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 Italian National Institute of Health
 National Center for Radiation Protection and Computational Physics

Employment History

- 2021-ongoing  **Researcher** at the National Center for Radiation Protection and Computational Physics of the **Italian National Institute of Health**.
- 2021  **Research Assistant** at the National Center for Radiation Protection and Computational Physics of the **Italian National Institute of Health**.
-  **Research Assistant** at the Department of Basic and Applied Sciences for Engineering of **Sapienza - University of Rome**.
- 2021-ongoing  **Professor** at the Department of Astronautical, Electrical and Energy Engineering of **Sapienza - University of Rome**.
Subject: *Radiation Protection for the Environment and the Nuclear Medicine* for the *Master Degree in Nuclear Engineering*
- 2015–2021  **Mentor** at the Department of Basic and Applied Sciences for Engineering of **Sapienza - University of Rome**.
Subject: *Radiation Protection* for the *Master Degree in Nuclear Engineering*
-  **Mentor** at the Department of Basic and Applied Sciences for Engineering of **Sapienza - University of Rome**.
Subject: *Measurement and Characterization of Nuclear Materials* for the *Master Degree in Nuclear Engineering*
- 2018–2020  **Mentor** at the Department of Basic and Applied Sciences for Engineering of **Sapienza - University of Rome**.
Subject: *Physics* for the *Bachelor Degree in Clinical Engineering*
- 2015–2020  **Mentor** at the Department of Basic and Applied Sciences for Engineering of **Sapienza - University of Rome**.
Subject: *Physics* for the *Bachelor Degree in Chemical Engineering*
- 2015  **Intern** at the Laboratory of Radiation Protection of **Sapienza - University of Rome**.
- 2013  **Intern** at **Nucleco S.p.a.**, ENEA Casaccia Research Center.

Education

- 2015 – 2020  **Ph.D., Sapienza - University of Rome** in Energy and Ambient.
Thesis title: *Radon in indoor air and water: design and development of experimental apparatuses and measurement protocols*.
- 2020  **Qualification to the Profession of Radiation Protection Expert - I Degree** (Italian legislation).
- 2018  **Qualification to the Profession of Engineer** (Italian legislation).
- 2013 – 2015  **Master Degree at Sapienza - University of Rome, Italy** in Nuclear Engineering.
Thesis title: *Design and commissioning of an affordable apparatus for computed axial micro-tomography*.
- 2012 – 2013  **Bachelor Degree at Sapienza - University of Rome, Italy** in Energy Engineering
Thesis title: *Evaluation of radioactive gaseous elements from treatment system for solid waste of Nucleco S.p.A. repository at the ENEA Casaccia Research Center*.

Research Publications

Journal Articles

- 1 **Di Carlo, C.**, Ampollini, M., Antignani, S., Caprio, M., Carpentieri, C. & Bochicchio, F. (zozz). Thoron interference on performance of continuous radon monitors: An experimental study on four devices and a proposal of an indirect method to estimate thoron concentration. *International Journal of Environmental Research and Public Health*, 19, 2427. <https://doi.org/10.3390/ijerph19042423>
- 2 Venoso, G., Iacononi, A., Pratesi, G., Guazzini, M., Boccini, L., Corbani, E., Bucci, S., Leonardi, F., Trevisi, R., Ampollini, M., Antignani, S., Caprio, M., Carpentieri, C., **Di Carlo, C.** & Bochicchio, F. (zozl). Impact of temporal variability of radon concentration in workplaces on the actual radon exposure during working hours. *Scientific Report*, 1–9. <https://doi.org/10.1038/s41598-021-96207-9>
- 3 Antignani, S., Venoso, G., Ampollini, M., Caprio, M., Carpentieri, C., **Di Carlo, C.**, Caccia, B., Hunter, N. & Bochicchio, F. (zozo). A 10-year follow-up of yearly indoor radon measurements in homes, review of other studies and implications on lung cancer risk estimates. *Science of The Total Environment*, 766, 144130. <https://doi.org/10.1016/j.scitotenv.2020.144150>
- 4 Venoso, G., Ampollini, M., Antignani, S., Caprio, M., Carpentieri, C., **Di Carlo, C.** & Bochicchio, F. (zozo). Short-Term Annual Variations of Radon Concentration in Workplaces: Some Results in a Research Institute. *Radiation Protection Dosimetry*, 1–5. <https://doi.org/10.1093/rpd/ncaa138>
- 5 Caprio, M., Venoso, G., Ampollini, M., Antignani, S., Carpentieri, C., **Di Carlo, C.**, Pozzi, S., Carelli, V., Cordedda, C., Bottacchiari, F. & Bochicchio, F. (zozo). Evaluation of Representativeness of Samples used for Indoor Radon Surveys. *Radiation Protection Dosimetry*, 1–4. <https://doi.org/10.1093/rpd/ncaa135>
- 6 Curguz, Z., Venoso, G., Zunic, Z. S., Mirjanic, D., Ampollini, M., Carpentieri, C., **Di Carlo, C.**, Caprio, M., Alavantic, D., Kolarz, P., Stojanovska, Z., Antignani, S. & Bochicchio, F. (zozo). Spatial Variability of Indoor Radon Concentration in Schools: Implications on Radon Measurement Protocols. *Radiation Protection Dosimetry*, 1–3. <https://doi.org/10.1093/rpd/ncaa137>
- 7 **Di Carlo, C.**, Venoso, G., Lepore, L., Ampollini, M., Carpentieri, C., Antignani, S., Caprio, M., Remetti, R. & Bochicchio, F. (zozo). Reproducibility of Radon-in-Water Measurements by Emanometry Technique. *Radiation Protection Dosimetry*, 1–3. <https://doi.org/10.1093/rpd/ncaa142>
- 8 Bochicchio, F., Ampollini, M., Antignani, S., Caccia, B., Caprio, M., Carpentieri, C., **Di Carlo, C.**, Nuccetelli, C., Pozzi, S., Valentini, S. & Venoso, G. (zozo). A short summary of past and recent activities on protection from radon exposure carried out by the Italian National Institute of Health. *Contemporary Materials*, 11(1), 1–8. <https://doi.org/10.7251/COMEN2001001B>
- 9 Colenghi, V., Lepore, L., **Di Carlo, C.**, Bochicchio, F. & Remetti, R. (zozo). Development of an electrostatic precipitator prototype to reduce exposure to radon progeny in poorly ventilated workplaces. *Journal of Radiation Research and Applied Sciences*. <https://doi.org/10.1080/16878507.2020.1838039>
- 10 **Di Carlo, C.**, Lepore, L., Venoso, G., Ampollini, M., Carpentieri, C., Tannino, A., Ragno, E., Magliano, A., D'Amario, C., Remetti, R. & Bochicchio, F. (zoiy). Radon concentration in self-bottled mineral spring waters as a possible public health issue. *Scientific Reports*, 11(1), 14232. <https://doi.org/10.1038/s41598-019-50472-x>
- 11 Bochicchio, F., Ampollini, M., Antignani, S., Carpentieri, M., C. Caprio, Caccia, B., **Di Carlo, C.**, Pozzi, S., Valentini, S. & Venoso, G. (zoiy). Protection from radon in Italy: past, present and perspectives. *Romanian Journal of Physics*, 66(y-10).
- 12 Centomani, G., **Di Carlo, C.**, Lepore, L. & Remetti, R. (zoiy). Design and commissioning of an innovative radon chamber with a single ²²⁵Ra source and continuous variation and control of concentration vs. time. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 690(June), 109–113. <https://doi.org/10.1016/j.nima.2019.05.084>
- 13 Venoso, G., Ampollini, M., **Di Carlo, C.**, Carpentieri, C. & Bochicchio, F. (zoiy). Some practical improvements of radon concentration measurement protocols to reduce costs and environmental impact. *Romanian Journal of Physics*, 66(5-8), 8–17.

Conference Proceedings

- 14 Nuccetelli, C., **Di Carlo, C.**, Venoso, G., Trotti, F., Ugolini, R., Trevisi, L. & Urso, L. Development of a methodology at European level for dose-assessment of agricultural workers following use of NORM sludge in agriculture. In: *Proceedings of NORM X Conference*. zozz.
- 15 **Di Carlo, C.**, Leonardi, F., Trevisi, R. & Remetti, R. Spatial variability of radon concentration in large buildings: A case study in a university campus. In: *Proceedings of 10th international conference on high level environmental radiation areas*. zozz.
- 16 **Di Carlo, C.**, Venoso, G., Ampollini, M., Carpentieri, C., Caprio, M., Antignani, S. & Bochicchio, F. Proposal of an affordable method to estimate indoor thoron concentration close to the walls using active radon monitors. In: *Proceedings of 10th international conference on high level environmental radiation areas*. zozz.
- 17 Urso, L., Fohlmeister, J., Dilling, J., Achatz, M., Trotti, F., Ugolini, R., Perez-Sanchez, D., Popic, J. M., Nuccetelli, C., Venoso, G., **Di Carlo, C.**, Trevisi, R., Leonardi, F., Fevrier, L. & Caplin, H. Development of a methodology for dose assessment and estimate of amount of NORM residues disposable at landfills for conventional waste. In: *Proceedings of NORM X Conference*. zozz.
- 18 Nuccetelli, C., Venoso, G., **Di Carlo, C.**, Ampollini, M., Trotti, F., Ugolini, R., Caldognetto, E., Trevisi, R. & Leonardi, F. Esposizioni ai NORM: Attività dell'Italia nell'ambito del progetto europeo RadoNORM. In: *Convegno nazionale dell'associazione italiana di protezione contro le radiazioni (AIRP aoi)*. zoz1, z43.
- 19 Venoso, G., Ampollini, M., **Di Carlo, C.** & Nuccetelli, C. La correzione per effetto somma in coincidenza nelle misure di spettrometria gamma ad alta risoluzione: Proposta di un metodo semi-empirico. In: *Convegno nazionale dell'associazione italiana di protezione contro le radiazioni (AIRP aoi)*. zoz1.
- 20 Pugliese, M., Nuccetelli, C., Trotti, F., Bucci, S., Pinto, I., La Verde, G., Venoso, G., **Di Carlo, C.**, Caldognetto, E., Ugolini, R., Leonardi, F., Luzzi, L. & Trevisi, R. Protocols and computational methods to support stakeholders of NORM-related industrial sectors in Italy: a research project. In: *Book of abstracts and ENA Workshop*. zozo.
- 21 Bochicchio, F., **Di Carlo, C.**, Ampollini, M., Caccia, B., Carpentieri, C., Pozzi, S. & Venoso, G. Extreme reverse seasonal variations of indoor radon concentration: a case study. In: *Book of Abstracts 7rd International Conference "Radon in the Environment aoię" aç-ç1 May aoię, Kraków, Poland*. zoiy, 15.
- 22 Caprio, M., Venoso, G., Antignani, S., Ampollini, M., Carpentieri, C., **Di Carlo, C.**, Carelli, V., Cordedda, C., Bottacchiari, F. & Bochicchio, F. Evaluation of representativeness of samples used for indoor radon surveys. In: *Book of abstracts ęth International Conference on Protection against Radon at Home and at Work 16-ao September aoię, Prague, Czech Republic*. zoiy, 1y.
- 23 Carpentieri, C., **Di Carlo, C.**, Venoso, G., Ampollini, M., Bonifazi, S., Dante, V., Petetti, E., Pozzi, S., Valentini, S., Caccia, B. & Bochicchio, F. Radon mitigation actions in large public buildings: some review and a case study. In: *Book of abstracts ęth International Conference on Protection against Radon at Home and at Work 16-ao September aoię, Prague, Czech Republic*. zoiy, 58.
- 24 **Di Carlo, C.**, Lepore, L., Venoso, G., Ampollini, M., Carpentieri, C., Tannino, A., Ragno, E., Magliano, A., Remetti, R. & Bochicchio, F. First survey on radon concentration in mineral spring waters in Lazio region, Italy. In: *Book of abstracts 7rd international conference "Radon in the environment aoię" aç-ç1 May aoię, Kraków, Poland*. zoiy, 5z.
- 25 **Di Carlo, C.**, Lepore, L., Gugliermetti, L. & Remetti, R. An Inexpensive and Continuous Radon Progeny Detector for Indoor Air-Quality Monitoring. In: *WIT Transactions on Ecology and the Environment*. aç6. zoiy, çz3-ç4. <https://doi.org/10.2495/air190321>.
- 26 **Di Carlo, C.**, Remetti, R., Leonardi, F., Trevisi, R., Lepore, L. & Ippolito, R. Indoor Radon Survey in University Buildings: a Case Study of Sapienza – University of Rome. In: *WIT Transactions on Ecology and the Environment*. aç6. zoiy, ç15-ç4. <https://doi.org/10.2495/air190311>.
- 27 **Di Carlo, C.**, Venoso, G., Ampollini, M., Caccia, B., Carpentieri, C., Pozzi, S. & Bochicchio, F. Variazioni stagionali inverse della concentrazione di radon indoor e relativo impatto sui protocolli di misura. In: *Atti "Convegno Nazionale Airp di Radioprotezione aoię" Perugia, 16-18 Ottobre aoię*. zoiy, 44z-43z. ISBN: y588888548484.
- 28 **Di Carlo, C.**, Venoso, G., Ampollini, M., Carpentieri, C., Caprio, M. & Bochicchio, F. Thoron interference in radon measurements for different radon monitors: results and proposal for an estimation method. In: *Book of abstracts ęth International Conference on Protection against Radon at Home and at Work 16-ao September aoię, Prague, Czech Republic*. zoiy, ç3.

- 29 **Di Carlo, C.**, Venoso, G., Lepore, L., Ampollini, M., Carpentieri, C., Pozzi, S., Caprio, M., Remetti, R. & Bochicchio, F. Reproducibility of radon-in-water measurements by emanometry technique. In: *Book of abstracts 4th International Conference on Protection against Radon at Home and at Work 16-ao September ao1ę, Prague, Czech Republic.* 201y, 35.
- 30 Venoso, G., Ampollini, M., Antignani, S., Caprio, M., Carpentieri, C., **Di Carlo, C.** & Bochicchio, F. Annual variations of indoor radon concentration in workplaces: some results and implications on protocols. In: *Book of abstracts 4th International Conference on Protection against Radon at Home and at Work 16-ao September ao1ę, Prague, Czech Republic.* 201y, z5.
- 31 Venoso, G., Ampollini, M., Carpentieri, C., **Di Carlo, C.** & Bochicchio, F. Experimental evaluation of ageing and fading effects over 3, 5, and 12 months for three radon concentration measurement techniques based on nuclear track detectors. In: *Book of Abstracts 3rd International Conference "Radon in the Environment ao1ę" aç-çl May ao1ę, Kraków, Poland.* 201y, zo.
- 32 Venoso, G., Curguz, Z., Zunic, Z., Mirjanic, D., Ampollini, M., Carpentieri, C., **Di Carlo, C.**, Caprio, M., Alavantic, D., Kolarz, P., Stojanovska, Z., Antignani, S. & Bochicchio, F. Spatial variability of indoor radon concentration in schools: implications on radon measurement protocols. In: *Book of abstracts 4th International Conference on Protection against Radon at Home and at Work 16-ao September ao1ę, Prague, Czech Republic.* 201y, çz.
- 33 Venoso, G., **Di Carlo, C.**, Ampollini, M., Antignani, S., Carpentieri, C., Caprio, M. & Bochicchio, F. Impatto della presenza di thoron sulle prestazioni dei monitor attivi per la misura della concentrazione di radon in continuo. In: *Atti "Convegno Nazionale Airp di Radioprotezione ao1ę" Perugia, 16-18 Ottobre ao1ę.* 201y, 13y-158. ISBN: y588888548484.

Books and Chapters

- 34 World Health Organization. (2022). *Guidelines for drinking-water quality: Fourth edition incorporating the first and second addenda* (4th ed + 1st add + 2nd add). World Health Organization.
- 35 Cinelli, G., De Cort, M., Tollefsen, T., Achatz, M., Ajtić, J., Ballabio, C., Barnet, I., Bochicchio, F., Borelli, P., Bossew, P., Braga, R., Brattich, E., Briganti, A., Carpentieri, C., Castellani, C. M., Castelluccio, M., Chiaberto, E., Ciotoli, G., Coletti, C., ... Zhukovsky, M. (201y). *European Atlas of Natural Radiation*. Publication Office of the European Union.

Skills

Languages	■ Strong reading, writing and speaking competencies for English and Italian. Intermediate writing and speaking, and strong reading competencies for Spanish.
Coding	■ Python, MATLAB, Visual Basic, C++, L ^A T _E X .
Simulation	■ RESRAD ONSITE, OFFSITE, BUILD & BIOTA, Monte Carlo N-Particle Transport Code, Angle, MicroShield Pro.
3D Modelling	■ Autodesk™-AutoCAD, SOLIDWORKS.
Image & Video	■ Adobe Photoshop, Adobe Premiere, MAGIX, Sony Vegas Pro.
Misc.	■ Academic research, teaching, training, consultation, L ^A T _E X typesetting and publishing.

Il sottoscritto **Di Carlo Christian**, consapevole che (ai sensi dell'art. 55 del D.P.R. 443/2000) le dichiarazioni mendaci, la falsità negli atti e l'uso di atti falsi sono puniti ai sensi del codice penale e delle leggi speciali, dichiara che le informazioni contenute nel curriculum vitae rispondono a verità.

Il sottoscritto **Di Carlo Christian** in merito al trattamento dei dati personali esprime il proprio consenso al trattamento degli stessi nel rispetto delle disposizioni speciali previste dal Regolamento Generale di Protezione dei Dati Personali (RGDP) UE 2016/679.

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