

Koru Architects

Practising what they preach – architecture with an ecological vision - meet the team at Koru Architects based in Sussex

The Team

Mark Pellant – Director and architect

Mark was born and brought up in Surrey but with a Swiss mother it was inevitable that he would be exposed to European design and ideas from a young age. At the tender age of twelve he knew he wanted to be an architect and worked hard to achieve his goal eventually graduating after seven years with distinction at the University of Brighton. He then went on to work for a number of internationally acclaimed architectural practices. In the mid 1990's he spent three years travelling the world overland experiencing different cultures, architecture and witnessing at first hand the effect of major environmental problems such as drought, flooding, pollution, deforestation and poverty. Following these experiences Mark resolved to make a difference by creating his own architectural practice based on sound environmental principles – Koru Architects

Issi Rousseva – Architect

Issi is a fully qualified and registered architect, with a masters degree in architecture from the University of Brighton and an undergraduate degree from Kingston University. Issi joined Koru Architects in March 2016 and works closely with Mark and Christina on all stages of the design and management process. She has worked on architectural projects in Switzerland and Bulgaria as well as the UK, giving her an insight into the international diversity of architectural styles and building regulations. Before she started her career in architecture, Issi worked for four years as a Section Commander at the University of London Officer Training Corps, where she trained cadets and picked up strong leadership skills.



Left to right: Aylin, Mark, Issi and Oscar

Christina Vakarelova – Architectural Assistant

Christina grew up in Bulgaria and moved to the UK in 2009 to study architecture at the University of Brighton. In 2012 she graduated with a BA (Hons) in Interior Architecture. She has been working as an Architectural Assistant for Koru Architects since 2014, working closely with Mark to deliver a range of residential and commercial projects, both new-build and extensions/refurbishment.

Oscar Berkhout – Communications & Marketing Officer

Oscar was born and raised in Berkshire, before moving to Brighton in 2014 to undertake a degree in Journalism at the University of Sussex. Graduating the summer of 2017, he has started a Marketing and Communications Internship with Koru Architects.

Aylin Metin – Architectural Assistant

Aylin is the newest member of the team, having joined Koru Architects as an Architectural Assistant in February 2017 to support Mark on design work for all our projects. She is currently finishing her Part II Masters Degree in Architecture at the University of Kent, where her dissertation is on improving the quality of urban life through waterfront developments.

Case Study One - 15 Lloyd Close, Hove – Low cost suburban living

Winner of several awards including the RIBA Downland Prize 2011. Winner of international Green Apple Award for Sustainable Architecture 2016.

The project was also featured six times in Brighton's Eco Open Houses Show.

This project is architect Mark Pellant's self-build home-office

This detached zero-carbon three-bedroom house and studio provides the living and working space for Koru Architects. The design creatively makes use of a constricted, sloping site to create a spacious, light-filled contemporary home with seamless connections to the garden. The structure is made up of cross-laminated timber (CLT) with European oak cladding the walls and a zinc roof. The CLT makes up all of the construction, the walls, the floors and the roof. There is no additional steel or structural elements.

Roof integrated solar PV panels provide the electricity demand and solar thermal panels supplement a wood pellet biomass boiler to power the underfloor heating and domestic hot water. Rainwater is harvested for WC flushing and garden use. Natural materials, low in embodied energy, have been used throughout including hemp and wood insulation, oak cladding, zinc roofing and lime render. The living room roof also features a green sedum roof.

Because of these sustainable features, the dwelling uses half the energy of the



average UK household and emits 93% less carbon.

Mark Pellant says – “After travelling for over 3 years in the mid 1990s through Africa, Asia and South America I was able to experience the global environmental devastation and the onset of the effects of climate change. As the construction industry makes the biggest contribution to carbon emissions, I resolved to make a positive difference through designing sustainable, low-energy buildings, therefore that was the main driver when designing my own home. I wanted to create a contemporary, comfortable zero carbon home office.

What are the benefits of living and working in this building?



“On balance no bills and energy independence from the big energy companies, very comfortable, it doesn't get too hot or too cold, no draughts, and the natural insulation provides good acoustic buffering. Underfloor heating makes the spaces feel very comfortable, the spaces feel healthy due to the timber construction and the natural insulation as well as the natural finishes such as paints, sealants etc. It is low carbon, good for the environment. The timber beautiful to look at internally and externally, particularly as it weathers nicely”.

Cross Laminated Timber

CLT construction allows very quick offsite manufacture, very quick to put up in only six days. The building is very airtight, very energy efficient, very robust, and very sustainable, and has a large amount of carbon locked in it. Cross Laminated Timber (CLT) can span in two directions, therefore it can replace concrete and steel in many scenarios which require more structural strength.

It also gives buildings more of a medium-weight, rather than light-weight construction unlike traditional timber buildings. ➤





Case Study Two – A house that’s all ‘Grown up’

Mill Lane, East Hoathly, East Sussex – a work in progress, but almost complete. This three bedroom home is replacing an old bungalow which previously occupied the site. The new dwelling is being built to Passivhaus standards of air-tightness and insulation, making the building very affordable to heat and very low-carbon. It also includes a green sedum (flowering plant matting, of the crassulaceae family) roof to encourage biodiversity and mitigate rainwater run-off. The house is timber framed construction and features timber cladding which will weather to a silver-grey colour, slate tiles on the roof and a thin band of brickwork around the base of the building. This palette of natural materials keeps embodied emissions low and respects the local vernacular of the village setting.

The clients Alex and Ruth House say in their own words what their intentions were in engaging Koru to design this new build project

“My wife and I wanted a modest home, but with ample space for a family, and most importantly a comfortable space. We wanted to keep the materials natural and sustainable, to have a minimum impact on the environment and to create

a healthier indoor space”.

“We did a lot of the site management and construction work on the project ourselves so it was challenging at times, but that was due more to the self-build nature. The biggest benefit was how quickly the timber frame went up! We were also able to reuse the vast amounts of leftovers from the structural timber framing for the noggins and internal studwork, as well the bathroom for building out the studs for the shower. We were able to really reduce and re-use the waste materials, saving thousands in first-fix carpentry bills. We also got a very good understanding of the build’s construction elements and exactly how the walls and roof are made up which has been very beneficial”.

“It is very comfortable to live in, the timber forms a strong connection to nature and the use of natural materials creates a ‘biophilic environment’. The timber allowed for thinner walls, whilst achieving low U-Values even with natural Thermafleec sheep’s wool insulation, creating a highly insulated, energy efficient home. We wouldn’t change anything about the materials chosen for the construction”.



Case Study Three – The perfect rural hideaway

Garden library/ studio, Lamberhurst, Kent - Shortlisted for the RIBA Downland Prize 2006. This sustainable, all-timber garden workspace has been designed for working in light and comfort with minimal heating or artificial lighting. Glazed timber sliding/folding doors and a roof light, flood the internal space with light and allow low winter sunshine to penetrate the building to assist with space heating.

The walls, floor and roof are filled with environmentally friendly recycled newspaper insulation to help retain heat. The timber frame is fabricated from Douglas Fir and the cladding from Western Red Cedar.

The client Richard Platt says “Sitting here in my library with the doors open, serenaded by birdsong... It’s 21degrees inside... Perfect! Now that the grass and my bank balance has started to grown back I can enjoy this really wonderful working space”.



Design For The Future

PassivPod is a new venture set up by Koru Architects and Strategic Management Partners centred on the concept design for a zero-carbon pod-shaped Passivhaus that offers comfortable accommodation with an environmental conscience.

The four different PassivPod sizes

can have several different applications – for example as a luxury eco-lodge, holiday let in the leisure industry, school classroom module or even as a home, and the smaller option – a home office.

PassivPod is 100% renewable-powered and designed using the latest Passivhaus and biophilic principles

with a gentle visual impact that blends into the landscape. (Biophilic principles are based on the idea that we all have a genetic connection to the natural world built up through hundreds of thousands of years of living in agrarian settings) With floor-to-ceiling windows, an organic shape and natural materials, PassivPod provides a truly immersive experience. PassivPod is an innovative, comfortable and sustainable building with several applications, such as a holiday home, primary home or classroom.

Every project Koru undertake is different but they all have the same aim, to produce buildings that are economical to live in and help to improve the environment and we wish them well. To find out more visit:

www.koruarchitects.co.uk

www.passivpod.co.uk

