RKIP and their roles in the regulation of clock gene pathways in night shift workers with breast cancer*.

8–11 September 2024

Speaker, Copenhagen, Denmark, 58th Congress of the European Societies of Toxicology, EUROTOX 2024 — *Early biomarkers of cancer susceptibility in benzene-exposed workers: integrated analysis of gene expression, microRNA alterations, and DNA methylation datasets*.

8–11 March 2023

Invited Speaker, Member of the Local Scientific Committee, Catania, Italy, First Joint International Symposium “Prognostic and Therapeutic Implications of RKIP and YY1 in Cancer, Diabetes, and Cardiovascular Diseases” — *Different roles of Yin Yang 1 in colon cancer and B-cell NHL cells*.

12–14 September 2021

Speaker, Rome, Italy, International Congress “Probiotics, Prebiotics and New Foods” — *Anticancer effects of Lactobacillus rhamnosus GG (LGG) supernatant*.

24–26 March 2021

Speaker, Riga, Latvia (virtual), International Conference “Knowledge for Use in Practice on Medical and Healthcare Sciences” — *Environmental factors and B-cell non-Hodgkin lymphomas: role of the transcription factor Yin Yang 1*.

27–28 April 2020

Poster, San Diego, CA, USA (virtual), AACR Annual Meeting 2020 — *Oncogenic role of the transcription factor YY1 and its target Survivin in non-Hodgkin lymphoma*.

10–12 October 2019

Speaker, Sparta, Greece, 24th World Congress on Advances in Oncology and 24th International Symposium on Molecular Medicine — (1) *Role of the transcription factor YY1 in colorectal cancer*. (2) *Implication of the transcription factor YY1 in non-Hodgkin’s lymphoma*.

9–10 May 2019

Invited Speaker, Crete, Greece, 2nd International Symposium on Prognostic and Therapeutic Implications of RKIP in Cancer — *The role of YY1 and RKIP in colorectal cancer*.

20–22 September 2018

Speaker, Athens, Greece, 23rd World Congress on Advances in Oncology and 22nd International Symposium on Molecular Medicine — *Role of the transcription factor Yin Yang 1 in cancer*.

Catania, October 6th 2026

Silvia Vivarelli