

KATIA CASARIN

Radiation Protection Officer

Address:
Phone:
E-mail:
Date of birth:
Nationality:

WORK EXPERIENCE

01/10/1999 - PRESENT
Elettra - Sincrotrone Trieste, Basovizza (TS), Italy
Job description: Radiation Protection Officer in the Radiation Protection Group.

Main tasks:

- Radiological risk assessment and shielding calculations by Monte Carlo code (FLUKA).
- Drafting of technical radiation protection documentation supporting licensing procedures.
- Radiation monitoring around accelerators and beamlines (active and passive dosimetry).
- Staff training in radiation protection.
- Measurements of induced radioactivity in machine components (NaI(Tl), HpGe detectors).
- Development of Personnel Safety System (PSS) for accelerator and beamlines, periodic checks on PSS components.

Main projects:

- **2025-present, "Elettra2.0" project.**
  This project foresees the upgrade of the existing storage ring from a double-bend achromat configuration to a six-bend achromat configuration.
  Participation in the shielding design of the new storage ring and the related beamlines, in the drafting of the technical documentation supporting the licensing process, in the definition of the new control access system for the beamlines and in all the activities related to radiation protection for the new machine.
- **2012-2014, "SOLARIS" project.**
  Participation in the definition of the Personnel Safety System of the new Polish synchrotron, in collaboration with the Jagiellonian University of Krakow http://www.synchrotron.uj.edu.pl/en_GB/
- **2013, "TeraFERMI" project.**
  Participation in the radiological risk assessment for the new THz TeraFERMI beamline at FERMI accelerator (https://www.elettra.eu/lightsources/fermi/fermi-beamlines/terafermi/terafermi.html).
- **2007-2011, "FERMI@elettra" project.**
  Participation in the definition of the biological shielding and the Personnel Safety Systems for the new 2.0 GeV FERMI Free Electron Laser (http://www.elettra.eu/lightsources/fermi.html).
- **2005-2008, "Booster" project.**
  Participation in the definition of the biological shielding and the Personnel Safety Systems for the new full-energy injector for Elettra storage ring (http://www.elettra.eu/lightsources/elettra.html).
- **2005-2012, "SYRMA" project.**
  Participation in the definition of the SYRMEP beamline's Safety System for mammographic examinations and in the calibration of the beamline's ionization chambers used for the online measurement of the dose delivered to the patient, in collaboration with the experts from the ENEA-Casaccia National Metrological Institute.

- **2000-2014.**
  Participation in the radiation protection activities related to the construction of the new beamlines 1.2-FEL/Nanospectroscopy, 7.2-MCX, 8.1-Bear/Lilit, 9.1-SISSI, 9.2-APE, 11.1-XAFS, 12.2 XPRESS/XRD2, drafting of technical documentation supporting licensing procedure, radiation protection manuals, validating beamline Personnel Safety Systems, and performing radiation protection measurements during beamline commissioning.

EDUCATION

- **July 2026, Member of the RADSYNCH Scientific Committee**
  RADSYNCH (International Workshop on Radiation Safety at Synchrotron Radiation Sources) is a periodic international workshop focused on radiological protection, shielding, and safety at particle accelerators and free-electron lasers (FELs).
- **November 2008, Radiation Protection Expert**
  Professional Italian qualification as Radiation Protection Expert III degree (highest level) via state exam and enrollment in the professional register.
- **1999, Bachelor Degree**
  Bachelor degree in Physics at the Department of Physics and Astronomy, University of Padua, final grade 102/110.
  The experimental work for the thesis, titled "Optimization of a high-pressure xenon-filled ionization chamber for potential application in cardiac scintigraphy" was carried out at the laboratories of the National Institute for Nuclear Physics (INFN) in Legnaro (Padua).

LANGUAGES

Italian (mother tongue), **English** (intermediate)

PARTICIPATION IN COURSES/WORKSHOPS

- September 14-16, 2026: "FLUKA Topical Course - Radiation Protection" at DESY synchrotron, Hamburg, Germany.
- November 17-21, 2025: "FLUKA.CERN Advanced Course" at ALBA Synchrotron, near Barcelona, Spain.
- October 29-31, 2025: "39th AIRP National Congress on Radiation Protection".
- June 26, 2025: "2025 ANPEQ National Congress – Regulatory, Technical and Professional aspects for the Radiation Protection Expert".
- November 21-23, 2024: ANPEQ course "Dose assessment under routine and accidental conditions: healthcare, industry and environment".
- May 31 – June 12, 2024: "Refresher course for Workplace Safety Trainers", by O.P.N. UNIFOR.
- May 24, 2024: ANPEQ / MIT Ambiente Workshop "Radioactive Waste Management according to Legislative Decree 101/2020", Padova, Italy.
- November 27-29, 2023: ANPEQ course "Dose assessment under routine and accidental conditions: healthcare, industry and environment".
- September 27-29, 2023: AiRP National Congress, "Optimization of radiation protection according to the the new regulations".
- November 20-23, 2022: ANPEQ course "Dose assessment under routine and accidental conditions: healthcare, industry and environment".
- April 29, 2022: ANPEQ course "Regulatory, Technical and Professional aspects for the Radiation Protection Expert".

- September 29 – October 1, 2021: AIRP National Congress "Radiation protection: new developments and challenges between regulatory and technological changes".
- September 18, 2020: ANPEQ course "Regulatory update following the publication of Legislative Decree 101/2020"
- November 20-22, 2019: "Training Course for Workplace Safety Trainers", by VEGA Formazione, Mestre-Venice, Italy.
- October 6-7, 2016: ANPEQ course "Dosimetry of personnel exposed to ionizing radiation: technical aspects and responsibilities", Verona, Italy.
- June 3-5, 2015: participation in the 8th RADSYNCH Workshop at DESY synchrotron, Hamburg, Germany with the talk "Radiological safety studies for the TeraFERMI beamline at FERMI@elettra".
- December 1-5, 2014, "3rd FLUKA Advanced Course and Workshop" at Frascati National Laboratories, Rome, Italy.
- November 25, 2014: participation in the Joint ICTP-IAEA School on Novel Experimental Methodologies for Synchrotron Radiation Applications in Nano-science and Environmental Monitoring, (smr2611), Trieste, Italy, with the talk "Synchrotron facilities radiation safety issues".
- October 7-11, 2013, "14th FLUKA Beginners' Course" at the Helmholtz-Zentrum Dresden-Rossendorf, Dresda, Germany.
- May 8-10, 2013, participation in the 7th RADSYNCH Workshop at Brookhaven National Laboratory, USA with the talk "Beam Loss Monitoring System Inside ELETTRA Storage Ring".

PUBLICATIONS

Publications in journals

1. *E. Schultke, S. Fiedler, R.H. Menk, F. Jaekel, D. Dreossi, K. Casarin, G. Tromba, S. Bartzsch, S. Kriesen, G. Hildebrandt, F. Arfelli,* "Perspectives for microbeam irradiation at the SYRMEP beamline", Journal of Synchrotron Radiation, Vol.28, pages 410-418, 2021 https://doi.org/10.1107/S1600577521000400
2. *T. Levato, S. Bonora, G.M. Grittani, C.M. Lazzarini, M.F. Nawaz, M. Nevrkla, L. Villanova, R. Ziano, S. Bassanese, N. Bobrova, K. Casarin, E. Chacon-Golcher, Y.J. Gu, D. Khikhlukha, D. Kramer, M. Lonza, D. Margarone, V. Olšovcová, M. Rosinski, B. Rus, P. Sasorov, R. Versaci, A. Zaraś-Szydlowska, S.V. Bulanov, G. Korn,* "HELL: High-energy electrons by laser light, a user-oriented experimental platform at ELI beamlines", 2018, DOI: 10.3390/app8091565
3. *L. Fröhlich, K. Casarin, and A. Vascotto,* "Simulation and measurement of the radiation field of the 1.4-GeV electron beam dump of the FERMI free-electron laser", Radiation Protection Dosimetry (2014), pp.1-7.
4. *L. Froehlich, K.Casarin, E.Quai, A.Holmes-Siedle, M.Severgnini, R.Vidimari,* "Online monitoring of absorbed dose in undulator magnets with RADFET dosimeters at FERMI@elettra", Nuclear Instruments and Methods in Physics Research A 703 (2013), pp.70-79.
5. *Edoardo Castelli, Maura Tonutti, Fulvia Arfelli, Renata Longo, Emilio Quaia, Luigi Rigon, Daniela Sanabor, Fabrizio Zanconati, Diego Dreossi, Alessando Abrami, Elisa Quai, Paola Bregant, Katia Casarin, Valentina Chenda, Ralf Hendrik Menk, Tatjana Rokvic, Alessandro Vascotto, Giuliana Tromba, Maria Assunta Cova,* "Mammography with Synchrotron Radiation: First Clinical Experience with Phase-Detection Technique", Radiology, Volume 259, Number 3, 2011, pp.684-694.
6. *G. Tromba, R. Longo, A. Abrami, F. Arfelli, A. Astolfo, P. Bregant, F. Brun, K. Casarin, V.Chenda, D. Dreossi, M. Hola, J. Kaiser, L. Mancini, R.H. Menk, E. Quai, E. Quaia, L. Rigon, T. Rokvic, N. Sodini, D. Sanabor, E. Schultke, M. Tonutti, A. Vascotto, F. Zanconati, M. Cova, E. Castelli,* "The SYRMEP Beamline of Elettra: Clinical Mammography and Bio-medical Applications", Proceedings of the 6th International

Conference on Medical Applications of Synchrotron Radiation (2010), Volume 1266, pp.18-23.

7. *D. Dreossi, A. Abrami,F. Arfelli, P. Bregant, K. Casarin, V. Chenda, M.A. Cova, R. Longo, R.-H. Menk, E. Quai, E. Quaia, L. Rigon, T. Rokvic, D. Sanabor, M. Tonutti, G. Tromba, A. Vascotto, F. Zanconati, E. Castelli,* "The mammography project at the SYRMEP beamline", European Journal of Radiology, Volume 68, Issue 3, Supplement, December 2008, pp.S58-S62.
8. *Abrami, F. Arfelli,c, R.C. Barroso, A. Bergamaschi, F. Bille`, P. Bregant, F. Brizzi, K. Casarin, E. Castelli, V. Chenda, L. Dalla Palma, D. Dreossi, C. Fava, R. Longo,c, L. Mancini, R.-H. Menk, F. Montanari, A. Olivo, S. Pani, A. Pillon, E. Quai, S. Ren Kaiser, L. Rigon, T. Rokvic, M. Tonutti, G. Tromba, A. Vascotto, C. Venanzi, F. Zanconati, A. Zanetti, F. Zanini,* "Medical applications of synchrotron radiation at the SYRMEP beamline of ELETTRA", Nuclear Instruments and Methods in Physics Research A 548 (2005), pp.221-227.

Publications in conference proceedings

1. *G. Tromba, K. Casarin, K. Alikaniotis, G. Scian, P. Berkvens,* "Elettra2.0 project: radiation protection issues for the new and upgraded beamlines", Proceedings of the 11st International Workshop on Radiation Safety at Synchrotron Radiation Sources, ESRF, Grenoble, France, 2023.
2. *G. Tromba, K. Casarin, A.Vascotto,* "Upgrade of the SYRMEP hard X-ray imaging beamline at Elettra: Radiation Protection and Radiation Safety issues", Proceedings of the 10th International Workshop on Radiation Safety at Synchrotron Radiation Sources, MAXIV, Lund, Sweden, 2019.
3. *K. Casarin, L. Froehlich, G.Tromba, A.Vascotto,* "Radiological safety studies for the TeraFERMI beamline at FERMI (Elettra)", Proceedings of the 8th International Workshop on Radiation Safety at Synchrotron Radiation Sources, DESY, Hamburg, Germany, 2015.
4. *F. Giacuzzo, L. Battistello, K. Casarin, M. Lonza, G. Scalamera, A. Vascotto, L. Zambon, G. Marega,* "Radiation and Laser Safety Systems for the FERMI Free Electron Laser", Proceedings of ICALEPCS 2013, San Francisco, CA, USA, pp.198-201.
5. *K.Casarin, E. Benfatto, M. Folla, S. Sbarra, G.Tromba, A.Vascotto,* "Beam Loss Monitoring System Inside ELETTRA Storage Ring", Proceedings of the 7th International Workshop on Radiation Safety at Synchrotron Radiation Sources, Brookhaven National Laboratory, USA, 2013.
6. *E. Quai, K.Casarin, G. Tromba, A.Vascotto,* "Top-Up Operation at Elettra: Radiation Protection Issues", Proceedings of the 6th International Worshop on Radiation Safety at Synchrotron Radiation Sources, Pohang Accelerator Laboratory, Korea, 2011, pp.75-84.
7. *S. Di Mitri et al.,* "Commissioning and initial operation of FERMI@elettra", Proceedings of IPAC2011, San Sebastián, Spain, pp.918-922
8. *L. Froehlich, A. I. Bogani, K. Casarin, G. Cautero, G. Gaio, D. Giuressi, A. Gubertini, R. H. Menk, E. Quai, G. Scalamera, A. Vascotto,* "Instrumentation for machine protection at FERMI@elettra", Proceedings of DIPAC2011, Hamburg, Germany, pp.286-288.
9. *E. Karantzoulis, A. Carniel, K. Casarin, S. Ferry, G. Gaio, F. Giacuzzo, S. Krecic, E. Quai, C. Scafuri, G. Tromba, A. Vascotto,* "Top-up implementation and operation at Elettra", Proceedings of IPAC'10, 2010, Kyoto, Japan, pp.2543-2545.
10. *A. Abrami, K. Casarin, V. Chenda, D. Dreossi, E. Quai, G. Tromba, A. Vascotto,* "The SYRMA project for clinical mammography @ Elettra: Safety, Control and Supervision systems", Proceedings of the 5th International Worshop on Radiation Safety at Synchrotron Radiation Sources, Elettra-Synchrotron Radiation Light Source, Trieste, Italy, 2009, pp.37-42.
11. *G. Tromba, K. Casarin, E. La Torre, F.Longo, E. Quai, A. Vascotto,* "The FERMI project @ Elettra: radiation protection and safety issues", Proceedings of the 5th International Worshop on Radiation Safety at Synchrotron Radiation Sources, Elettra-Synchrotron Radiation Light Source, Trieste, Italy, 2009, pp.58-64.

12. *A. Vascotto, M. Ballerini, G. Merlino, K. Casarin, S. Sbarra,* "Development and Experimental Performance Evaluation of a Dose-Rate meter for Pulsed Beam", Proceedings of the 5th International Worshop on Radiation Safety at Synchrotron Radiation Sources, Elettra-Synchrotron Radiation Light Source, Trieste, Italy, 2009, pp.65-70.
13. *K. Casarin, E. Quai, S. Sbarra, G. Tromba, A. Vascotto,* "First radiation monitoring results during Elettra booster commissioning", Proceedings of the 11th European Particle Accelerator Conference EPAC08, 2008, Genoa, Italy, pp.535-537.
14. *K. Casarin, L. Battistello, S. Fontanini, F. Giacuzzo, M. Lonza, E. Quai, S. Sbarra, G. Tromba, A. Vascotto, L. Zambon,* "The Personnel Safety System of the Elettra booster", Proceedings of the 11th European Particle Accelerator Conference EPAC08, 2008, Genoa, Italy, pp.538-540.
15. *M. Svandrlik, S. Bassanese, A. Carniel, K. Casarin, D. Castronovo, P. Craievich, G. D'Auria, R. De Monte, P. Delgiusto, S. Di Mitri, A. Fabris, R. Fabris, M. Ferianis, F. Giacuzzo, F. Iazzourene, G. Loda, M. Lonza, F. Mazzolini, D. Molaro, G. Pangon, C. Pasotti, G. Penco, L. Pivetta, L. Rumiz, C. Scafuri, G. Tromba, A. Vascotto, R. Visintini, D. Zangrando,* "The new Elettra booster injector", Proceedings of PAC07, 2007, Albuquerque, New Mexico, USA, pp.983-985.
16. *M. Bovi, R.F. Laitano, M. Pimpinella, M. P. Toni, F. Arfelli, K. Casarin, D. Dreossi, R. H. Menk, E. Quai, G. Tromba, A. Vascotto,* "Absolute air-kerma measurement in a synchrotron radiation beam by ionization free-air chamber", Proceedings of the "Workshop on Absorbed Dose and air kerma primary standards", CEA-LIST-LNHB & BIPM, 2007, Parigi, Francia.
17. *F. Iazzourene, S. Bassanese, A. Carniel, K. Casarin, R.De Monte, M. Ferianis, F. Giacuzzo, M. Lonza, G. Tromba, A. Vascotto,* "Elettra top-up requirements and design status", Proceedings of EPAC 2006, Edinburgh, Scotland, pp.3350-3352.
18. *M. Svandrlik, S. Bassanese, F. Cargnello, A. Carniel, K. Casarin, D. Castronovo, P. Craievich, G. D'Auria, R. De Monte, S. Di Mitri, A. Fabris, R. Fabris, M. Ferianis, A. Gambitta, F. Giacuzzo, M. Giannini, F. Iazzourene, G. Loda, M. Lonza, F. Mazzolini, D. Morelli, G. Pangon, C. Pasotti, G. Penco, L. Pivetta, L. Rumiz, C. Scafuri, G. Tromba, A. Vascotto, R. Visintini, D. Zangrando,* "Elettra new full-energy injector status report", Proceedings of EPAC 2006, Edinburgh, Scotland, pp.3356-3358.
19. *K. Casarin, G. De Ninno, F. Iazzourene, E. Karantzoulis, G. Tromba, L. Tosi, A. Vascotto, "Injection and FEL lasing with front-end open at Elettra",* Proceedings of 2003 Particle Accelerator Conference, 2003, pp.2309-2311.
20. *K. Casarin, G. Tromba, A. Vascotto,* "The new full-energy injector for the Elettra light source", Proceedings of the 2nd International Worshop on Radiation Safety at Synchrotron Radiation Sources, ESRF, Grenoble, France, 2002.
21. *K. Casarin, G. Tromba, A. Vascotto,* "Personnel Safety Systems and Radiation Monitoring at the Elettra Light Source", Proceedings of the 1st International Worshop on Radiation Safety at Synchrotron Radiation Sources, Argonne National Laboratory, Argonne, USA, 2001.
22. *E. Karantzoulis, K. Casarin, J. Miertusova, F. Pradal, A. Vascotto, R. P. Walker,* "Effects of local pressure bumps on beam lifetime and gas bremsstrahlung", Proceedings of EPAC 2000, Vienna, Austria, pp.1510-1512.
23. *A. Gambitta, E. Karantzoulis, G. Loda, F. Mazzolini, J. Miertusova, N. Pangos, F. Pradal, K. Casarin, G. Tromba, A. Vascotto, R. P. Walker,* "Experience with aluminium vacuum chambers at Elettra", Proceedings of EPAC 2000, Vienna, pp.2292-2294.

I hereby consent to the processing of the personal data in this CV for the sole purpose of consideration of my skills and experience for professional opportunities, in accordance with D.L. 30/6/2003 N.196 and the General Data Protection Regulation (GDPR) 2016/679.

Date: 7/10/2026 Kathia Casarin