



CELTIC EUROGIA

Online Proposers Day

15th & 16th September 2020



Pitch of the Project Proposal

<NEARLY ZERO ENERGY SOLAR ARCHITECTURE>



<Prof. Dr.-Ing. Seung-Ho Yoo>
Sehan University
<energy@unitel.co.kr>



Teaser

The purpose of this proposal is to ecologically supply nearly zero-energy solar architecture with minimal cost by suggesting the optimal energy harvesting methodologies, multi-functional BIPV, optimal insulation, and convergence of radiant heating and cooling system, etc.

I want to participate in this project to develop the nearly zero-energy solar architecture of the ecological concept in figure 1.

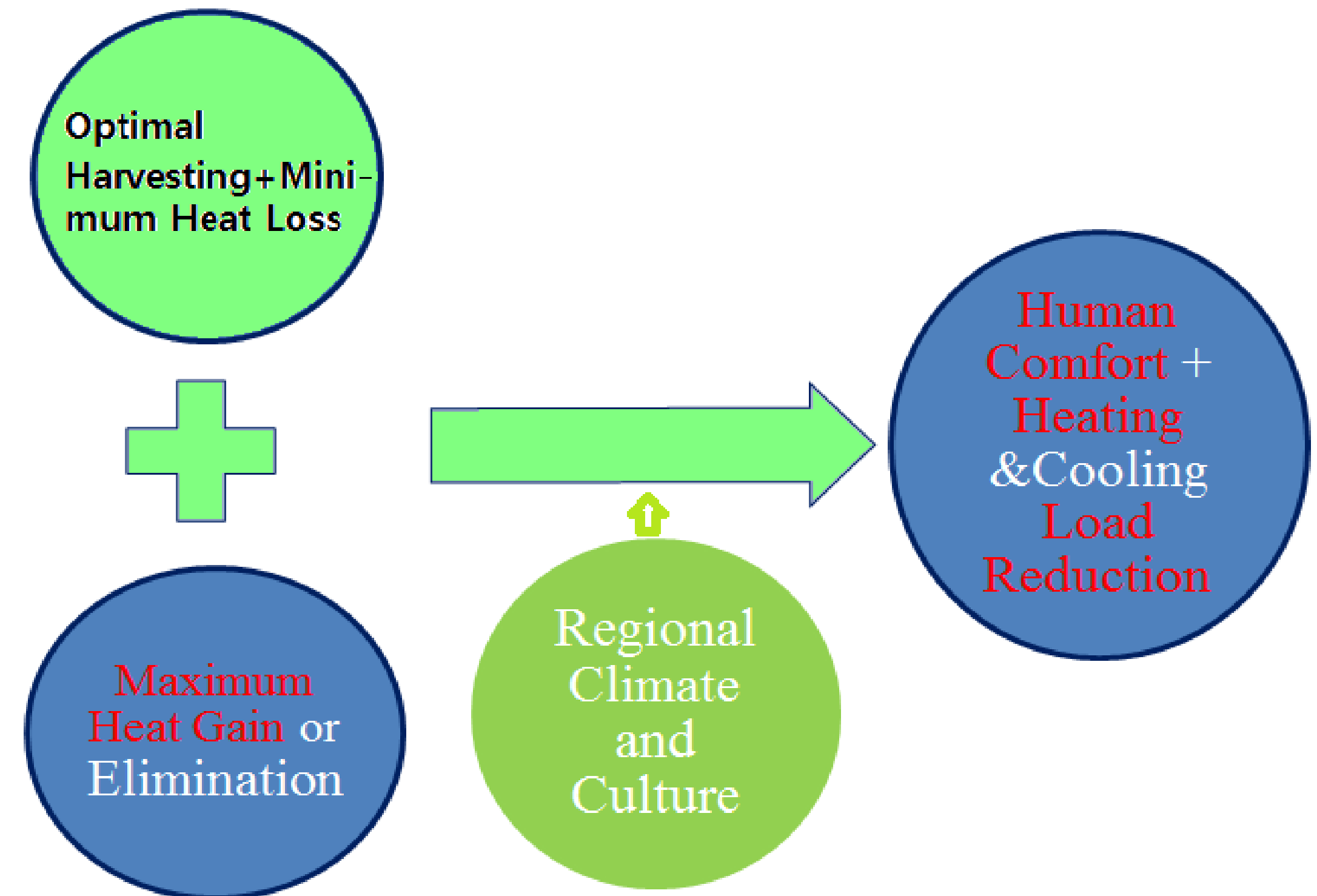


Figure 1 The basic concept of solar architecture for a nearly zero-energy building.

(S.H.Yoo, Optimization of a BIPV system to mitigate greenhouse gas and indoor environment, Solar Energy, 2019.8)

Organisation Profile



Solar architecture Laboratory in Sehan University (founded in 1994)

The most ecological Lab. for the built environment, about embedding passive intelligence into buildings, especially about embedding photovoltaic integrated shading devices (PVSD) into building envelopes and radiant cooling & heating system.

Proposal

Introduction

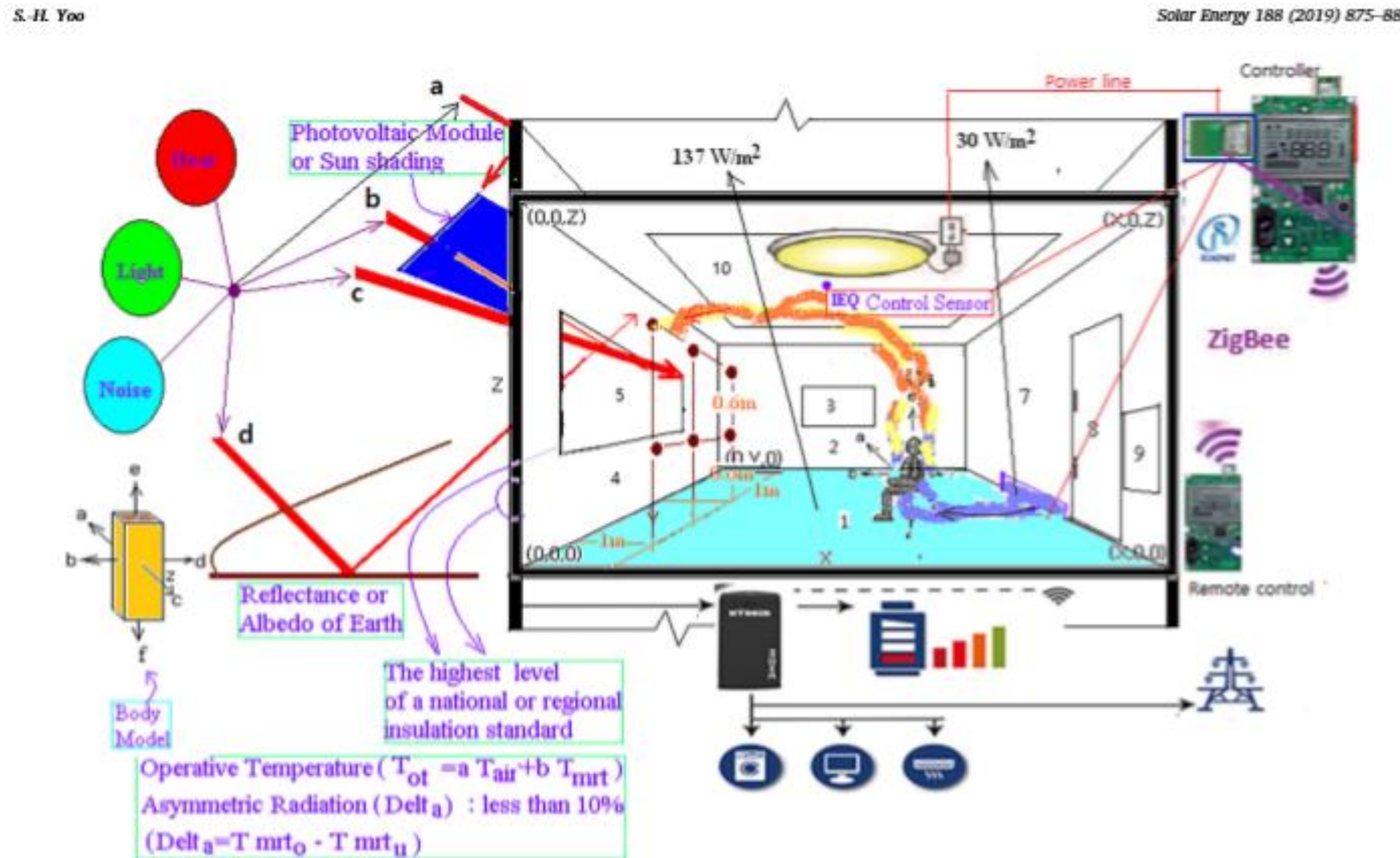


- To zero-energy or net-zero energy building by replacing the energy generation from green sources.
- In Europe, to fulfill these targets, be built as near-zero energy consumption by the end of 2020.
- In Korea, be built as a near-zero energy building.
(2020 public building (1,000m²↑)
→(2030) All building(500m²↑))
 - The optimal energy harvesting methodologies, Optimal envelope with multi-functional BIPV.
- Ecological design criteria by the simulation program.

Proposal Introduction

-Spatial model for Building physical information modeling of the solar architecture-

(S.H.Yoo, Optimization of a BIPV system to mitigate greenhouse gas and indoor environment, Solar Energy, 2019.8)



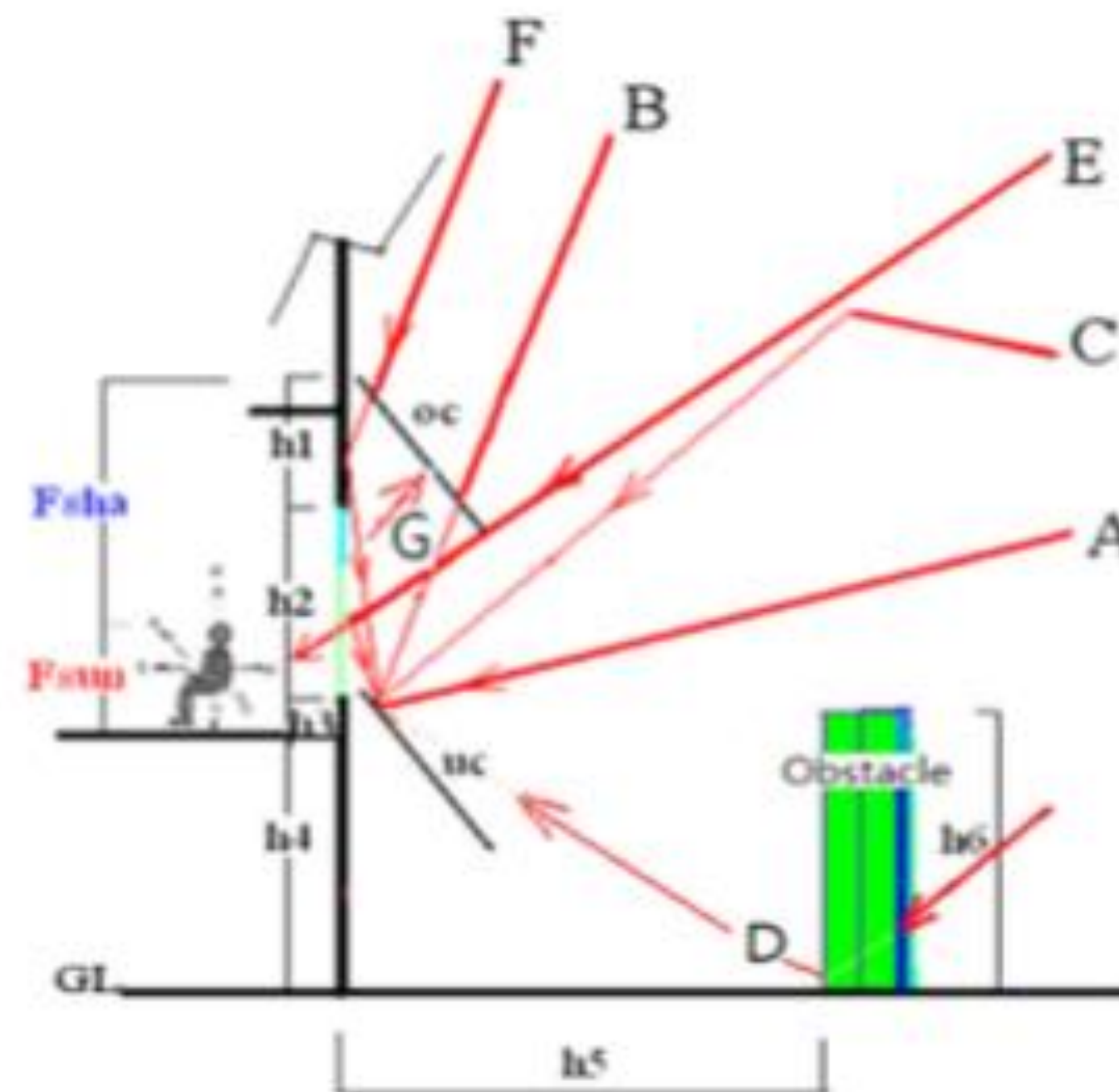
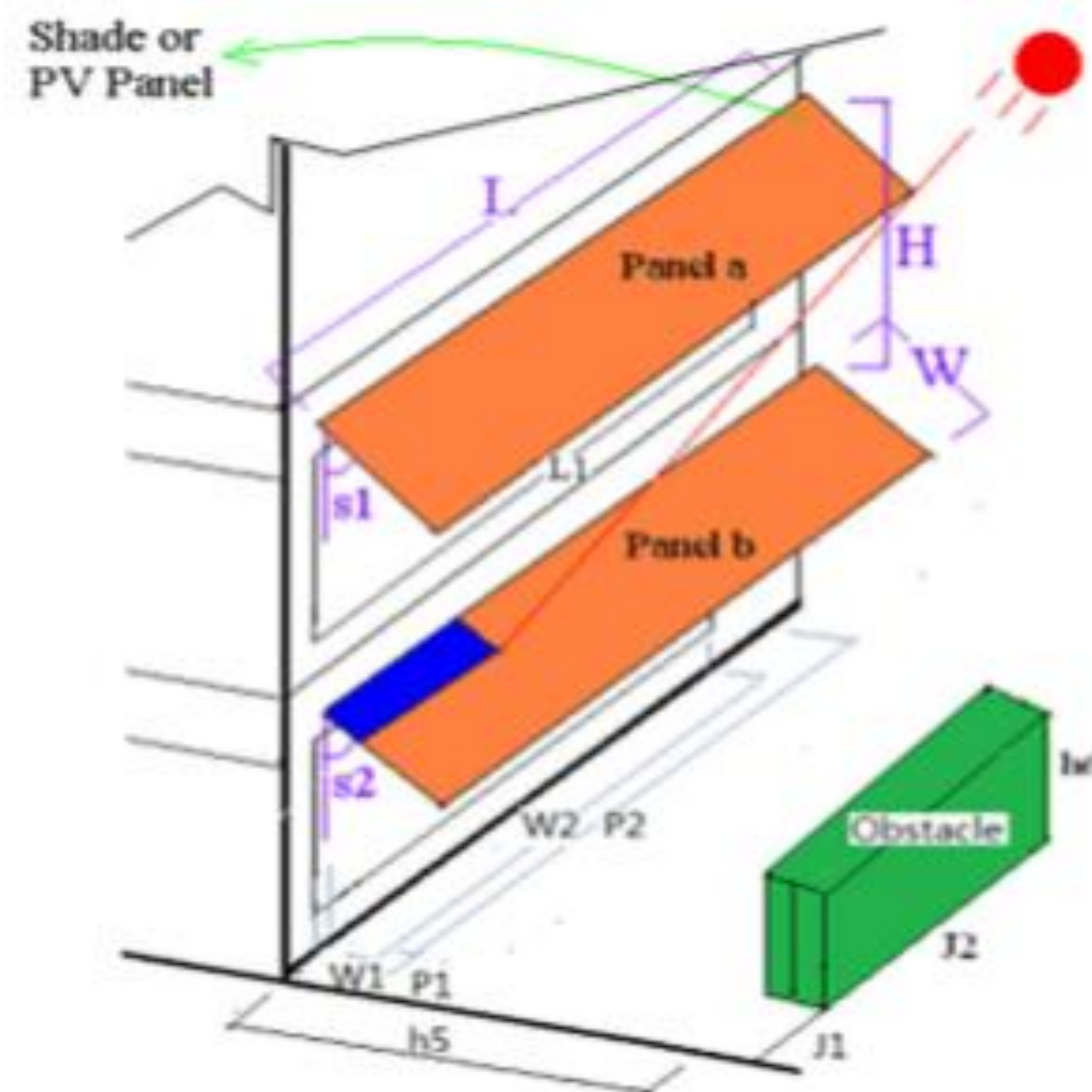
Proposal Introduction

-Spatial model for Building physical information modeling of the solar architecture-

(S.H.Yoo, Optimization of a BIPV system to mitigate greenhouse gas and indoor environment, Solar Energy, 2019.8)

S.-H. Yoo

Solar Energy 188 (2019) 875–882



Proposal

Introduction



1st year: The various color solar module system can be used in special ways such as multi-functional BIPV as a sunshade with Bifacial Solar Cell Modules to produce more than 18% more than the general application method and to reduce building cooling loads by 34%.

2nd year: Optimal insulation criteria, total energy transmittance factor, and total energy elimination factor, heat, light, noise, etc. according to the climate of the area for windows and walls are evaluated. Find the best point of contact to develop an architectural culture that matches the climate.

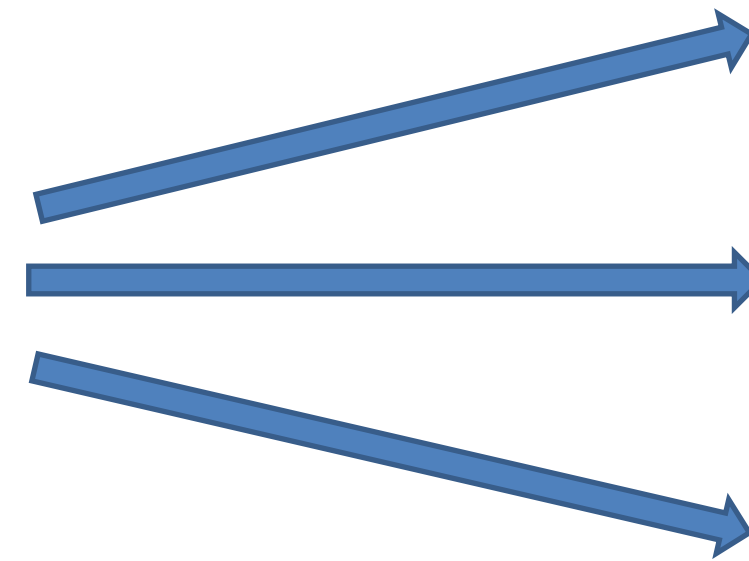
3rd year: Codifying of all evaluation factors for the nearly zero-energy Solar architecture.

Partners



I am looking for a consortium or partner that wants to optimize the nearly zero energy building.

Interest area



Green Energy

Contact Info

For more information and for interest to participate please contact:

Prof.Dr.-Ing.Seung-Ho Yoo

E-Mail energy@unitel.co.kr

Telephone +82 10 9666 0272

Postal Address

Web (sehan.ac.kr)



Presentation available via:



17 Sept. 13.00 CET

Join the follow-up Telco

[Join Webex meeting](#)

Meeting number (access code): **163 550 6350**

Meeting password: **5u5pQvPeya2**

Join by phone

[+49-6925511-4400](#) Germany toll

[Global call-in numbers](#)

[Can't join the meeting?](#)

