

Part A. PERSONAL INFORMATION			CV date		28-09-2018	
First and Family name		Jordi Dachs				
Social Security, Passport, ID number		38087655T			Age	49
Researcher numbers			Researcher ID (scopus)		7006592184	
			Orcid code		0000-0002-4237-169X	

A.1. Current position

Name of University/Institution	Institute of Environmental Assessment and Water Research. Spanish National Research Council (IDAEA-CSIC)		
Department	Environmental Chemistry		
Address and Country	Jordi Girona 18, Barcelona 08034, Spain		
Phone number	+34934006170	E-mail	jordi.dachs@idaea.csic.es
Current position	Research Professor	From	20-09-2018
Espec. cód. UNESCO	2391		
Palabras clave	Environmental Chemistry, persistent organic pollutants, carbon cycle, fate and transport of pollutants		

A.2. Education

PhD	University	Year
PhD in Marine Science	Polytechnical University of Catalonia	1997
B Sc. Chemical Engineering	Polytechnical University of Catalonia	1992

A.3. JCR articles, h Index, thesis supervised...

More than 150 articles in JCR publications. H index of 47 (Scopus). More than 6300 citations.

Among the 1% of most cited authors in "Ecology/Environment" by Web of Knowledge since 2005.

Director of 8 finished PhD thesis. Currently supervising 2 other PhD thesis.

Part B. CV SUMMARY (max. 3500 characters, including spaces)

Jordi Dachs (Barcelona 1969) is Research Professor at the Department of Environmental Chemistry of the Institute of Environmental Assessment and Water Research of the Spanish Research Council (IDAEA-CSIC). He has a PhD in Marine Sciences by UPC (1997). Dr. dachs previously worked as "Research Associate" at Rutgers University (1997-1999, NJ, USA) and as "visiting Scientist" at Harvard University (2005, MA, USA). Jordi Dachs has developed a dynamic, international and extended scientific track on the **biogeochemical cycles of organic pollutants and organic matter in continental and marine ecosystems**. His approach to environmental geochemistry includes field work, experiments under controlled conditions and modeling of the fate and effects of organic pollutants. Dr. Dachs has made important contributions on the knowledge of the biogeochemical controls on the cycling of persistent organic pollutants. In Marine systems, he has studied the POP accumulation in phytoplankton and zooplankton (Dachs et al. 1999, Del Vento & Dachs 2002, Berrojalbiz et al. 2009, 2011) and the implications that this has on the dynamics of POPs in lakes and oceans (Dachs et al. 2000, Dachs et al. 2002, Meijer et al. 2006, 2009). In urban atmospheres, he was the first to demonstrate the strong association of PAHs with black carbon (Dachs and Eisenreich 2000). In addition, modeling work performed and Dr. Dachs group has allowed to identify the major sinks and reservoirs of POPs at global scale (Dachs et al. 2002, Jurado et al. 2004, Dalla Valle et al. 2004, Dalla Valle et al. 2005). He was the first to identify the important role that aerosol soot carbon plays on the gas-particle and air-soil partitioning (Dachs & Eisenreich 2000, Ribes et al. 2003). Recently, his group developed the first fugacity sampler for soils and ice that can operate under field conditions and that has

been applied with success in temperate and polar environments (Cabrerizo et al. 2009, Cabrerizo et al. 2011a,b,c, 2013), allowing for the first unequivocal determination of the direction of soil-air and snow-air exchange of POPs, including work in Antarctica (Cabrerizo et al. 2013). His Polar research has been carried out in the Antarctica and the Arctic, leading to important contributions on the factors driving the occurrence of POPs in the Arctic atmosphere and seawater (Gioia et al. JGR, 2008, Galbán et al. Nature Comm. 2012, EST 2013, Casal et al. 2017, 2018), on the factors controlling the POP concentrations in Antarctic soils, vegetation, seawater, atmosphere and plankton (Cabrerizo et al. 2012, 2013, 2016, 2014, Galbán-Malagón 2013). Other scientific contributions on polar research relate to the air-water exchange of organic carbon in the Arctic and Antarctica (Ruiz-Halpern et al. 2010, 2014), on the effects of pollutants on Arctic and Antarctic phytoplankton (Echeveste et al. 2011) and the implications of the current remobilization of organic pollutants in the Arctic due to climate change (Dachs 2011). Dr. Dachs was the first to suggest and important atmospheric inventory of organic matter driving high atmosphere-ocean exchange of OC (Dachs et al. 2005, González-Gaya et al. 2016). Dr. Dachs has participated in many campaigns of sampling, including 18 sampling cruises in oceanic waters, a number of sampling campaigns in coastal waters, estuaries, lakes, cities and land. He has been two times the chief research scientist of BIO Hespérides. Dr. Dachs has published more than 150 publications in SCI journals among which 53 in "*Environmental Science & Technology*". He has an H factor of 47 with more than 6300 citations and he is among the 1% most cited scientist in Ecology/Environment (web of science). Dr. Dachs is "Advisory board" member of *Environmental Science & Technology* published by the American Chemical Society.

Part C. RELEVANT MERITS

C.1. Selected Publications (including books)

- 1- Casal, P., Zhang, Y., Martin, J.W., Pizarro, M., Jiménez, B., Dachs, J. Role of Snow Deposition of Perfluoroalkylated Substances at Coastal Livingston Island (Maritime Antarctica). *Environmental Science and Technology*, 51 (15), pp. 8460-8470, 2017.
- 2- Vila-Costa, M., Gioia, R., Aceña, J., Pérez, S., Casamayor, E.O., Dachs, J. Degradation of sulfonamides as a microbial resistance mechanism. *Water Research*, 115, pp. 309-317, 2017.
- 3- González-Gaya B, M.C. Fernández-Pinos, L. Morales, L. Méjanelle, B. Piña, E. Abad, C.M. Duarte, B. Jiménez, J. Dachs. High atmosphere-ocean exchange of semivolatile aromatic hydrocarbons. *Nature Geoscience* 9, 438-442, 2016
- 4- Cabrerizo A., C. Galbán-Malagón, S. Del Vento, J. Dachs. Sources and fate of polycyclic aromatic hydrocarbons in the Antarctic and Southern Ocean atmosphere. *Global Biogeochemical Cycles* 28, 1424-1436 doi: 10.1002/2014GB04910, 2014.
- 5- González-Gaya B., J. Zúñiga-Rival, M.J. Ojeda, B. Jiménez, J. Dachs. Field measurements of the atmospheric dry deposition fluxes and velocities of polycyclic aromatic hydrocarbons to the global oceans. *Environmental Science & Technology* 48, 5583-5592, 2014.
- 6- Cabrerizo, A., J. Dachs, D. Barceló, K.C. Jones. Climatic and biogeochemical controls on the remobilization and reservoirs of persistent organic pollutants in Antarctica (2013) *Environmental Science & Technology* 47, 4299-4306.
- 7- Galbán-Malagón, C., N. Berrojalbiz, R. Gioia, J. Dachs. The "degradative" and "biological" pumps controls on the atmospheric deposition and sequestration of hexachlorocyclohexanes and hexachlorobenzene in the North Atlantic and Arctic Oceans. (2013) *Environmental Science & Technology* 47, DOI: 10.1021/es4011256

- 8- Gioia, R., Dachs, J. The riverine input-output paradox for organic pollutants (2012)
Frontiers in Ecology and the Environment, 10 (8), pp. 405-406. DOI: 10.1890/12.WB.017.
- 9- Galbán-Malagón, C., Berrojalbiz, N., Ojeda, M.-J., Dachs, J. The oceanic biological pump modulates the atmospheric transport of persistent organic pollutants to the Arctic. (2012)
Nature Communications, 3, art. no. 862. DOI: 10.1038/ncomms1858.
- 10- Castro-Jiménez, J., N. Berrojalbiz, J. Wollgast, J. Dachs. Polycyclic aromatic hydrocarbons (PAHs) in the Mediterranean Sea: Atmospheric occurrence, deposition and decoupling with settling fluxes in the water column. *Environmental Pollution* 166, 40-47, 2012.
- 11- Berrojalbiz, N., Dachs, J., Del Vento, S., Ojeda, M.J., Valle, M.C., Castro-Jiménez, J., Mariani, G., Wollgast, J., Hanke, G. Persistent organic pollutants in mediterranean seawater and processes affecting their accumulation in plankton (2011) *Environmental Science and Technology*, 45 (10), pp. 4315-4322.
- 12- Berrojalbiz, N., Lacorte, S., Calbet, A., Saiz, E., Barata, C., Dachs, J. Accumulation and cycling of polycyclic aromatic hydrocarbons in zooplankton (2009). *Environmental Science and Technology*, 43 (7), pp. 2295-2301.
- 13- Lohmann, R., Breivik, K., Dachs, J., Muir, D. Global fate of POPs: Current and future research directions. (2007) *Environmental Pollution*, 150 (1), pp. 150-165.
- 14- Dachs, J., Lohmann, R., Ockenden, W.A., Méjanelle, L., Eisenreich, S.J., Jones, K.C. Oceanic biogeochemical controls on global dynamics of persistent organic pollutants (2002) *Environmental Science and Technology*, 36 (20), pp. 4229-4237.
- 15- Dachs, J. Eisenreich, S.J. Adsorption onto aerosol soot carbon dominates the gas-particle partitioning of polycyclic aromatic hydrocarbons. *Environmental Science & Technology* 34, 3690-3697, 2000.

C.2. Research projects and grants Last 5 years

- Project title: Degradative potential of rivers as a key driver of the environmental fate and sink of organic pollutants
Funded by: FP7 (proyecto Marie Curie)
From 2011 until 2013
PI: J. Dachs
- Project title: Remobilization of reservoirs of organic pollutants from the Arctic and the Antarctica (REMARCA)
Funded by: National plan for research
From 2012 until 2015
PI: J. Dachs
- Project title: Impact of global change on the remobilization and bioaccumulation of organic pollutants in polar aquatic food webs
Funded by: FP7 (European commission)
From 2015 until 2018
PI: J. Dachs
- Project title: The Antarctica as a sentinel of global pollution (SENTINEL)
Funded by: National plan for research
From 2016 until 2018

PI: J. Dachs

C.3. Contracts

C.4. Patents

C5. Teaching

2009-2014: Responsible and lecturer of the course "*Sources, transport and biogeochemical cycles of organic pollutants in the Earth System*". 5 credits. Master of Global Change. International Menéndez y Pelayo University, Spain.

Since 2001: Lecturer of "environmental modeling" within the course "Environmental organic geochemistry". Master of environmental chemistry. University of Barcelona.

C.6. Awards

Excellence in Review Award 2014 by Environmental Science & Technology (American Chemical Society).

C.7 Conferences and meetings

Platform presentation in 27 international conferences and workshops during the last 10 years, of which 16 as invited speaker. Plenary speaker at ASLO-2015 and Gordon Conference-organic geochemistry 2016. The research group (graduate students, postdocs) have participated in more than 70 conferences. Organizer and chair of scientific sessions on organic pollutants at international conferences (ASLO-2005-Santiago de Compostela, SETAC-2005-Baltimore, SETAC-2010-Sevilla, SETAC-2011-Milan, SETAC-2012-Berlin, SETAC-2013-Nashville, DIOXIN-2014-Madrid, SETAC-2015-Barcelona).

C.8 Graduate students

Dr. Elena Jurado (MS 2004, Ph.D 2006), Dr. Ana Cabrerizo (M.S 2007, PhD. 2012), Dr. Arantcha Lana (PhD 2012), Dr. C. Galbán-Malagón (M.S in 2009, Ph.D 2013), N. Berrojalbiz (M. Sc. 2009, PhD 2014), B. González-Gaya (PhD 2015), M. C. Fernández Pinós (PhD. 2016), Casal (PhD candidate, 2018), E. Cerro (PhD candidate), PG. Casas (PhD Candidate) G. Hernán (M. Sc 2011), C. Encinar (M. Sc 2010), M. C. Valle (M.Sc. 2007), S. del Vento (M. Sc. 2003), A. Soler (M.Sc 2001).

C.9, Sampling campaigns

Participation in 19 oceanographic campaigns in the Mediterranean and Black seas, and in the Atlantic, Indian and Southern Oceans. Participation in 4 Antarctic campaigns. Chief scientist of the 2009 Spanish Antarctic campaign on RV Hespérides (37 scientists, 43 days), and the third leg of the Malaspina circumnavigation cruise on RV Hespérides (37 scientists, 33 days).

C10 Editorial responsibilities

Since 2016, Editorial Advisory board of Environmental Science & Technology (American Chemical Society).

Since 2013, associate editor of *Archives of Environmental Toxicology and Chemistry* (Springer Verlag).