

Curriculum vitae Prof. Marco Lo Iacono

Personal details

Born in Turin

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Educations

- **2006** - PhD in Complexity in Post-Genomic Biology (University of Turin and University of Marseille). Doctorate in co-tutorship, research assignment at the French university Aix-Marseille II Prof. Pébusque ISERM-EMI0116 Marseille Luminy.
- **2002** - Master's degree summa cum laude in Medical Biotechnology (University of Turin).

Professional experiences and current position

- **28/12/2021-present.** Associate Professor in SSD: 06/N1 (University of Turin, Department of Clinical and Biological Sciences DSCB). Principal investigator in translational and basic research projects that involve oncology and onco-hematology with particular attention to new biomolecular technologies in patients' classification and precision medicine. Teacher in charge in the degree courses in Biomedical Laboratory Techniques (Cuneo) and in the degree course in Cellular and Molecular Biology (Turin).
- **28/02/2018-27/12/21.** Assistant Professor in SSD: 06/N1 (University of Turin, Department of Clinical and Biological Sciences DSCB). Principal investigator in translational and basic research projects that involve oncology and onco-hematology with particular attention to new biomolecular technologies in patients' classification and precision medicine.
- **01/02/2018-27/12/2018.** Temporary Research Fellow (University of Turin, DSCB). Role of Iron, Copper and Zinc in cellular growth and bacterial infections: Scientific projects management, experimental performer (laboratory activities), study design, manuscripts drafting, data-mining.
- **01/06/2016-30/11/2016.** Temporary Research Fellow (University of Turin, DSCB). Identification and evaluation of the function of ACO1 in iron genes regulation in Dictyostelium discoideum: Scientific projects management, experimental performer (laboratory activities), study design, manuscripts drafting, data-mining.
- **01/03/2012-31/03/2016.** Temporary Research Fellow (Post-Doctoral fellow) (University of Turin, Department of Oncology). Identification and evaluation of the role of the JNK molecular pathway in non-small cell lung carcinomas: Scientific projects management, experimental performer (laboratory activities), manuscripts drafting. Next Generation Sequencing, Study design, data-mining, drug resistance (Cisplatin and chemotherapeutic drugs).
- **01/03/2008-01/03/2012.** Temporary Research Fellow (Post-Doctoral fellow) (University of Turin, DSCB). Identification and evaluation of gene transcripts in lung cancer: Scientific projects management, experimental performer (laboratory activities), manuscripts drafting, study design, data-mining, quantitative PCR.
- **30/05/2007-30/04/2008.** Collaboration with biotechnology startup Bionucleon (BioIndustry Park, Ivrea) to develop diagnostic tool, PNA based, for identification of best treatment of chronic myeloid leukemia.
- **01/01/2007-31/03/2008.** (University of Turin, DSCB and BioIndustry Park, Ivrea). Team Leader iTECHLAT project (Misura 3.4 A del DOCUP 2000/2006) supported by Regione Piemonte. Identification and evaluation of putative Tumor antigens in Breast Cancer. Scientific projects management, experimental performer (laboratory activities), study design, manuscripts drafting.

Honors

- **2020** Award winning group: GiovedìScienza Futuro 2020 – “Kit diagnostico per la valutazione dello stato mutazionale del gene IDH2 nella leucemia mieloide acuta”.
- **2015** **Lo Iacono M**, Monica V, Righi L, Grosso F, Libener R, Vatrano S, Bironzo P, Novello S, Musmeci L, Volante M, Papotti M, Scagliotti GV. “Targeted next-generation sequencing of cancer genes in

advanced stage malignant pleural mesothelioma: a retrospective study". J Thorac Oncol. **2015** Mar;10(3):492-9. ISSN: 1556-0864. PubMed PMID: 25514803 was editor's choice by Journal of Thoracic Oncology and highlighted by Carbone M, Gaudino G, Yang H in: J Thorac. Oncol. 2015 Mar;10(3):409-11. doi: 10.1097/JTO.0000000000000466. Recent insights emerging from malignant mesothelioma genome sequencing.

- **2015 Lo Iacono M**, Monica V, Righi L, Grosso F, Libener R, Vatrano S, Bironzo P, Novello S, Musmeci L, Volante M, Papotti M, Scagliotti GV. "Targeted next-generation sequencing of cancer genes in advanced stage malignant pleural mesothelioma: a retrospective study" was partially published in "La STAMPA" (14/01/2015): <https://www.lastampa.it/torino/2015/01/14/news/mesotelioma-nuova-tecnica-individua-i-geni-responsabili-del-tumore-da-amianto-1.35303907>
- **2013** The poster: **Lo Iacono M**, Novello S, Grosso F, Vatrano S, Righi L, Papotti M, Bironzo P, Monica V, Scagliotti GV (2013). "Next generation sequencing in malignant pleural mesothelioma: preliminary data from a retrospective cohort of 123 patients" was indicated in press release at IASLC 2013.
- **2006-2008** winner of two "Lagrange Research Fellow" from Fondazione CRT-Fondazione I.S.I.

Teaching activity:

- Corso di Laurea in Tecniche di Laboratorio Biomedico - Cuneo: Attività Formative Principi Diagnostici In Micologia (Med2891)
- Cellular and Molecular Biology: Translational Biomedicine (SVB0192)

Research main topics

"Omics" based approach and technology for precision medicine. Translational and basic research projects that involve oncology and onco-hematology with particular attention to new biomolecular technologies in patients' classification and precision medicine.

Main projects as PI

- **2020-2021** PI "Medicina di precisione applicata alla Leucemia Mieloide Acuta NPM1 mutata" vincitore del bando della fondazione CRT Erogazioni ordinarie and by Banca d'Italia.
- **2018** Post-Doc "Role of Iron, Copper and Zinc in cellular growth and bacterial infections".
- **2012-2015** Post-Doc (Regione Piemonte) (2+1). "Ruolo dell'attivazione della via molecolare di JNK nei carcinomi polmonari non a piccole cellule e suo coinvolgimento nei meccanismi di resistenza alla terapia sistemica convenzionale" 01-03-2012 to 31-03-2015.
- **2008-2012** Post-Doc BRAIN DRAIN "Definizione del trattamento chemioterapico adiuvante ottimale nel carcinoma polmonare operato mediante definizione di trascritti genici".
- **2006-2008** Responsible for coordinating a research unit for the project iTECH-PLAT (Misura 3.4 A del DOCUP 2000/2006) "Comprensione meccanismi di signaling intracellulare alterati alla base delle disfunzioni patologiche delle cellule cancerose e identificazione e caratterizzazione marcatori associati alla patologia oncologica".

Bibliometry (2004-present) (www.scopus.com)

Products H-index: 20 Global Citations: 2338

10 best publications

- Petiti J, Rosso V, Croce E, Franceschi V, Andreani G, Dragani M, De Gobbi M, Lunghi M, Saglio G, Fava C, **Lo Iacono M**, Cilloni D. Highly Sensitive Detection of IDH2 Mutations in Acute Myeloid Leukemia. J Clin Med. 2020 Jan 19;9(1). pii: E271. doi: 10.3390/jcm9010271. PMID: 31963812. **Co-last authors**
- Patil NS, Righi L, Koeppen H, Zou W, Izzo S, Grosso F, Libener R, **Lo Iacono M**, Monica V, Buttiglieri C, Novello S, Hegde PS, Papotti M, Kowanetz M, Scagliotti GV. Molecular and Histopathological Characterization of the Tumor Immune Microenvironment in Advanced Stage of Malignant Pleural Mesothelioma. J Thorac Oncol. 2018 Jan;13(1):124-133. doi: 10.1016/j.jtho.2017.09.1968. Epub 2017 Oct 24

- **Lo Iacono M**, Buttiglieri C, Monica V, Bollito E, Garrou D, Cappia S, Rapa I, Vignani F, Bertaglia V, Fiori C, Papotti M, Volante M, Scagliotti GV, Porpiglia F, Tucci M. Retrospective study testing next generation sequencing of selected cancer-associated genes in resected prostate cancer. *Oncotarget*. 2016 Feb 12. doi: 10.18632/oncotarget.7343.
- **Lo Iacono M**, Monica V, Vavalà T, Gisabella M, Saviozzi S, Bracco E, Novello S, Papotti M, Scagliotti GV. ATF2 contributes to cisplatin resistance in non-small cell lung cancer and celastrol induces cisplatin resensitization through inhibition of JNK/ATF2 pathway. *Int J Cancer*. 2015 Jun 1;136(11):2598-609. doi: 10.1002/ijc.29302. PubMed PMID: 25359574.
- **Lo Iacono M**, Monica V, Righi L, Grosso F, Libener R, Vatrano S, Bironzo P, Novello S, Musmeci L, Volante M, Papotti M, Scagliotti GV. Targeted next-generation sequencing of cancer genes in advanced stage malignant pleural mesothelioma: a retrospective study. *J Thorac Oncol*. 2015 Mar;10(3):492-9. ISSN: 1556-0864. PubMed PMID: 25514803.
- Sandoval J, Mendez-Gonzalez J, Nadal E, Chen G, Carmona FJ, Sayols S, Moran S, Heyn H, Vizoso M, Gomez A, Sanchez-Céspedes M, Assenov Y, Müller F, Bock C, Taron M, Mora J, Muscarella LA, Liloglou T, Davies M, Pollan M, Pajares MJ, Torre W, Montuenga LM, Brambilla E, Field JK, Roz L, **Lo Iacono M**, Scagliotti GV, Rosell R, Beer DG, Esteller M. A prognostic DNA methylation signature for stage I non-small-cell lung cancer. *J Clin Oncol*. 2013 Nov 10;31(32):4140-7. doi: 10.1200/JCO.2012.48.5516. Epub 2013 Sep 30. PubMed PMID: 24081945.
- **Lo Iacono M**, Monica V, Saviozzi S, Ceppi P, Bracco E, Papotti M, Scagliotti GV. Aurora Kinase A expression is associated with lung cancer histological-subtypes and with tumor de-differentiation. *J Transl Med*. 2011 Jun 30;9:100. doi: 10.1186/1479-5876-9-100. PubMed PMID: 21718475; PubMed Central PMCID: PMC3148570.
- **Lo Iacono M**, Monica V, Saviozzi S, Ceppi P, Bracco E, Papotti M, Scagliotti GV. p63 and p73 isoform expression in non-small cell lung cancer and corresponding morphological normal lung tissue. *J Thorac Oncol*. 2011 Mar;6(3):473-81. doi: 10.1097/JTO.0b013e31820b86b0. PubMed PMID: 21289519.
- Deregibus MC, Cantaluppi V, Calogero R, **Lo Iacono M**, Tetta C, Biancone L, Bruno S, Bussolati B, Camussi G. Endothelial progenitor cell derived microvesicles activate an angiogenic program in endothelial cells by a horizontal transfer of mRNA. *Blood*. 2007 Oct 1;110(7):2440-8. Epub 2007 May 29. PubMed PMID: 17536014.
- Ceppi P, Volante M, Saviozzi S, Rapa I, Novello S, Cambieri A, **Lo Iacono M**, Cappia S, Papotti M, Scagliotti GV. Squamous cell carcinoma of the lung compared with other histotypes shows higher messenger RNA and protein levels for thymidylate synthase. *Cancer*. 2006 Oct 1;107(7):1589-96. PubMed PMID: 16955506.

15 more relevant publication in the last 5 yrs (2018-2022)

- Vitale E, Rosso R, **Lo Iacono M**, Cristallini C, Giachino C, Rastaldo R. Apelin-13 Increases Functional Connexin-43 through Autophagy Inhibition via AKT/mTOR Pathway in the Non-Myocytic Cell Population of the Heart. *Int J MolSci*. 2022 Oct 28;23(21):13073. doi: 10.3390/ijms232113073. PMID: 36361860; PMCID: PMC9655608.
- Staurengi E, Leoni V, **Lo Iacono M**, Sottero B, Testa G, Giannelli S, Leonarduzzi G, Gamba P. ApoE3 vs. ApoE4 Astrocytes: A Detailed Analysis Provides New Insights into Differences in Cholesterol Homeostasis. *Antioxidants (Basel)*. 2022 Nov 1;11(11):2168. doi: 10.3390/antiox11112168. PMID: 36358540; PMCID: PMC9686673.
- Vitale E, Perveen S, Rossin D, **Lo Iacono M**, Rastaldo R, Giachino C. Role of Chaperone-Mediated Autophagy in Ageing Biology and Rejuvenation of Stem Cells. *Front Cell Dev Biol*. 2022 Jun 28;10:912470. doi: 10.3389/fcell.2022.912470. PMID: 35837330; PMCID: PMC9273769.
- Petiti J, Itri F, Signorino E, Froli A, Fava C, Armenio M, Marini S, Giugliano E, **Lo Iacono M**, Saglio G, Cilloni D. Detection of SF3B1 p.Lys700Glu Mutation by PNA-PCR Clamping in Myelodysplastic Syndromes and Myeloproliferative Neoplasms. *J Clin Med*. 2022 Feb 25;11(5):1267. doi: 10.3390/jcm11051267. PMID: 35268357; PMCID: PMC8911290.
- Vitale, E.; Rossin, D.; Perveen, S.; Miletto, I.; **Lo Iacono M.**; Rastaldo, R.; Giachino, C. Silica Nanoparticle Internalization Improves Chemotactic Behaviour of Human Mesenchymal Stem Cells Acting on the SDF1 α /CXCR4 Axis. *Biomedicines* 2022, 10, 336. <https://doi.org/10.3390/biomedicines10020336>
- **Lo Iacono M.**; Puglisi, S.; Perotti, P.; Saba, L.; Petiti, J.; Giachino, C.; Reimondo, G.; Terzolo, M.

Molecular Mechanisms of Mitotane Action in Adrenocortical Cancer Based on In Vitro Studies. *Cancers* 2021, 13, 5255. <https://doi.org/10.3390/cancers13215255>

- **Lo Iacono M**, Signorino E, Petiti J, Pradotto M, Calabrese C, Panuzzo C, Caciolli F, Pergolizzi B, De Gobbi M, Rege-Cambrin G, Fava C, Giachino C, Bracco E, Saglio G, Frassoni F, Cilloni D. Genetic Screening for Potential New Targets in Chronic Myeloid Leukemia Based on Drosophila Transgenic for Human BCR-ABL1. *Cancers (Basel)*. 2021 Jan 14;13(2):E293. doi: 10.3390/cancers13020293. PMID: 33466839. **Co-first authors**
- Petiti J, **Lo Iacono M**, Rosso V, Andreani G, Jovanovski A, Podestà M, Lame D, Gobbi M, Fava C, Saglio G, Frassoni F, Cilloni D. Bcl-xL represents a therapeutic target in Philadelphia negative myeloproliferative neoplasms. *J Cell Mol Med*. 2020 Aug 13. doi: 10.1111/jcmm.15730. Online ahead of print. PMID: 32790151. **Co-first authors**
- Petiti J, **Lo Iacono M**, Dragani M, Pironi L, Fantino C, Rapanotti MC, Quarantelli F, Izzo B, Divona M, Rege-Cambrin G, Saglio G, Gottardi EM, Cilloni D, Fava C. Novel Multiplex Droplet Digital PCR Assays to Monitor Minimal Residual Disease in Chronic Myeloid Leukemia Patients Showing Atypical BCR-ABL1 Transcripts. *J Clin Med*. 2020 May 13;9(5):1457. doi: 10.3390/jcm9051457. PMID: 32414125. **Co-first authors**
- Rosso V, Petiti J, Dragani M, Andreani G, Croce E, **Lo Iacono M**, Saglio G, Fava C, Cilloni D. Clone wars: co-occurrence of IDH2 R140Q and R172K in myelodysplastic syndromes. *Ann Hematol*. 2020 Apr;99(4):891-893. doi: 10.1007/s00277-020-03913-x. Epub 2020 Feb 4. No abstract available. PMID:32016578.
- Petiti J, Rosso V, Croce E, Franceschi V, Andreani G, Dragani M, De Gobbi M, Lunghi M, Saglio G, Fava C, **Lo Iacono M**, Cilloni D. Highly Sensitive Detection of IDH2 Mutations in Acute Myeloid Leukemia. *J Clin Med*. 2020 Jan 19;9(1). pii: E271. doi: 10.3390/jcm9010271. PMID: 31963812. **Co-last authors**
- Petiti J, Dragani M, Castelli A, **Lo Iacono M**, Fantino C, Badino C, Serra A, Giugliano E, Andreani G, Rosso V, Gottardi E, RegeCambrin G, Saglio G, Cilloni D and Fava C. Characterization and monitoring by droplet digital PCR of a novel BCR-ABL1 fusion transcript in a patient with chronic myeloid leukemia. *Journal of Translational Science*. Jan 6: 1-4. ISSN: 2059-268X. doi: 10.15761/JTS.1000369.
- Pergolizzi B, Panuzzo C, Ali MS, **Lo Iacono M**, Levra Levron C, Ponzzone L, Prelli M, Cilloni D, Calautti E, Bozzaro S, Bracco E. Two conserved glycine residues in mammalian and Dictyostelium Rictor are required for mTORC2 activity and integrity. *J Cell Sci*. 2019 Nov 14;132(22). pii: jcs236505. doi: 10.1242/jcs.236505. PMID: 31653780
- Petiti J, Rosso V, **Lo Iacono M**, Panuzzo C, Calabrese C, Signorino E, Pironi L, Cartellà A, Bracco E, Pergolizzi B, Beltramo T, Fava C, Cilloni D. Curcumin induces apoptosis in JAK2-mutated cells by the inhibition of JAK2/STAT and mTORC1 pathways. *J Cell Mol Med*. 2019 Apr 29. doi: 10.1111/jcmm.14326.
- Petiti J, Rosso V, **Lo Iacono M**, Calabrese C, Signorino E, Gaidano V, Berger M, Saglio G, Cilloni D. Prognostic significance of The Wilms' Tumor-1 (WT1) rs16754 polymorphism in acute myeloid leukemia. *Leuk Res*. 2018 Apr;67:6-11. doi: 10.1016/j.leukres.2018.01.016. Epub 2018 Feb 5.