

Andrea Lopez

Medical / Nuclear Physicist

English proficiency: B2 *certificated*

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Professional Education

- Master in Medical Physics [Nuclear Medicine] - Universidad Nacional de Colombia - 2021
- Physicist [Nuclear Physics] - Universidad Nacional de Colombia - 2017

Skills, Training & Expertise

- Radiation Protection
 - Two graduate level classes (1.radiation protection and 2. advance radiation protection)
 - External exposition - ICRP 103, 116 and ICRU RC 26
 - Radioactive emergencies management
 - Nuclear Medicine, Radiodiagnostic, Radiotherapy, and cyclotron shielding design for
 - Neutrons
 - High energy Gammas
 - Betas
 - Alphas
 - Shielding design and implementation for portable applications using Californium 252
 - Radioactive risk assessments (risk matrix/chart)
 - Wipe test using well counters
- Radioactive waste management
 - Solid (e.g., utensils, syringes, etc) waste from nuclear medicine activities
 - Liquid (e.g., urine, vomit, saliva, blood) waste from nuclear medicine activities
 - Activated cyclotron targets
 - Shipping and transport of disused radioactive sources - IAEA standards
- Dosimetry
 - Dosimetry-Guided Treatment Planning for Radionuclide Therapy
 - Setting dosimetry protocols, regulation, and enforcement following IAEA standards
 - Analysis of dose reports for occupationally exposed personnel
 - Quality control for ionizing radiation-emitting devices and radioactive materials
 - Internal dosimetry (MIRD & Olinda) & open radioactive source handling
 - Fetal dose estimates - ICRP 84
- Calibration of Gamma ray spectrometers (NaI, Hyper Pure Germanium, and well counters)

Other relevant knowledge (graduate level)

- Nuclear Instrumentation, Monte Carlo Simulations, Nuclear spectroscopy, Image processing
- Quality control and diagnostic reference level analyses
- Radionuclide Calibrator training - National Physical Laboratory - UK
- PET/CT Scanner Quality Control Training - Siemens
- Survival analysis, Machine learning for time series forecasting and image segmentation

Professional experience

Medical residency in Nuclear Medicine at the Instituto Cancerológico in Colombia (2018-2019)

More info: andrea.py.github.io