



# Andrea Poletti

**Work** : Via Masserenti, 9, 40138, Bologna, Italy

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**Date of birth:** 4 Oct 1991 **Nationality:** Italian

## ABOUT ME

I'm a health biologist and a bioinformatic researcher. I'm currently active on hematological cancer molecular analysis in a team of both bioinformaticians and biostatisticians. I have 6 years direct on-field experience in bioinformatics, in particular in the fields of NGS sequencing (WGS, WES, RNA-seq, targeted diagnostic panels and Single-cell sequencing), microarray data analysis (SNP arrays, GEP array) and biostatistics (survival analysis, descriptive statistics, data structure exploration, clustering analysis and machine-learning techniques). I am passionate and enjoy to explore and develop new algorithms/tools for multi-omics bioinformatic data analysis.

## WORK EXPERIENCE

[ 1 Feb 2023 – Current ]

### Postdoctoral Research Fellow

**University of Bologna**

**City:** Bologna

**Country:** Italy

Senior bioinformatician

[ 15 Mar 2022 – 31 Jan 2023 ]

### Visiting Research Fellow

**Dana-Farber Cancer Institute - I. Ghobrial Lab & Broad Institute of Harvard and MIT - G. Getz Team**

**City:** Boston

**Country:** United States

Research Project collaboration: "TiMMing: developing an innovative suite of bioinformatic tools to harmonize and track the origin of Copy Number Alterations in the evolutive history of Multiple Myeloma"

[ 30 Nov 2019 – 31 Jan 2023 ]

### Bioinformatics scientist - Phd student

**University of Bologna - DIMES Department / Institute of Hematology "Seràgnoli"**

**City:** Bologna

**Country:** Italy

PhD research project: "Timing the ancestrality of genomic alterations: impact on clonal evolution dynamics and Minimal Residual Disease tracking in Multiple Myeloma"

[ 6 Jan 2019 – 26 Apr 2019 ]

### Visiting scientist

**Francis Crick Institute - Peter Van Loo Laboratory**

**City:** London

**Country:** United Kingdom

Research Project collaboration topic: " Interpretation of low frequency mutations in tumour clonal evolution with an ultra-deep sequencing approach. Creation of a custom R-based NGS analysis pipeline"

[ 31 Jan 2018 – Nov 2019 ]

## **Bioinformatics scientist - Research Scholarship**

***University of Bologna - DIMES Department / Institute of Hematology  
"Seràgnoli"***

**City:** Bologna

**Country:** Italy

Research project: "Definition of genomic criteria for the identification of clonal evolution trajectories in Multiple

Myeloma: use of statistical and bioinformatic methodologies for SNP-arrays and NGS data analysis"

## **EDUCATION AND TRAINING**

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[ 2019 – 2023 ]

### **Doctor of Philosophy - PhD in Biomedical Sciences**

***University of Bologna***

**Address:** Via Zamboni, 38, 40126, Bologna, Italy

[ 2015 – 2017 ]

### **Master Degree in Health Biology**

***University of Bologna***

**Address:** Via Zamboni, 38 , 40126, Bologna, Italy

[ 2011 – 2015 ]

### **Bachelor's Degree in Biological Science**

***University of Bologna***

**Address:** Via Zamboni, 38 , 40126 , Bologna, Italy

## **LANGUAGE SKILLS**

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**Mother tongue(s):** Italian

**Other language(s):**

**English**

**LISTENING B2 READING B2 WRITING B2**

**SPOKEN PRODUCTION B2 SPOKEN INTERACTION B2**

## **DIGITAL SKILLS**

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Microsoft Office | Programming languages (Python and R program) | Relational Databases: SQL | R Shiny | R, Python, snakemake, Unix, High Performance Computing (LSF, SLURM) | GitHub, Dockers, Kubernetes | Unix/Linux und Unix Shell | Excellent command of R, R Studio, R Shiny

### **Personal skills**

Organizational and planning skills | Team-work oriented | Critical thinking | Motivated | Creativity | Good listener and communicator | Decision-making | Research and analytical skills

## PUBLICATIONS

[ 2022 ]

[Poletti A. & Mazzocchetti G., et al. "BoBafit: A copy number clustering tool designed to refit and recalibrate the baseline region of tumors' profiles." Computational and Structural Biotechnology Journal 20 \(2022\): 3718-3728.](#)

[ 2022 ]

[Martello, M., Poletti A., et al. "Clonal and subclonal TP53 molecular impairment is associated with prognosis and progression in multiple myeloma." Blood cancer journal 12.1 \(2022\): 1-7.](#)

[ 2022 ]

[Martello, M., Solli, V., Termini, R., Kanapari, A., Remondini, D., Borsi, E., Poletti, A. et al. "Identification of a Maturation Plasma Cell Index through a Highly Sensitive Droplet Digital PCR Assay Gene Expression Signature Validation in Newly Diagnosed Multiple Myeloma Patients." International Journal of Molecular Sciences 23.20 \(2022\): 12450.](#)

[ 2022 ]

[Vigliotta I, Armuzzi S, Barone M, Solli V, Pistis I, Borsi E, Taurisano B, Mazzocchetti G, Martello M, Poletti A, et al. "The ALLgorithmMM: How to define the hemodilution of bone marrow samples in lymphoproliferative diseases." Frontiers in Oncology 12 \(2022\).](#)

[ 2022 ]

[Poletti A., et al. "Temporal-weight estimation of the copy number alterations of 1384 Multiple Myeloma patients defines an ancestry index impacting patients survival." Clinical Lymphoma, Myeloma and Leukemia 21 \(2021\): S35-S36.](#)

**ORAL COMMUNICATION** Conference abstract: 18th International Myeloma Workshop (IMW) - Annual Meeting September 8-11, Vienna, Austria

[ 2022 ]

[Poletti, Andrea, et al. "A Methodologically Updated De-Novo Extraction of Copy Number Signatures in Multiple Myeloma: Clinical Significance and Putative Aetiologies." Blood 140.Supplement 1 \(2022\): 1559-1560.](#)

**ORAL COMMUNICATION** Conference abstract: 64th American Society of Hematology (ASH) - Annual Meeting December 10-13, 2022, New Orleans, LA

[ 2022 ]

[Alberge, J., Dutta, A., Lightbody, E., Poletti, A., et al. "Reconstructing the Genomic History of Multiple Myeloma Precursor Disease: Novel Insights and Clinical Applicability." Blood 140.Supplement 1 \(2022\): 4257-4258.](#)

Conference abstract: 64th American Society of Hematology (ASH) - Annual Meeting December 10-13, 2022, New Orleans, LA

[ 2020 ]

[Poletti, A., et al. "Negative selective pressure exerted by maintenance therapy promotes the extinction of sub-clones carrying high-risk lesions in multiple myeloma." Proceedings: AACR Annual Meeting \(2020\): 2700-2700.](#)

Conference abstract: Proceedings: AACR Annual Meeting 2020; April 27-28, 2020 and June 22-24, 2020; Philadelphia, PA

[ 2019 ]

[Poletti, A., et al. "VarianThinker: a classification method to confidently approach the mutation heterogeneity in Multiple Myeloma." \*Clinical Lymphoma, Myeloma and Leukemia\* 19.10 \(2019\): e72-e73.](#)

Conference abstract: *Clinical Lymphoma, Myeloma and Leukemia* 19(10):e72-e73

[ 2019 ]

[Solli, V., Poletti A., et al. "Rare, but complex chromosomal rearrangements, defined" Chromoanagenesis", caused by single-step or stepwise catastrophic genomic events, significantly impact on Multiple Myeloma patients." \*Clinical Lymphoma, Myeloma and Leukemia\* 19.10 \(2019\): e78-e79.](#)

Conference abstract: *Clinical Lymphoma, Myeloma and Leukemia* 19(10):e78-e79

[ 2018 ]

[Terragna, C., Poletti, A. et al. "Whole-genome analysis of CNAs identifies four main evolution trajectories in multiple myeloma \(MM\) patients front-line treated with PI-based regimens". \*Cancer Research\* \(2018\): 2176-2176.](#)

Conference abstract: American Association for Cancer Research (AACR) - Annual Meeting April 14-18, 2018; Chicago, IL

## HONOURS AND AWARDS

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[ 3 Mar 2022 ] **IMS Career Development Award** Awarding institution: International Myeloma Society

Grant for young investigators focused on research in the field of plasma cell dyscrasias to foster the development of an academic career of young scientists, and to promote the development of the next generation of leaders in this field. This award also encourages interaction between institutions to enhance collaborative research.

[ 7 Nov 2022 ] **ASH Abstract Achievement Award** Awarding institution: American Society of Hematology

**Abstract Title:** "A Methodologically Updated De-Novo Extraction of Copy Number Signatures in Multiple Myeloma: Clinical Significance and Putative Aetiologies."

**64th American Society of Hematology (ASH) Annual Meeting, December 10-13, 2022, New Orleans, LA**

[ 9 Sep 2021 ] **IMS Young Investigator Award for Exemplary Abstract** Awarding institution: International Myeloma Society

**Abstract Title:** Temporal-Weight Estimation of The Copy Number Alterations of 1384 Multiple Myeloma Patients Defines an Ancestrality Index Impacting Patients Survival

18th International Myeloma Workshop, September 8-11, Vienna, Austria

## PROJECTS

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### Personal GitHub

<https://github.com/andrea-poletti-unibo>

### Institutional GitHub profile

<https://github.com/bioinformatic-seragnoli>