

Research Interests:

I am interested in tackling the twin challenges of biodiversity loss and climate change through sustainable land use. This has developed into an exploration of ways to harness the power of the sun for the benefit of humanity. Permaculture offers a systematic framework for designing and implementing sustainable human ecosystems, based on the model of natural ecosystems which derive their energy from the sun via photosynthesis. The most common criticism of permaculture is that it lacks an evidence base. My remit is to develop a published evidence base for permaculture. This is a contribution towards sustainable food and energy for 9 billion people by 2050.

Achievements so far:

My approach has been to implement ideas that I am exploring in my academic studies in my home and work life, as well as developing them through voluntary activities. In that light, I am a director of a renewable energy installation company and of the rural housing co-operative where I live, as well as of an online database of useful and edible plants with site visitors from 210 countries (c. 5 million page views per year).

Working as part of a small team of volunteers since 2010, I proposed the creation of the Permaculture Association's Research Advisory Board (now 14 members), arranged the seed money to appoint a paid Research Co-ordinator (in post until 2015, now assisted by 6 interns), and helped launch the Permaculture Research Handbook and International Research Network in 50-60 countries. Associated projects include indicators for soil and biodiversity, a knowledge base and member-led field trials. Details are available at www.permaculture.org.uk/research.

Publications:

E. Sears (2014) Share Your Findings. In P. Chapman, Sinfield, R. and Warburton-Brown, C. eds (2014) *The Permaculture Research Handbook*, p. 36-37. Available from www.permaculture.org.uk.

E. Sears, C. Warburton-Brown, T. Remiarz, R.S. Ferguson (2013) A social learning organisation evolves a research capability in order to study itself. Poster presented at the Tyndall Centre for Climate Change Research's Radical Emission Reduction conference, Royal Society, Dec 2013.

Recent Public Speaking and Conferences attended (speaking slots in italics):

CREST PV workshop 2014/2013, Vertical Farming and Urban Agriculture 2014, *Royal Society invitation-only meeting on Artificial Photosynthesis 2014*, Permaculture Association convergence 2014/2010/2008, *Derby Climate Alliance meeting: Is Extreme the New Normal? 2014*, Radical Emission Reduction 2013, *Derby Climate Alliance meeting: Weird Weather 2013*, Future Earth 2013, Urban Agriculture workshop 2013, Food in Transition 2013, Feeding Renewable Policy 2013, Solar Power 2013/2012, Energy Security in a Multi-Polar World 2012, Planet under Pressure 2012, Life and the Planet 2011, All Energy 2010/2008, SustainabilityLive 2010/2008, RenewableUK Offshore Wind 2010, Carbon Show 2009, Claverton Energy 2008.

I have spoken publicly on permaculture, permaculture research, climate science, US climate politics, the link between climate and extreme weather, the CRU email hack, biomass sustainability, biochar, participatory research strategies and living in a housing co-operative. I contribute to the Claverton energy industry discussion group, have written short media articles and book reviews, and been interviewed by the Independent and Financial Times. My most popular blog entry on the Plants For A Future website has had over 11,000 viewings.

Networks and Contact: LinkedIn, Facebook, Claverton, British Ecological Society
e.sears@exeter.ac.uk (academic)

Ed Sears

Academic Record:

2011-: Honorary Research Assistant/Honorary Associate Research Fellow, Earth System Science group, University of Exeter. Remit: Develop a published evidence base for permaculture. Supervisor Professor Tim Lenton.

2010-2011: Non-stipendiary visiting research fellow, GeoEngineering Assessment and Research (GEAR) group and Earth System Modeling group, UEA.

2009-2010: MSc Climate Change, Climatic Research Unit, University of East Anglia. Implementation of UEA ISO-14001 Environmental Management System/website components. MSc Dissertation Title: Life Cycle Analysis of biochar from the UEA BIOMASS gasification CHP power plant. 68pp.

2005-2008: BSc Earth Systems Science, University of Derby. Awarded 2 (1). BSc Independent Study Title: Assess the potential for carbon sequestration in agroecosystems in Derbyshire as a tool to mitigate climate change. Available as PDF. 58pp.

1999: Diploma in Applied Permaculture Design, Permaculture Academy.

1994-1997: HND European Organic Agriculture, Derbyshire College of Agriculture/Sheffield Hallam University, passed with Merit.

Placements: Le Manoir Aux Quat'Saisons; Permaculture Training Centre, Kampala, Uganda.

1993: NVQ level 1 & 2 Amenity Horticulture, City College, Manchester.

1988-1989: BA English Language & Literature, Manchester University (1st yr).

1983-1988: Winchester College, Winchester, Hampshire.

A-levels: 1987 Mathematics A, 1988 Economics B, English B. O-levels: 8 'A' and 3 'B'.

1983: Exhibition (Scholarship) awarded in entrance exam; ranked 14/120 candidates.

Other Responsibilities:

2009-2014: Director, Permaculture Association. 2010-: Chair, Research Advisory Board. Provide strategy and leadership, developing global distributed research methodology and network.

2008-: Director, Plants For A Future. Online database of >7000 useful and edible plant species.

1998-: Director, Earth Heart Housing Co-operative, Atlow, Derbyshire. Completed £500k barn conversion, 20 acre organic land conversion, biomass boiler and reedbed.

2005-2008: Derby Campaign against Climate Change, Technical Advisor, co-founder.

2006-2007: Derby People & Planet (University of Derby SU Society), President.

2001: Rainbow Centre for Environment and Development, Derby, Management Committee.

Employment:

2011-: Consultant then Operations Director, T4 Sustainability Ltd, Ilkeston, Derbyshire. Marketing, sales, design, purchasing, installation and compliance for renewable heating and electricity systems (PV, Solar hot water, biomass, heat pumps). Management and financial control.

2009/10/11: Warehousing/Events/Management, Inspired Earth, Matlock, Derbyshire. All roles from management to logistics to stock preparation for 13 market stalls in 5 countries.

2010: Organiser and Lead Tutor, two Introduction to Permaculture weekend courses.

2008-9: Installation of Environmental Management System, Belstane, Atlow, Derbyshire.

2008: Geology, hydrology and land use survey for 25 acre site in NE Spain.

2001-2005: Warehouse Supervisor, Belstane Marketing, Atlow, Derbyshire.

2000-2001: Organic Farm Worker, New House Farm, Kniveton, Derbyshire.

1999-2000: Tree Nursery Manager, Derwent Treescapes Ltd, Matlock, Derbyshire.

Summer 1999: Garden and growing project, Millbrook Primary School, Stalybridge.

1997-1999: Professional Gardener and salad-grower, self-employed, Derbyshire.

1990-1993: Gardener, Grounds maintenance, Landscaper, Building site laborer.

Other Interests: Tae Kwon Do Black Belt 1st Dan, DJing.