




PERSONAL INFORMATION **Angela Toss**

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Sex F | Date of birth 10/07/1984 | Nationality Italian

**Current Position:** Tenure-Track Researcher (RTDB) MED-06

**PhD awarded less than 10 Years ago:** Yes

**Scientific Profile:**

Dr. Angela Toss is mainly focused on the care of breast cancer patients and is deeply involved in cancer research. She has a particular expertise in the management of hereditary cancer syndromes, with a specific attention to the issues related to quality of life and personalized medicine in germline mutation carriers and breast cancer patients.

Dr. Toss graduated in Medicine and Surgery in 2009 with a thesis on breast cancer prevention with anastrozole in high-risk women. The thesis was developed in the IBIS-II central coordinating office, Queen Mary University of London (UK), under the supervision of Prof Jack Cuzick. During his medical oncology training, she had the opportunity to collaborate in the 4aWoman project, a cooperation project for the prevention of gynecological and breast cancer in Madagascar. During her 4th year of residency, she spent 6 months as clinical observer in the Breast Care Center and Gynecologic Oncology Program of the Jefferson University Hospital of Philadelphia (PA, US), under the supervision of Prof Massimo Cristofanilli. In 2018, Dr. Toss obtained her PhD Degree in Clinical and Experimental Medicine with a project on personalized medicine entitled "Strategies to predict treatment response and select therapies in metastatic breast cancer patients". The project evaluated a panel of 25 genes involved in the mechanisms of targeted treatment resistance, in primary breast cancers and their matched recurrences, developed during treatment.

Her most important research projects conducted so far described the clinical-pathological characteristics of breast and ovarian cancer in hereditary cancer syndromes (Toss A et al. Biomed Res Int. 2015; Lecarpentier J et al. J Clin Oncol. 2017; Toss A et al. Oncotarget. 2017; Patel VL et al. Cancer Res. 2020; Toss A et al. Genes (Basel). 2021; Barnes DR et al. J Natl Cancer Inst. 2021), addressed the effectiveness and efficacy of primary and secondary prevention in hereditary breast and ovarian cancer syndromes (Cortesi L et al. Ann Oncol. 2014; Cortesi L et al. Int J Cancer. 2019; Piombino C et al. J Oncol. 2020; Toss A et al. Int J Cancer. 2020) and explored the role of precision medicine in breast cancer diagnosis and treatment selection (Toss A et al. Ann Transl Med. 2014; Toss A et al. Breast Cancer Res. 2015, Toss A et al. Int J Mol Sci. 2017; Toss A et al. Oncotarget. 2018, Piombino C et al. Biomedicines. 2021). More recently, she began a project on the identification and characterization of exosomes in breast cancer patients. The project already enrolled 120 women (90 breast cancer patients in different stages of the disease and 30 healthy controls). In the next few weeks, another project will begin and evaluate the miRNA expression in exosomes of BRCA mutation carriers diagnosed with breast cancer.

Over the past years, Dr. Toss has started to have a direct involvement in the activities of AIOM (Associazione Italiana Oncologia Medica). She is currently a member of the Working Group AIOM Giovani and member of the Board of Directors of Fondazione AIOM in the role of Secretary. Moreover, she is member of the Italian joint AIOM/AIEOP Working Group on Cancer in Adolescents and Young Adults (AYA) and the European joint ESMO/SIOPE Working Group on Cancer in AYA. Dr. Toss has acquired solid experience in the mentorship of undergraduates, graduate students, and young fellows. She is professor of Medical Oncology in the bachelor's degree programmes of Biotechnology, Midwifery and Dietetics, and professor in the Single-cycle Master's Degree programme of Medicine and Surgery, at

## GOLDEN PARAGRAPH

the University of Modena and Reggio Emilia.

At the moment, Dr. Toss is responsible as PI of two important grants in the field of breast cancer and BRCA gene mutations: the Bando Ricerca Finalizzata – Young Researcher 2018 (Project Code: GR-2018-12367239) for € 207,800 and the Programma di ricerca sanitaria finalizzata dell'Emilia-Romagna (FIN-RER) 2020 for € 142,000.

**Bibliometric Indicators:**

# Publications: 75; # Citations 1172; H index 18; H Index (5 y) 10

**3 most relevant publications or patents:**

1. Cancer Predisposition Genes in Adolescents and Young Adults (AYAs): a Review Paper from the Italian AYA Working Group.  
**Toss A**, Quarello P, Mascarini M, Banna GL, Zecca M, Cinieri S, Peccatori FA, Ferrari A. *Curr Oncol Rep.* 2022 Mar 23. doi: 10.1007/s11912-022-01213-3.
2. The Role of Exosomes in Breast Cancer Diagnosis.  
Piombino C, Mastrolia I, Omarini C, Candini O, Dominici M, Piacentini F, **Toss A**. *Biomedicines.* 2021 Mar 18;9(3):312. doi: 10.3390/biomedicines9030312.
3. Genomic alterations at the basis of treatment resistance in metastatic breast cancer: clinical applications.  
**Toss A**, Piacentini F, Cortesi L, Artuso L, Bernardis I, Parenti S, Tenedini E, Ficarra G, Maiorana A, Iannone A, Omarini C, Moscetti L, Cristofanilli M, Federico M, Tagliafico E. *Oncotarget.* 2018 Aug 3;9(60):31606-31619. doi: 10.18632/oncotarget.25810

ROLE IN THE PROJECT

- Coordinating the group for the project aim on the role of exosome/extracellular vesicles in breast cancer.
- Promoting the discipline, ethics, and effective communication among investigators within the work package and among the spokes involved in the project.
- Financial management.

WORK EXPERIENCE

**2021-Current**

Tenure-Track Researcher (RTDB) MED-06

University of Modena and Reggio Emilia, Italy

Main duties/responsibilities: clinical researcher and consultant in medical oncology

Sector: Academic, Research and Health sector

**2018-2021**

3Y Short-Term Researcher (RTDA) MED-06

University of Modena and Reggio Emilia, Italy

Main duties/responsibilities: clinical researcher and consultant in medical oncology

Sector: Academic, Research and Health sector

**2015-2017**

Physician (12-month contract)

Oncology Day Hospital of the Azienda Ospedaliero-Universitaria di Modena, Italy

Main duties/responsibilities: medical oncologist for the Breast Unit and Unit of Genetic

Oncology

Sector: Health sector

EDUCATION AND TRAINING

### **1991-1994**

PhD in Clinical and Experimental Medicine  
University of Modena and Reggio Emilia, ITALY

### **2010-2015**

Medical Oncology Fellowship  
University of Modena and Reggio Emilia, ITALY

### **2003-2009**

MD in Medicine and Surgery  
University of Modena and Reggio Emilia, ITALY

## PERSONAL SKILLS

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### Organisational / managerial skills

Dr. Toss has previous and current experience as Principal Investigator in other multidisciplinary multicenter studies as reported in the Projects/Grants section and has the skills for the technical and financial management, as well as to encourage the team towards the project aims.

Moreover, in her academic role, she has acquired solid experience in the mentorship of undergraduates, graduate students, and young fellows, therefore she can guarantee effective communication, ethics and focus on objectives.

## ADDITIONAL INFORMATION

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### Most relevant publications in the last 10 Years

1. CTC enumeration and characterization: moving toward personalized medicine. Toss A, Mu Z, et al. *Ann Transl Med* 2014.
2. Molecular characterization and targeted therapeutic approaches in breast cancer. Toss A, Cristofanilli M. *Breast Cancer Res.* 2015.
3. Molecular Biomarkers for Prediction of Targeted Therapy Response in Metastatic Breast Cancer: Trick or Treat? Toss A, Venturelli M, et al. *Int J Mol Sci.* 2017.
4. Prediction of Breast and Prostate Cancer Risks in Male BRCA1 and BRCA2 Mutation Carriers Using Polygenic Risk Scores. Lecarpentier J, et al. *J Clin Oncol.* 2017.
5. Genomic alterations at the basis of treatment resistance in metastatic breast cancer: clinical applications. Toss A, Piacentini F, Cortesi L, et al. *Oncotarget.* 2018.
6. Association of Genomic Domains in BRCA1 and BRCA2 with Prostate Cancer Risk and Aggressiveness. Patel VL, Busch EL, Friebel TM, et al. *Cancer Res.* 2020.
7. Effect of Adjuvant Paclitaxel and Carboplatin on Survival in Women With Triple-Negative Breast Cancer: A Phase 3 Randomized Clinical Trial. Yu KD, Ye FG, He M, et al. *JAMA Oncol.* 2020.
8. The Role of Exosomes in Breast Cancer Diagnosis. Piombino C, Mastrolia I, Omarini C, Candini O, Dominici M, Piacentini F, Toss A. *Biomedicines.* 2021.
9. Breast and Prostate Cancer Risks for Male BRCA1 and BRCA2 Pathogenic Variant Carriers Using Polygenic Risk Scores. Barnes DR, Silvestri V, Leslie G, et al. *J Natl Cancer Inst.* 2021.
10. Circulating and Intracellular miRNAs as Prognostic and Predictive Factors in HER2-Positive Early Breast Cancer Treated with Neoadjuvant Chemotherapy: A Review of the Literature. Isca C, Piacentini F, Mastrolia I, et al. *Cancers (Basel).* 2021

### Projects/Grants

#### **2021-current**

Programma di ricerca sanitaria finalizzata dell'Emilia-Romagna (FIN-RER) 2020  
Genitourinary Syndrome in breast cancer patients: the common untold unmet need.  
142.000 EUROS

#### **2020-2021**

Project founded by the Angela Serra Association for Cancer Research  
Identification and characterization of exosomes in serum of breast cancer patients (the EXO-BREAST Study).  
3.000 EURO

#### **2019-current**

Bando Ricerca Finalizzata – Young Researcher 2018 (Project Code: GR-2018-12367239)  
Quality of (reproductive) life in young women at increased risk for hereditary breast and/or ovarian cancer.

207.800 EUROS

**2017-2020**

Project founded by the Angela Serra Association for Cancer Research  
Clinical, pathological, and molecular features of breast cancer in systemic sclerosis (the Sclero-Breast Study).

4.600 EUROS

**2015-2016**

Project founded by the Angela Serra Association for Cancer Research  
Next Generation Sequencing of multigene panels: strategies to overcome treatment resistance in metastatic breast cancer.

15.000 EUROS

**Conferences**

**Invited Lectures**

1. 21-22/10/2011 - Fabriano (Ancona) - Italy  
"Oncologia al femminile: problematiche della paziente e della professionista"
2. 04/12/2013 - Hotel Real Fini, Modena - Italy  
ADHOC - Advance Hot topic-trends in Ovarian Cancer
3. 17/04/2015 - Hotel Real Fini Baia del Re, Modena - Italy  
"Tumore della mammella e dell'ovaio: l'evoluzione dei trattamenti nelle malattie avanzate"
4. 02/12/2016 - Hotel Raffaello, Modena - Italy  
"Medicina di laboratorio e Prevenzione Oncologica... ma non solo"
5. 26/04/2017 - Centro Oncologico Modenese, Modena – Italy  
"La gestione della paziente con neoplasia ginecologica."
6. 30/05/2017 - Centro Oncologico Modenese, Modena – Italy  
"Strategie terapeutiche nel trattamento del carcinoma mammario ormonosensibile."
7. 12-13/06/2017 - Centro Oncologico Modenese, Modena - Italy  
Corso MITO sul Counseling Oncogenetico
8. 22/06/2017 - Policlinico Umberto I, Roma – Italy  
"Oltre lo studio clinico: il carcinoma mammario nel real world."
9. 28/06/2017 - Centro Didattico UNIMORE, Modena - Italy  
"Prevenzione e stili di vita sani nelle Università."
10. 26/03/2018 – Università degli Studi di Modena e Reggio Emilia - Italy  
"Hot topics nel Carcinoma Mammario Ormonosensibile: questioni aperte dal setting adiuvante al contesto metastatico."
11. 6-7/07/2018 - San Martino in Campo, Perugia - Italy  
"Convegno Nazionale Aiom Giovani Oncologi 2018: News in Oncology"
12. 27-28/09/2018 – Centro Oncologico Modenese, Modena - Italy  
"Comunicare l'Oncologia attraverso i media: il (difficile) rapporto fra oncologi e giornalisti."
13. 12/02/2019 – Hotel I Portici, Bologna- Italy  
"Pink Academy – Nutrizione e trattamento nel tumore mammario metastatico"
14. 8-9/03/2019 – Hotel Albani, Firenze (Annual GOIRC Congress) - Italy  
"La ricerca clinica: tra network e big data"
15. 4-5/04/2019 – Fondazione San Carlo, Modena - Italy  
"Forum in oncologia senologica. La sottile linea di confine tra clinica e biologia"
16. 9/05/2019 – Hotel Vittoria, Faenza - Italy  
"La terapia personalizzata del carcinoma ovarico"
17. 11/05/2019 – Ospedale di Sant'Orsola, Bologna - Italy  
"Tumori dell'ovaio 2019. Strategie attuali e prospettive future"
18. 21-22/06/2019 – Reggio Emilia - Italy

“XVI Assemblea Mango”

19. 06-07/12/2019 – Hotel de la Ville, Avellino - Italy

“Il benessere riproduttivo e sessuale delle donne con mutazione BRCA”

20. 09-10/10/2020 – Congresso On-Line Sincrono

“Nuovi scenari nelle indicazioni e nelle applicazioni cliniche dei test genetici BRCA”

21. 16/10/2020 - Congresso On-Line Sincrono

“CONVERSATIONS. Il trattamento della paziente mBC HR+/HER2-: il ruolo di abemaciclib nella pratica clinica italiana.”

22. 23/11/2020 – FAD

“iJourney. Percorso di formazione in tema di Breast Cancer. Percorso pluriennale di formazione in tema di cancro alla mammella.”

23. 26/03/2021 – FAD

Carcinoma mammario: quali novità per il 2021? 11<sup>a</sup> EDIZIONE CANOA

“Saper leggere” uno studio clinico per migliorare la pratica clinica

24. 11/06/2021 – Firenze – Italy

ZOOM Journal Club 2020-2021 - “New Insights nella malattia HER2-negativa”

25. 15/06/2021 – Live Webinar

YBO: unmet needs in breast cancer care

“Therapeutic implications of genotyping testing (BRCA and beyond) in breast cancer”

26. 29/06/2021 – Live Webinar

CONVERSATIONS Il trattamento della paziente mBC HR+/HER2-: il ruolo di abemaciclib nella pratica clinica italiana. - “L’importanza della consistenza del dato tra studi”

27. 30/06/2021 – Web Conference

“Novità nella gestione della paziente con carcinoma mammario metastatico HR+ HER2-: verso un’ottimizzazione del trattamento”

28. 14/09/2021 – Live Webinar

“Breast Talk II appuntamento”

29. 15/12/2021 – Roma- Italy

“SEM Time to Think. Il management della paziente con tumore mammario metastatico”

30. 18-19/03/2022 – Ospedaletto di Pescantina (VR) – Italy

Progetto CANOA CARCINOMA MAMMARIO: QUALI NOVITÀ PER IL 2022?

31. 30/03/2022 – Live Webinar

“Dallo studio clinico alla singola paziente: cosa guida la scelta terapeutica? Focus sulla paziente mBC HR+ HER2- endocrino sensibile”

32. 1-2/04/2022 – Napoli – Italy

“Breast Journal Club”

33. 8-9/04/2022 – Venezia – Italy

Life 2 women. “Highlights from congresses (Update Breast Cancer)”

#### Oral Communications

1. 28-30/10/2016 - Marriott Park Hotel, Roma – Italy

XIX Congresso Nazionale AIOM – Comunicazione Orale

**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**

Modena, 02/05/2022

Angela Toss

