

# CURRÍCULUM VITAE

## PERSONAL DETAILS

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## PROFESSIONAL EXPERIENCE

Since 2018, working as a medical physicist at the Vall d'Hebron Barcelona Hospital. My professional focus is in nuclear medicine and radiation protection, although I also have experience in radiotherapy. The main tasks I perform are:

- **Diagnostic Imaging-Nuclear Medicine:**
  - Quality assurance and quality control of equipment: activimeters, planar gamma cameras, PET-CT, SPECT-CT,  $\mu$ PET-CT, sample counters and surgical probes.
  - Dosimetry and radiation protection in therapy with radionuclides.
  - Optimization of diagnostic imaging quality.
  - Radiation protection of staff, patients, public, and environment.
  - Quality assurance and control of the environmental radiation, personal dosimetry, and contamination monitoring equipment.

## EDUCATION

Graduated in Physics at the Universidad Nacional de Educación a Distancia, Madrid, 2014.

Medical Physicist since 2018.

## TEACHING

Collaborating professor in the subject of Radiodiagnostic Facilities Manager at Universitat Internacional de Catalunya since 2020, teaching an average of 35 hours per year.

## PUBLICATIONS

- Assessment of absolute myocardial blood flow with a dedicated CZT cardiac gamma camera: Methods and potential pitfalls. *Revista Española de Medicina Nuclear e Imagen Molecular*. (2025)
- Determining optimal transit dosimetry gamma parameter values for the detection of failure modes using receiver operating curve analysis, *Journal of Applied Clinical Medical Physics*. (2025)
- The current practice of volumetric modulated arc therapy for breast cancer in Europe- A survey by the EFOMP VMAT breast working group, *Physica Medica*, (2025)
- Chapter 11: Combining External Beam Radiotherapy and Targeted Radionuclide Therapy. *Radiotheranostics: A Primer for Medical Physicist II*. CRC Press (2025)
- Validation of an in vivo transit dosimetry algorithm using Monte Carlo simulations and ionization chamber measurements. *Journal of Applied Clinical Medical Physics*. (2024)
- Gamma passing rates of daily EPID transit images correlate to PTV coverage for breast cancer IMRT treatment plans. *Journal of Applied Clinical Medical Physics*. (2023)
- Monte Carlo Simulation of conical collimators for stereotactic radiosurgery with 6 MV flattening-filter-free photon beam, *Medical Physics* (2021)
- PRIMO Monte Carlo software benchmarked against a reference dosimetry dataset for 6 MV photon beams from Varian linacs. *Radiation Oncology*, 13(1), 1-10. (2018)
- Assessment of the Monitor Unit Objective tool for VMAT in the Eclipse treatment planning system. *Reports of Practical Oncology & Radiotherapy*, 23(2), 121-125. (2018)

## Vitae

Participation in more than 50 posters at national and international congresses.

**SCIENTIFIC WORKING GROUPS MEMBER**

- EFOMP: Volumetric Modulated Arc Therapy-Breast. Role:Observer.
- EFOMP: DICOM-QSPECT-MRT. Role:Observer
- SEFM: Live transit dosimetry. Role:Member
- SEPR-CSN: Internal dose in exposed workers in nuclear medicine. Role: Member

**IT SKILLS**

- Word, Excel, Acces, PowerPoint high level.
- Programming languages: Python, Visual Basic, C#, Fortran
- Mathematical software: Maple, Matlab, gnuplot
- Statistical software: R, Qtiplot
- Image processing software: ImageJ, Matlab, OpenDose

Barcelona, February 27th, 2026



David Sánchez Artuñedo