CURRICULUM VITAE FIAMMA BUTTITTA (APRILE 2020)

Fiamma Buttitta is Full Professor in Pathological Anatomy (06/A4; MED/08) at the University of Chieti, Department of Oral, Medical and Biotechnological Sciences.

She trained in surgical pathology at University of Pisa under the guidance of Professor Squartini and then she began to address the problems and diagnostic implications of molecular pathology.

EDUCATIONS AND QUALIFICATIONS

- Medical Degree in Medicine and Surgery with full marks, University of Pisa, Italy
- Professional specialization in Pathological Anatomy and Histology with full marks, University of Pisa
- Ph.D. in "Experimental Oncology and Tumor Morphology", University of Pisa.
- Assistant Professor of Pathological Anatomy, University of Chieti-Pescara
- Associate Professor of Pathological Anatomy, University of Chieti-Pescara

TRAINING PERIODS SPENT ABROAD

[1989, gennaio – 1990, dicembre]: Guest Researcher Laboratory of Tumor Immunology and Biology, NIH, Bethesda, MD, USA. –

1994 (1 luglio- 31 luglio): Laboratory of Tumor Immunology and Biology, NIH, Bethesda, MD, USA.

In this period of time, Buttitta acquired molecular knowledge and procedures in the genomic cloning field and she started to apply DNA amplification, by first machines for PCR, just marketed at that time, in her research studies.

This activity led to the discovery of a new tumor gene, INT6, involved in the genesis of mouse and human malignancies, as well as in the regulation of the gene translation process, from prokaryotes to humans (J Virology 1995; 134 citations).

Subsequently, INT6/eIF3e showed to be a double-edged sword that has both oncogenic and tumor suppressive abilities. In addition to its role in tumorigenesis, its silencing has recently been suggested as a potential therapeutic strategy to improve cell survival and function after ischemic injuries.

PATENTS:

patent holder US Serial N° 08/385,998 for “Nucleotide and deduced amino acid sequences of a new tumor gene int-6, and the use of reagents derived from these sequences in diagnostic analysis, vaccines, immunotherapy and gene therapy”, relating to the discovery and characterization of a new tumor gene, int-6, involved in the genesis of mouse and human cancers, as well as in the regulation of the gene translation process, from procariotes to humans.

RESEARCH INTERESTS

Her scientific activity is focused largely on cancer diseases and, in particular, on cancer-related genetic alterations that affect the response to drug treatment in patients with lung, ovarian and breast cancer. In recent years, she has been particularly involved in the development of highly sensitive methodologies suitable for identifying, on liquid biopsy, additional genetic alterations that develop during cancer progression and that are predictive of sensitivity or resistance to drug therapy. With this aim, she paid attention to in-depth sequencing by massive parallel sequencing, evaluating different panels of genes to answer specific clinical questions.

RESULTS OF PARTICULAR SCIENTIFIC RELEVANCE

- In the cancer field, mutational studies have led to results of interest that have been published in high-impact journals. They include:

(a) demonstration of the role of p53 mutations in the resistance of ovarian cancer to platinum-based drug treatment (Br J Cancer 1997).

b) demonstration of a higher frequency of EGFR gene mutations in particular categories of patients with metastatic lung cancer (J Clin Oncol 2005). The results are currently a reference in the main national and international guidelines (727 citations).

c) scientific evidence of the presence of HER2 and BRAF mutations in Non-Small Cell Lung Tumours in Caucasian subjects (Int J Cancer 2006; J Clin Oncol 2011).

d) demonstration of the correlation between histotype and specific gene mutations: mucinous lung adenocarcinoma and KRAS mutations (J Pathol 1996), lepid-papillary lung adenocarcinoma and EGFR mutations (J Clin Oncol 2005), papillary lung

adenocarcinoma and BRAF mutations (J Clin Oncol 2011), large lung cell carcinoma and NTRK mutations (Hum Mutat 2008), lobular breast cancer and PIK3CA mutations (J Pathol 2006) , medullary and ductal breast cancer and P53 mutations (Cancer Res 1993). (e) scientific evidence of the high frequency of artefact mutations (induced by deamination processes) that can adversely affect molecular diagnostics in clinical practice and identification of possible solutions (NEJM 2006).

- Many of the most recent activities are aimed at demonstrating biomolecular predictive markers in the peripheral blood of cancer patients for monitoring the effectiveness of targeted biologic drugs. In particular, EGFR mutations in plasma of patients with advanced lung cancer, being treated with first, second and third generation TKI (J Thorac Oncol. 2015; PLoS One 2014); Kras mutations in the plasma of colon-rectal cancer patients, being treated with anti-EGFR antibodies (ongoing studies); BRAF mutations in the plasma of melanoma patients, being treated with anti-BRAF drugs (Vemurafenib, dabrafenib and anti-Mek) (ongoing studies).

She is Principal/ Investigator in several Funded Research Projects

The results of her studies have been presented to National and International Meetings and published on peer-reviewed international journals.

SCOPUS PARAMETERS (April 2020)

103 papers published in peer reviewed journal
H-index 46 (SCOPUS)
Total Citations 7048
More than 100 citations: 24 Papers

Most Significant Publications

EGFR mutations in non-small-cell lung cancer: analysis of a large series of cases and development of a rapid and sensitive method for diagnostic screening with potential implications on pharmacologic treatment. Marchetti A, Martella C, Felicioni L, Barassi F, Salvatore S, Chella A, Camplese PP, Iarussi T, Mucilli F, Mezzetti A, Cuccurullo F, Sacco R, **Buttitta F.** J Clin Oncol. 2005 Feb 1;23(4):857-65. doi: 10.1200/JCO.2005.08.043. J Clin Oncol. 2005. PMID: 15681531

727 citations

Increased MET gene copy number negatively affects survival of surgically resected non-small-cell lung cancer patients. Cappuzzo F, Marchetti A, Skokan M, Rossi E, Gajapathy S, Felicioni L, Del Grammastro M, Sciarrotta MG, **Buttitta F**, Incarbone M, Toschi L, Finocchiaro G, Destro A, Terracciano L, Roncalli M, Alloisio M, Santoro A, Varella-Garcia M. J Clin Oncol. 2009 Apr 1;27(10):1667-74. doi:10.1200/JCO.2008.19.1635. PMID: 19255323

365 citations

Clinical features and outcome of patients with non-small-cell lung cancer harboring BRAF mutations. Marchetti A, Felicioni L, Malatesta S, Grazia Sciarrotta M, Guetti L, Chella A, Viola P, Pullara C, Mucilli F, **Buttitta F.** J ClinOncol. 2011 Sep 10 ;29(26):3574-9. doi: 10.1200/JCO.2011.35.9638. Epub 2011 Aug 8. J Clin Oncol. 2011. PMID: 21825258

326 citations

IDH1 mutations at residue p.R132 (IDH1(R132)) occur frequently in high-grade gliomas but not in other solid tumors. Bleeker FE, Lamba S, Leenstra S, Troost D, Hulsebos T, Vandertop WP, Frattini M, Molinari F, Knowles M, Cerrato A, Rodolfo M, Scarpa A, Felicioni L, **Buttitta F**, Malatesta S, Marchetti A, Bardelli A. Hum Mutat. 2009 Jan;30(1):7-11. doi: 10.1002/humu.20937. Hum Mutat. 2009. PMID: 19117336

297 citations

The Hippo effector YAP promotes resistance to RAF- and MEK-targeted cancer therapies. Lin L, Sabnis AJ, Chan E, Olivas V, Cade L, Pazarentzos E, Asthana S, Neel D, Yan JJ, Lu X, Pham L, Wang MM, Karachaliou N, Cao MG, Manzano JL, Ramirez JL, Torres JM, **Buttitta F**, Rudin CM, Collisson EA, Algazi A, Robinson E, Osman I, Muñoz-Couselo E, Cortes J, Frederick DT, Cooper ZA, McMahon M, Marchetti A, Rosell R, Flaherty KT, Wargo JA, Bivona TG. Nat Genet. 2015 Mar;47(3):250-6. doi: 10.1038/ng.3218. Epub 2015 Feb 9. Nat Genet. 2015. PMID: 25665005

214 citations

microRNAs derived from circulating exosomes as noninvasive biomarkers for screening and diagnosing lung cancer. Cazzoli R, **Buttitta F**, Di Nicola M, Malatesta S, Marchetti A, Rom WN, Pass HI. Cazzoli R, et al. J Thorac Oncol. 2013 Sep;8(9):1156-62. doi:10.1097/JTO.0b013e318299ac32. J Thorac Oncol. 2013. PMID: 23945385

191 citations

Assessing EGFR mutations. Marchetti A, Felicioni L, **Buttitta F.** N Engl J Med. 2006 Feb 2;354(5):526-8; doi:10.1056/NEJMc052564 PMID: 16452569

151 citations

AKT1(E17K) in human solid tumours. Bleeker FE, Felicioni L, **Buttitta F**, Lamba S, Cardone L, Rodolfo M, Scarpa A, Leenstra S, Frattini M, Barbareschi M, Grammastro MD, Sciarrotta MG, Zanon C, Marchetti A, Bardelli A. Oncogene. 2008 Sep 18;27(42):5648-50. doi: 10.1038/onc.2008.170. Oncogene. 2008. PMID: 18504432

148 citations

p53 alterations are predictive of chemoresistance and aggressiveness in ovarian carcinomas: a molecular and immunohistochemical study. **Buttitta F**, Marchetti A, Gadducci A, Pellegrini S, Morganti M, Carnicelli V, Cosio S, Gagetti O, Genazzani AR, Bevilacqua G. Br J Cancer. 1997;75(2):230-5. doi: 10.1038/bjc.1997.38. PMID: 9010031

144 citations

Different prognostic roles of mutations in the helical and kinase domains of the PIK3CA gene in breast carcinomas. Barbareschi M, **Buttitta F**, Felicioni L, Cotrupi S, Barassi F, Del

Grammastro M, Ferro A, Dalla Palma P, Galligioni E, Marchetti A. Clin Cancer Res. 2007 Oct 15;13(20):6064-9. doi: 10.1158/1078-0432.CCR-07-0266. PMID: 17947469

140 citations

Int-6, a highly conserved, widely expressed gene, is mutated by mouse mammary tumor virus in mammary preneoplasia. Marchetti A, **Buttitta F**, Miyazaki S, Gallahan D, Smith GH, Callahan R. Marchetti A, et al. Among authors: **Buttitta F**. J Virol. 1995 Mar;69(3):1932-8. PMID: 7853537

134 citations

Increased detection sensitivity for KRAS mutations enhances the prediction of anti-EGFR monoclonal antibody resistance in metastatic colorectal cancer. Molinari F, Felicioni L, Buscarino M, De Dosso S, **Buttitta F**, Malatesta S, Movilia A, Luoni M, Boldorini R, Alabiso O, Girlando S, Soini B, Spitale A, Di Nicolantonio F, Saletti P, Crippa S, Mazzucchelli L, Marchetti A, Bardelli A, Frattini M. Clin Cancer Res. 2011 Jul 15;17(14):4901-14. doi:10.1158/1078-0432.CCR-10-3137 PMID: 21632860

132 citations

p53 alterations in non-small cell lung cancers correlate with metastatic involvement of hilar and mediastinal lymph nodes. Marchetti A, **Buttitta F**, Merlo G, Diella F, Pellegrini S, Pepe S, Macchiarini P, Chella A, Angeletti CA, Callahan R, et al. Cancer Res. 1993 Jun 15;53(12):2846-51. Cancer Res. 1993. PMID: 8389245

132 citations

Mutational analysis of the HER2 gene in lung tumors from Caucasian patients: mutations are mainly present in adenocarcinomas with bronchioloalveolar features. **Buttitta F**, Barassi F, Fresu G, Felicioni L, Chella A, Paolizzi D, Lattanzio G, Salvatore S, Camplese PP, Rosini S, Iarussi T, Mucilli F, Sacco R, Mezzetti A, Marchetti A. Int J Cancer. 2006 Dec 1;119(11):2586-91. doi: 10.1002/ijc.22143. Int J Cancer. 2006. PMID: 16988931

132 citations

mdm2 gene alterations and mdm2 protein expression in breast carcinomas. Marchetti A, **Buttitta F**, Girlando S, Dalla Palma P, Pellegrini S, Fina P, Doglioni C, Bevilacqua G, Barbareschi M. J Pathol. 1995 Jan;175(1):31-8. doi: 10.1002/path.1711750106. PMID: 7891224

114 citations

Early Prediction of Response to Tyrosine Kinase Inhibitors by Quantification of EGFR Mutations in Plasma of NSCLC Patients. Marchetti A, Palma JF, Felicioni L, De Pas TM, Chiari R, Del Grammastro M, Filice G, Ludovini V, Brandes AA, Chella A, Malorgio F, Guglielmi F, De Tursi M, Santoro A, Crinò L, **Buttitta F.** J Thorac Oncol. 2015 Oct;10(10):1437-43. doi: 10.1097/JTO.0000000000000643 PMID: 26295376

105 citations

Assessment of EGFR mutations in circulating tumor cell preparations from NSCLC patients by next generation sequencing: toward a real-time liquid biopsy for treatment. Marchetti A, Del Grammastro M, Felicioni L, Malatesta S, Filice G, Centi I, De Pas T, Santoro A, Chella A, Brandes AA, Venturino P, Cuccurullo F, Crinò L, **Buttitta F.** PLoS One. 2014 Aug 19;9(8):e103883. doi: 10.1371/journal.pone.0103883. PMID: 25137181

102 citations

Bronchioloalveolar lung carcinomas: K-ras mutations are constant events in the mucinous subtype. Marchetti A, **Buttitta F**, Pellegrini S, Chella A, Bertacca G, Filardo A, Tognoni V, Ferreli F, Signorini E, Angeletti CA, Bevilacqua G. J Pathol. 1996 Jul;179(3):254-9. doi: 10.1002/(SICI)1096-9896(199607)179:3<254::AID-PATH589>3.0.CO;2-J. PMID: 8774479

101 citations

p53 mutations and histological type of invasive breast carcinoma. Marchetti A, **Buttitta F**, Pellegrini S, Campani D, Diella F, Cecchetti D, Callahan R, Bistocchi M. Cancer Res. 1993 Oct1;53(19):4665-9. PMID: 8402644

101 citations

A unique microRNA signature associated with plaque instability in humans. Cipollone F, Felicioni

L, Sarzani R, Ucchino S, Spigonardo F, Mandolini C, Malatesta S, Bucci M, Mammarella C, Santovito D, de Lutiis F, Marchetti A, Mezzetti A**, Buttitta F**. Stroke. 2011 Sep;42(9):2556-63. doi: 10.1161/STROKEAHA.110.597575. PMID: 21817153 Clinical Trial

96 citations

Clinical implications of KRAS mutations in lung cancer patients treated with tyrosine kinase inhibitors: an important role for mutations in minor clones. Marchetti A, Milella M, Felicioni L, Cappuzzo F, Irtelli L, Del Grammastro M, Sciarrotta M, Malatesta S, Nuzzo C, Finocchiaro G, Perrucci B, Carlone D, Gelibter AJ, Ceribelli A, Mezzetti A, Iacobelli S, Cognetti F, **Buttitta F.** Neoplasia. 2009 Oct;11(10):1084-92. doi: 10.1593/neo.09814. PMID: 19794967

88 citations

ALK Protein Analysis by IHC Staining after Recent Regulatory Changes: A Comparison of Two Widely Used Approaches, Revision of the Literature, and a New Testing Algorithm. Marchetti A, Di Lorito A, Pace MV, Iezzi M, Felicioni L, D'Antuono T, Filice G, Guetti L, Mucilli F, **Buttitta F**. J Thorac Oncol. 2016 Apr;11(4):487-95. doi: 10.1016/j.jtho.2015.12.111. PMID: 26916631

82 citations

PIK3CA mutation and histological type in breast carcinoma: high frequency of mutations in lobular carcinoma. **Buttitta F**, Felicioni L, Barassi F, Martella C, Paolizzi D, Fresu G, Salvatore S, Cuccurullo F, Mezzetti A, Campani D, Marchetti A. J Pathol. 2006 Feb;208(3):350-5. doi: 10.1002/path.1908. PMID: 16353168

81 citations

Effective assessment of EGFR mutation status in bronchoalveolar lavage and pleural fluids by next-generation sequencing. **Buttitta F**, Felicioni L, Del Grammastro M, Filice G, Di Lorito A, Malatesta S, Viola P, Centi I, D'Antuono T, Zappacosta R, Rosini S, Cuccurullo F, Marchetti A. Clin Cancer Res. 2013 Feb 1;19(3):691-8. doi: 10.1158/1078-0432.CCR-12-1958. Epub 2012 Dec 14. PMID: 23243218

80 citations

Reduced expression of INT-6/eIF3-p48 in human tumors. Marchetti A, **Buttitta F**, Pellegrini S, Bertacca G, Callahan R. Marchetti A, et al. Int J Oncol. 2001 Jan;18(1):175-9. doi: 10.3892/ijo.18.1.175. PMID: 11115556

70 citations

Early prediction of resistance to tyrosine kinase inhibitors by plasma monitoring of *EGFR* mutations in NSCLC: a new algorithm for patient selection and personalized treatment.

Buttitta F, Felicioni L, Lorito AD, Cortellini A, Irtelli L, Brocco D, Marino PD, Traisci D, D'Ostilio N, Paolo AD, Malorgio F, Assalone P, Felice SD, Fabbri F, Cianci G, Tursi M, Marchetti A. Oncotarget. 2020 Mar 17;11(11):982-991. doi: 10.18632/oncotarget.27517

Frequent mutations in the neurotrophic tyrosine receptor kinase gene family in large cell neuroendocrine carcinoma of the lung. Marchetti A, Felicioni L, Pelosi G, Del Grammastro M, Fumagalli C, Sciarrotta M, Malatesta S, Chella A, Barassi F, Mucilli F, Camplese P, D'Antuono T, Sacco R, **Buttitta F.** Hum Mutat. 2008 May;29(5):609-16. doi: 10.1002/humu.20707 PMID: 18293376

Detection of DNA mutations in acid formalin-fixed paraffin-embedded archival tumor specimens by polymerase chain reaction-single strand conformation polymorphism analysis. Marchetti A, Merlo G, **Buttitta F**, Pellegrini S, Callahan R, Bistocchi M, Squartini F. Cancer Detect Prev. 1995;19(3):278-81.

COLLABORATIVE STUDIES

Have been conducted with the Oncogenetic Section, Laboratory of Tumor Immunology and Biology del National Cancer Institute, H.I.H. Bethesda, Md. U.S.A; il Dipartimento di Medicina, Chirurgia e Odontoiatria dell' Università di Milano; la Clinica Chirurgica e la Clinica Oncologica dell'Università di Chieti; il Laboratory of Molecular Oncogenesis, Regina Elena Cancer Institute, Roma; l'istituto Clinico Humanitas, Milano; il Dipartimento di Oncologia e delle Nuove Tecnologie in Medicina dell'Università di Pisa; l'IFOM, Fondazione Istituto FIRC di Oncologia Molecolare, Milano; il Laboratory of Molecular Genetics, The Oncogenomics Center, Institute for Cancer Research and Treatment, University of Torino Medical School, Candiolo, Italy

BUTTITTA COOPERATES TO THE EXTENSION OF GUIDELINES/RECOMMENDATIONS OF THE ITALIAN ASSOCIATION MEDICAL ONCOLOGY (AIOM)

1) Recommendations for the implementation of BRCA testing in ovarian cancer patients and their relatives. Gori S, Barberis M, Bella MA, **Buttitta F**, Capoluongo E, Carrera P, Colombo N, Cortesi L, Genuardi M, Gion M, Guarneri V, Incorvaia L, La Verde N, Lorusso D, Marchetti A, Marchetti P, Normanno N, Pasini B, Pensabene M, Pignata S, Radice P, Ricevuto E, Sapino A, Tagliaferri P, Tassone P, Trevisiol C, Truini M, Varesco L, Russo A; AIOM-SIGU-SIBIOC-SIAPEC-IAP Working Group. Crit Rev Oncol Hematol. 2019 Aug;140:67-72. doi:10.1016/j.critrevonc.2019.05.012. Epub 2019 May 25. Crit Rev Oncol Hematol. 2019. PMID: 31176273

2) BRCA1/2 Molecular Assay for Ovarian Cancer Patients: A Survey through Italian Departments of Oncology and Molecular and Genomic Diagnostic Laboratories. Capoluongo E, Verde N, Barberis M, Bella MA, **Buttitta F**, Carrera P, Colombo N, Cortesi L, Gion M, Guarneri V, Lorusso D, Marchetti A, Marchetti P, Normanno N, Pasini B, Pensabene M, Pignata S, Radice P, Ricevuto E, Sapino A, Tagliaferri P, Tassone P, Trevisiol C, Truini M, Varesco L, Russo A, Gori S. Diagnostics (Basel). 2019 Oct 9;9(4). pii: E146. doi: 10.3390/diagnostics9040146

3) Raccomandazioni per l'implementazione del test BRCA nelle pazienti con carcinoma ovarico e nei familiari a rischio elevato di neoplasia v.2-gennaio 2019. Massimo Barberis, Maria Angela Bella, **Fiamma Buttitta**, Ettore Capoluongo, Paola Carrera, Nicoletta Colombo, Laura Cortesi, Maurizio Genuardi, Massimo Gion, Stefania Gori, Valentina Guarneri, Nicla La Verde, Domenica Lorusso, Antonio Marchetti, Paolo Marchetti, Nicola Normanno, Barbara Pasini, Matilde Pensabene, Sandro Pignata, Paolo Radice, Enrico Ricevuto, Antonio Russo, Anna Sapino, Pierosandro Tagliaferri, Pierfrancesco Tassone, Chiara Trevisiol, Mauro Truini, Liliana Varesco

4) Raccomandazioni 2019 per l'implementazione del test BRCA nelle pazienti con carcinoma mammario e nei familiari a rischio elevato di neoplasia. Stefania Gori, Laura Cortesi, **Fiamma Buttitta,** Ettore Capoluongo, Saverio Cinieri, Lucia Del Mastro, Massimo Dessena, Oreste Gentilini, Maurizio Genuardi, Valentina Guarneri, Lorena Incorvaia, Nicla La Verde, Paolo Marchetti, Caterina Marchiò, Fabrizio Nicolis, Laura Ottini, Matilde Pensabene, Enrico Ricevuto, Anna Sapino, Pierosandro Tagliaferri, Mauro Truini, Daniela Turchetti, Liliana Varesco, Antonio Russo

5) Raccomandazioni 2019 sulle indicazioni e la valutazione di PD-L1 nel tumore del polmone. Mattia Barbareschi, Massimo Barberis, **Fiamma Buttitta,** Massimo Di Maio, Claudio Doglioni, Gabriella Fontanini, Renato Franco, Stefania Gori, Paolo Graziano, Antonio Marchetti, Silvia Novello, Mauro Papotti, Giulio Rossi, Antonio Russo, Anna Sapino, Giancarlo Troncone, Mauro Truini.

6) LINEE GUIDA TUMORI EPITELIALI PRIMITIVI OCCULTI (TEPO) 2018. Bengala C., Giommoni E., Alterio D., Antonuzzi L., **Buttitta F**. et al.

7) LINEE GUIDA TUMORI EPITELIALI PRIMITIVI OCCULTI (TEPO) 2019. Bengala C., Giommoni E., Alterio D., Antonuzzi L., **Buttitta F**. et al.

RESPONSIBILITY ROLES IN THE ORGANISATION OF RESEARCH AND WELFARE ACTIVITIES STUDIES

Chief of the U.O. Molecular Diagnostics and Special Techniques (Delibera No.1832 on December 30, 2013) of the Complex Unit of Pathological Anatomy of the Hospital of Chieti. Chief for the Molecular Diagnostic Laboratory of the U.O. of Pathological Anatomy 1 - ASL of Pisa (1998-1999). - Head of the laboratory of "Pharmacogenomics, Center of Clinical Research, Center of Aging Sciences (Ce.SI.) Chieti (2003-2008). Chief of the laboratory of "Cardiovacular and Oncological Molecular Medicine", Center of Aging Sciences (Ce.SI.) of Chieti (July 2008- present). Chief of Unit of Molecular Pathology - the Department of Medicine and Aging Sciences of the G.d'Annunzio University of Chieti.

FINANCED RESEARCH PROJECTS

1987: Principal Investigator for the bilateral research project funded by the National Research Council, entitled: "Study of the nuclear DNA pattern, the presence of oncogenic expression and tumor markers and the degree of invasion of the slice of infiltration into rectal cancer".

1994: Principal Investigator for the research project funded by the National Research Council, entitled: "Molecular investigation of the genes involved in drug resistance mechanisms in epithelial malignant tumors of the ovary".

1995: Principal Investigator for the research project funded by the National Research Council, entitled: "Molecular investigation of the genes involved in drug resistance mechanisms in epithelial malignant tumors of the ovary; study of the expression of MDR1, MRP, Glutathione S-transferase ". (1995)

2001-2002: Head of Local Operative Unit within the scientific research project: "Prostate cancer: molecular markers of susceptibility and early diagnosis". Project of Relevant National Interest (PRIN), Ministry of University and Research (MIUR).

Biennial financing 2001-2002.

Scientific Coordinator: Prof. Piero Musiani, G. d'Annunzio-Chieti University.

2003-2004: Head of Local Operative Unit within the scientific research project: "Analysis of the expression levels, through real time rt-pcr, of genes associated with the metastasis process: study of intraepithelial neoplasms (PIN) and tumors localized androgen-dependent prostates ". Project of Relevant National Interest (PRIN), Ministry of University and Research (MIUR). Biennial financing.

Scientific Coordinator: Prof. Piero Musiani, G. d'Annunzio-Chieti University.

2005-2006: Head of local Operative Unit within the scientific research project: "Genes involved with the metastatic spread of breast cancer: quantitative analysis by real-time rt-pcr with microfluidic cards". Project of Relevant National Interest (PRIN), Ministry of University and Research (MIUR). Biennial financing 2005-2006.

Scientific Coordinator: Prof. Piero Musiani, G. d'Annunzio-Chieti University.

2007-2008: Head of Local Operative Unit within the scientific research project: "Integrated Program PIO 2006: Clinical and analytical validation of biomolecular markers of oncological diagnosis on biological material obtained with non-invasive techniques"

Scientific Coordinator: Dr. Angelo Paradiso, IRCCS TUMORI-BARI INSTITUTE

2004-2005: Project manager: "Characterization of the gene expression profile by Real-Time RT-PCR of prostate, intraepithelial, localized and metastatic neoplastic lesions". Allocation of University funds Ex 60%, University of Chieti

2005-2006: Project manager: "Characterization of the gene expression profile by Real-Time RT-PCR of prostate, intraepithelial, localized and metastatic neoplastic lesions". Allocation of University funds Ex 60%, University of Chieti.

2006-2007: Project manager: "Genes involved with the metastatic spread of breast cancer: quantitative analysis by real-time RT-PCR with microfluidic cards". Allocation of University funds Ex 60%, University of Chieti.

2007-2008: Project manager: "Genes involved with the metastatic spread of breast cancer": quantitative analysis by real-time RT-PCR with microfluidic cards. Allocation of University funds Ex 60%, University of Chieti.

2008-2009: Project manager: "Mutational analysis in Pleural Mesothelioma of potentially oncogenic genes, emerging from recent high-throughput sequence analyzes". Allocation of University funds Ex 60%, University of Chieti.

2009-2019: Allocation of University funds Ex 60%, University of Chieti.

Peer-Reviewed Publications (last 10 years).

1. **Buttitta F**, Felicioni L, Lorito AD, Cortellini A, Irtelli L, Brocco D, Marino PD, Traisci D, D'Ostilio N, Paolo AD, Malorgio F, Assalone P, Felice SD, Fabbri F, Cianci G, Tursi M, Marchetti A. Early prediction of resistance to tyrosine kinase inhibitors by plasma monitoring of EGFR mutations in NSCLC: a new algorithm for patient selection and personalized treatment. Oncotarget. 2020 Mar 17;11(11):982-991. doi: 10.18632/oncotarget.27517.

2. Marchetti A, Di Lorito A, Felicioni L, **Buttitta F**. An innovative diagnostic strategy for the detection of rare molecular targets to select cancer patients for tumor-agnostic treatments. Oncotarget. 2019 Dec 10;10(65):6957-6968. doi: 10.18632/oncotarget.27343.

3. Capoluongo E, La Verde N, Barberis M, Bella MA, **Buttitta F**, Carrera P, Colombo N, Cortesi L, Gion M, Guarneri V, Lorusso D, Marchetti A, Marchetti P, Normanno N, Pasini B, Pensabene M, Pignata S, Radice P, Ricevuto E, Sapino A, Tagliaferri P, Tassone P, Trevisiol C, Truini M, Varesco L, Russo A, Gori S. BRCA1/2 Molecular Assay for Ovarian Cancer Patients: A Survey through Italian Departments of

Oncology and Molecular and Genomic Diagnostic Laboratories. Diagnostics (Basel). 2019 Oct 9;9(4):146. doi: 10.3390/diagnostics9040146.

4. Gori S, Barberis M, Bella MA, **Buttitta F**, Capoluongo E, Carrera P, Colombo N, Cortesi L, Genuardi M, Gion M, Guarneri V, Incorvaia L, La Verde N, Lorusso D, Marchetti A, Marchetti P, Normanno N, Pasini B, Pensabene M, Pignata S, Radice P, Ricevuto E, Sapino A, Tagliaferri P, Tassone P, Trevisiol C, Truini M, Varesco L, Russo A; AIOM-SIGU-SIBIOC-SIAPEC-IAP Working Group. Recommendations for the implementation of BRCA testing in ovarian cancer patients and their relatives. Crit Rev Oncol Hematol. 2019 Aug;140:67-72. doi: 10.1016/j.critrevonc.2019.05.012. Epub 2019 May 25.

5. Cortellini A, Cannita K, Parisi A, Lanfiuti Baldi P, Venditti O, D'Orazio C, Dal Mas A, Calvisi G, Giordano AV, Vicentini V, Vicentini R, Felicioni L, Marchetti A, **Buttitta F**, Russo A, Ficorella C. Weekly alternate intensive regimen FIrB/FOx in metastatic colorectal cancer patients: an update from clinical practice. Onco Targets Ther. 2019 Mar 25;12:2159-2170. doi: 10.2147/OTT.S194745. eCollection 2019.

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