CURRICULUM VITÆ

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PERSONAL DATA

Name	**Josep Sempau**
Date of birth	1966-Nov-21
Place of birth	Barcelona, Spain
Office address	Dept. of Physics & Institute of Energy Technologies Technical University of Catalonia (UPC) Av. Diagonal 647, E-08028 Barcelona, Spain tel: +34-934016074, e-mail: josep.sempau@upc.es

EDUCATION

1997-1998	Dept. Nuclear Eng., Univ. of Michigan	Postdoc (Radiation transport)
1993-1996	Technical University of Catalonia	Ph.D. (Physics)
1984-1989	Univ. of Barcelona	B.Sc. (Theor. Physics, w/ honors)

PROFESSIONAL EXPERIENCE

Period	**Institution**	**Position**
2016-12 – present	Tech. Univ. Catalonia	Associate Professor
2008-11 – 2016-12	Tech. Univ. Catalonia	Senior Researcher
2002-01 – 2008-11	Tech. Univ. Catalonia	Researcher
1997-11 – 1998-08	University of Michigan	Research Fellow (postdoc)
1991-07 – 2002-01	Tech. Univ. Catalonia	Research Assistant
1989-09 – 1991-06	Andersen Consulting	Consultant
1989-05 – 1989-05	Institut Català de la Salut	Teacher (cont. professional develop.)
1988-01 – 1988-07	Inmaculada Concepción	Teaching assistant (high school)

MAIN RESEARCH RESULTS

Ionizing radiation transport

- Co-author of the Monte Carlo code PENELOPE, which simulates the transport of photons, electrons and positrons in matter. Freely available from the Nuclear Energy Agency at https://www.oecd-nea.org. Applications of PENELOPE in the field of medical physics.

- Main author of the penEasy code, a general-purpose main program for the PENELOPE system. Freely available from http://www.upc.es/inte/downloads/penEasy.htm.

- Main author of the Monte Carlo code DPM for fast calculation of dose distributions in external radiotherapy treatments. Freely available from http://www.upc.es/inte/downloads/dpm.htm.

- Co-author of the MANTIS code, which simulates the coupled transport of x-rays and optical photons in scintillating material structures. Applications to the characterization of mammography systems. Freely available from https://code.google.com/archive/p/mantismc.

- Co-author of the PRIMO code, an automated Monte Carlo-based medical linac simulator and radiotherapy treatment verification platform for Varian and Elekta machines. Freely available from http://www.primoproject.net.

- Principal investigator in 10 research projects on applications of Monte Carlo simulation of radiation transport in various fields, including medical physics and air cargo security.

Environmental radioactivity

- Design, set up and direction (until 2002) of the Laboratory ESCRA of the UPC in Barcelona, Spain. The laboratory is devoted to the study of correlations between radiological and meteorological variables.

Publications

- 64 papers published in peer reviewed international scientific journals
- 4 publications in Spanish scientific journals
- 3 Technical Reports
- 1 book (several editions)
- Total number of citations (ref. Clarivate Web of Science Core Collection): 4037
- H-index: 31
- Further details at
  https://www.webofscience.com/wos/author/rid/J-7834-2013
  http://orcid.org/0000-0002-2754-7685

FUNDED PROJECTS

- Participation in 34 (29 in the public sector, 5 in the private sector) research projects, 10 of them as PI.
- Participation in 2 training projects of European scope.

TEACHING ACTIVITIES FOR GRADUATE PARTICIPANTS

- Supervised 8 PhD theses (one in progress) and 2 MSc theses.
- Lectured on radiation interaction with matter and Monte Carlo simulation for MSc and PhD programs at UPC and the University of Valencia.
- Served as Director (until 2014) of the biennial Monte Carlo Simulation in Medical Physics course for the Spanish Society of Medical Physics.
- Invited Lecturer (until 2017) for the Nuclear Energy Agency's annual workshop on Electron-Photon Transport Modelling with PENELOPE.
- Invited Lecturer for the Ciemat (Madrid, Spain) course on Monte Carlo methods and applications in dosimetry (until 2005).
- Delivered specialized courses on Voxel Phantom Development (EURADOS, France, 2011) and Radiation Imaging Systems (SPIE, USA, 2006–2008).
- Invited Lecturer in a workshop on Applications of the Monte Carlo Method in Radiotherapy and Nuclear Medicine organized by the French Society of Medical Physics (2006).