

Curriculum Vitae (Short)
François Diaz-Maurin, Ph.D.

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Summary

I am a Nuclear Security Visiting Scholar at the Center for International Security and Cooperation (CISAC), Stanford University. My fellowship at CISAC is sponsored by the MacArthur Foundation. I am also a Marie Skłodowska-Curie Fellow sponsored by the European Commission.

Previously I was a Postdoctoral Research Fellow at the Universitat Pompeu Fabra (2016-2017) and Universitat Autònoma de Barcelona (2013-2016), Spain. I received my B.S. (2004, with distinction) and M.S. (2007, with distinction) degrees in civil engineering from the University of Rennes 1, France, and my Ph.D. degree in environmental science and technology (2013, *summa cum laude*) from the Universitat Autònoma de Barcelona, Spain. Before joining academia, I gathered four years of professional experience as an engineer in the design of nuclear energy technologies in Paris, France (2007-2008) and in Boston, MA (2009-2010).

My current research deals with issues related to the radioactive waste materials produced at commercial and military facilities in a context of uncertain energy transitions and persisting social concerns over nuclear energy technologies. It covers the theoretical, methodological and empirical aspects of the back-end of the nuclear fuel cycle integrating knowledge from various disciplines in the science, engineering and social sciences areas.

Current positions

Nuclear Security Visiting Scholar, CISAC, Stanford University, United States, 2017 –2019

Marie Skłodowska-Curie Fellow, Amphos 21 Consulting S.L., Barcelona, Spain, 2017–2020

Education

Ph.D. in Environmental Science and Technology (*Summa Cum Laude*), ICTA-UAB, Feb. 2011–Oct. 2013

M.Sc. Degree in Civil Engineering (First class honors with Distinction), INSA Graduate School of Rennes (France), Department of Civil Engineering, Sep. 2004–Jun. 2007

B.Sc. Degree in Civil Engineering (First class honors with Distinction), University of Rennes 1 (France), Department of Civil Engineering, Sep. 2002–Jun. 2004

Fellowships, Grants and Awards

MEP-Scientist Pairing Scheme, European Parliament, 2017

Among the 15 MSCA Fellows selected by the European Commission's Joint Research Center (JRC) to be part of the MEP-Scientist Pairing Scheme which aims at establishing a long-term, cooperation between Members of the European Parliament and 85 European researchers. I am among the 18 MEP-Scientist pairs established in 2017.

“Extraordinary Ph.D.” Award, UAB, 2017

Received from the School for Doctoral Studies together with the UAB Alumni Association of the Universitat Autònoma de Barcelona. The award consists of a competitive call among the researchers whose doctoral thesis received the qualification of excellence “Cum Laude” from the tribunal.

Nuclear Security Visiting Scholarship, CISAC, Stanford University, 2017–2018 and 2018–2019

Received from the Center for International Security and Cooperation (CISAC) at Stanford University and sponsored by the MacArthur Foundation

MSCA Global Individual Fellowship, Amphos 21 Consulting S.L., 2017–2020

Received from the Marie Skłodowska-Curie Action Individual Fellowships (H2020-MSCA-IF, Global Fellowships) as part of the Framework Programme for Research and Innovation HORIZON 2020 sponsored by the European Commission

Postdoctoral Fellowship, ICTA-UAB, 2013 –2016

Received from the ACP-EU Co-operation Program in Higher Education EDULINK II, European Commission

ELEEP Fellowship, Emerging Leaders in Environmental and Energy Policy (ELEEP) network, 2011–2014

Organized by the Atlantic Council (Washington DC, USA) and the Ecologic Institute (Berlin, Germany)

Ph.D. Research Fellowship, ICTA-UAB, 2011–2013

Received from the National Research Agency (AGAUR) of the Catalan Government (2009-SGR-594)

Summer School Grant. Awarded by the UK Energy Research Centre (UKERC), 2012

“Synergy in Education” Award (shared with Mario Giampietro), 2011

Received from the Board of Trustees of the Universitat Autònoma de Barcelona

Relevant Professional Experience

Mechanical Engineer, AREVA Federal Services LLC (AFS), Boston, MA (USA), Jan.–Nov. 2010

Project: Hanford Vitrification Plant (Hanford Site, WA), the world’s largest radioactive waste treatment plant, used for vitrifying Hanford’s tank waste for the U.S. Department of Energy (DOE)

Structural Engineer, AREVA Inc. North America, Boston, MA, USA, Jan.–Dec. 2009

Project: Civil/structural engineering support to the Probabilistic Risk Assessment unit for the Design Certification Licensing of the US EPR™, a generation III+ nuclear reactor, by the Nuclear Regulatory Commission (NRC)

Structural Engineer and Assistant to the Project Director, SETEC Travaux Publics & Industriels (TPI), Paris (France), Feb. 2007–Dec. 2008

Project: Structural design for BOUYGUES Construction of the reactor buildings of the EPR™ generation III+ nuclear power plant under construction in France (Flamanville3) for Electricité de France (EDF) (Taken part in the supervision team (5 pers.) to manage 150 pers., 5000 drawings, €11 million)

Publications

Work in progress

Mission Impossible? Socio-technical Integration of Nuclear Waste Geological Disposal Systems. With R.C. Ewing. *Sustainability*. Under revision.

“Spent fuel storage and disposal”. Chapter 14. In: Piro M. (Ed.). *Advances in Nuclear Fuel Chemistry*. Elsevier. With J. Bruno and L. Duro. In preparation.

Using dynamic energy budget and power capacity to assess the performance of carbon capture utilization and storage. With M.A. Morales Mora. In preparation.

Uncertainty in Safety Assessments of Geological Repositories: Quantitative Performance Assessment vs. the Safety Case Approach. With R.C. Ewing. In preparation. *Accepted for oral presentation at the 42nd Symposium on the Scientific Basis for Nuclear Waste Management, 2018 MRS Fall Meeting and Exhibit of the Materials Research Society organized in Boston, MA on 25-30 November 2018.*

What has been the Evolution and Structure of the Scientific Basis for Nuclear Waste Management? With H.C. Sun and R.C. Ewing. In preparation. *Accepted for oral presentation at the 42nd Symposium on the Scientific Basis for Nuclear Waste Management, 2018 MRS Fall Meeting and Exhibit of the Materials Research Society organized in Boston, MA on 25-30 November 2018.*

Publications in International Journals

[29] **Diaz-Maurin, F.** (2018). Chronic long-term risk of low-level radiation exposure: Bridging the lay-expert divide. *Bulletin of the Atomic Scientists*, 74(5): 335–339.

[28] **Diaz-Maurin, F.** Atomic Homefront: a film about struggling to live with Manhattan Project radioactive waste. *Bulletin of the Atomic Scientists*, 11 June 2018.

- [27] **Diaz-Maurin, F.**, Z. Chiguvare, and G. Gope (2018). Scarcity in abundance: the challenges of promoting energy access in the Southern African region. *Energy Policy* 120, 110–120.
- [26] Kiravu C., **F. Diaz-Maurin**, M. Giampietro, A.C. Brent, S.G.F. Bukkens, Z. Chiguvare, A.M. Gasennelwe-Jeffrey, G. Gope, Z. Kovacic, L. Magole, J.K. Musango, U. Ruiz-Rivas Hernando, S. Smith, A. Vázquez Barquero, and F. Yunta Mezquita (2017). Proposing a Master’s Programme on Participatory Integrated Assessment of Energy Systems to Promote Energy Access and Energy Efficiency in Southern Africa. *International Journal of Sustainability in Higher Education* 19(3), 622–641.
- [25] **Diaz-Maurin, F.** (2016). Power capacity: A key element in sustainability assessment. *Ecological Indicators* 66(C), 467–480.
- [24] **Diaz-Maurin, F.** and Z. Kovacic (2015). The unresolved controversy over nuclear power: a new approach from complexity theory. *Global Environmental Change* 31, 207–216.
- [23] **Diaz-Maurin, F.** (2014). Going beyond the nuclear controversy. *Environmental Science & Technology* 48(1), 25–26.
- [22] **Diaz-Maurin, F.** and M. Giampietro (2013). A “grammar” for assessing the performance of power-supply systems: comparing nuclear energy to fossil energy. *Energy* 49, 162–177.

Book chapters

- [21] Giampietro, M., & **F. Diaz-Maurin** (2014). Chapter 8. The Energy Grammar. (*)
- [20] Serrano-Tovar T., J. Cadillo Benalcazar, **F. Diaz-Maurin**, Z. Kovacic, C. Madrid, M. Giampietro, R.J. Aspinall, J. Ramos-Martin, & S. Bukkens (2014). Chapter 12. The Republic of Mauritius. (*)
- [19] Madrid-Lopez, C., J. Cadillo-Benalcazar, **F. Diaz-Maurin**, Z. Kovacic, T. Serrano-Tovar, T. Gomiero, M. Giampietro, R.J. Aspinall, J. Ramos-Martin, & S. Bukkens (2014). Chapter 13. Punjab State. (*)
- [18] **Diaz-Maurin, F.**, J. Cadillo Benalcazar, Z. Kovacic, C. Madrid, T. Serrano-Tovar, M. Giampietro, R.J. Aspinall, & J. Ramos-Martin (2014). Chapter 14. The Republic of South Africa. (*)
- (*) Previous chapters in: Giampietro, M., Aspinall, R.J., Ramos-Martin, J., & Bukkens, S.G.F. (Eds.) (2014). *Resource Accounting for Sustainability: The Nexus between Energy, Food, Water and Land Use*. London: Routledge, 250 pp.
- [17] **Diaz-Maurin, F.**, & M. Giampietro (2013). Complex Systems and Energy. In *Reference Module in Earth Systems and Environmental Sciences*. Elsevier.

Working papers and technical reports

- [16] Cadillo Benalcazar, J.J., et al. (2015). Potencial de la gramática del MuSIASEM en la representación del análisis de la sostenibilidad. *CEPROEC Documento de Trabajo 2015_01*. Instituto de Altos Estudios Nacionales, Centro de Prospectiva Estratégica, Quito, Ecuador.
- [15] Giampietro, M., R.J. Aspinall, S.G.F. Bukkens, J. Cadillo Benalcazar, **F. Diaz-Maurin**, A. Flammini, T. Gomiero, Z. Kovacic, C. Madrid, J. Ramos-Martin, & T. Serrano-Tovar (October 2013). An Innovative Accounting Framework for the Food-Energy-Water Nexus: Application of the MuSIASEM approach to three case studies. *Environment and Natural Resources Working Paper* No. 56. Food and Agriculture Organization of the United Nations (FAO), Rome, 81 pp.
- [14] **Diaz-Maurin, F.** (2012). Assessing the viability of power-supply systems: a tentative protocol, *Reports on Environmental Sciences*. Universitat Autònoma de Barcelona, 17 Sep. 2012.
- [13] **Diaz-Maurin, F.** (2012). Biophysical requirements of power-supply systems: nuclear energy and fossil energy, *Reports on Environmental Sciences*. Universitat Autònoma de Barcelona.
- [12] **Diaz-Maurin, F.** (2011). The Problem of the Competitiveness of Nuclear Energy: A Biophysical Explanation, *Working Papers on Environmental Sciences*. Universitat Autònoma de Barcelona.

Conference proceedings

- [11] **Diaz-Maurin, F.** (2018). Trust and the Ethical Imperative of the U.S. Nuclear Waste Management Program. Conference paper presented at the ISA Annual Convention in April 2018 in San Francisco, CA.
- [10] Kiravu, C., Magole, L., Bukkens, S. G. F., **Diaz-Maurin, F.**, Gasennelwe-Jeffrey, M. A., & Giampietro, M. (2016). Participatory integrated assessment of energy systems to promote energy access and energy efficiency. In *Proceedings of the 2nd SASEI International Renewable Energy Conference (IREC)* (pp. 187–212). Gaborone, Botswana.

- [9] **Diaz-Maurin, F.** (2011). Tentative Ideas to Explore the Viability of the Nuclear Option. In: Ramos-Martin J, Giampietro M, Ulgiati S, Bukkens, SGF (Eds.) (2011). *Can We Break the Addiction to Fossil Energy? Proceedings of the 7th Biennial International Workshop, Advances in Energy Studies, 19–21 October 2010, Barcelona, Spain*. Universitat Autònoma de Barcelona. pp. 579-589.

Book reviews

- [8] **Diaz-Maurin, F.** (2013). Review of “Towards an Integrated Paradigm in Heterodox Economics: Alternative Approaches to the Current Eco-social Crises”, Julien-François Gerber, Rolf Steppacher (Eds.). Palgrave Macmillan, London (2012). *Ecological Economics* 88c, 178-179.
- [7] **Diaz-Maurin, F.** (2010). Review of “Farewell to Growth” by Serge Latouche, Polity Press, 2010, 180pp, ISBN: 0745646174. *Sustainability: Science, Practice, & Policy* 6(2), 77-78.

Other publications

- [6] **Diaz-Maurin, F.** (2013). Decreixement sostenible i Eficiència Energètica. *Documents de Treball Medi Ambient, Vol. 7 “Eficiència Energètica”*. Diputació de Barcelona, Servei de Medi Ambient. (Catalan)
- [5] **Diaz-Maurin, F.** (2012). L’incertitude comme limite à la maîtrise des risques. *Interface* 113, 20-21. (French)
- [4] **Diaz-Maurin, F.** (2012). Fukushima : limites anthropologiques à la complexité et risque d’effondrement sociétal. *Entropia* 12, 99-108 (French)
- [3] **Diaz-Maurin, F.** (2011). Sobre la viabilidad de la energía nuclear: Implicaciones de los accidentes de Fukushima-Daiichi. *Ecología Política* 41, 106–111. July 2011 (Spanish)
- [2] **Diaz-Maurin, F.** (2011). Fukushima: Consequences of Systemic Problems in Nuclear Plant Design. *Economic & Political Weekly (Mumbai)* 46(13), 10–12. 26 March 2011 – Invited author
- [1] **Diaz-Maurin, F.** (2011). Eléments de réflexion sur la question de l’énergie. *Interface* 109, 45–47 (French)

Conferences, Workshops and Invited Talks (selected)

Goldschmidt Annual International Conference. Geochemical Society and European Association of Geochemistry (Boston, MA). 12-17 August 2018.

International Studies Association (ISA) Annual Convention 2018 (San Francisco, CA). 4-7 April 2018. Oral presentation. Panel chair: Scott Sagan (CISAC). Discussant: Steve Miller (Harvard Kennedy School).

Energy Systems and Modeling Group (ESMG), School of Earth, Energy & Environmental Sciences, Stanford University (Stanford, CA). 7 February 2018. Invited by Sally Benson (Stanford University).

CISAC Science Seminar series, Stanford University (Stanford, CA). 4 December 2017. Invited by Rodney C. Ewing (Stanford University).

Science and Technology Options Assessment (STOA), European Parliament (Brussels, Belgium), Science Meets Parliament and “Brussels Week”. 28-30 November 2017. Oral presentation.

Stanford Complexity Symposium, Stanford University (Stanford, CA). 14 November 2017. Oral presentation.

International Atomic Energy Agency (IAEA) (Vienna, Austria), 3rd International Conference on Risk Perception, Communication and Ethics of Exposures to Ionising Radiation (RICOMET 2017). 27-29 June 2017. Oral presentation.

African, Caribbean and Pacific Group of States (ACP) House (Brussels, Belgium), Annual Joint Stakeholders Conference of the EU-ACP collaborative programmes, July 2016. Plenary oral presentation.

Universidade Nova de Lisboa (Portugal), 22nd Annual Conference of the International Sustainable Development Research Society (ISDRS), July 2016. Co-author oral presentations.

CISAC, Stanford University (USA), Reset of U.S. Nuclear Waste Management Strategy and Policy Meeting 3: Consent-Based Siting, Invited by Rodney C. Ewing (Stanford University), March 2016.

University of Minho (Portugal), 2nd International Conference on Energy and Environment, June 2015. Co-author oral presentations.

Humboldt University (Berlin, Germany), Global Land Project Open Science Meeting, March 2014. Oral presentation.

Ecologic Institute (Berlin, Germany), Invited by R. Andreas Kraemer, March 2014.

Ecuadorian Ministry of Planning and Development (SENPLADES) (Quito, Ecuador), Invited expert, Workshop presenting the MuSIASEM methodology, February 2014.

Parthenope University (Naples, Italy), 3rd Annual European Postgraduate Sustainable Development Symposium, February 2013. Oral presentation.

University of Warwick (UK), UKERC Summer School 2012, June 2012. Poster presentation.

European Organization for Nuclear Research (CERN) (Geneva, Switzerland), Invited talk, April 2012.

Universitat Autònoma de Barcelona (Spain), Keynote Speaker, Seminar on the nuclear accidents of Fukushima, 21 March 2011.

Universitat Autònoma de Barcelona (Spain), 7th Biennial International Workshop Advances in Energy Studies, October 2010. Poster presentation.

Professional Affiliations

Member of the American Nuclear Society (ANS), the European Association of Geochemistry (EAG), the European Geosciences Union (EGU), and the European Association for the Study of Science and Technology (EASST), 2018–

Founding member (2011–2014), **Alumni** (2015–), Emerging Leaders in Environmental and Energy Policy (ELEEP) network, organized by Atlantic Council (Washington, D.C.) and the Ecologic Institute (Germany)

Member of the Executive Board, Liphe4 Scientific Association (Barcelona, Spain), 2012–2016

References available upon request.