



## Michele Giaquinto

### ABOUT ME

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Currently specialising in functional genomics, I am enthusiastic about establishing a career in research. I am fully prepared to dedicate myself to the field, leveraging my knowledge and skills acquired during my years of study.

### EDUCATION AND TRAINING

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#### **Master degree in Functional Genomics (110/110 cum laude)**

*University of Trieste, Department of Life Sciences* [ 01/10/2020 – 17/07/2023 ]

Country: Italy

Thesis: Thesis title: Resolution of R-loops by SFPQ suppresses the activation of innate immunity pathways in osteosarcoma cells. | Subject: Epigenetic Regulation | Supervisor: Prof. Stefan Schoeftner

#### **Bachelor degree in Biological Sciences (110/110 cum laude)**

*University of Catania, Department of Biological, Geological and Environmental Sciences* [ 01/10/2017 – 24/09/2020 ]

Country: Italy

Thesis: Thesis title: MicroRNA: general characteristics and role in lung cancer | Subject: GENETICS | Supervisor: Prof. FEDERICO CONCETTA

#### **High school diploma, technical institute for surveyors (90/100)**

[ 06/07/2017 ]

### WORK EXPERIENCE

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#### **Master thesis internship**

*University of Trieste, Department of Life Sciences* [ 26/06/2022 – 17/07/2023 ]

Country: Italy

Supervisor: Prof. Stefan Schoeftner

Molecular oncology research area (Biomedicine), laboratory of non-coding RNA and genomic stability.  
Thesis title: Resolution of R-loops by SFPQ suppresses the activation of innate immunity pathways in osteosarcoma cells.

Topic:

- R-loops formation
- DNA damage, replication stress and genomic instability
- Innate immunity pathways

Main activities and responsibilities:

- Laboratory management
- Organising and carrying out experiments
- Data analysis

## **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**

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## **DIGITAL SKILLS**

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ImageJ / GraphPad / Photoshop / Scientific literature research

## **PUBLICATIONS**

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**Poster presentation (best poster award)**

[2023]

Congress "Beyond Genomics: Next Generation Molecular Biology"

18th SIBBM Seminars-Frontiers in Molecular Biology, Bari, Villa Romanazzi Carducci, 26-28 June 2023.

Authors: A. Ferrando, Michele Giacquinto, A. Zappone, P. Veneziano Broccia, A. Gambelli, C. Boncristiani, A. Framarini, S. Schoeftner

Title: SFPQ controls genomic stability by suppressing RNA:DNA hybrids in human cancer cells

## **ORGANISATIONAL SKILLS**

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**Organisational skills**

Organizational skills, demonstrated through the efficient management of multiple tasks and priorities to meet deadlines and achieve goals. I consider myself an accurate person with strong attention to detail, ensuring accuracy and thoroughness in all aspects of work, from planning to execution.

Through team sports, scouting and laboratory experience I have developed a strong aptitude for working efficiently in both collaborative group environments and independently, leveraging my strengths in collaboration and self-motivation. I highly appreciate and actively encourage suggestions and input from others, as I understand the significance of diverse perspectives in attaining the best possible outcomes.

## **COMMUNICATION AND INTERPERSONAL SKILLS**

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**Communication and interpersonal skills**

During my internship, I actively participated in lab meetings and engaged in various activities that significantly enhanced my public speaking skills. As a result, I gained increased confidence and improved clarity in the presentation of scientific data. Moreover, I developed strong active listening skills, allowing me to foster open and productive communication with colleagues, ensuring effective collaboration and mutual understanding.

## **JOB-RELATED SKILLS**

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### **Job-related skills**

**Molecular biology techniques:** DNA extraction and purification, PCR, agarose gels electrophoresis, molecular cloning, plasmids purification, restriction enzymes digestions.

RNA extraction, retro-transcription, RT-PCR for gene expression analysis.

ChIP assay (Chromatin Immuno Precipitation) followed by q-PCR (ChIP-qPCR).

DRIP assay (DNA-RNA hybrids Immuno Precipitation) followed by q-PCR (DRIP-qPCR).

DNA FISH (Fluorescent *In Situ* Hybridisation) in interphase cells in combination with antibody staining (IF-DNA FISH).

Polyacrylamide gels electrophoresis and Western Blot.

**Cell biology techniques:** mammalian cell lines culture, transfection (overexpression and silencing). Bacterial cells transformation.

Medium conditioning and cell conditioning. Secreted protein precipitation from medium.

Immuno-fluorescence of interphase cells (IF).

## **PROJECTS AND RESEARCH INTERESTS**

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### **Projects and Research Interests**

During my master's thesis, I participated in a project concerning the biology of R-loops in osteosarcoma cells. In particular I am studying the ability of the RNA binding protein SFPQ to suppress R-loop formation. In my master's thesis, I demonstrated that high R-loop levels in cells that lose SFPQ function lead to excessive genomic instability that results in the accumulation of cytoplasmic DNA. The presence of DNA in the cytoplasm leads to cGAS/STING pathway activation and promotion of gene expression signatures of innate immunity. Innate immunity pathways were reported to have a potent anti-tumoral function by modifying the tumor-microenvironment. We therefore want to prove that targeting SFPQ function may represent an innovative way in improving the patient's immune response towards cancer cells.



