

## Kerpic 2022: “Re-Thinking Earthen Architecture for Sustainable Development”

30 June – 3 July 2022 Istanbul Turkey

Tom Woolley: Keynote speech

### Abstract

Title: Creating insulated building structures with Hemp and Earth. Why bio-based materials are essential for sustainable construction.

Buildings have been constructed and renovated with *hemp and lime* for 20-30 years. This is a very successful technique that can provide well insulated and low embodied energy solutions for a wide range of construction applications. However, the right kind of lime binders are not readily available in many parts of the world and attempts to use poor quality lime has led to hempcrete building failures. It is possible to replace lime with earth as a binder and achieve similar results to hemp and lime. Two approaches have been pioneered in the UK, one with hemp and cob and another with hemp and kaolin powder. Both methods have potential as a cheaper and lower embodied energy approach. The talk will illustrate the development of hempcrete through a range of case study project and show examples of work with earth and clay with hemp.

Tom Woolley, B.Arch. PhD, is an architect, based in Northern Ireland, author of 8 books on green and sustainable building and has contributed to many international conferences and book chapters. He has a chapter in the new Encyclopedia of Vernacular Architecture of the World. He was Professor of Architecture at Queens University Belfast and has been a visiting professor in Malaysia, Sweden and at the Centre for Alternative Technology in Wales. He is chair of the UK Clean Air Steering Committee and a consultant to several environmental organisations. He has run training workshops on hemp construction in South Africa, Canada, Chile, Sweden, Netherlands, Poland, Ireland, England, Scotland and Wales.