




PERSONAL INFORMATION

Eugenia Cordelli



 Division of Health Protection Technologies, ENEA CR Casaccia, via Anguillarese 301, 00123, Rome, Italy
 +39 06 30484784
 Eugenia.cordelli@enea.it

Sex Female | Date of birth 06/01/1959 | Nationality Italy

WORK EXPERIENCE

2003-onwards

Senior Scientist: Laboratory of Biosafety and Risk Assessment

ENEA - Italian National Agency for New Technologies, Energy and Sustainable Economic Development, Rome, Italy

Research themes: environmental mutagenesis, radiation biology, toxicology. Research design, team coordination and liaising with internal and external collaborators. Scientific paper writing. Teaching and training of bachelor and master students.

A selection of the participation to funded projects is reported below:

- Contract GA/EFSA/BIOCONTAM/2015/02-GA1 "In vivo toxicity and genotoxicity of beauvericin and enniatins". 2016-2017. Scientific Responsible for ENEA of the sub-chronic in vivo genotoxicity testing.
- EU FP7 Programme, NMP Area, contract no 310584, Project "NANoREG. A common European approach to the regulatory testing of manufactured nanomaterials" 2013-2016.
- EU 6th Framework Programme Project n° SSPE-CT-2006-44393 "Role of genetic and non-genetic mechanisms in furan risk". 2007-2009.
- ReProTect Project, Development of a novel approach in hazard and risk assessment of reproductive toxicity by a combination and application of in vitro, tissue and sensor technologies. (VI framework Programme), 2004-2009.
- "INUENDO" Project - Biopersistent organochlorines in diet and human fertility. Epidemiologic studies of time to pregnancy and semen quality in Inuit and European populations. (V framework Programme), 2002-2005.

[Business or sector](#) Research

2007-2011

Honorary Professor

University Roma2 "Tor Vergata", Faculty of Medicine and Surgery

M. Sc. "Techniques for the Prevention in the Environment and in the Workplace", Course "Environmental Mutagenesis".

[Business or sector](#) Academia

2006-2007

Honorary Professor

University Roma2 "Tor Vergata", Faculty of Medicine and Surgery

M. Sc. "Techniques for the Prevention in the Environment and in the Workplace", Course "Toxicology of Reproduction".

[Business or sector](#) Academia

1991-2003

Scientist

ENEA – Italian National Agency for New Technologies, Energy and the Environment, Rome, Italy.

Design and implementation of experimental activities in the field of genetic toxicology, radiation biology and reproductive toxicology. Standardization of comet assay and its application to assess DNA damage in somatic and germ cells. Epidemiological and experimental studies aiming at the evaluation of the effects of pollutants on male fertility.

[Business or sector](#) Research

1989-1991

Junior Scientist

ENEA – Italian National Committee for Research and Development of Nuclear and Alternative Energy, Rome, Italy

Experimental activities in the field of inhalation toxicology. Studies on the impact of air pollution on health. In vitro culture of murine alveolar macrophages. In vivo inhalation toxicology studies
Business or sector Research

1983-1989 **Project Investigator**

CNEN (ENEA) Italian National Centre of Nuclear Energy, Rome, Italy

Cellular characterization of human tumours and tissues and experimental studies on the effects of pollutants on male fertility in collaboration with other research Institutions and Companies. Flow cytometric analysis of human biopsies for the characterization of tumours; flow cytometric DNA content analysis of murine male germ cells; collection of data and analysis of results.

EDUCATION AND TRAINING

1988 **Implementation training in flow cytometry**

"Gesellschaft fur Strahlen-und Umweltforschung" in Frankfurt

1985 **Scholarship in "Oncology"**

University of Camerino – Faculty of Medicine

1978-1982 **Master's Degree (cum laude) in Biological Sciences**

University "La Sapienza", Rome – Faculty of Mathematical, Physical and Natural Sciences

Thesis title: "Flow cytometric analysis of healthy, pre-cancerous and cancerous tissues of gastrointestinal system: indications for an early diagnosis".

PERSONAL SKILLS

Mother tongue(s) Italian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1/2	C1/2	B1/2	C1/2	C1/2

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
 Common European Framework of Reference for Languages

Communication skills ■ Communication skills gained through the long-standing participation to several committees, scientific meetings and teaching activities.

Organisational / managerial skills ■ Valuable organisational / managerial skills gained through experiment organization in collaboration with national and foreign research groups; coordination and supervision of students, post graduate students and collaborators.

Job-related skills ■ Long-standing expertise covering different areas of cell biology. Consolidated experience in analytical cytology, and in the development and validation of biomarkers of genetic effects in somatic and germ cells.

Computer skills ■ Qualified user

ADDITIONAL INFORMATION

Scientific publications

- Grosen A, Nersting J, Bungum M, Christensen LA, Schmiegelow K, Spano M, Julsgaard M, Cordelli E, Leter G, Larsen PB, Hvas CL, Kelsen J. 2018. Sperm DNA Integrity is Unaffected by Thiopurine Treatment in Men with Inflammatory Bowel Disease. *J Crohns Colitis*.
- Gualtieri M, Grollino MG, Consales C, Costabile F, Manigrasso M, Avino P, Aufderheide M, Cordelli E, Di Liberto L, Petralia E, Raschella G, Stracquadanio M, Wiedensohler A, Pacchierotti F, Zanini G. 2018. Is it the time to study air pollution effects under environmental conditions? A case study to support the shift of in vitro toxicology from the bench to the field. *Chemosphere* 207: 552-564.
- Bonassi S, Prinzi G, Lamonaca P, Russo P, Paximadas I, Rasoni G, Rossi R, Ruggi M, Malandrino S, Sanchez-Flores M, Valdiglesias V, Benassi B, Pacchierotti F, Villani P, Panatta M, Cordelli E. 2018. Clinical and genomic safety of treatment with Ginkgo biloba L. leaf extract (IDN 5933/Ginkgoselect(R)Plus) in elderly: a randomised placebo-controlled clinical trial [GiBiEx]. *BMC Complement Altern Med*. 18: 22. doi: 10.1186/s12906-018-2080-5.
- Grollino MG, Raschella G, Cordelli E, Villani P, Pieraccioli M, Paximadas I, Malandrino S, Bonassi S, Pacchierotti F. 2017. Cytotoxicity, genotoxicity and gene expression changes elicited by exposure of human hepatic cells to Ginkgo biloba leaf extract. *Food Chem Toxicol*. 109: 486-496.
- Relier C, Dubreuil M, Lozano Garcia O, Cordelli E, Mejia J, Eleuteri P, Robidel F, Loret T, Pacchierotti F, Lucas S, Lacroix G, Trouiller B. 2017. Study of TiO2 P25 Nanoparticles Genotoxicity on Lung, Blood, and Liver Cells in Lung Overload and Non-Overload Conditions After Repeated Respiratory Exposure in Rats. *Toxicol Sci*.156:527-537.
- Cordelli E, Keller J, Eleuteri P, Villani P, Ma-Hock L, Schulz M, Landsiedel R, Pacchierotti F. 2016. 2017. No genotoxicity in rat blood cells upon 3- or 6-month inhalation exposure to CeO2 or BaSO4 nanomaterials. *Mutagenesis*. 32:13-22.
- Udroui I, Antoccia A, Tanzarella C, Giuliani L, Pacchierotti F, Cordelli E, Eleuteri P, Villani P, Sgura A. 2015. Genotoxicity Induced by Foetal and Infant Exposure to Magnetic Fields and Modulation of Ionising Radiation Effects. *PLoS One*. 10: e0142259
- Paris L, Giardullo P, Leonardi S, Tanno B, Meschini R, Cordelli E, Benassi B, Longobardi MG, Izzotti A, Pulliero A, Mancuso M, Pacchierotti F. 2015. Transgenerational inheritance of enhanced susceptibility to radiation-induced medulloblastoma in newborn Ptch1+/- mice after paternal irradiation. *Oncotarget*. 6: 36098-112
- Villani P, Fresegna AM, Ranaldi R, Eleuteri P, Paris L, Pacchierotti F, Cordelli E. 2013. X-ray induced DNA damage and repair in germ cells of PARP1(-/-) male mice. *Int.J.Mol.Sci.*, 14: 18078-18092
- Cordelli E, Paris L. 2013. gamma-H2AX detection in somatic and germ cells of mice. *Methods Mol.Biol.*, 1044: 293-310
- Cordelli E, Eleuteri P, Grollino MG, Benassi B, Blandino G, Bartoleschi C, Pardini MC, Di Caprio EV, Spano M, Pacchierotti F, Villani P. 2012. Direct and delayed X-ray-induced DNA damage in male mouse germ cells. *Environ.Mol.Mutagen.*, 53: 429-439
- Lorenzetti S, Altieri I, Arabi S, Balduzzi D, Bechi N, Cordelli E, Galli C, Ietta F, Modena SC, Narciso L, Pacchierotti F, Villani P, Galli A, Lazzari G, Luciano AM, Paulesu L, Spano M, Mantovani A. 2011. Innovative non-animal testing strategies for reproductive toxicology: the contribution of Italian partners within the EU project ReProTect. *Ann.Ist.Super.Sanita*, 47: 429-444
- Paris L, Cordelli E, Eleuteri P, Grollino MG, Pasquali E, Ranaldi R, Meschini R, Pacchierotti F. 2011. Kinetics of gamma-H2AX induction and removal in bone marrow and testicular cells of mice after X-ray irradiation. *Mutagenesis*, 26: 563-572
- Cordelli E, Leopardi P, Villani P, Marcon F, Macri C, Caiola S, Siniscalchi E, Conti L, Eleuteri P, Malchiodi-Albedi F, Crebelli R. 2010. Toxic and genotoxic effects of oral administration of furan in mouse liver. *Mutagenesis*, 25: 305-314.
- Leopardi P, Cordelli E, Villani P, Cremona TP, Conti L, De Luca G, Crebelli R. 2010. Assessment of in vivo genotoxicity of the rodent carcinogen furan: evaluation of DNA damage and induction of micronuclei in mouse splenocytes. *Mutagenesis*, 25: 57-62.
- Villani P, Eleuteri P, Grollino MG, Rescia M, Altavista P, Spano M, Pacchierotti F, Cordelli E. 2010. Sperm DNA fragmentation induced by DNase I and hydrogen peroxide: an in vitro comparative study among different mammalian species. *Reproduction.*, 140: 445-452.
- Villani P, Spano M, Pacchierotti F, Weimer M, Cordelli E. 2010. Evaluation of a modified comet assay to detect DNA damage in mammalian sperm exposed in vitro to different mutagenic compounds. *Reprod.Toxicol.*, 30: 44-49.
- Cordelli E, Fresegna AM, D'Alessio A, Eleuteri P, Spano M, Pacchierotti F, Villani P. 2007. ReProComet: a new in vitro method to assess DNA damage in mammalian sperm. *Toxicol.Sci.*, 99: 545-552.

- Villani P, Cordelli E, Leopardi P, Siniscalchi E, Veschetti E, Fresegna AM, Crebelli R. 2007. Evaluation of genotoxicity of oral exposure to tetravalent vanadium in vivo. *Toxicol.Lett.*, 170: 11-18.
- Stronati L, Testa A, Moquet J, Edwards A, Cordelli E, Villani P, Marino C, Fresegna AM, Appolloni M, Lloyd D. 2006. 935 MHz cellular phone radiation. An in vitro study of genotoxicity in human lymphocytes. *Int.J.Radiat.Biol.*, 82: 339-346.
- Cordelli E, Eleuteri P, Leter G, Rescia M, Spano M. 2005. Flow cytometry applications in the evaluation of sperm quality: semen analysis, sperm function and DNA integrity. *Contraception*, 72: 273-279.
- Leopardi P, Villani P, Cordelli E, Siniscalchi E, Veschetti E, Crebelli R. 2005. Assessment of the in vivo genotoxicity of vanadate: analysis of micronuclei and DNA damage induced in mice by oral exposure. *Toxicol.Lett.*, 158: 39-49.
- Rignell-Hydbom A, Rylander L, Giwercman A, Jonsson BA, Lindh C, Eleuteri P, Rescia M, Leter G, Cordelli E, Spano M, Hagmar L. 2005. Exposure to PCBs and p,p'-DDE and human sperm chromatin integrity. *Environ.Health Perspect.*, 113: 175-179.
- Traina ME, Guarino M, Urbani E, Saso L, Eleuteri P, Cordelli E, Rescia M, Leter G, Spano M. 2005. Lonidamine transiently affects spermatogenesis in pubertal CD1 mice. *Contraception*, 72: 262-267.
- Cordelli E, Cinelli S, Lascialfari A, Ranaldi R, Pacchierotti F. 2004. Melphalan-induced DNA damage in p53(+/-) and wild type mice analysed by the comet assay. *Mutat.Res.*, 550: 133-143.
- Stronati L, Testa A, Villani P, Marino C, Lovisolo GA, Conti D, Russo F, Fresegna AM, Cordelli E. 2004. 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*, 25: 41-48.
- Testa A, Cordelli E, Stronati L, Marino C, Lovisolo GA, Fresegna AM, Conti D, Villani P. 2004. Evaluation of genotoxic effect of low level 50 Hz magnetic fields on human blood cells using different cytogenetic assays. *Bioelectromagnetics*, 25: 613-619.
- Cordelli E, Fresegna AM, Leter G, Eleuteri P, Spano M, Villani P. 2003. Evaluation of DNA damage in different stages of mouse spermatogenesis after testicular X irradiation. *Radiat.Res.*, 160: 443-451.
- Traina ME, Rescia M, Urbani E, Mantovani A, Macri C, Ricciardi C, Stazi AV, Fazzi P, Cordelli E, Eleuteri P, Leter G, Spano M. 2003. Long-lasting effects of lindane on mouse spermatogenesis induced by in utero exposure. *Reprod.Toxicol.*, 17: 25-35.
- Spano M, Bonde JP, Hjollund HI, Kolstad HA, Cordelli E, Leter G. 2000. Sperm chromatin damage impairs human fertility. The Danish First Pregnancy Planner Study Team. *Fertil.Steril.*, 73: 43-50.
- Spano M, Kolstad H, Larsen SB, Cordelli E, Leter G, Giwercman A, Bonde JP. 1999. Flow cytometric sperm chromatin structure assay as an independent descriptor of human semen quality. *Scand.J.Work Environ.Health*, 25 Suppl 1: 28-30.
- Spano M, Cordelli E, Leter G, Lombardo F, Lenzi A, Gandini L. 1999. Nuclear chromatin variations in human spermatozoa undergoing swim-up and cryopreservation evaluated by the flow cytometric sperm chromatin structure assay. *Mol.Hum.Reprod.*, 5: 29-37.
- Cividalli A, Cruciani G, Livdi E, Cordelli E, Eletti B, Tirindelli DD. 1998. Greater antitumor efficacy of paclitaxel administered before epirubicin in a mouse mammary carcinoma. *J.Cancer Res.Clin.Oncol.*, 124: 236-244.
- Villani P, Altavista PL, Castaldi L, Leter G, Cordelli E. 2000. Analysis of DNA oxidative damage related to cell proliferation. *Mutat.Res.*, 464: 229-237.
- Cividalli A, Arcangeli G, Cruciani G, Livdi E, Cordelli E, Danesi DT. 1998. Enhancement of radiation response by paclitaxel in mice according to different treatment schedules. *Int.J.Radiat.Oncol.Biol.Phys.*, 40: 1163-1170. PMID: 9539573
- Pacchierotti F, Tiveron C, Ranaldi R, Bassani B, Cordelli E, Leter G, Spano M. 1998. Reproductive toxicity of 1,3-butadiene in the mouse: cytogenetic analysis of chromosome aberrations in first-cleavage embryos and flow cytometric evaluation of spermatogonial cell killing. *Mutat.Res.*, 397: 55-66.
- Spano M, Kolstad AH, Larsen SB, Cordelli E, Leter G, Giwercman A, Bonde JP. 1998. The applicability of the flow cytometric sperm chromatin structure assay in epidemiological studies. *Asclepios. Hum.Reprod.*, 13: 2495-2505.
- Spano M, Cordelli E, Leter G, Pacchierotti F. 1998. Diepoxybutane cytotoxicity on mouse germ cells is enhanced by in vivo glutathione depletion: a flow cytometric approach. *Mutat.Res.*, 397: 37-43.
- Cordelli E, Leter G, Pacchierotti F, Tiveron C, Spano M. 1997. Glutathione depletion enhances germ cell toxicity of butadiene metabolites: a flow cytometric study. *Eur.J.Histochem.*, 41 Suppl 2: 173-174.
- Anderson D, Dobrzynska MM, Yu TW, Gandini L, Cordelli E, Spano M. 1997. DNA integrity in human sperm. *Teratog.Carcinog.Mutagen.*, 17: 97-102.

- Danesi DT, Spano M, Antonini F, Altavista P, Catalano P, Cordelli E, Pasqualetti P, Santacroce C, Toscano MG, Mecozzi A, Fabiano A. 1997. Flow cytometric and immunohistochemical correlations in high incidence human solid tumors. *Tumori*, 83: 689-697.
 - Tirindelli DD, Cucchiara G, Picconi A, Daffina M, Fabiano A, Antonini F, Toscano MG, Pasqualetti P, Altavista P, Cordelli E, Spano M. 1997. Retrospective analysis of the prognostic significance of DNA ploidy patterns in gastric cancer. *Eur.J.Histochem.*, 41 Suppl 2: 147-148
 - Spano M, Bartoleschi C, Cordelli E, Leter G, Tiveron C, Pacchierotti F. 1996. Flow cytometric assessment of trophosphamide toxicity on mouse spermatogenesis. *Cytometry*, 24: 174-180.
 - Spano M, Bartoleschi C, Cordelli E, Leter G, Segre L, Mantovani A, Fazzi P, Pacchierotti F. 1996. Flow cytometric and histological assessment of 1,2:3,4-diepoxybutane toxicity on mouse spermatogenesis. *J.Toxicol.EnvIRON.Health*, 47: 423-441.
 - Petit JM, Ratinaud MH, Cordelli E, Spano M, Julien R. 1995. Mouse testis cell sorting according to DNA and mitochondrial changes during spermatogenesis. *Cytometry*, 19: 304-312.
 - Pacchierotti F, Tiveron C, D'Archivio M, Bassani B, Cordelli E, Leter G, Spano M. 1994. Acrylamide-induced chromosomal damage in male mouse germ cells detected by cytogenetic analysis of one-cell zygotes. *Mutat.Res.*, 309: 273-284.
 - Nastruzzi C, Menegatti E, Pastesini C, Cortesi R, Esposito E, Spano M, Biagini R, Cordelli E, Feriotto G, Gambari R. 1992. DNA binding activity and inhibition of DNA-protein interactions. Differential effects of tetra-p-amidino-phenoxyneopentane and its 2'-bromo derivative. *Biochem.Pharmacol.*, 44: 1985-1994.
 - Spano M, Amendola R, Bartoleschi C, Emiliani S, Cordelli E, Petit JM, Julien R, Ratinaud MH. 1991. Evaluation of 2-methoxyacetic acid toxicity on mouse germ cells by flow cytometry. *J.Toxicol.EnvIRON.Health*, 34: 157-176.
 - Lampariello F, Sebastiani G, Cordelli E, Spano M. 1991. Comparison of gaussian and t-distribution densities for modeling fluorescence dispersion in flow cytometric DNA histograms. *Cytometry*, 12: 343-349.
 - Amendola R, Cordelli E, Mauro F, Spano M. 1991. Effects of L-acetylcarnitine (LAC) on the post-injury recovery of mouse spermatogenesis monitored by flow cytometry. 2. Recovery after hyperthermic treatment. *Andrologia*, 23: 135-140.
 - Amendola R, Bartoleschi C, Cordelli E, Mauro F, Uccelli R, Spano M. 1989. Effects of L-acetylcarnitine (LAC) on the post-injury recovery of mouse spermatogenesis monitored by flow cytometry. 1. Recovery after X-irradiation. *Andrologia*, 21: 568-575.
 - Teodori L, Tirindelli-Danesi D, Cordelli E, Uccelli R, De Vita R, Spano M, Mauro F, Schillaci A, Moraldi A, Capurso L. 1986. Potential prognostic significance of cytometrically determined DNA abnormality in GI tract human tumors. *Ann.N.Y.Acad.Sci.*, 468: 291-301.
 - Catena C, Cordelli E, Uccelli R. 1985. [Synchronization of the first cell cycle of human PHA-stimulated lymphocytes with hydroxyurea]. *Boll.Soc.Ital.Biol.Sper.*, 61: 1067-1073
 - Teodori L, Capurso L, Cordelli E, De Vita R, Koch M, Tarquini M, Pallone F, Mauro F. 1984. Cytometrically determined relative DNA content as an indicator of neoplasia in gastric lesions. *Cytometry*, 5: 63-70.
- Book chapters**
- Pacchierotti, F., Cordelli, E., & Russo, A. (2018). Environmental Effects on Developing Germ Cells. In M. K. Skinner (Ed.), *Encyclopedia of Reproduction*. vol. 3, pp. 452–458. Academic Press: Elsevier. <http://dx.doi.org/10.1016/B978-0-12-801238-3.64514-2> ISBN: 9780128118993
 - Pacchierotti, F., Cordelli, E., & Russo, A. (2018). Alterazioni del genoma nelle cellule germinali. In L. Migliore (Ed.), *Genomica e Mutagenesi Ambientale*. Pp.160-176. Zanichelli
 - Pacchierotti, F., Cordelli, E., & Russo, A. (2018). Test in vivo In L. Migliore (Ed.), *Genomica e Mutagenesi Ambientale*. Pp. 215-234. Zanichelli
- Presentations**
- Reviewing experience**
- Memberships**
- Participation to many national and international scientific conferences.
 - Joint Italian-Israeli R&D projects, 2015
 - Czech Science Foundation, 2012
 - Scientific papers submitted for publication in international journals (4-5/year)
 - Member of the “Gruppo Italiano di Citometria (GIC)”
 - Member of the “Società Italiana di Mutagenesi Ambientale e Genomica (SIMAG)” (Italian section of the European Environmental Mutagenesis and Genomics Society). 2014-2019 Councilor of the Society.
- Other Experience**
- 2012-2014: Member of the OECD expert group for the development of the OECD Guideline for the testing of chemicals N°489 “in vivo mammalian Comet Assay”