

CURRICULUM VITAE

Name: Professor Pete Smith

Position: Professor of Soils & Global Change, FRS, FRSE, FNA, FEurASc, FRSB, FI Soil Sci.

SUMMARY:

After obtaining a PhD in 1991, Pete Smith worked as a Higher- then Senior-Scientific Officer at the MAFF Central Science Laboratory until 1994. He then worked as a Band 6 and Band 5 Senior Research Scientist at Rothamsted Research before joining the University of Aberdeen as a Senior Lecturer in 2001. He became a Reader in 2003, and Professor of Soils & Global Change in 2005. His main areas of expertise are in modelling greenhouse gas / carbon mitigation, food security, bioenergy and ecosystem services. He is co-leader with Prof Jo Smith of the Environmental Modelling Group (4 Academic staff, 4 senior research fellows, 10 Post Docs, ~20 PhDs). He is Science Director of ClimateXChange, Scotland's Climate Change Centre of Expertise, and was formerly Director-Food Systems of the Scottish Food Security Alliance – Crops and Theme Leader of cross-University theme on Environment & Food Security. Pete Smith has published >680 peer-reviewed journal papers with total citations of >60000. These papers have received >1000 citations each year since 2010 and >8000 per year since 2022; Web of Science H-index = 128 (=170 on Google Scholar). He has been a Highly Cited Researcher since 2014, since 2020 in both the fields of both Environment & Ecology and Agricultural Sciences.

AWARDS AND HONOURS:

Royal Society Wolfson Research Merit Award - 2008-2013; Research Fellow of the Royal Society - 2008-2013; Fellow of the Royal Society of Biology (FRSB elected: 2008); Fellow of the Royal Society of Edinburgh (FRSE - elected: 2009); Rothamsted Research Fellow (2010-2015); James Hutton Institute Honorary Fellow (2015-2016); Fellow of Institute of Soil Scientists (FI Soil Sci.); John S. Waid Award for the best Review in Soil Biology & Biochemistry (2012); British Ecological Society Marsh Award for Climate Change Research (2014); European Geosciences Union Philippe Duhaufour Medal (2017); Foreign Fellow of the Indian National Science Academy (FNA; elected 2017); Honorary Member of British Soil Science Society (2017); Fellow of the European Academy of Sciences (F EurASc, elected: 2018); Fellow of the Royal Society (FRS, elected: 2017).

EDUCATION:

BSc (First Class Hons) Zoology – University College London (1986); PGCE (Distinction) – University of London, Institute of Education (1987); PhD – Animal & Microbial Sciences, University of Reading (1991)

CAREER HISTORY:

2005-present: Professor, School of Biological Sciences, University of Aberdeen; 2001-2005: Senior Lecturer then Reader, School of Biological Sciences, University of Aberdeen; 1994-2000: Soil Science, Rothamsted Research, Senior Research Scientist; 1991-1994: MAFF Central Science Laboratory, Higher then Senior Scientific Officer

RESEARCH INTERESTS AND RESEARCH FUNDING:

Soil carbon, greenhouse gas (GHG) emissions, climate change, ecosystem modelling, biogeochemistry, global change, bioenergy, food systems. Research funding in last 5 years > £7M.

ACTIVITIES AND RESPONSIBILITIES:

Scotland's First Minister's Environment Council (2021-present); Science Director of Scotland's Climate Change Centre of Expertise [ClimateXChange] (2011-present); Chair of Royal Society's Global Environmental Research Committee (2019-2022); Chair of Royal Society's Earth and Environmental Sciences Fellowship Committee (2023-present); Member of UN FAO International Soils Technical Panel (2022-present); Specialist Advisor to House of Lords Science & Technology Committee Enquiry of nature-based solutions (2021); Food and Climate Systems Transformation Alliance Executive Committee (2022-2023); Member of Science and Technical Committee for the International 4per1000 initiative (2016-2018); Convening Lead Author for Intergovernmental Panel on Climate Change (IPCC) Special Report on Climate Change and Land (2017-2019); Lead Author for IPCC Sixth Assessment Report (2019-2022); Convening Lead Author for Agriculture and Forestry Chapter of IPCC Fifth Assessment Report, Mitigation volume (2010-2014); Convening Lead Author of IPCC Fourth Assessment Report, Mitigation volume (2004-2007); Lead Author of IPCC Good Practice Guidelines 2006 (2004-2006); Convening Lead Author of IPCC Good Practice

Guidelines for Greenhouse Gas Inventories for Land-Use, Land-Use Change & Forestry (2002-2004); Convening Lead Author for UN-FAO Status of World Soil Resources Report (2014-2017); Director of Food Systems, Scottish Food Security Alliance-Crops (2013-2016); Scientific Steering Group of International Soil Carbon Network (2013-present); Member of DfID's Research Advisory Group (2016-2019); Member of Defra's Science Advisory Council (2011-2013); Expert Advisor to UK Committee on Climate Change (2011); Member of Programme Development Group for the Centre for Ecology and Hydrology (2008-2013); UK National Ecosystem Assessment Expert Group Member (2009-2011); Coordinating Lead Author for UK National Ecosystem Assessment Chapter on Regulating Services (2009-2011); New Zealand Agricultural Greenhouse Gas Research Centre's International Science Advisory Group (ISAG) (2010-present). UK Foresight Project on Global Food and Farming Futures, Expert Review Leader on Competition for Land (2009-2010); Royal Society of Edinburgh Convener for the *Organismal and Environmental Biology* sectional committee (2011-2013); Royal Society of Edinburgh Fellowship Committee Member (2009-2013); Royal Society of Edinburgh BP Fellowship Committee Member (2010-present); Steering Committee Member of European Union – Framework V/VI CarboEurope Consortium (2002-2003); Lead Author for the IPCC Special Report on Land Use, Land-Use Change and Forestry (published in 2000); Member of IPCC/OECD Working Group on the IPCC Revised Guidelines for national greenhouse gas inventories (1996); Chair of Global GCTE Global Soil Organic Matter Network (SOMNET) (1996-2002); Professorial selection committee for various universities; NERC/BBSRC Soil Science Advisory Committee member (2003-2008); Member of the International Geosphere Biosphere Program (IGBP) Global Carbon Cycle Project (1998-present); Management Committee and WG3 chair of EU-COST Action 627 (2000-2006); European Climate Change Programme Working Groups on Agriculture, Soils and Research member (2001); UK Co-Chair of Climate Mitigation and Adaptation Working Group of UK-China Sustainable Agriculture Innovation Network (2009-present); Editorial Board Member of seven journals including *Agriculture, Ecosystems & Environment* (2006-2015) and *Current Opinion in Environmental Sustainability* (2015-present). Editor of: *Journal of Environmental Quality* (1997-2003); *Global Change Biology* (2007-present); *Global Change Biology Bioenergy* (2009-present); *Royal Society Open Science* (2019-present).

SELECTED PUBLICATIONS

- Smith, P.**, Smith, J.U. & Powlson, D.S., 1996. Moving the British cattle herd. *Nature* **381**, 15.
- Smith, P.** & Powlson, D.S. 2000. Considering manure and carbon sequestration. *Science* **287**, 428-429.
- Janssens, I.A., Freibauer, A., Ciais, P., **Smith, P.** *et al.* 2003. Europe's terrestrial biosphere absorbs 7-12% of European anthropogenic CO₂ emissions. *Science* **300**, 1538-1542.
- Fang, C., **Smith, P.**, Moncrieff, J.B. & Smith, J.U. 2005. Similar response of labile and resistant soil organic matter pools to changes in temperature. *Nature* **433**, 57-59.
- Schröter, D., Cramer, W., Leemans, R.,... **Smith, P.**, ... 2005. Ecosystem service supply and human vulnerability to global change in Europe. *Science* **310**, 1333-1337.
- Reay, D.S., Sabine, C.L., **Smith, P.** & Hymus, G. 2007. Springtime for sinks. *Nature* **446**, 727-728.
- Smith, P.** & Fang, C. 2010. A warm response by soils. *Nature* **464**, 499-500.
- Garnett, T., Appleby, M.C., Balmford, A.,**Smith, P.**, Thornton, P.K., Toulmin, C., Vermeulen, S.J., Godfray, H.C.J. 2013. Sustainable intensification in agriculture. *Science* **341**, 33-34.
- Reichstein, M., Bahn, M., Ciais, P., Frank, D., **Smith, P.**, ... 2013. Climate extremes and the carbon cycle. *Nature* **500**, 287–295.
- Paustian, K., Lehmann, J., Ogle, S., Reay, D., Robertson, G.P. & **Smith, P.** 2016. Climate-smart soils. *Nature* **532**, 49-57.
- Rumpel, C., Amiraslani, F., Koutika, L.S., **Smith, P.**, Whitehead, D. & Wollenberg, E. 2018. Put more carbon in soils to meet Paris climate pledges. *Nature* **564**, 32-34.
- Anderson, C.M., ... **Smith, P.**, Weber, C., & Field, C.B. 2019. Maximize natural climate solutions - and decarbonize the economy. *Science* **363**, 933-934.
- Hepburn, C., ..., **Smith, P.** & Williams, C. 2019. The technological and economic prospects for CO₂ utilisation and removal. *Nature* **575**, 87-97.
- Hua, F.Y., ..., **Smith, P.**, ..., D.P. & Balmford, A. 2022. The ecosystem service and biodiversity contributions and trade-offs of contrasting forest restoration approaches. *Science* **376**, 839-844.