RESIDENTIAL ARCHITECTURAL TECHNIQUES IN NORTH AMERICA AT THE TIMES OF CLIMATE CRISIS.

Historical perspective, present status, and vision for the future

Lecture: Wojciech Oktawiec, AIA

The climate crisis, which we have been experiencing since the end of 20th Century, has intensified in the 21st century to the degree that it has become morally imperative for architects and builders to redefine the way housing is constructed and built in the USA. In North America around 90% of the new homes are built as “American Framing” construction or light wood frame construction, which methods go back to the 19th century. Paradoxically the wood frame construction, which evolved as direct response to the environmental and societal forces of the “19th Century’s point in time”, and continue with the improvements through next century (from balloon framing to platform framing, modern framing with its connectors, braces , ties and gang nail plates) is not efficient as residential building process anymore and needs to be streamlined and modified . The new materials must be introduced to answer new sustainable, ecological, health and change of climate factors of the new era we all are living in.

The lecture will present historical perspective and step by step timeline of development of the light wood frame construction and then present modern methods focusing on different types of the “rain screen designs” for exterior envelopes, supported by various wood framing types, mass timber and CLT prefabricated structural technics and finally **off-site contemporary technologies** and fabrications technics driven by digital revolution. The material experimentation will be briefly summarized and presented as a vision for the future of building in the residential sector of the construction industry. The conclusion will urge evolvement and improvements and merging traditional techniques with emerging contemporary methods, which answer our time economic needs, common acceptance and, what is most important, will not contribute to the destabilization of our natural environment. More holistic design and integrated methods of construction must take over to answer the new principal force of climate crisis and cultural changes bearing on construction.

Wojciech Oktawiec, AIA



Wojciech Oktawiec is an award-winning architect, writer, and educator. He lives and practices architecture and design in Ridgewood, Queens, NY. He has been President of Path Architecture PC since 2004 and has been in practice since 1983. Oktawiec received Master of Architecture degree from Technical University (Polytechnic) of Krakow Poland (1977-1982). He has been a Register Architect in the State of New York since 1995. After graduation he worked as Instructor of Architecture at the Department of Architecture of the Technical University of Krakow 1983-1988, where he was involved in teaching and research work regarding design of the various types of housing and methods of revitalization of the old town districts and downtowns of the cities.

During the years 1989-2004 he worked in the numerous architectural firms on Long Island and New York City including JRS Architects, N2 Design and Architecture and SHoP Architects.

Wojciech is currently Adjunct Assistant Professor at New York Institute of Technology and has been teaching technology courses at undergraduate and graduate level since 2019. His main interest is residential design and ecological site design including off-site construction.

Wojciech Oktawiec organized international conferences on the “future of building” and wrote number of the architectural articles including about Covid-19 and New York City. He was one of the founding members of the Polish Green Building Counsel.

He received numerous awards for his designs and took part in international architectural exhibitions.