

**PERSONAL INFORMATION** Polano Maurizio

📍 Centro di Riferimento Oncologico di Aviano IRCCS, Via Franco Gallini 2, 33081, Aviano, Italia

☎ 0039 0434 659299 📠 3392638282

✉ mpolano@cro.it

🌐 [https://www.cro.sanita.fvg.it/it/personale/polano\\_maurizio.html](https://www.cro.sanita.fvg.it/it/personale/polano_maurizio.html); Scopus Author's ID\_57086373400

Sex M | Date of birth 06/01/1981 | Nationality Italian

**Current Position:** Researcher

**PhD awarded less than 10 Years ago:** No

**Key skills:** Biostatistics · Bioinformatics · R / Python · Machine Learning · Data cleaning and harmonization · Clinical data interpretation · Cancer genomics.

**Scientific Profile:** Biotechnologist and researcher with over 10 years of experience in oncological bioinformatics and biostatistics. Skilled in data integration and statistical modeling of clinical and molecular datasets from cancer patients, with a focus on precision medicine, epidemiology of cancer, and biomarker discovery.

**Bibliometric Indicators:**

# Publications: 38 \_\_\_\_; # Citations 1,001 \_\_\_\_; H index\_19 \_\_\_\_; H Index (5 y)\_12

**3 most relevant publications or patents:**

Polano M, Bedon L, Dal Bo M, Sorio R, Bartoletti M, De Mattia E, Cecchin E, Pisano C, Lorusso D, Lissoni AA, De Censi A, Cecere SC, Scollo P, Marchini S, Arenare L, De Giorgi U, Califano D, Biagioli E, Chiodini P, Perrone F, Pignata S, Toffoli G. Machine Learning Application Identifies Germline Markers of Hypertension in Patients With Ovarian Cancer Treated With Carboplatin, Taxane, and Bevacizumab. Clin Pharmacol Ther. 2023 Sep;114(3):652-663. doi: 10.1002/cpt.2960. Epub 2023 Jun 21. PMID: 37243926.

Fang LT, Zhu B, Zhao Y, Chen W, Yang Z, Kerrigan L, Langenbach K, de Mars M, Lu C, Idler K, Jacob H, Zheng Y, Ren L, Yu Y, Jaeger E, Schroth GP, Abaan OD, Talsania K, Lack J, Shen TW, Chen Z, Stanbouly S, Tran B, Shetty J, Kriga Y, Meerzaman D, Nguyen C, Petitjean V, Sultan M, Cam M, Mehta M, Hung T, Peters E, Kalamegham R, Sahraelian SME, Mohiyuddin M, Guo Y, Yao L, Song L, Lam HYK, Drabek J, Vojta P, Maestro R, Gasparotto D, Köks S, Reimann E, Scherer A, Nordlund J,

Liljedahl U, Jensen RV, Pirooznia M, Li Z, Xiao C, Sherry ST, Kusko R, Moos M, Donaldson E, Tezak Z, Ning B, Tong W, Li J, Duerken-Hughes P, Catalanotti C, Maheshwari S, Shuga J, Liang WS, Keats J, Adkins J, Tassone E, Zismann V, McDaniel T, Trent J, Fook J, Butler D, Mason CE, Hong H, Shi L, Wang C, Xiao W; Somatic Mutation Working Group of Sequencing Quality Control Phase II Consortium. Establishing community reference samples, data and call sets for benchmarking cancer mutation detection using whole-genome sequencing. Nat Biotechnol. 2021 Sep;39(9):1151-1160. doi: 10.1038/s41587-021-00993-6. Epub 2021 Sep 9. PMID: 34504347; PMCID: PMC8532138.

## GOLDEN PARAGRAPH

**ROLE IN THE PROJECT** Expertise in molecular biology and biophysical characterization of the proteins and antibodies.  
Expertise in bioinformatic approach for study cancer progression and identify novel signature associated with the tumor progression.

## WORK EXPERIENCE

### **2019 – Current**

Researcher  
Experimental and Clinical Pharmacology Unit  
Centro di Riferimento Oncologico IRCCS, National Cancer Institute  
Main duties/responsibilities: Applications of Artificial Intelligence to preclinical drug Research & Development processes and sequencing data.

### **2013-2019**

Research contractor  
Experimental oncology Unit 1  
University of Udine; Department of Biomedical and Biotechnological Sciences  
Main duties/responsibilities: Development of bioinformatic approaches for the analysis of sequencing data and server management and related issues of the institute sequencer.  
Sector: Research sector

### **2010-2013**

Research fellow  
University of Udine; Department of Biomedical and Biotechnological Sciences  
Main duties/responsibilities: Optimization of amylogogenic protein expression protocols for structural studies using NMRStudy of the feasibility of amyloid dection systems with new . instruments. Data analysis  
Sector: Research sector

## EDUCATION AND TRAINING

### **2022-2025**

University of Pavia  
Specialization in health statistics and biometrics

### **2006-2009**

Scuola Internazionale Superiore di Studi Avanzati di TRIESTE (SISSA)  
PhD in Functional and Structural Genomics

### **2000-2005**

University of Udine  
Degree in biotechnologies (LM 7)

## PERSONAL SKILLS

Organisational / managerial skills project management, experimental procedure scheduling, analytical thinking.

## ADDITIONAL INFORMATION

**Most relevant publications in the last 10 Years** 1: Bosio A, Cerretti G, Padovan M, Del Bianco P, Polano M, Mandruzzato S, Indraccolo S, Manara R, Librizzi G, Caccese M, Conrà M, Maccari M, Lonardi S, De Salvo GL, Lombardi G. Regorafenib

- versus local standard of care in patients with grade 2-3 meningioma no longer eligible for loco-regional treatments: a phase II randomized controlled trial (the MIRAGE study). *Trials*. 2025 Aug 4;26(1):268. doi: 10.1186/s13063-025-08997-2. PMID: 40759981; PMCID: PMC12323224.
- 2: Virga A, Urbini M, Polano M, Petracci E, Tedaldi G, Gurioli G, Marisi G, Angeli D, Ambrosini-Spaltro A, De Luca G, Cangini I, Zampiga V, Cenacchi G, Toffoli G, Casadei C, Cursano MC, Contedua V, De Giorgi U, Ulivi P. Mutational and low-coverage whole genome sequencing identifies actionable DNA repair alterations in prostate cancer plasma DNA. *Sci Rep*. 2025 Jul 1;15(1):21296. doi:10.1038/s41598-025-05384-4. PMID: 40596117; PMCID: PMC12219447.
- 3: Scaglione GL, Lombardo V, Polano M, Scandurra G, Pettinato A, Giunta C, Iemmolo R, Scollo P, Capoluongo ED. Real-World Analysis of HRD Assay Variability in High-Grade Serous Ovarian Cancer: Impacts of BRCA1/2 Mutation Subtypes on HRD Assessment. *Biomolecules*. 2025 May 21;15(5):745. doi: 10.3390/biom15050745. PMID: 40427638; PMCID: PMC12110076.
- 4: Miolo G, Canil G, Polano M, Dal Bo M, Mondello A, Palumbo A, Puglisi F, Corona G. Novel De Novo BRCA2 Variant in an Early-Onset Ovarian Cancer Reveals a Unique Tumor Evolution Pathway. *Int J Mol Sci*. 2025 Mar 5;26(5):2295. doi: 10.3390/ijms26052295. PMID: 40076915; PMCID: PMC11899998.
- 5: Ius T, Polano M, Dal Bo M, Bagatto D, Bertani V, Gentilini D, Lombardi G, D'agostini S, Skrap M, Toffoli G. Development of Clinical-Radiomics Nomogram for Predicting Post-Surgery Functional Improvement in High-Grade Glioma Patients. *Cancers (Basel)*. 2025 Feb 23;17(5):758. doi: 10.3390/cancers17050758. PMID: 40075605; PMCID: PMC11899258.
- 6: Mossenta M, Argenziano M, Capolla S, Busato D, Durigutto P, Mangogna A, Polano M, Sblattero D, Cavalli R, Macor P, Toffoli G, Dal Bo M. Idarubicin-loaded chitosan nanobubbles to improve survival and decrease drug side effects in hepatocellular carcinoma. *Nanomedicine (Lond)*. 2025 Feb;20(3):255-270. doi: 10.1080/17435889.2025.2452154. Epub 2025 Jan 15. PMID: 39815170; PMCID: PMC11792799.
- 7: Mauro M, Zulian E, Bestiaco N, Polano M, Larese Filon F. Slow-Paced Breathing Intervention in Healthcare Workers Affected by Long COVID: Effects on Systemic and Dysfunctional Breathing Symptoms, Manual Dexterity and HRV. *Biomedicines*. 2024 Oct 3;12(10):2254. doi: 10.3390/biomedicines12102254. PMID: 39457567; PMCID: PMC11505241.
- 8: Tosello V, Grassi A, Rose D, Bao LC, Zulato E, Dalle Fratte C, Polano M, Del Bianco P, Pasello G, Guarneri V, Indraccolo S, Bonanno L. Binary classification of copy number alteration profiles in liquid biopsy with potential clinical impact in advanced NSCLC. *Sci Rep*. 2024 Aug 9;14(1):18545. doi: 10.1038/s41598-024-68229-6. PMID: 39122833; PMCID: PMC11316016.
- 9: Mondello A, Dal Bo M, Toffoli G, Polano M. Machine learning in onco-pharmacogenomics: a path to precision medicine with many challenges. *Front Pharmacol*. 2024 Jan 9;14:1260276. doi: 10.3389/fphar.2023.1260276. PMID: 38264526; PMCID: PMC10803549.
- 10: Polano M, Bedon L, Dal Bo M, Sorio R, Bartoletti M, De Mattia E, Cecchin E, Pisano C, Lorusso D, Lissoni AA, De Censi A, Cecere SC, Scollo P, Marchini S, Arenare L, De Giorgi U, Califano D, Biagioli E, Chiadini P, Perrone F, Pignata S, Toffoli G. Machine Learning Application Identifies Germline Markers of Hypertension in Patients With Ovarian Cancer Treated With Carboplatin, Taxane, and Bevacizumab. *Clin Pharmacol Ther*. 2023 Sep;114(3):652-663. doi: 10.1002/cpt.2960. Epub 2023 Jun 21. PMID: 37243926.
- 11: Dal Bo M, Polano M, Ius T, Di Cintio F, Mondello A, Manini I, Pegolo E, Cesselli D, Di Loreto C, Skrap M, Toffoli G. Machine learning to improve interpretability of clinical, radiological and panel-based genomic data of glioma grade 4 patients undergoing surgical resection. *J Transl Med*. 2023 Jul 7;21(1):450. doi: 10.1186/s12967-023-04308-y. PMID: 37420248; PMCID: PMC10329348.
- 12: Ius T, Ng S, Young JS, Tomasino B, Polano M, Ben-Israel D, Kelly JJP, Skrap M, Duffau H, Berger MS. The benefit of early surgery on overall survival in incidental low-grade glioma patients: A multicenter study. *Neuro Oncol*. 2022 Apr 1;24(4):624-638. doi: 10.1093/neuonc/noab210. PMID:

- 34498069; PMID: PMC8972318.
- 13: Bedon L, Cecchin E, Fabbiani E, Dal Bo M, Buonadonna A, Polano M, Toffoli G. Machine Learning Application in a Phase I Clinical Trial Allows for the Identification of Clinical-Biomolecular Markers Significantly Associated With Toxicity. *Clin Pharmacol Ther.* 2022 Mar;111(3):686-696. doi: 10.1002/cpt.2511. Epub 2021 Dec 28. PMID: 34905217.
- 14: Andreuzzi E, Fejza A, Polano M, Poletto E, Camicia L, Carobolante G, Tarticchio G, Todaro F, Di Carlo E, Scarpa M, Scarpa M, Paulitti A, Capuano A, Canzonieri V, Maiero S, Fornasari M, Cannizzaro R, Doliana R, Colombatti A, Spessotto P, Mongiat M. Colorectal cancer development is affected by the ECM molecule EMILIN-2 hinging on macrophage polarization via the TLR-4/MyD88 pathway. *J Exp Clin Cancer Res.* 2022 Feb 11;41(1):60. doi: 10.1186/s13046-022-02271-y. PMID: 35148799; PMID: PMC8840294.
- 15: Fang et al; Somatic Mutation Working Group of Sequencing Quality Control Phase II Consortium. Establishing community reference samples, data and call sets for benchmarking cancer mutation detection using whole-genome sequencing. *Nat Biotechnol.* 2021 Sep;39(9):1151-1160. doi: 10.1038/s41587-021-00993-6. Epub 2021 Sep 9. PMID: 34504347; PMID: PMC8532138.
- 16: Xiao W, et al. Toward best practice in cancer mutation detection with whole-genome and whole-exome sequencing. *Nat Biotechnol.* 2021 Sep;39(9):1141-1150. doi: 10.1038/s41587-021-00994-5. Epub 2021 Sep 9. PMID: 34504346; PMID: PMC8506910.
- 17: Fejza A, Polano M, Camicia L, Poletto E, Carobolante G, Toffoli G, Mongiat M, Andreuzzi E. The Efficacy of Anti-PD-L1 Treatment in Melanoma Is Associated with the Expression of the ECM Molecule EMILIN2. *Int J Mol Sci.* 2021 Jul 13;22(14):7511. doi: 10.3390/ijms22147511. PMID: 34299131; PMID: PMC8306837.
- 18: Pistoni M, Rossi T, Donati B, Torricelli F, Polano M, Ciarrocchi A. Long Noncoding RNA *NEAT1* Acts as a Molecular Switch for BRD4 Transcriptional Activity and Mediates Repression of BRD4/WDR5 Target Genes. *Mol Cancer Res.* 2021 May;19(5):799-811. doi: 10.1158/1541-7786.MCR-20-0324. Epub 2021 Feb 5. PMID: 33547232.
- 19: Polano M, Fabbiani E, Andreuzzi E, Cintio FD, Bedon L, Gentilini D, Mongiat M, Ius T, Arcicasa M, Skrap M, Dal Bo M, Toffoli G. A New Epigenetic Model to Stratify Glioma Patients According to Their Immunosuppressive State. *Cells.* 2021 Mar 5;10(3):576. doi: 10.3390/cells10030576. PMID: 33807997; PMID: PMC8001235.
- 20: Bedon L, Dal Bo M, Mossenta M, Busato D, Toffoli G, Polano M. A Novel Epigenetic Machine Learning Model to Define Risk of Progression for Hepatocellular Carcinoma Patients. *Int J Mol Sci.* 2021 Jan 22;22(3):1075. doi: 10.3390/ijms22031075. PMID: 33499054; PMID: PMC7865606.
- 21: Gerratana L, Davis AA, Polano M, Zhang Q, Shah AN, Lin C, Basile D, Toffoli G, Wehbe F, Puglisi F, Behdad A, Platanias LC, Gradishar WJ, Cristofanilli M. Understanding the organ tropism of metastatic breast cancer through the combination of liquid biopsy tools. *Eur J Cancer.* 2021 Jan;143:147-157. doi: 10.1016/j.ejca.2020.11.005. Epub 2020 Dec 8. PMID: 33307492.
- 22: Basile D, Bartoletti M, Polano M, Bortot L, Gerratana L, Di Nardo P, Borghi M, Fanotto V, Pelizzari G, Lisanti C, Garutti M, Buriolla S, Ongaro E, Andreuzzi E, Montico M, Balestreri L, Miolo G, Toffoli G, Aprile G, Puglisi F, Buonadonna A. Prognostic role of visceral fat for overall survival in metastatic colorectal cancer: A pilot study. *Clin Nutr.* 2021 Jan;40(1):286-294. doi: 10.1016/j.clnu.2020.05.019. Epub 2020 May 23. PMID: 32546390.
- 23: Di Cintio F, Dal Bo M, Baboci L, De Mattia E, Polano M, Toffoli G. The Molecular and Microenvironmental Landscape of Glioblastomas: Implications for the Novel Treatment Choices. *Front Neurosci.* 2020 Nov 25;14:603647. doi: 10.3389/fnins.2020.603647. PMID: 33324155; PMID: PMC7724040.
- 24: Dalle Fratte C, Guardascione M, De Mattia E, Borsatti E, Boschetto R, Farruggio A, Canzonieri V, Romanato L, Borsatti R, Gagno S, Marangon E, Polano M, Buonadonna A, Toffoli G, Cecchin E. Clonal Selection of a Novel Deleterious TP53 Somatic Mutation Discovered in ctDNA of a KIT/PDGFRα Wild-Type Gastrointestinal Stromal Tumor Resistant to Imatinib. *Front Pharmacol.* 2020 Feb 7;11:36. doi: 10.3389/fphar.2020.00036. PMID: 32116712; PMID: PMC7019050.
- 25: Ius T, Pignotti F, Della Pepa GM, La Rocca G, Somma T, Isola M, Battistella C, Gaudino S,

- Polano M, Dal Bo M, Bagatto D, Pegolo E, Chiesa S, Arcicasa M, Olivi A, Skrap M, Sabatino G. A Novel Comprehensive Clinical Stratification Model to Refine Prognosis of Glioblastoma Patients Undergoing Surgical Resection. *Cancers (Basel)*. 2020 Feb 7;12(2):386. doi: 10.3390/cancers12020386. PMID: 32046132; PMCID: PMC7072471.
- 26: Polano M, Chierici M, Dal Bo M, Gentilini D, Di Cintio F, Baboci L, Gibbs DL, Furlanello C, Toffoli G. A Pan-Cancer Approach to Predict Responsiveness to Immune Checkpoint Inhibitors by Machine Learning. *Cancers (Basel)*. 2019 Oct 15;11(10):1562. doi: 10.3390/cancers11101562. PMID: 31618839; PMCID: PMC6827166.
- 27: Brenca M, Stacchiotti S, Fassetta K, Sbaraglia M, Janjusevic M, Racanelli D, Polano M, Rossi S, Brich S, Dagrada GP, Collini P, Colombo C, Gronchi A, Astolfi A, Indio V, Pantaleo MA, Picci P, Casali PG, Dei Tos AP, Pilotti S, Maestro R. NR4A3 fusion proteins trigger an axon guidance switch that marks the difference between EWSR1 and TAF15 translocated extraskeletal myxoid chondrosarcomas. *J Pathol*. 2019 Sep;249(1):90-101. doi: 10.1002/path.5284. Epub 2019 May 14. Erratum in: *J Pathol*. 2021 Aug;254(5):606. doi: 10.1002/path.5737. PMID: 31020999; PMCID: PMC6766969.
- 28: Rossi S, Gasparotto D, Cacciatore M, Sbaraglia M, Mondello A, Polano M, Mandolesi A, Gronchi A, Reuss DE, von Deimling A, Maestro R, Dei Tos AP. Neurofibromin C terminus-specific antibody (clone NFC) is a valuable tool for the identification of NF1-inactivated GISTs. *Mod Pathol*. 2018 Jan;31(1):160-168. doi: 10.1038/modpathol.2017.105. Epub 2017 Sep 1. PMID: 28862263.
- 29: Urbini M, Astolfi A, Pantaleo MA, Serravalle S, Dei Tos AP, Picci P, Indio V, Sbaraglia M, Benini S, Righi A, Gambarotti M, Gronchi A, Colombo C, Dagrada GP, Pilotti S, Maestro R, Polano M, Saponara M, Tarantino G, Pession A, Biasco G, Casali PG, Stacchiotti S. HSPA8 as a novel fusion partner of NR4A3 in extraskeletal myxoid chondrosarcoma. *Genes Chromosomes Cancer*. 2017 Jul;56(7):582-586. doi: 10.1002/gcc.22462. Epub 2017 May 4. PMID: 28383167.
- 30: Di Giorgio E, Franforte E, Cefalù S, Rossi S, Dei Tos AP, Brenca M, Polano M, Maestro R, Paluvai H, Picco R, Brancolini C. The co-existence of transcriptional activator and transcriptional repressor MEF2 complexes influences tumor aggressiveness. *PLoS Genet*. 2017 Apr 18;13(4):e1006752. doi: 10.1371/journal.pgen.1006752. PMID: 28419090; PMCID: PMC5413110.
- 31: Gasparotto D, Rossi S, Polano M, Tamborini E, Lorenzetto E, Sbaraglia M,
- 31: Mondello A, Massani M, Lamon S, Bracci R, Mandolesi A, Frate E, Stanzial F, Agaj J, Mazzoleni G, Pilotti S, Gronchi A, Dei Tos AP, Maestro R. Quadruple-Negative GIST Is a Sentinel for Unrecognized Neurofibromatosis Type 1 Syndrome. *Clin Cancer Res*. 2017 Jan 1;23(1):273-282. doi: 10.1158/1078-0432.CCR-16-0152. Epub 2016 Jul 7. PMID: 27390349.
- 32: Brenca M, Rossi S, Polano M, Gasparotto D, Zanatta L, Racanelli D, Valori L, Lamon S, Dei Tos AP, Maestro R. Transcriptome sequencing identifies ETV6-NTRK3 as a gene fusion involved in GIST. *J Pathol*. 2016 Mar;238(4):543-9. doi: 10.1002/path.4677. Epub 2016 Jan 25. PMID: 26606880.

**Projects/Grants** **NA**

**Conferences** **Oral Communications**

**Settembre, 2025**

**SISEMC**

**16 lug 2025**

**Seminario di approfondimento - Anonimizzazione, pseudonimizzazione e dati sintetici Confindustria**

**12-13-14 maggio e settembre 2025**

**\*MASTERCLASS IN diagnostica MOLECOLARE E GENOMICA nella MEDICINA DI PRECISIONE 3.0\***

**15-15 aprile 2025**

Il Riunione MITO – Intelligenza Artificiale

**27-4-2024**

EVENTO N°410833 Neoplasie Cerebrali I gliomi quale futuro

L'intelligenza artificiale e la studio del trattamento nei gliomi

**15 - 16 marzo 2024**

Evolution of Cancer Pharmacology

A machine learning approach to identify the best responder of Carmustine wafer by germline variants

**NAPOLI 11-12 APRILE 2024****GRUPPO MITO ARTIFICIAL INTELLIGENCE**

Studi traslazionali e metodiche di studio con AI in corso

**MESSINA 23-25 NOVEMBRE 2023****XXVI Congresso Nazionale e Corso Residenziale AINO**

L'uso dell'intelligenza artificiale per migliorare l'interpretazione dei dati genomici clinici, radiologici di pazienti sottoposti a resezione chirurgica con glioma di grado 4 (**Premio Brainy** alle migliori comunicazioni nell'ambito della ricerca innovativa e traslazionale nella cura dei tumori cerebrali)

**20-23 settembre 2023****XII CONGRESSO SISMEC 2023**

A REAL-WORLD STUDY ON THE USE OF MACHINE LEARNING TO IDENTIFY A GERMLINE SIGNATURE OF THE BEST RESPONDERS FOR CW TREATMENT IN GG4 GLIOMAS

FORLTALL BARI 2023

APPLICAZIONE DELL'INTELLIGENZA ARTIFICIALE PER INDIVIDUARE I PAZIENTI ONCOLOGICI CON ALTO RICHIO DI COMPLICAZIONI

**NOVEMBRE 2022**

MOLECULAR CHARACTERIZATION OF GLIOBLASTOMAS FOR PERSONALIZED THERAPY: THE EXPERIENCE OF A MULTIDISCIPLINARY APPROACH IN THE FRIULI VENEZIA GIULIA REGION

*According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV*

Location, Aviano

Date 5/11//2025



