

Principal Investigator	VANNUCCHI ALESSANDRO
Institute of Affiliation	Università degli Studi di Firenze
Title of the proposed project:	Addressing complexity of leukemia genome by chromatin 3D structure analysis
Short description of the project	The project aims to address the 3D chromatin structure as a new avenue of investigation in selected forms of acute myeloid leukemia (FLT3 and NPM1 mutated) to identify aberrations that might contribute to define and predict response to therapy and perspective identify new targets. The applicant should be involved in developing techniques for 3D analysis and develop bioinformatics skills to interpret 3D organization. Furthermore development of cellular models to interpret such abnormalities will be presumably required at a certain time point along project development.
Main research area for the project	Genomic Medicine
5 keywords for the project	Drug screening – Genomics - Acute Myeloid Leukemia (AML) – Biomarkers - Chromatin remodeling

LAB INFO	
Main topic/s of the lab	Chronic and acute myeloid disorders
Short description of the lab activity	The lab is involved in extensive molecular characterization of patients with MPN and AML at diagnosis and for MRD. It runs research projects in genomic testing, bioinformatics analysis, and studies of long-read and 3D genomic abnormalities. Lines of novel drug testing is also ongoing
Recent bibliography	<p>MIPSS70: Mutation-Enhanced International Prognostic Score System for Transplantation-Age Patients With Primary Myelofibrosis. J CLIN ONCOL 2018 Feb; 36: 310</p> <p>The prognostic contribution of CBL, NRAS, KRAS, RUNX1, and TP53 mutations to mutation-enhanced international prognostic score systems (MIPSS70/plus/plus v2.0) for primary myelofibrosis. AM J HEMATOL 2024 Jan; 99: 68</p> <p>Clinical impact of mutated JAK2 allele burden reduction in polycythemia vera and essential thrombocythemia. AM J HEMATOL 2024 Aug; 99: 1550</p> <p>TP53 Mutations in Myeloproliferative Neoplasms: Context-Dependent Evaluation of Prognostic Relevance. AM J HEMATOL 2025 Apr; 100: 552</p> <p>Genomic structural variations contribute to inform prognosis in patients with cytogenetically normal acute myeloid leukemia. BLOOD CANCER J 2026 Mar; 16:</p>

Group composition	PhD=3 post-docs =7 MD= 3
Institutional page link	https://www.dmsc.unifi.it/
Lab website link	https://www.aou-careggi.toscana.it/internet/diagnosi-e-cura/strutture-cliniche/centri-di-innovazione-e-ricerca/centro-di-ricerca-e-innovazione-per-le-malattie-mieloproliferative-crimm-1/