PERSONAL INFORMATIONS:

First name: Vanessa
Last name: Tolotto

EDUCATION AND TRAINING:

11/2020 – 01/2024	PhD in Biomedical Sciences and Biotechnology University of Udine, Udine (Italy) Supervisor: Prof. Claudio Brancolini Thesis title: The mechanisms of HDAC4 degradation and its clinical significance in oxaliplatin resistant FBXW7 mutated colorectal cancer
10/2018 – 09/2020	Master degree in Molecular Biotechnology University of Udine, Udine (Italy) Supervisor: Dr. Carlo Vascotto Thesis title: APE1 translocates into the mitochondrial matrix through TIM23/PAM complex Final grade: 110 cum Laude
10/2015 – 10/2018	Bachelor Degree in Biotechnology University of Udine, Udine (Italy) Supervisor: Dr. Carlo Vascotto Thesis title: Amplification of Smac/DIABLO isoform α mitochondrial targeting sequence by fusion PCR Final grade: 108/110
09/2010 – 07/2015	Secondary school diploma (Liceo Scientifico) Collegio Brandolini Rota, Oderzo (Italy) Final grade: 100/100

WORK EXPERIENCE:

02/2024 – current	Research fellow University of Udine – Department of Medicine, Udine (Italy) Supervisor: Prof. Eros di Giorgio
11/2020 – 01/2024	PhD student University of Udine, Udine (Italy) Supervisor: Prof. Claudio Brancolini
10/2018 – 02/2020	Internship University of Udine, Udine (Italy) Supervisor: Dr. Carlo Vascotto

07/2018 – 09/2018	ERASMUS+ TRAINEESHIP Cntre of New Technologies – Laboratory of mitochondrial biogenesis Prof. Agnieszka Chacinska
07/2017 – 07/2018	Internship University of Udine, Udine (Italy) Supervisor: Dr. Carlo Vascotto

LANGUAGE SKILLS:

Mother tongue: **Italian**
Other languages: **English** – B2 level

JOB-RELATED SKILLS:

Molecular biology techniques
Genomic and Plasmidic DNA extraction, RNA extraction and purification for RNA-seq, Gene cloning techniques (restriction enzyme cloning, oligo cloning, gateway cloning), preparation of competent bacteria, PCR, RT- PCR, qPCR, ChIP, CoIP, SDS page, western blot, immunofluorescence, mitochondria isolation and subfractionation

Cellular biology techniques
Cell culture, 3D culture of CRC and placental organoids, drug treatment, lenti viral infection, siRNA silencing, viability assays for 2D and 3D culture (resazurin assay, ATP assay), colony formation assay

PUBLICATIONS:

V. Tolotto#, N. Gualandi#, Y. Cortolezzis, R. Picco, M. Colitti, F. D'Este, M. Gani, W. W. Hancock, G. Terrosu, C. Degrassi, F. Agostini, C. Brancolini, L. E. Xodo, E. Di Giorgio. Class IIa HDACs forced degradation allows re-sensitization of oxaliplatin-resistant FBXW7-mutated colorectal cancer. Accepted for publication in Molecular Oncology, 05/10/2025

Di Giorgio E, Xodo S, Orsaria M, Mariuzzi L, Picco R, Tolotto V, Cortolezzis Y, D'Este F, Grandi N, Driul L, Londero A, Xodo LE. The central role of creatine and polyamines in fetal growth restriction. FASEB J. 2024 Dec 15;38(23):e70222. doi: 10.1096/fj.202401946R. PMID: 39614665; PMCID: PMC11607630.

Di Giorgio, E., Dalla, E., Tolotto, V., D'Este, F., Paluvai, H., Ranzino, L., & Brancolini, C. (2024). HDAC4 influences the DNA damage response and counteracts senescence by assembling with HDAC1/HDAC2 to control H2BK120 acetylation and homology-directed repair. Nucleic Acids Research, 52(14), 8218–8240. https://doi.org/10.1093/NAR/GKAE501

Di Giorgio E, Ranzino L, Tolotto V, Dalla E, Burelli M, Gualandi N, Brancolini C. Transcription of endogenous retroviruses in senescent cells contributes to the accumulation of double-stranded RNAs that trigger an anti-viral response that reinforces senescence. Cell Death Dis. 2024 Feb 21;15(2):157. doi: 10.1038/s41419-024-06548-2. PMID: 38383514; PMCID: PMC10882003.

Giorgio, E. Di, Cutano, V., Minisini, M., Tolotto, V., Dalla, E., & Brancolini, C. (2021). A regulative epigenetic circuit supervised by HDAC7 represses IGFBP6 and IGFBP7 expression to sustain mammary stemness. *Epigenomics*, epi-2020-0347. https://doi.org/10.2217/epi-2020-0347

Barchiesi, A., Bazzani, V., Tolotto, V., Elancheliyan, P., Wasilewski, M., Chacinska, A., & Vascotto, C. (2020). Mitochondrial Oxidative Stress Induces Rapid Intermembrane Space/Matrix Translocation of Apurinic/Apyrimidinic Endonuclease 1 Protein through TIM23 Complex. *Journal of Molecular Biology*, *432*(24), 166713. https://doi.org/10.1016/j.jmb.2020.11.012

CONFERENCES:

27/04/2025 – 30/04/2025, Chicago (USA)
AACR Annual meeting 2025 – Unifying Cancer Science and Medicine: A Continuum of Innovation for Impact
Poster presentation: Super-enhancers reorganization controls re-sensitization of oxaliplatin-resistant FBXW7-mutated colorectal cancer

17/06/2024 – 20/06/2024, Leiden (NL)
EMBO Workshop – Chromatin dynamics and nuclear organization in genome maintenance
Poster presentation: HDAC4 supervises the epigenetic regulation of homologous recombination repair and oxaliplatin resistance in FBXW7 mutated CRC

15/11/2023 – 17/11/2023, Heidelberg (DE)
EMBL Conference – Cancer Genomics
Poster presentation: HDAC4 targeting in FBXW7 mutated CRC re-sensitizes cells to Oxaliplatin treatment

20/09/2023 – 23/09/2023, Paestum (IT)
ABCD 2023 - The Biennial Congress of the Italian Association of Cell Biology and Differentiation
Oral and poster presentation: HDAC4 targeting in FBXW7 mutated CRC re-sensitizes cells to Oxaliplatin treatment

20/06/2022 – 23/06/2022, Seville (ES)
EACR 2022 - Innovative Cancer Science: Translating biology to medicine
Poster presentation: Identification of an epigenetic mechanism that supervises HR mediated DSB repair

Udine, 07/10/2025