***Curriculum vitae* in the field of the Chemical Biological Radiological Nuclear (CBRN) emergencies**

Antonella Testa

Born on 15-11-61 in Milan (Italy)
Degree in Biological Sciences (final votation 110/110), University "La Sapienza" of Rome (1986)

Employment

2015-today Senior researcher at ENEA Casaccia Research Center (Rome), Laboratory of Biosafety and Risk Assessment, Division of Health Protection Technologies.
2009 - 2015 Senior researcher at ENEA Casaccia Research Center,Unit of Radiation Biology and Human Health.
1990-2009 Researcher at ENEA Casaccia Research Center , Section of Toxicology and Biomedical Sciences
1988-1990 Temporary researcher (ex art-36) at National Research Council (C.N.R), Institute of Genetics, University "La Sapienza" of Rome.

Research activities related to CBRN

Biological dosimetry for retrospective dose assessment for populations accidentally exposed to ionizing radiation. International cooperation studies on populations exposed to radiation in case of nuclear accidents (Chernobyl, Kazakhstan, Southern Urals). Participation to the European Network in Biodosimetry (*RENEB*) and to the International Biodosimetry Network (WHO) B*ioDoseNeT*. Participation to the European Dosimetry Group (EURADOS) activities in the field of "Retrospective Dosimetry".
Radiobiology focused on the evaluation of the biological basis of the individual radiosensitivity. Studies on the genetic determinants related to DNA damage repair pathways after ionizing radiation-induced damage

Projects related to CBRN

- 2020-2023. **Coordinator** of **a NATO "Science for Peace and Security (SPS)" Project** entitled "NOVEL BIOLOGICAL AND PHYSICAL METHODS FOR TRIAGE IN RADIOLOGICAL EMERGENCIES" emergency (2012-2015).
- 2019. Partecipation to the **EU Tender "The preparation of a Biosecurity toolbox to strengthen European Biosecurity**" project, funded by European Commission's DG Home Affairs
- Responsible for ENEA of the coordinated action ***RENEB*, "Realizing the European Network in Biodosimetry**" (http://reneb.eu) within the **EU FP-7** Fission Project 2012 aiming to create a sustainable network in Biological Dosimetry that involves a large number of experienced laboratories throughout the EU acting in collaboration in case of a large-scale radiological emergency (2012-2015).
- Participant to the **EU-EMRP (EU FP-7)** Joint Research Project "***BioQuaRT***" (Biologically weighted Quantities in RadioTherapy) (http://www.ptb.de/emrp/bioquart.html) (2012-2015) within the WP Radiobiology aiming to develop measurement techniques for characterizing charged particle track structure on different length scales, and to correlate at the cellular level the track structure properties with the biological effects of radiation
- Participant to the International **Project *INTAS*** (L.n.449/1997) **"Assessment of the radiological consequences for man and environment from nuclear tests in Kazakhstan"** (from 1995 to 1997).
- Participant to **International cooperation Projects** for Retrospective Biodosimetry studies on subjects living in contaminated areas after **Chernobyl** and **Southern Urals nuclear accidents** (from 1992 to 1998).
- Participant to the International **Project V Programme EU "*Perform B*** "In vitro and in vivo replication studies related to mobile telephones and base station. Key action Environment and Health" (2001-2003).
- Participant to the ***TOP-IMPLART*** (Oncological Therapy with Protons; Intensity Modulated Proton Linear Accelerator for RadioTherapy) National Project focused on proton therapy biological assessment (from 2013-today)
- Project funded by the Public Health England (PHE) Research Pump Priming Fund (PPF) "EPR-Blood: Feasibility project for blood-based EPR radiation dose estimation" (2015).

Publications related to CBRN

1. Giussani A.....**Testa A**. EURADOS review of retrospective dosimetry techniques for internal exposures to ionising radiation and their applications. Radiat Environ Biophys. 2020 May 5. doi: 10.1007/s00411-020-00845-y. [Epub ahead of print]
2. **Testa A,** Palma V, Patrono C. Dicentric Chromosome Assay (DCA) and Cytokinesis-Block Micronucleus (CBMN) Assay in the Field of Biological Dosimetry. Methods Mol Biol. 2019;2031:105-119. doi: 10.1007/978-1-4939-9646-9_5
3. **Testa A**, Palma V, Patrono C. A novel biological dosimetry assay as a potential tool for triage dose assessment in case of large-scale radiological emergency. Radiat Prot Dosimetry. 2019 dec 31;186(1):9-11. doi: 10.1093/rpd/ncz001
4. Giussani A, Lopez M.A, **Testa A**. The EURADOS work towards a review on retrospective dosimetry after incorporation of radionuclides. Radiat Prot Dosimetry. 2019 Dec 31;186(1):12-14. doi: 10.1093/rpd/ncy244
5. **Testa A**, Ballarini F, Giesen U, Gil OM, Carante MP, Tello J, Langner F, Rabus H, Palma V, Pinto M, Patrono C. Analysis of Radiation-Induced Chromosomal Aberrations on a Cell-by-Cell Basis after Alpha-Particle Microbeam Irradiation: Experimental Data and Simulations. Radiat Res. 2018 Apr 6. doi: 10.1667/RR15005.1.
6. Pietraforte D, Paulicelli E, Patrono C, Gambardella L, Scorza G, **Testa A**, Fattibene P. Protein oxidative damage and redox imbalance induced by ionising radiation in CHO cells. Free Radic Res. 2018 Mar 16:1-15. doi: 10.1080/10715762.2018.1446529.
7. Ainsbury E…..**Testa A**. et al. "Integration of new biological and physical retrospective dosimetry methods into EU emergency response plans - joint RENEB and EURADOS inter-laboratory comparisons" *Int J Radiat Biol*. 2017 Jan;93(1):99-109. doi: 10.1080/09553002.2016.1206233. Epub 2016 July 20
8. Kulka U…..**Testa A** et al. "RENEB - Running the European Network of biological dosimetry and physical retrospective dosimetry " *Int J Radiat Biol*. 2017 Jan;93(1):2-14. doi: 10.1080/09553002.2016.1230239. Epub 2016 Oct 6
9. Oestreicher U…..**Testa A**. et al. "RENEB intercomparisons applying the conventional Dicentric Chromosome Assay (DCA)" *Int J Radiat Biol*. 2017 Jan;93(1):20-29. doi: 10.1080/09553002.2016.1233370. Epub 2016 Oct 21
10. Depuydt J…..Testa A.et al."RENEB intercomparison exercises analyzing micronuclei(Cytokinesis-block Micronucleus Assay)" *Int J Radiat Biol*. 2017 Jan;93(1):36-47. doi: 10.1080/09553002.2016.1206231.Epub 2016
11. Monteiro Gil O…..**Testa A**. et al. "Capabilities of the RENEB network for research and large scale radiological and nuclear emergency situations" *Int J Radiat Biol*. 2017 Jan;93(1):136-141. doi: 10.1080/09553002.2016.1227107. Epub 2016 Oct 4
12. Romm H…..**Testa A**. et al. "Web based scoring is useful for validation and harmonisation of scoring criteria within RENEB" *Int J Radiat Biol*. 2017 Jan;93(1):110-117. doi: 10.1080/09553002.2016.1206228. Epub 2016
13. Patrono C, Monteiro Gil O, Giesen U, Langner F, Pinto M, Rabus H and **Testa A**. "BioQuaRT' project: Design of a novel in situ protocol for the simultaneous visualisation of chromosomal aberrations and micronuclei after irradiation at microbeam facilities" *Radiat Prot Dosimetry* 2015 Sep;166(1-4):197-9. doi: 10.1093/rpd/ncv160. Epub 2015 Apr 15
14. Patrono C, Sterpone S, **Testa A**, Cozzi R. "Polymorphisms in base excision repair genes: Breast cancer risk and individual radiosensitivity" *World J Clin Oncol*. 2014 Dec 10;5(5):874-82. doi: 10.5306/wjco.v5.i5.874. Review
15. Kulka U. …..**Testa A**. et al. "Realising the European network of biodosimetry: RENEB-status quo" *Radiation Protection Dosimetry*. 2015 Apr;164(1-2):42-5. doi: 10.1093/rpd/ncu266. Epub 2014 Sep 9
16. Kulka U……**Testa A**. et al. "Realising the European network of biodosimetry (RENEB)". *Radiation Protection Dosimetry* (2012), ISSN: 0144-8
17. Silvia Sterpone, Tommaso Cornetta, Luca Padua, Valeria Mastellone, Daniela Giammarino, *Antonella Testa*, Donatella Tirindelli , Renata Cozzi, Vittorio Donato "DNA repair capacity and acute radiotherapy adverse effects in Italian breast cancer patients" *Mutation Res* (2010) 684, 43–48PMID:19962393
18. Poggioli T, Sterpone S, Palma S, Cozzi R and **Testa A** "G0 and G2 Chromosomal assays in the evaluation of radiosensitivity in a cohort of italian breast cancer patients" *J. Radiat.Res* (2010) 51, 615-619 PMID: 20921829
19. Cornetta T, Festa F, **Testa A**, Cozzi R (2006) "DNA damage repair and genetic polymorphisms: assessment of individual sensitivity and repair capacity" *Int J Radiat Oncol Biol Phys* (2006) 66: 537-545 PMID:1696599
20. Stronati L, **Testa A**, Moquet J, Edwards A, Cordelli E, Villani P, Marino C, Fresegna AM, Appolloni M, Lloyd D. "935 MHz cellular phone radiation. An in vitro study of genotoxicity in human lymphocytes" *Int J Radiat Biol* (2006) 82, 339-346 PMID:16782651

21. Stronati L. , **Testa A**. , Villani P. , Marino C., Lovisolo G.A. , ContiD. , Russo F. , Fresegna A.M. and Cordelli E. "Absence of genotoxicity in human blood cells exposed to 50 Hz Magnetic fields as assessed by comet assay, chromosome aberration, micronucleus and sister chromatid exchange analyses" *Bioelectromagnetics* (2004) 25, 41-48 PMID:14696052
22. **Testa A**., E. Cordelli , L Stronati, C. Marino, GA Lovisolo, Fresegna AM , Conti D., Villani P. "Evaluation of genotoxic effect of low level 50Hz magnetic fields on human blood cells using different cytogenetic assays," *Bioelectromagnetics* (2004) 25(8), 613-9 PMID:15515032
23. **Testa A**., Stronati L, Ranaldi R., Spano M., Steinhausler F., Gasterberger M., Hubmer A., Ptiskaya L. and Akhmetov M. " Cytogenetic biomonitoring carried out in a village (Dolon) adjacent to the Semipalatinsk nuclear weapon test site " *Radiation and Environmental Bophysics* (2001) 40, 125-129 PMID:11484783
24. Gastberger M, A.Hubmer, F. Steinhausler, H.Lettner, M. Spano and **A.Testa** "Plutonium in soil from Dolon near the Semipalatinsk nuclear test site" *Radiochimica Acta* 89, 371-375 (2001)
25. Stronati L., M.Durante, G.Gensabella, G.F.Grossi, M.Pugliese, P.Scampoli, A.Sgura, **A.Testa** and C.Tanzarella "Calibration curves for biological dosimetry by fluorescence in situ hybridization" *Radiation Protection Dosimetry* (2001) 94 (4), 335-345 PMID:11499437
26. **Testa A**., L.Padovani, F.Mauro, P.Anzidei, M.Apolloni and L.Stronati "Cytogenetic study on children living in Southern Urals contaminated areas" (nuclear incidents 1948-1967)" *Mutation Res* (1998) 401, 193-197 PMID:9639704
27. Padovani L., L.Stronati, F.Mauro, **A.Testa**, M.Appolloni, P.Anzidei, D.Caporossi, B.Tedeschi and P.Vernole "Cytogenetic effects in lymphocytes from children exposed to radiation fall-out after the Chernobyl accident" *Mutation Res* (1997) 395, 249-254 PMID:9465937

Honours

- 2020. Member of the "**Biosecurity Working Group**" of the Italian National Committee for Biosafety, Biotechnology and Science for Life (CNBBSV) of the Presidency of the Council of the Ministers
- 2016-20.Selected member of the **International Commission on Radiation Units and Measurements** (ICRU) **Committee** for the Report on "*Retrospective assessment of Individual Doses for Acute Exposure to Ionizing Radiation*"
- 2014. Member of the Expert panel of the **European Parliament**, for ***Safety and Security*** technologies (Tender Lot9**)**
- Member of the **International Biodosimetry Network** (WHO) **B*ioDoseNeT*** (http://www.biodosenet.org/)
- Member of the **European Biodosimetry Network** (RENEB)
- Member of the European Radiation Dosimetry Group (**EURADOS**), WG 10 in "**Retrospective Dosimetry**"
- Member of the European Radiation Research Society (**ERRS**)
- Member of the Italian Federation Radiation Research (**FIRR**)
- 2010-2012 Scientific Secretary of the Italian Society of Radiation Research (**SIRR**)

Invited lectures in the CBRN field

- 2020-11. Invited lecture at the **Corso Propedeutico di Radioprotezione Medica** (AIRM)
- 2018. Invited lecture at the **International Master courses in "Protection Against CBRNe Events"** *Management of Nuclear Events and Radiological Scenarios*
- *2017.* Invited Lecture on *"Dosimetria retrospettiva: metodiche a confronto",* 13 ° Corso Propedeutico di Formazione e Aggiornamento in Radioprotezione Medica (Rome)
- *2015* . Invited Lecture on *"La dosimetria biologica: metodiche a confronto"*, 29° Corso Avanzato Radioprotezione Medica (Bressanone)
- *2014* . Invited *Lecture at the 28° Corso Avanzato Radioprotezione Medica (Bressanone)*
- *2012.* Invited Lecture on "*Ricostruzione della dose assorbita mediante tecniche di citogenetica classica e molecolare*", Radiological and nuclear emergencies' Management: Biological aspects. Casaccia, ENEA Center (Rome)