

## ***CURRICULUM VITAE***



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### **EDUCATION**

Jun 2009: High school diploma at Istituto Tecnico Industriale Statale ITIS G. Marconi, Forlì, 100/100 *cum laude* in Food Technology.

Oct 2012: BS degree in Biotechnology, three years, *summa cum laude* (University of Bologna), Thesis title: “Role of FISH in evaluating EML4-ALK translocation in NSCLC patients”.

Oct 2014: MS degree in Medical Biotechnology & Molecular Medicine, two years, 110/110 (University of Milan)

2016-2019: PhD in Biomedical Sciences and Biotechnology (University of Ferrara)

Jan 2020: Qualified as a Professional Biologist

### **CAREER/EMPLOYMENT**

Nov 2015-present: Biotechnologist in Biosciences Laboratory (IRST, IRCCS – Meldola) as Research Associate

### **RESEARCH EXPERIENCES**

2015-2016: research activity on project “Cell-free DNA detected by liquid biopsy” as a potential prognostic biomarker in early breast cancer”.

2015-2016: research activity on project “Role of telomerase in cervical lesions as prognostic marker”. 2015-present: research activity on project “Role of Androgen Receptor in Breast Cancer: prevalence, prognostic and predictive value”.

2015-present: research activity for project “Liquid biopsies to detect microscopic residual disease and monitor its evolution after surgery for early breast cancer”.

2015-present: molecular diagnostic for predictive markers in NSCLC: ALK, ROS1, PD-L1, expressions, ALK, ROS1, RET rearrangements and MET amplification.

2017-present: research activity for project TRANSCAN “ET-FES clinical trial”, biological study aimed to detect ESR1 mutations in ctDNA of HR+ metastatic breast cancer.

2018-present: research activity for project “Study of Trastuzumab Resistance mechanisms in HER2 positive breast cancer”.

2019-present: protocol set up for multiple staining on FFPE samples: detection of multiple immune markers (macrophages’ and lymphocytes’ markers), double detection of gene and protein

expression (HPV genome and p16 in cervical and breast tissues, and miRNA and SSTR2 expression in neuroendocrine tumors).

2019: two months-stage as visiting researcher, at Imperial College (London, UK), in the Department of Surgery and Cancer, focused on the analysis of non coding mutations in predicting the resistance to endocrine therapy for metastatic breast cancer patients.

I have been working in the research group of *Gerobiomics & Exposomics* Unit of Biosciences Laboratory at IRST, where I have a full-time research contract. I 'm keen on working in team. I am very motivated to pursue a career in pathology. In this field, I have the co-authorship of many publications and posters presented in many international conferences, such as MAP conference (Zurich, Oct. 2017) and AACR congress (Atlanta, Apr. 2019). I am willing to travel to present my results and to face the international research scenario. I am the first author of several peer-reviewed publications and reviewer for "Histopathology journal", "The International Journal of Biological Markers", "Applied Immunohistochemistry & molecular morphology Journal". I am an active member of American Association of Cancer Research (AACR).

**Other information:** Very good knowledge of Microsoft Office programs (especially Word, Excel, Power Point). Good knowledge of written and spoken English. Driving license.

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## PUBLICATIONS

1. Tumedei MM, Silvestrini R, **Ravaioli S**, Massa I, Maltoni R, Rocca A, Folli S, Buggi F, Curcio A, Serra L, Puccetti M, Amadori D, Bravaccini S.  
Role of androgen and estrogen receptors as prognostic and potential predictive markers of ductal carcinoma in situ of the breast. *Int J Biol Markers*. 2015 Nov 11;30(4): e425-8. doi: 10.5301/jbm.5000163.PMID: 26165687
2. Colombo M, Galletti S, Bulfamante G, Falleni M, Tosi D, Todoerti K, Lazzari E, Crews LA, Jamieson CH, **Ravaioli S**, Baccianti F, Garavelli S, Platonova N, Neri A, Chiaramonte R.  
Multiple myeloma-derived Jagged ligands increases autocrine and paracrine interleukin-6 expression in bone marrow niche. *Oncotarget*. 2016 Aug 30;7(35):56013-56029. doi: 10.18632/oncotarget.10820. PMID: 27463014
3. **Ravaioli S**, Tumedei MM, Amadori A, Puccetti M, Chiadini E, Bravaccini S. Role of Telomerase in Cervical Lesions as Prognostic Marker: A Comparison Between Immunohistochemistry and Fluorescence In Situ Hybridization. *J Low Genit Tract Dis*. 2017 Jan; 21(1):42-46. doi: 10.1097/LGT.0000000000000261. PMID:27611439
4. **Ravaioli S**, Bravaccini S, Tumedei MM, Pironi F, Candoli P, Puccetti M. Easily detectable cytomorphological features to evaluate during ROSE for rapid lung cancer diagnosis: from

- cytology to histology. *Oncotarget*. 2017 Feb 14;8(7):11199-11205. doi: 10.18632/oncotarget.13204. PMID: 27833073
5. Casadio V, Salvi S, Martignano F, Gunelli R, **Ravaioli S**, Calistri D. Cell-Free DNA Integrity Analysis in Urine Samples. *J Vis Exp*. 2017 Jan 5;(119). doi: 10.3791/55049. PMID:28117781
  6. Maltoni R, Casadio V\*, **Ravaioli S\***, Foca F, Tumedei MM, Salvi S, Martignano F, Calistri D, Rocca A, Schirone A, Amadori D, Bravaccini S. Cell-free DNA detected by "liquid biopsy" as a potential prognostic biomarker in early breast cancer. *Oncotarget*. 2017 Mar 7;8(10):16642-16649. doi:10.18632/oncotarget.15120. PMID: 28186965  
\*equally contributed
  7. **Ravaioli S**, Puccetti M, Tumedei MM, Silvestrini R, Bedei L, Bravaccini S. Are Androgen and Estrogen Receptors in DCIS Patients Prognostic Indicators of Relapse Independently of Treatment? *Appl Immunohistochem Mol Morphol*. 2017 Sep 29. doi: 10.1097/PAI.0000000000000582. PMID: 28968271
  8. **Ravaioli S**, Tumedei MM, Foca F, Maltoni R, Rocca A, Massa I, Pietri E, Bravaccini S. Androgen and oestrogen receptors as potential prognostic markers for patients with ductal carcinoma in situ treated with surgery and radiotherapy. *Int J Exp Pathol*. 2017 Oct;98(5):289-295. doi: 10.1111/iep.12253. Epub 2017 Nov 28. PMID:29193395
  9. Bronte G, **Ravaioli S**, Bravaccini S. What to look for in cell-free DNA from breast cancer patients. *Breast Cancer Res Treat*. 2018 Feb 26. doi: 10.1007/s10549-018-4728-8. PMID:29480448
  10. Bravaccini S, Puccetti M, Bocchini M, **Ravaioli S**, Celli M, Scarpi E, De Giorgi U, Tumedei MM, Raulli G, Cardinale L, Paganelli G. PSMA expression: a potential ally for the pathologist in prostate cancer diagnosis. *Sci Rep*. 2018 Mar 9;8(1):4254. doi: 10.1038/s41598-018-22594-1. PMID:29523813
  11. Bronte G, Rocca A, **Ravaioli S**, Puccetti M, Tumedei MM, Scarpi E, Andreis D, Maltoni R, Sarti S, Ceconetto L, Fedeli A, Pietri E, De Simone V, Asioli S, Amadori D, Bravaccini S. Androgen receptor in advanced breast cancer: is it useful to predict the efficacy of anti-estrogen therapy? *BMC Cancer*. 2018 Mar 27;18(1):348. doi: 10.1186/s12885-018-4239-3. PMID:29587674
  12. Bravaccini S, **Ravaioli S**, Amadori D, Scarpi E, Puccetti M, Rocca A, Tumedei MM, Masalu N, Kahima J, Pangan A, Faustine L, Farolfi A, Maltoni R, Bonafè M, Serra P, Bronte G. Are There Differences in Androgen Receptor Expression in Invasive Breast Cancer in African (Tanzanian) Population in Comparison With the Caucasian (Italian) Population? *Front Endocrinol (Lausanne)*. 2018 Mar 29;9:137. doi: 10.3389/fendo.2018.00137. eCollection 2018. PMID:29651273

13. Puccetti M\*, **Ravaioli S\***, Tumedei MM, Bucchi E, Malmesi M, Medri L, Bravaccini S. Are FNAB-derived cell blocks a useful surrogate for tissue samples in breast cancer? *Histopathology*. 2018 Jun 26. doi: 10.1111/his.13694. PMID: 29944734  
\*equally contributed
14. Bronte G, Bravaccini S, **Ravaioli S**, Puccetti M, Scarpi E, Andreis D, Tumedei MM, Sarti S, Ceconetto L, Pietri E, De Simone V, Maltoni R, Bonafè M, Amadori D, Rocca A. Androgen Receptor Expression in Breast Cancer: What Differences Between Primary Tumor and Metastases? *Transl Oncol*. 2018 Aug;11(4):950-956. doi: 10.1016/j.tranon.2018.05.006. Epub 2018 Jun 18.
15. Pietri E, Massa I, Bravaccini S, **Ravaioli S**, Tumedei MM, Petracci E, Donati C, Schirone A, Piacentini F, Gianni L, Nicolini M, Campadelli E, Gennari A, Saba A, Campi B, Valmorri L, Andreis D, Fabbri F, Amadori D, Rocca A. Phase II Study of Dehydroepiandrosterone in Androgen Receptor-Positive Metastatic Breast Cancer. *Oncologist*. 2018 Dec 27. pii: theoncologist.2018-0243.
16. D'Arcangelo M, D'Incecco A, Ligorio C, Damiani S, Puccetti M, Bravaccini S, Terracciano L, Bennati C, Minuti G, Vecchiarelli S, Landi L, Milesi M, Meroni A, **Ravaioli S**, Tumedei MM, Incarbone M, Cappuzzo F. Programmed death ligand 1 expression in early stage, resectable non-small cell lung cancer. *Oncotarget*. 2019 Jan 15;10(5):561-572.
17. **Ravaioli S**. Cell-Free DNA Integrity: Applications. *Methods Mol Biol*. 2019;1909:77-83.
18. Bronte G, Rocca A, **Ravaioli S\***, Scarpi E, Bonafè M, Puccetti M, Maltoni R, Andreis D, Martinelli G, Bravaccini S. Evaluation of Androgen Receptor in Relation to Estrogen Receptor (AR/ER) and Progesterone Receptor (AR/PgR): A New Must in Breast Cancer? *J Oncol*. 2019 Apr 14;2019:1393505. \*corresponding author
19. Bravaccini S, Bucchi L, Puccetti M, **Ravaioli S**, Tumedei MM, Serra P, Masini C, Kahima J, Masalu N, Amadori D. Explaining the aggressiveness of breast cancer in sub-Saharan African patients. *J Clin Pathol*. 2019 Oct;72(10):723-724. doi: 10.1136/jclinpath-2019-206071. Epub 2019 Aug 13.
20. Vergara D, **Ravaioli S**, Fonzi E, Adamo L, Damato M, Bravaccini S, Pirini F, Gaballo A, Barbano R, Pasculli B, Franck J, Fournier I, Salzet M, Maffia M. Carbonic Anhydrase XII Expression Is Modulated during Epithelial Mesenchymal Transition and Regulated through Protein Kinase C Signaling. *Int J Mol Sci*. 2020 Jan 22;21(3).
21. Bravaccini S, Bronte G, Scarpi E, **Ravaioli S**, Maltoni R, Mangia A, Tumedei MM, Puccetti M, Serra P, Gianni L, Amaducci L, Biglia N, Bounous V, Paradiso AV, Silvestrini R, Amadori D, Rocca A. The impact of progesterone receptor expression on prognosis of

patients with rapidly proliferating, hormone receptor-positive early breast cancer: a post hoc analysis of the IBIS 3 trial. *Ther Adv Med Oncol.* 2020 Feb 27;12:1758835919888999.

22. Maltoni R, Palleschi M, Altini M, Massa I, Balzi W, **Ravaioli S**, Tumedei MM, Rocca A, Bravaccini S. Are BMI and Negative Hormone Receptors Prognostic Factors in HER2+ Early-stage Breast Cancer? *Clin Breast Cancer.* 2020 Mar 19. pii: S1526-8209(20)30026-4.

23. Zamagni A, Pasini A, Pirini F, **Ravaioli S**, Giordano E, Tesei A, Calistri D, Ulivi P, Fabbri F, Foca F, Delmonte A, Molinari C. CDKN1A upregulation and cisplatin-pemetrexed resistance in non-small cell lung cancer cells. *Int J Oncol.* 2020 Jun;56(6):1574-1584