

CATERINA MARCHIÒ

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Dept. of Medical Sciences - University of Turin

Pathology Unit, FPO-IRCCS Candiolo Cancer Institute, strada provinciale 142, 10060 Candiolo

CURRENT POSITION

University of Turin, Dept. of Medical Sciences
Associate Professor, Pathology

Turin, Italy
Since Oct 2018

EDUCATION

University of Turin, Dept. of Medical Sciences
Specialist in Pathology

Turin, Italy
2014

University of Turin, Dept. of Biomedical Sciences & Human Oncology
PhD, Oncology and Pathology

Turin, Italy
2008

University of Turin
MD, School of Medicine

Turin, Italy
2004

RESEARCH INTERESTS

Breast cancer pathology, spanning from histopathogenesis of breast carcinomas to molecular pathology of special histologic types of breast cancer and genetics of HER2-positive carcinomas. A specific interest in HER2-equivocal breast cancer has been funded by the Italian Association of Cancer Research (AIRC), Regione Piemonte and the Ministry of University, Education and Research (detailed below). Parallel interests involve the preanalytical phase in pathology aimed at standardizing workflows and methods (including high throughput genomics and imaging) applied to tissue samples in order to guarantee the reliability of -omic results and foster their translation to the bedside in the context of precision medicine.

GRANTS

◇ As a PI:

- *AIRC*, Italian Association for Cancer Research - Research Grant IG22850 (2019)
- *AIRC*, Italian Association for Cancer Research - Young Investigator Research Grant MFAG13310 (2012)
- *Regione Piemonte*, Young Investigator Research Grant (2009)

◇ As Unit coordinator:

- *Erasmus+*, 2014-1-IT01-KA202-002607 "Cyttest - Cytological Training At European Standard Through Telepathology" (2014)
- *PRIN*, Projects of Relevant Scientific National Interest - Ministry of University, Education and Research, Prot. 2015HAJH8E (2016)

◇ As a Collaborator:

- *H2020-SC1-2016-2017*, EU project 733112 - "SPIDIA4P - SPIDIA for Personalized Medicine - (2016)
- *EU Grant Sixth Framework Programme* - IMPACTS (Contract nr. LSHG-CT-2007-037211) (2008)
- *PRIN*, Projects of Relevant Scientific National Interest - Ministry of University, Education and Research (2009)
- *Compagnia di San Paolo* - Special Project "Oncology" (2009)
- *Cassa di Risparmio di Torino* (Progetto Alfieri) (2009)

- AIRC, Italian Association for Cancer Research - Investigator Grant (2008)

RESEARCH EXPERIENCE

University of Turin, Institut Curie Turin and Paris
Assistant Professor of Pathology 2014-2018

Development of independent research projects in the field of breast cancer, with a particular focus on HER2 equivocal breast carcinomas by involving internal and external collaborators with specific funding dedicated to the projects. In addition, part of the activity has been dedicated to molecular characterization of special entities in breast pathology as well as molecular testing in specific clinical settings, even outside breast cancer. Finally, the impact of formalin fixation on molecular testing using archival tissue samples has been studied with investigation of alternative fixatives to be used in diagnostic laboratories.

Memorial Sloan Kettering Cancer Center, Dept. of Pathology New York City, NY
Visiting Research Scholar 2014

Focused training on massive parallel sequencing analysis applied to archival tissue samples leading to characterization of the mutational repertoire of some special histologic types of breast cancer and to the description of a recurrent hotspot mutation of the *PRKD1* gene characterizing polymorphous low grade adenocarcinomas of the salivary glands

Harvard University, Boston Children's Hospital Boston, MA
Visiting Research Scholar 2013-2014

In collaboration with

University of Turin, Dept. of Medical Sciences Turin, Italy
Pathologist in training 2009-2014

During the pathology training the research activity has dealt with i) issues connected to the application of *in situ* and PCR-based techniques to ameliorate HER2 testing in diagnostic pathology, and ii) *in vitro* studies on breast cancer cells including setting up 3D cultures, creating and characterizing primary cell cultures, participating to the creation and proteomic characterization of an *in vitro* model of HER2 positive breast cancer cell line expressing truncated HER2 fragments

University of Turin, Dept. of Biomedical Sciences and Human Oncology Turin, Italy
Research Fellow 2008-2009

- Led a study on neoadjuvant breast cancer patients: patient enrolment, sample collection and genomic analyses

Breakthrough Breast Cancer Research Centre, Molecular pathology lab London, UK
Clinical Research Fellow 2006-2008

In collaboration with

University of Turin, Dept. of Biomedical Sciences and Human Oncology Turin, Italy
PhD student 2005-2008

- Characterized micropapillary carcinomas of the breast (mixed and pure forms) by microarray-based comparative genomic hybridization (aCGH) and next generation sequencing (latter task based on the ongoing collaboration with the new Reis-Filho's lab at MSKCC-NYC)
- Identified presence of chromosome 17 centromere amplification in breast cancer by aCGH
- Examined the influence of oestrogen receptor status in HER2 positive breast carcinomas by aCGH
- Characterized *HER2* and *TOP2A* amplicons in breast cancer cell lines and tissue samples by aCGH

CLINICAL ACTIVITY

Consultant histopathologist at the Pathology Unit of FPO-IRCCS Candiolo Cancer Institute; diagnostic activity focused on breast pathology and molecular diagnostics of solid tumors, including sign-out for *in situ* hybridization, sequencing (by Sequenom MassARRAY and Sanger) and RNA-based assays applied to diagnostics.

TEACHING & MENTORING EXPERIENCE

Post-Doctoral Fellowships Fondazione Umberto Veronesi Dept. of Medical Sciences, University of Turin, 2017 and 2018	Turin, Italy
University of Turin, Medical School Pathology (5 th year)	Turin, Italy
University of Turin, Dental School Pathology (3 rd year)	Turin, Italy
University of Turin, Laboratory technician programme Diagnostic techniques and cervico-vaginal cytology (2 nd year)	Turin, Italy
Eraweb (Erasmus-Western Balkans) Supervision of post-graduate students, PhD students and post-Docs in the Eraweb project at the University of Turin	Turin, Italy

RELATED PROFESSIONAL EXPERIENCE

Associate Editor for *npg* Breast Cancer, Cellular Oncology, Pathobiology

Ad hoc reviewer for peer reviewed journals, including:

- Annals of Oncology, since 2019
- Endocrine Related Cancer, since 2018
- Journal of National Cancer Institute, since 2015
- Journal of Pathology, since 2015
- Virchows Archiv, since 2015
- PlosOne, since 2012
- BMC Cancer, since 2011
- Histology&Histopathology, since 2010
- The Journal of Clinical Pathology, since 2008

Ad hoc reviewer of grant proposals for:

- The French National Cancer Institute (INCa), 2015-2018
- The Dutch Cancer Society, since 2014
- The National Science Center, Poland, since 2014

HONORS

Mayent-Rotschild grantee as Visiting Professor at Institut Curie, Paris - France.

Secretary of the working group on pre-analytical issues in surgical pathology created by the European Working Group of Molecular Pathology within the European Society of Pathology.

Secretary of the working group of Pathology and Biobanking of Alliance Against Cancer (ACC).

Scientific Director of the scientific committee of the patient advocate association R.a vi. (Ricominciare a Vivere).

PUBLICATION TRACK RECORD

Number of peer reviewed papers:

124 (first paper in 2005)

Number of book chapters:

4

H index

35 (Scopus)

I hereby authorize to personal data treatment (D. LGS. 196/2003 art. 13).

Turin, January 21st 2021
