Salvatore Barbagallo

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Professional Summary

Biomedical Scientist with 7+ years of clinical laboratory experience, now specialising in bioinformatics and data science. Skilled in programming (Python, R, SQL, Bash), NGS data analysis, and cloud computing (Google Cloud, AWS). Strong background in molecular biology, flow cytometry, and stem cell research, combined with certifications in bioinformatics, data analytics, and project management. Experienced at bridging wet-lab techniques with computational workflows to deliver reproducible, data-driven insights.

Skills

Programming: Python (Data Analysis, Biopython, Machine Learning, Automation), Bash, R, SQL, Git/GitHub

Bioinformatics tools: Bioconductor, Bowtie/Bowtie2, BWA, SAMtools, BEDtools, VCFtools, FastQC, Cufflinks/Cuffdiff, TopHat, STAR, HISAT2, DESeq2

Data Analysis & Visualisation: NGS Data Analysis, Genomic Data Science, Statistical Modelling, Tableau, ggplot2, seaborn, matplotlib

Cloud & Project Management: Google Cloud, Kubernetes Engine, AWS Cloud Practitioner, Agile, Scrum, Waterfall

Laboratory Techniques: Flow Cytometry (MACSQuant, BD FACS Canto/DIVA), NGS Library Preparation (Illumina), Whole Genome Amplification

LIMS & Specialised Software: Illumina Control Software, SPT Labtech Software, BD FACS DIVA, WinPath, QPulse, EPIC, iPassport

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Work Experience

Band 6 Specialist Biomedical Scientist
Stem Cell Laboratory, University College London Hospitals, September 2021 – present

- Processed and cryopreserved peripheral blood stem cells, bone marrow collections, DLI, and CD34+ enrichments for transplant procedures.
- Analysed CD3+ & CD34+ cell populations with MACSQuant flow cytometer, providing critical data for patient treatments.
- Supported 11 clinical trials, handling ATMPs including CAR-T cells (Yescarta, Novartis), antibody, and genetic therapies.
- Applied computational skills to streamline stock management and training assessments, reducing inventory errors by 30% and saving 10+ hours weekly.
- Evaluated Burst-Forming Unit-Erythroid (BFU-E) and Granulocyte-Macrophage Colony-Stimulating Factor (GM-CSF) colonies for stem cell transplant suitability.
- Maintained sterility in Grade A clean-room environments and conducted agar plate assessments.
- Interpreted and reported NEQAS samples, ensuring consistently high lab performance.

Laboratory Scientist
CooperGenomics, *London, July 2019 – September 2021*

- Processed embryo and cheek swab samples for PGT-A, PGT-SR, and PGT-M testing.
- Conducted NGS library preparation (manual: 96 samples/run; automated: 192 samples/run)

with strict QC adherence.

- Generated 500+ clinical reports per week from NGS data.
- Maintained and calibrated automated liquid handling systems (Mosquito HV, Dragonfly Discovery).
- Generated detailed and accurate patient reports from NGS data, +500 per week.
- Developed and reviewed SOPs to ensure ISO-compliant laboratory practices.

Biomedical laboratory assistant - Cytology
Leicester Royal Infirmary, Leicester, December 2018 – June 2019

- Prepared samples for Papanicolaou staining, reagent maintenance, and coverslipping.
- Ensured accurate sample processing to support diagnostic reporting.

Education

Master of Science: Bioinformatics
Atlantic Technological University (Remote), September 2025 – Present (ongoing)

Master of Science: Cell and Gene Therapy
University College London, September 2021- September 2023

- **Dissertation**: Expansion and Preservation of Haematopoietic Potential in Human Amniotic Fluid Stem Cells for Therapeutic Applications

Bachelor: Biomedical Science
Siciliae Studium Generale - University of Catania, September 2014 – October 2017

- **Dissertation**: Cytotoxicity assays using SIRC, ARPE-19 and HRPE cells

Certificates

Google: Data Analytics; Advanced Data Analytics; IT Automation with Python; Project Management

Google Cloud: Architecting with Google Kubernetes Engine

Amazon Web Services: AWS Cloud Practitioner Essentials

Johns Hopkins University: Genomic Data Science Specialization

Wellcome Connecting Science Learning and Training: Bioinformatics for Biologists: An Introduction Linux, Bash Scripting, and R; Bioinformatics for Biologists: Analysing and Interpreting Genomics Datasets

Coursera: Access Bioinformatics Databases with Biopython

freeCodeCamp: Data Analysis with Python; Relational Databases; Scientific Computing with Python

Le Wagon: Data Visualization with Tableau

DE<code>LIFE: Genomes, Networks and Pathways; Data Science and Machine Learning with Python

Languages

Italian (native), English (Fluent), Portuguese (Fluent), Spanish (Intermediate)