

HEBA Train-the-Trainers-Workshop II (Solar Energy in Buildings and HVAC)
Location: Innsbruck University, Faculty of Technical Sciences
Date: 11th - 15th of March 2019
Coordinator: Prof. Wolfgang Streicher, Apeksha Shandilya, M.Tech.
TIMELINE AND CONTENTS:

Date	Time	Topic	Contents	Lecturer
Mo. 11/03/19	09.00 – 12.00 (R. N. HSB7)	HVAC compact units, Façade integration	HVAC compact units, Packaged room A/C, Next Generation A/C technology in combination with ventilation systems, measurement and evaluation of speed controlled HPs	Dr. - Ing. Fabian Ochs, Dipl. -Ing. Dietmar Siegele
	LUNCH BREAK			
	13.30 – 17.00 (SR1- ICT)	Theory in Solar Thermal Systems and Building integration	Theoretical background, heat demand houses, components of solar thermal systems, stagnation of solar thermal systems, hydraulics of solar thermal systems, hot water stores, solar system design features, building integrated solar collectors, solar thermal cooling systems, summary and discussion.	Prof. Wolfgang Streicher
Business dinner in the authentic Austrian restaurant in the city: 18.00 - 21.30				
Tue. 12/03/19	10.15 – 12.30 (SR2- ICT)	Some HVAC related elements of Applied Thermodynamics	Introduction, heat exchanger, numerical finite difference simulation of walls, tubes and water stores	Prof. Wolfgang Streicher
	LUNCH BREAK			
	13.30 – 17.00 (R.N. 543)	HVAC-Systems in Buildings (Heat pumps, Cooling systems...)	Basic principles (heating, cooling, dehumidifying, cleaning, air movement), heat pumps, role of refrigerants, compressors, evaporator, condenser, expansion device, filter-dryer, looking glass, presostats, heat sources	Prof. Wolfgang Streicher
Wed. 13/03/19	09.00 – 12.00 (SR1- ICT)	Solar Thermal Simulation tool	Software installation, application, examples	Prof. Wolfgang Streicher
	LUNCH BREAK			
	13.30 – 17.00	Laboratory visit	hardware in the loop session	Norbert
Thu. 14/03/19	09.00 – 12.00	Excursion to Heliotherm, Heat Pump Manufacturer	Heat pumps (ambient air, ground coupled, water) reversible, desuperheater	Prof. Wolfgang Streicher
	LUNCH BREAK			
	13.30 - 17.00 (R. N. 543)	Overview Simulation Tools	coupled simulations of buildings and HVAC with public available tools; presentation of typical case studies and possibilities how to use the different tools.	Dipl.- Ing. Alexander Thur, PhD
Fri. 15/03/2019	09.00 – 12.00 (SR1- ICT)	Ventilation	Ventilation Technology	Assoc. Prof. Dr.-Ing. Rainer Pfluger
	12.00 - 13.00	Certificates distribution and a short talk with participants, feedback from trainees		