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Industry-Academia Partnerships and Pathways

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1.- Introduction

In this Deliverable (D7.3) we summarize the seminars organized in the frame of the project for training the ESRs. The seminars were defined by the ESR and his/her supervisor, as part of his/her Personal Career Development Plan (CDP), taking into consideration the researcher profile and their specific training needs.

The seminars were open to all members of the host institution and the Kestcells Network. For this reason, the schedule was designed to avoid overlapping, allowing researchers from other centres to participate. All Seminars were supervised by the Supervisory Board of the project.

2.- Summary of the seminars

In the following Table, the main information about the seminars organized during the project is summarized. Some of the seminars lasted more than one day.

Month	Date	Institution	Title
8	abr-13	FUB	Extracting information from Rietveld refinement
9	may-13	UAM	Principles of basic characterization of solar cells
10	jun-13	UL	Bonds and crystals of semiconductors
10	jun-13	UL	Electrons in semiconductors – band structure
10	jun-13	UL	Electronic defects (hydrogen model for shallow defects, behaviour of deep defects)
10	jun-13	UU-ASC	Mechanical properties of thin films
11	jul-13	IREC	Kesterites: an overview
11	jul-13	IREC	Chemical routes for the synthesis of Kesterites
11	jul-13	UL	Doping (charge carrier statistics in equilibrium, p-, n-type doping)
11	jul-13	UL	Charge Carrier transport (conductivity, mobility, scattering mechanisms)
11	jul-13	UL	Non-equilibrium (quasi-Fermi levels, SRH recombination)
11	sep-13	UL	p/n-homojunction (band structure, IV (diode factor 1 and 2), QE)
11	sep-13	UL	p/n-heterojunction, (band structure, IV, QE)



13	sep-13	AMU	Ab-Initio Modeling and Simulation of materials for solar cells
14	oct-13	UU-ASC	Thermodynamics of phase diagrams
15	nov-13	EMPA	Phase diagrams: from basics to understanding chalcogenide materials
15	nov-13	FUB	Safety Assessment and Comparing Safety Records and Public Recognition of Various Energy Supplies
15	nov-13	IREC	Optoelectrical characterization of thin films photovoltaics absorbers and devices
15	nov-13	NU	Characterisation of novel Solar Cells
18	feb-14	UAM	Effect of Na on CIGSe thin films and devices. Flexible solar cells. Possible extrapolation to Cu ₂ ZnSn(S,Se) ₄ ?
19	mar-14	AMU	Spectroscopic Ellipsometry: applications for thin film solar cells
19	mar-14	NU	Electrical Characterisation of Interfaces
19	mar-14	IREC	Raman spectroscopy: practical approach
21	may-04	HZB	Photo Electron Spectroscopy
21	may-14	UAM	Ion matter interaction and ion beam analysis
22	jun-14	UAM	Growth and characterization of Cu ₂ Zn(Sn,Ge,Si)(S,Se) ₄
22	jun-14	AMU	Supramolecular Photochemistry: from basic concepts to energy conversion
22	jun-14	NEXCIS	Luminescence Techniques for Solar Cells Characterization
23	jul-14	IREC	State of the art in Kesterites
23	jun-14	EMPA	Advanced characterization of chalcogenide thin film solar cells
23	jul-14	AMU	Black Silicon Photovoltaics
28	dic-14	FUB	X-ray absorption spectroscopy and its application to chalcopyrite and kesterite materials
28	dic-14	IREC	Management of European Projects
28	dic-14	EMPA	Time-resolved photoluminescence spectroscopy of thin film solar cells
28	dic-14	NEXCIS	Low-cost approaches for CZTS solar cell manufacturing
29	ene-15	NEXCIS	Clues towards identifying limits and improving kesterite solar cells
30	feb-15	IREC	Laser applications for photovoltaics
30	feb-15	IREC	Characterization techniques for chalcogenide thin film solar cells
31	mar-15	UAM	Dye sensitized solar cells
31	mar-15	UAM	Perovskite solar cells
30	feb-15	EMPA	Zn-based alternative buffer layers – a challenge worthwhile?
31	mar-15	HZB	The CISSY surface and interface analysis system at BESSY II
33	may-15	HZB	Time Resolved Photoluminescence Spectroscopy
34	jun-15	FUB	Growth and characterization of Kesterite compound semiconductors
34	jun-15	HZB	Quantitative Photoluminescence Imaging of Solar Cells
34	jun-15	HZB	Heterojunctions in Solar Cells
36	ago-15	EMPA	Interface passivation at heterojunctions and grain boundaries in CIGS-based solar cells: Current status in view of the development of novel passivation strategies
38	oct-15	AMU	Raman spectroscopy as non-destructive and non sample preparation tool for defects evaluation in complex semiconductors for photovoltaic applications



39	nov-15	UU-ASC	Advanced concepts in Silicon Solar Cells
42	feb-16	AMU	State of the art of industrial CIGS and routes towards higher competitiveness and new markets opportunities
42	feb-16	AMU	Synthesis of kesterites nanoparticles by ball milling for processing thin films to be used in solar cells”
42	mar-16	AMU	Optical Spectroscopy of Surfaces, Thin Films and Nanostructures

The invited speakers have been mainly professors/researchers of the different host institutions. But also international recognized researchers have been invited as speakers, ensuring a high quality level of the local training events. It is important to remark that some ESR have assisted to the seminars given in other institutions either presencially or remotely (Skype).

The seminars have been announced by mail by the Coordinator to the Supervisory Board, that makes dissemination inside their institutions and have been published at least one week in advance in the home page of the Kestcells webpage and in the seminar section: <http://www.kestcells.eu/program-of-seminars>.