

PERSONAL INFORMATION

Angela Toss

C.F. TSSNGL84L50F257S

Via del Pozzo 71, 41124 Modena, Italy

✉ angela.toss@unimore.it

🔗 Scopus Author's ID 55096956700

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


Current Position: Associate Professor in Medical Oncology

Scientific Profile:

Prof. Angela Toss is mainly focused on the care of breast cancer patients and is deeply involved in cancer research. Above all, 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 oncology in germline mutation carriers and breast cancer patients.

Prof. 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, Prof. Toss obtained her PhD Degree in Clinical and Experimental Medicine with a project entitled "Strategies to predict treatment response and select therapies in metastatic breast cancer patients".

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; Cortesi L, et al. ESMO Open. 2023; Mastrodomenico L, et al. Genes (Basel). 2023; Toss A, et al. Clin Case Rep. 2023; Lambertini M, et al. JAMA 2024), 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; Toss A, et al. Front Oncol. 2022).

Over the past years, Prof. Toss has started to have a direct involvement in the activities of AIOM (Associazione Italiana Oncologia Medica). In 2022-2023 she was member of the Board of Directors of Fondazione AIOM in the role of Secretary and, in 2024-2025 she was Coordinator of the Working Group AIOM Giovani. 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.

Prof. 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 the University of Modena and Reggio Emilia.

Prof. Toss has been responsible as PI of several important grants in the field of breast cancer and BRCA gene mutations: Bando Ricerca Finalizzata – Young Researcher 2018 (Project

GOLDEN PARAGRAPH

Code: GR-2018-12367239) for € 207.800; Programma di ricerca sanitaria finalizzata dell'Emilia-Romagna (FIN-RER) 2020 for € 142.000; Paternariato Esteso PNRR 2022 – Heal Italia for € 64.970; PRIN 2022 for € 190.850,80; FAR di Ateneo 2025 for € 80.000.

Finally, Prof. Toss has served as local Principal Investigator or Sub-Investigator in more than 40 profit and non-profit pharmacological clinical trials, actively contributing to patient recruitment, monitoring timelines, milestones, and budgets, as well as overseeing study procedures and managing treatment-related adverse events.

Bibliometric Indicators:

Publications: 151; # Citations 3139; H index 30

3 most relevant publications or patents:

1. Association between type and location of germline BRCA1/2 pathogenic or likely pathogenic variants with phenotype and prognosis in young patients with breast cancer: results from an international cohort study.
Toss A, Blondeaux E, Tenedini E, Bonamici L, Graffeo R, Livraghi L, Villarreal-Garza C, et al. Ann Oncol. 2026 Mar;37(3):364-377. doi: 10.1016/j.annonc.2025.11.004. Epub 2025 Nov 17. PMID: 41260260.
2. Cancer Predisposition Genes in Adolescents and Young Adults (AYAs): a Review Paper from the Italian AYA Working Group.
Toss A, Quarello P, Mascarin M, Banna GL, Zecca M, Cinieri S, Peccatori FA, Ferrari A. Curr Oncol Rep. 2022 Mar 23. doi: 10.1007/s11912-022-01213-3.
3. Two-month stop in mammographic screening significantly impacts on breast cancer stage at diagnosis and upfront treatment in the COVID era.
Toss A, Isca C, Venturelli M, Nasso C, Ficarra G, Bellelli V, Armocida C, Barbieri E, Cortesi L, Moscetti L, Piacentini F, Omarini C, Andreotti A, Gambini A, Battista R, Dominici M, Tazzioli G. ESMO Open. 2021 Apr;6(2):100055. doi: 10.1016/j.esmoop.2021.100055.

WORK EXPERIENCE

2024-Current

Associate Professor in Medical Oncology (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

2021-2024

Tenure-Track Researcher (RTDB) in Medical Oncology (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) in Medical Oncology (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

2015-2018

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

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

Most relevant publications in the last 10 Years

1. The impact of reproductive life on breast cancer risk in women with family history or BRCA mutation. Toss A, Grandi G, et al. Oncotarget. 2017.
2. 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.
3. Fertility and pregnancy issues in BRCA-mutated breast cancer patients. Lambertini M, Goldrat O, Toss A, Azim HA Jr, et al. Cancer Treat Rev. 2017.
4. Genomic alterations at the basis of treatment resistance in metastatic breast cancer: clinical applications. Toss A, Piacentini F, Cortesi L, et al. Oncotarget. 2018.
5. Large scale multifactorial likelihood quantitative analysis of BRCA1 and BRCA2 variants: An ENIGMA resource to support clinical variant classification. Parsons MT, Tadini E, Li H, Hahnen E, et al. Hum Mutat. 2019.
6. Association of Genomic Domains in BRCA1 and BRCA2 with Prostate Cancer Risk and Aggressiveness. Patel VL, Busch EL, Friebe 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. Two-month stop in mammographic screening significantly impacts on breast cancer stage at diagnosis and upfront treatment in the COVID era. Toss A, Isca C, Venturelli M, et al. ESMO Open. 2021.
9. The Role of Exosomes in Breast Cancer Diagnosis. Piombino C, Mastrolia I, Omarini C, Candini O, Dominici M, Piacentini F, Toss A. Biomedicine. 2021.
10. Clinicopathologic Profile of Breast Cancer in Germline ATM and CHEK2 Mutation Carriers. Toss A, Tenedini E, Piombino C, et al. Genes (Basel). 2021.
11. 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.
12. Cancer Predisposition Genes in Adolescents and Young Adults (AYAs): a Review

- Paper from the Italian AYA Working Group. Toss A, Quarello P, Mascarin M, et al. *Curr Oncol Rep*. 2022.
13. Constitutional Mosaicism: A Critical Issue in the Definition of BRCA-Inherited Cancer Risk. Tenedini E, Piana S, Toss A, et al. *JCO Precis Oncol*. 2022.
 14. Germline TP53 pathogenic variants and breast cancer: A narrative review. Blondeaux E, Arecco L, Punie K, Graffeo R, Toss A, et al. *Cancer Treat Rev*. 2023.
 15. Cancer burden in adolescents and young adults in Europe. Trama A, Stark D, Bozovic-Spasojevic I, Gaspar N, Peccatori F, Toss A, et al. *ESMO Open*. 2023.
 16. A phase II study of pembrolizumab plus carboplatin in BRCA-related metastatic breast cancer (PEMBRACA). Cortesi L, Venturelli M, Cortesi G, Caggia F, Toss A, et al. *ESMO Open*. 2023
 17. Pregnancy After Breast Cancer in Young BRCA Carriers: An International Hospital-Based Cohort Study. Lambertini M, Blondeaux E, Agostinetto E, Hamy AS, Kim HJ, Di Meglio A, Bernstein Molho R, Hilbers F, Pogoda K, Carrasco E, Punie K, Bajpai J, Ignatiadis M, Moore HCF, Phillips KA, Toss A, et al. *JAMA*. 2024
 18. Molecular characterization as new driver in prognostic signatures and therapeutic strategies for endometrial cancer. D'Agostino E, Mastrodomenico L, Ponzoni O, Baldessari C, Piombino C, Pipitone S, Giuseppa Vitale M, Sabbatini R, Dominici M, Toss A. *Cancer Treat Rev*. 2024
 19. PARP Inhibitors for Breast Cancer Treatment: A Review. Morganti S, Marra A, De Angelis C, Toss A, et al. *JAMA Oncol*. 2024.
 20. Impact of hormone receptor status and tumor subtypes of breast cancer in young BRCA carriers. Arecco L, Bruzzone M, Bas R, Kim HJ, Di Meglio A, Bernstein-Molho R, Hilbers FS, Pogoda K, Carrasco E, Punie K, Bajpai J, Agostinetto E, Lopetegui-Lia N, Partridge AH, Phillips KA, Toss A, et al. *Ann Oncol*. 2024
 21. Scagnoli S, Pisegna S, Toss A, et al. Clinical impact of drug-drug interactions on abemaciclib in the real-world experience of AB-ITALY study. *NPJ Breast Cancer*. 2024.
 22. Risk factors behind the increase of early-onset cancer in Italian adolescents and young adults: An investigation from the Italian AYA Working group. Toss A, et al. *Eur J Cancer*. 2024.
 23. Lambertini M, Blondeaux E, Tomasello LM, Agostinetto E, Hamy AS, Kim HJ, Franzoi MA, Bernstein-Molho R, Hilbers F, Pogoda K, Wildiers H, Bajpai J, Ignatiadis M, Moore HCF, Partridge AH, Phillips KA, Toss A, et al. Clinical Behavior of Breast Cancer in Young BRCA Carriers and Prediagnostic Awareness of Germline BRCA Status. *J Clin Oncol*. 2025
 24. Toss A, Blondeaux E, Tenedini E, Bonamici L, Graffeo R, Livraghi L, Villarreal-Garza C, Bernstein Molho R, Kwong A, Balmana J, Wildiers H, Agostinetto E, Phillips KA, Pogoda K, Renaud T, Rousset-Jablonski C, Ferrari A, Moore HCF, Peccatori FA, Paluch-Shimon S, Fruscio R, Micheri C, Wong SM, Cui W, Vernieri C, Lee MK, De Marchis L, Couch FJ, Del Mastro L, Puglisi F, Meireles PA, Kemp Z, Matikas A, Plichta J, Del Pilar Estevez-Diz M, Di Meglio A, Cichowska-Cwalinska N, Gianni C, Yerushalmi R, Sanchez-Bayona R, Mrinakova B, Matos L, Bianchini G, Caleffi M, Krivokuca A, Abdou Y, Mariño-Mariño M, Parokonnaya A, Okano M, Antone N, Saavedra C, Sonnenblick A, Duchnowska R, Pais HL, Harbeck N, Cortesi L, Delucchi V, De Angelis C, Lambertini M. Association between type and location of germline BRCA1/2 pathogenic or likely pathogenic variants with phenotype and prognosis in young patients with breast cancer: results from an international cohort study. *Ann Oncol*. 2025
 25. Zattarin E, Moschetti L, D'Agostino E, Bertolotti A, Sperduti I, Chiavelli C, Canino F, Piacentini F, Cortesi L, Dominici M, Toss A. Impact of Ethnicity on Breast Cancer Outcome: A Systematic Review and Meta-Analysis of Randomized Phase III Trials of the Last Decade. *JCO Glob Oncol*. 2025
 26. Zattarin E, Marra A, Palazzo A, Griguolo G, Vernieri C, Etessami J, Pontolillo L, Landa G, Daneri A, De Monte M, Cuoghi Costantini R, Tenedini E, Ponzoni O, Razeti MG, Sposetti C, Barbieri E, Manni M, Caggia F, Cortesi L, Curigliano G, Bria E, Dominici M, Guarneri V, Lambertini M, Toss A. Real-world effectiveness of PARP inhibitors after CDK4/6 inhibitor therapy in BRCA-mutated HR-positive/HER2-negative advanced breast cancer. *NPJ Breast Cancer*. 2025
 27. De Vincentis S, Brigante G, Cuoghi Costantini R, Piombino C, Lippi Bruni R, Venturelli

- M, Barbieri E, Zattarin E, Tenedini E, Grippa M, Sighinolfi G, Caggia F, Fabbri PV, La Marca A, Cortesi L, Dominici M, Grandi G, Toss A. Association between risk-reducing salpingoophorectomy and bone health in women with hereditary breast and ovarian cancer syndrome. Menopause. 2026
28. Grandi G, Piombino C, Sighinolfi G, Barbieri E, Venturelli M, Melotti C, Lippi Bruni R, Grisendi V, Cuoghi Costantini R, Grippa M, Zattarin E, Tenedini E, Razzaboni E, Brigante G, D'Amico R, Nanni B, Menozzi R, Cortesi L, Dominici M, La Marca A, Toss A. Impaired glucose tolerance in women with BRCA1 versus BRCA2 pathogenic or likely pathogenic variants: Results from a prospective cohort study. Fam Cancer. 2026

Projects/Grants

2025-current

FAR di Ateneo 2025

Role: Principal Investigator.

"Gender-specific endocrine, metabolic and cardiovascular risks in BRCA-carriers: the BEYOND-CANCER study."

€ 80.000

2023-2026

PRIN 2022

Role: Principal Investigator.

"Prognostic and predictive role of intrinsic molecular subtypes in BRCA-associated breast cancer: the PAMBRACA study."

€ 190,850.80

2022-2026

Paternariato Esteso PNRR 2022 – Heal Italia

Role: Principal Investigator.

"Exosomal miRNA in BRCA1/2 mutation carriers: liquid biomarkers for early breast cancer diagnosis (Exo-BRCA study)."

€ 64,970

2021-2025

Programma di ricerca sanitaria finalizzata dell'Emilia-Romagna (FIN-RER) 2020

Role: Principal Investigator.

"Genitourinary Syndrome in breast cancer patients: the common untold unmet need."

€ 142,000

2020-2021

Project founded by the Angela Serra Association for Cancer Research

Role: Sub-Investigator.

"Identification and characterization of exosomes in serum of breast cancer patients (the EXO-BREAST Study)."

€ 3,000

2019-2024

Bando Ricerca Finalizzata – Young Researcher 2018 (Project Code: GR-2018-12367239)

Role: Principal Investigator.

"Quality of (reproductive) life in young women at increased risk for hereditary breast and/or ovarian cancer."

€ 207,800

2017-2020

Project founded by the Angela Serra Association for Cancer Research

Role: Sub-Investigator.

"Clinical, pathological, and molecular features of breast cancer in systemic sclerosis (the

Sclero-Breast Study).”
€ 4,600

2015-2016

Project founded by the Angela Serra Association for Cancer Research

Role: Principal Investigator.

“Next Generation Sequencing of multigene panels: strategies to overcome treatment resistance in metastatic breast cancer.”

€ 15,000

Conferences

Invited Lectures: more than 70, national and international, including:

- ESMO Preceptorship on Adolescent and Young Adult Malignancies (7-8 October 2022, Athens, Greece). Title: “Hereditary Cancer Syndromes”
- SIOP Europe Annual Meeting 2023 (8-12 May 2023, Valencia, Spain). Title: “Breast cancer in young women, focus on cancer predisposition genes”
- 19th Meet the Professor. Advanced International Breast Cancer Course (AIBCC) (21-22 September 2023, Padova, Italy). Title: “New therapeutic strategies in very young women: lights and shadows.”
- Precision Medicine in tumor prevention: genetics of hereditary colorectal, breast and gynecological cancers (17-18 Novembre 2023, Barcelona, Spain). Title: “Hereditary Breast and Ovarian Cancer Syndrome”.
- 20th Meet the Professor. Advanced International Breast Cancer Course (AIBCC) (24-25 October 2024, Padova, Italy). Title: “Evolving concepts in genetic testing: finding the balance”.
- ASCO Annual Meeting 2025. (30 May – 3 June 2025, Chicago, IL, US). Oral presentation: “Association between Type of *BRCA1/2* Pathogenic/Likely Pathogenic Variants and Outcome in Young Patients with Breast Cancer: Results from an International Cohort Study.”

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, 14/07/2026

Signature

