teri **Design to Sustain Program**

Session I	Fenestration Design & Shading Devices
	Date : 27th July , 2016 Time: 09.30 – 04.30 pm
	Venue : The Park Hotel, CBD Belapur, Navi Mumbai
Session Timings	**Details**
09.30 – 10.00 am	**Registration**
10.00 – 10.15 am	**Introduction to the workshop series & Design to Sustain program**
	Ar. Aditi Phansalkar, Research Associate & Area Convenor, TERI WRC
10.15 – 1.30 pm	**Climate & Architecture-Heavenly Mathematics**
	Ar. Namrata Mahal, Associate Fellow, TERI WRC & Program Associate, GRIHA Council
	Learning objectives:
15 minutes	Understanding the climatic zones as prescribed by National Building Code (NBC)-2005 and the conditions led down to determine the climate of the region.
15 minutes	Understanding the solstice, equinox, altitude and the azimuth angle.
30 minutes	Reading sun path diagram and understanding the climate specific best orientation for designing windows.
45 minutes- Individual exercise	Step by step designing of a fenestration shading device by manually calculating horizontal shadow angle (HSA) and vertical shadow angle (VSA).
15 minutes	Understanding the significance of window to wall ratio and quick hands on exercise of an ongoing project.
15 minutes	Understanding concepts like Solar heat gain coefficient (SHGC), U value, projection and multiplication factor.
30 minutes- Individual exercise	Step by step calculating the effective SHGC of the proposed fenestration design and meeting the ECBC-2007 requirements.
30 minutes- Walk through of the software	Validating the fenestration design with the help of simulation softwares
1.30 – 2.00 pm	**Lunch Break**
2.00 – 3.00 pm	**On site experience : Learning through practical examples**
	Ar. Aditi Phansalkar, Research Associate & Area Convenor, TERI WRC
	Learning objective:
	Understanding practical challenges to make a good fenestration design and its on-site implementation.
3.00 – 4.00 pm	**Shadow analysis through simulation software : Hands on experience**
	Consultant, TERI WRC
	Learning objective:
30 minutes- Individual exercise	Using ECOTECT software to build a model and performing simulation exercise for shadow analysis.
4.00 – 4.30 pm	**Recap session /Question & Answers**