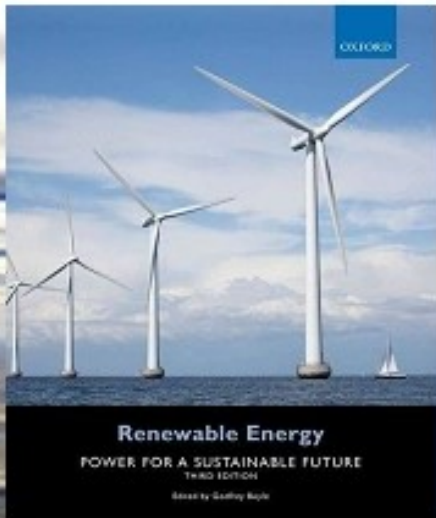




Buckinghamshire Society of Architects Annual Lecture 6.30 pm 26 April 2023 – Milton Keynes Gallery

RIDING THE WIND & SUN for 50 YEARS + OTHER STORIES

Dr Derek Taylor, Altechnica + EERU - Design - E&I - OU-Energy STEM – Open University



Riding the Wind & Sun for 50 Years plus Other Stories, Dr. Derek Taylor - MK Gallery

Riding the Wind + Sun for 50 Years plus Other Stories,

Presented in partnership with the Buckingham Society of Architects this talk by Dr Derek Taylor will tell the story of how renewable energy has grown from almost zero to becoming the dominant form of energy and the least expensive form of electricity. He will also explore how buildings can be designed to become more energy efficient as well as integrating renewable energy solutions. Additionally, he will describe 25 years of game-changing Renewable Energy Education from the Open University.

The talk will reveal Dr Taylor's contribution to these fields over 50 years – interspersed with topical and contemporary developments in alternative technology, renewable energy and in low energy and solar buildings.

Dr Derek Taylor

This will take place in The Sky Room at **MK Gallery** on Wednesday 26 April 2023 starting at 6.30pm.

Tickets £10. Discount for RIBA members. Tickets are available from the MK Gallery website via the following link:

[Riding the Wind & Sun for 50 Years plus Other Stories, Dr. Derek Taylor - MK Gallery](#)

Also check the Buckinghamshire Society of Architects plus the RIBA South/South-East website on the following link:

[RIBA South / South East \(architecture.com\)](#)

Dr Derek Taylor – Bio



Visiting Fellow in Renewable Energy Engineering + Design,
EERU, Design, E&I, STEM, OU Energy, Open University

Principal, Altechnica, Milton Keynes

Derek is an architect/engineer who has been involved with renewable energy and low energy/solar architecture for some **50 years** since 1972, focusing on wind & solar power and exploring potential solutions for zero energy-carbon positive homes that combine ultra-energy efficiency with building integrated renewable energy solutions. Derek organised the **UK's First Conference/Workshop on Wind Power in 1975**, has invented and designed several wind turbines including the *Sailfoil Turbine*, the innovative vertical axis *V-Turbines*, *Sycamore Rotor* and the *Aeolian Roof* wing-augmented wind energy system which achieved a **doubling of power output** compared to free-stream turbines. He was architect for an ultra-low energy solar house in the west of England - which can operate almost entirely without fuelled space heating + scored 33% better than the challenging Passivhaus standard - and he is exploring an engineered design approach for prefabricated/demountable zero energy/carbon positive buildings that incorporate a range of energy efficiency and renewable energy features and technologies.

An image of one of these designs – The **AeroSolar Dek House™** - was selected for an **Images of Climate Innovation** exhibition at **COP26** in November 2021.

Since the early 1970s, Derek has lectured to universities, colleges, institutions, and symposia throughout the UK and internationally about wind energy, solar energy, renewable energy, building-integrated renewable energy solutions, low and zero energy architecture. He has run many courses on these topics for universities and colleges in the UK and has been a key member of the Open University's Renewable Energy course team since the early 1990s.

Derek has been with the **Open University** (OU) since 1979 when he joined **ATG** (Alternative Technology Group) and the Design Discipline in the Faculty of Technology. He established and managed the **OU-ATG/EERU wind turbine test**

facility at the OU campus in Milton Keynes where he tested several innovative wind turbines and, in the early 1990s, he was part of the EERU (Energy & Environment Research Unit) team that obtained ~ £500k funding to develop the award winning **T521 Renewable Energy Education Pack** for other universities and colleges to use to enable them to teach renewable energy courses. Launched in **1995** and adapted as an OU distance teaching course **T265** in **1996** and which continues as part of the OU offerings as **T313**. Derek has been responsible for the wind energy components of these courses/modules and so **can claim to have educated > 11,000 students in wind power** over the 27+ years that the courses have been running. The review of the T521 Pack in *Modern Power Systems Journal* in October 1995, had this to say about Derek's chapter:

*"Since wind is becoming an economic option for many utilities, **the section on wind may be exceptionally helpful**. This goes into some considerable detail of the physics behind wind turbines, and anyone taking the time to absorb this chapter will find themselves able to take part in technical discussions on the subject. The coverage of environmental, economic and other issues is also good. **All in all this would be a good starting point for utilities wishing to educate themselves about wind energy.**"*

In 1990, Derek established **Altechnica** as a consultancy specialising in renewable energy technology innovation, renewable energy resource assessment, feasibility studies and low energy architectural practice. Through Altechnica, Derek has carried out many commissions for **over 50 clients** including a variety of projects for government departments/agencies, local authorities, energy companies, housing associations, academia, developers, architects, and private clients. He has carried out several innovative County-wide and District-wide Renewable Energy studies which included a number of '**Firsts**' and were some of the earliest to show the potential for renewable energy technologies/sources to provide most if not all the energy demands within those counties and districts.

In 1996, Derek was awarded the British Wind Energy Association's **1996 Wind Energy Pioneer Award** "*In recognition of Derek Taylor whose valuable efforts over many years have been a significant element in the development in the Wind Energy Industry.*"

Derek is a graduate of the internationally acclaimed Architectural Association School of Architecture and holds a Master's in Industrial Design - Engineering from the RCA plus a PhD in Renewable Energy Engineering & Design.