CURRICULUM VITAE

Name
- Oscar Cabellos de Francisco

Personal Data
- Born 07/March/1969 in Guadalajara, Spain
- Citizenship: Spanish
- Status: married, 3 children

Present Position
- Professor Chair in Nuclear Engineering, Department of Energy Engineering at UPM
- Affiliation: Polytechnical University of Madrid, Spain
- Address: ETS de Ingenieros Industriales, C/José Gutiérrez Abascal, 2. 288006 Madrid, Spain.

Academic/Research Career
- Associate Professor, UPM. (2001-present)
- Nuclear Data Physicist, Nuclear Energy Agency/OECD (2014-2017)
- Interim Associate Professor, UPM, 1999-2001
- Assistant Professor, UPM, 1996-1999
- Grant FPU- Program for teaching and research formation, Spanish Ministry of Education, (1993 –1995)
- Researcher at the "Instituto de Fusión Nuclear", (1993- present)

Education
- M.Sc. Power Engineering, UPM, October 1993.
- PhD in Nuclear Engineering, UPM, April 1998.

Official Functions in Scientific Bodies and Organisations
- Spanish Representative in the Nuclear Science Committee, Nuclear Energy Agency/OECD (2018-)
- Chair of Working Group on Processing, Verification, Benchmarking and Validation JEFF Project, Nuclear Energy Agency/OECD (2017-)
- Member of the JEFF Coordination Group (2015-)
- Co-Chair of WPEC/Subgroup on Efficient and Effective Use of Integral Experiments for Nuclear Data Validation (2020-)
- Monitor of Subgroup WPEC/SG7 on "Use of Shielding Integral Benchmark Archive and Database for Nuclear Data Validation", Nuclear Energy Agency/OECD (2018-)

Research Topics
- The scientific activities are focused on reactor physics and nuclear data: nuclear power reactor simulations, safety assessment in burnup credit, inventory predictions, sensitivity analysis and uncertainty quantification. Since 2014 the focus of research is on processing & verification, benchmarking &validation of nuclear data in different neutron fields.

Participation in R+D Projects

- UPM Coordinator of European R+D Competitive Projects
  - "Supplying Accurate Nuclear Data for Energy and non-Energy Applications (SANDA). EU Project No. 847552. (2019-2023)
  - "Solving Challenges in Nuclear Data" (CHANDA), FP7-605203. 8 (2013-2018)
  - "Nuclear Data Improvements and Development of Tools – Nuclear Data Evaluation, F4E-GRT-168.01" (2012-2014)
  - "Graduate and Executive Nuclear Training and Lifelong Education" (GENTLE), FP7-323304. (2013-2016)
- Participation in European R+D Competitive Projects
  - GREaT-PIONEeR – Graduate Education Alliance for Teaching the Physics and safety of Nuclear Reactors (2020-2023)
  - McSAFER - High-Performance Advanced Methods and Experimental Investigations for the Safety Evaluation of Generic Small Modular Reactors (2020-2023)
  - ESFR-SMART: European Sodium Fast Reactor Safety Measures Assessment and Research Tools (2017-2021)
  - "European Sustainable Industrial Initiative" (ESNII+), FP7- 605172. (2013-2017)
  - "NUclear REactor SAFEty Simulation Platform" (NURESAFE), FP7-323263. 8 (2013-2015)
  - ANDES, Accurate Nuclear Data for nuclear Energy Sustainability", (NUDATRA-DM5), FP7-Fission-2009 –249671" (2010-2013)

Teaching at UPM

Present courses (2018-)
  - "Nuclear Reactor Design and Simulations in PWRs" in Master Industrial Engineering
  - "Introduction to Nuclear Technology" in Degree in Energy Engineering

Previous Courses (before 2014)
  - "Nuclear Physics" in Master in Nuclear Science and Technology
  - "Nuclear Reactor Design" in in Nuclear Science and Technology
  - "Nuclear Technology" in Master in Nuclear Science and Technology
  - …

PhD These and Masters
  - 3 PhD Thesis
  - More than 50 Master/Final Projects in Graduate and Master's Programs.

Publications

- Over 40 papers in international scientific journals with reviewers
- More than 60 papers/presentations in proceedings of international conferences.
- More than 100 contributed talks in workshops

Publications in recent years

[2020]

[1] Plompen A.; Cabellos, O. et al., The joint evaluated fission and fusion nuclear data library, JEFF-3.3. EPJ/A. The European Physical Journal A. pp. 1 - 133. https://doi.org/10.1140/epja/s10050-020-00141-9

[2019]

[2] Cabellos, O. et al., Examples of Monte Carlo techniques applied for nuclear data uncertainty propagation. EPJ Web of Conferences. 4, pp. 1 - 7. DOI: 10.1051/epjconf/201921107008. (2019)

[3] M.B. Chadwick; et al.. An Extended Summary of the Collaborative International Evaluated Library Organisation (CIELO) Pilot Project. WPEC/SG40: An Extended Summary of the Collaborative International Evaluated Library Organisation (CIELO) Pilot Project.7498, pp. 1 - 40. (Francia): OECD/NEA 2019, 25/07/2019.

[2018]

[4] Chadwick, M. B. et al., CIELO Collaboration Summary Results: International Evaluations of Neutron Reactions on Uranium, Plutonium, Iron, Oxygen and Hydrogen. NUCLEAR DATA SHEETS. 148, pp. 189 - 213. (2018)

[5] Cabellos, O. et al, Checking, processing and verification of nuclear data covariances. EPJ NUCLEAR SCIENCES & TECHNOLOGIES. 4, pp. 1 - 10. DOI: 10.1051/epjn/2018028. (2018)

[6] Dyrda, J. et al., A comparison of uncertainty propagation techniques using NDaST: full, half or zero Monte Carlo?. DOI: 10.1051/epjn/2018016. EPJ NUCLEAR SCIENCES & TECHNOLOGIES. 4, pp. 1-8. (2018)

[2017]

[7] Michel-Sendis, F. et al., SFCOMPO-2.0: An OECD NEA database of spent nuclear fuel isotopic assays, reactor design specifications, and operating data. ANNALS OF NUCLEAR ENERGY. 110, pp. 779 - 788. (2017)

[8] Rochman, D. et al., Nuclear Data Uncertainties for Typical LWR Fuel Assemblies and a Simple Reactor Core. NUCLEAR DATA SHEETS. 139, pp. 1 - 76. (2017)

[9] Cabellos O. et al., Benchmarking and validation activities within JEFF project. EPJ Web of Conferences. 146, EDP Sciences, DOI: 10.1051/epjconf/201714606004 (2017)

[10] E. Dupont et al., Dissemination of data measured at the CERN n-TOF facility. EPJ Web of Conferences. 146, EDP Sciences, DOI: 10.1051/epjconf/201714607002. (2017)

[11] V. Semkova et al.,. EXFOR – A global experimental nuclear reaction data repository: Status and new developments. EPJ Web of Conferences. 146, EDP Sciences, DOI: 10.1051/epjconf/201714607003 (2017).

[12] G. Ž Erovnik et al., Improving nuclear data accuracy of 241Am and 237Np capture cross sections. EPJ Web of Conferences. 146, EDP Sciences, DOI: 10.1051/epjconf/201714611035 (2017).

[13] N. Soppera et al., JANIS: NEA Java-based Nuclear Data Information System. EPJ Web of Conferences. 146, EDP Sciences, DOI: 10.1051/epjconf/201714607006 (2017).

[14] C.J. Díez et al., NDEC: A NEA platform for nuclear data testing, verification and benchmarking. EPJ Web of Conferences. 146, EDP Sciences, 10.1051/epjconf/201714602026 (2017).

[15] P. Romojaro et al., Neutron-induced nuclear data for the MYRRHA fast spectrum facility. EPJ Web of Conferences. 146, EDP Sciences, 10.1051/epjconf/201714609007 (2017).

[16] U. Fischer et al., Nuclear data for fusion technology - The European approach. EPJ Web of Conferences. 146, EDP Sciences, DOI: 10.1051/epjconf/201714609003 (2017)

[17] M.B. Chadwick et al., The CIELO collaboration: Progress in international evaluations of neutron reactions on Oxygen, Iron, Uranium and Plutonium. EPJ Web of Conferences. 146, EDP Sciences, DOI: 10.1051/epjconf/201714602001 (2017)

[18] D. Rochman et al. The TENDL library: Hope, reality and future. EPJ Web of Conferences. 146, EDP Sciences, DOI: 10.1051/epjconf/201714602006 (2017).

[19] G. Berton et al., Verification of the databases EXFOR and ENDF. EPJ Web of Conferences. 146, EDP Sciences, DOI: 10.1051/epjconf/201714606030 (2017).

[2016]

[20] Romojaro, P. et al., Nuclear data sensitivity and uncertainty analysis of effective neutron multiplication factor in various MYRRHA core configurations. ANNALS OF NUCLEAR ENERGY. 101, pp. 330 - 338. (2016)

[21] F. Michel-Sendis et al., Development of an automated platform for the verification, testing, processing and benchmarking of Evaluated Nuclear Data at the NEA Data Bank: Status of the NDEC system. EPJ Web of Conferences. 111, EDP Sciences, DOI: 10.1051/epjconf/201611106002 (2016)

[22] C.J. Díez et al.,. On the processing of JEFF-3.2 neutron data library with AMPX 6.2 for its use with the SCALE tool suite. EPJ Web of Conferences. 111, EDP Sciences, DOI: 10.1051/epjconf/201611106003 (2016)

[2015]

[23] Fiorito, L. et al., Generation of fission yield covariances to correct discrepancies in the nuclear data libraries. ANNALS OF NUCLEAR ENERGY. 88, pp. 12 -23. (2015)

[24] Fiorito, L. et al., Inventory calculation and nuclear data uncertainty propagation on light water reactor fuel using ALEPH-2 and SCALE 6.2. ANNALS OF NUCLEAR ENERGY. 83, pp. 137 - 146. (2015)

[2014]

[25] Diez, C. J. et al., Comparison of nuclear data uncertainty propagation methodologies for PWR burn-up simulations. ANNALS OF NUCLEAR ENERGY. 77, pp. 101 - 114. (2014)

[26] Diez, C. J. et al., Nuclear Data Uncertainty Propagation in Depletion Calculations Using Cross Section Uncertainties in One-group or Multi-group. NUCLEAR DATA SHEETS. 123, pp. 79 - 83. (2014)

[27] Fiorito, L. et al., Fission yield covariance generation and uncertainty propagation through fission pulse decay heat calculation. ANNALS OF NUCLEAR ENERGY. 69, pp. 331 - 343. (2014)

[28] Sanchez-Cervera, S. et al., Optimization of multidimensional cross-section tables for few-group core calculations. ANNALS OF NUCLEAR ENERGY. 69, pp. 226 - 237. (2014)

[29] Cabellos, O. et al., Propagation of Nuclear Data Uncertainties for PWR Core Analysis. NUCLEAR ENGINEERING AND TECHNOLOGY. 46 - 3, pp. 299 - 312. (2014)

[30] Fischer, U. et al., The Activities of the European Consortium on Nuclear Data Development and Analysis for Fusion. NUCLEAR DATA SHEETS. 120, pp. 226 - 229. (2014)

[31] Diez, C. J. et al., Analysis of Pu-238 and Fe-56 Evaluated Data for Use in MYRRHA. NUCLEAR DATA SHEETS. 118, pp. 516 - 518. (2014)

[32] Diez, C. J. et al., Impact of Nuclear Data Uncertainties on Advanced Fuel Cycles and their Irradiated Fuel - a Comparison between Libraries. NUCLEAR DATA SHEETS. 118, pp. 538 - 541. (2014)

[33] Herrero, J. J. et al., Nuclear Data Uncertainty Propagation to Reactivity Coefficients of a Sodium Fast Reactor. NUCLEAR DATA SHEETS. 118, pp. 535 - 537. (2014)

[34] Cabellos, O. Processing and Validation of JEFF-3.1.2 Cross-section Library into Various Formats: ACE, PENDF, GENDF, MATXSR and BOXER. NUCLEAR DATA SHEETS. 118, pp. 456 - 458. (2014)

[35] Martinez, J. S. et al., Propagation of Neutron Cross Section, Fission Yield, and Decay Data Uncertainties in Depletion Calculations. NUCLEAR DATA SHEETS. 118, pp. 480 - 483. (2014)

[36] Cabellos, O. et al., Testing JEFF-3.1.1 and ENDF/B-VII.1 Decay and Fission Yield Nuclear Data Libraries with Fission Pulse Neutron Emission and Decay Heat Experiments. NUCLEAR DATA SHEETS. 118, pp. 472 - 475. (2014)