

## TRAINING COURSE IN

**APPLIED HYDROGEOLOGY**
*From pumping tests to design and implementation of solar water schemes*

September 8 to 13, 2019 (6 days)

**Sunday 08/09/2019**

<i>Time</i>	<i>Unit title</i>	<i>Speaker</i>	<i>Place</i>
11:00	Arrival in Bonfol & transfer to Hotel La Couronne (Beurnevésin)		
11:30-12:30 (01:00)	Welcome & introduction to the training course, participant presentation	EM & MP	Hotel
12:30-14:00 (01:00)	Lunch		Hotel
14:00-15:30 (01:30)	Refresher of main aspects in WASH relevant applied hydrogeology	MP	Hotel
15:30-16:00 (00:30)	Coffee break		Hotel
16:00-17:30 (01:30)	The 'safe yield': interface between well-siting, well-construction, pumping test, groundwater monitoring & solar pumping	EM	Hotel
19:30	Dinner		Hotel

**Monday 09/09/2019**

<i>Time</i>	<i>Unit title</i>	<i>Speaker</i>	<i>Place</i>
07:00-07:45 (00:45)	Breakfast		Hotel
08:00-10:00 (02:00)	Recap of pumping tests & definition of 'safe yield'	MP	Hotel
10:00-10:30 (00:30)	Coffee break		Hotel
10:30-12:30 (02:00)	From pump test data to energy & cost calculations	EM	Hotel
12:30-13:30 (01:00)	Lunch		Hotel
13:30-16:00 (02:30)	Field work: Well inspection & equipment test	EM & MP	Buix site
16:30-18:00 (01:30)	Exercise: Design of step draw-down pumping test	EM & MP	Hotel
19:30	Dinner		Hotel

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<b>Tuesday 09/09/2019</b>				
<i>Time</i>		<i>Unit title</i>	<i>Speaker</i>	<i>Place</i>
07:00-07:45	(00:45)	Breakfast		Hotel
08:00-14:30	(06:30)	Field work (3 groups): - Step draw-down pumping test - Resource evaluation - Production cost calculation and optimisation	EM & MP	Buix site
14:30-15:30	(01:00)	Transfer to hotel & coffee break		Hotel
15:30-18:30	(03:00)	Exercise: Pump test interpretation & exploitation scheme design	EM & MP	Hotel
19:30		Dinner		Hotel
<b>Wednesday 11/09/2019</b>				
<i>Time</i>		<i>Unit title</i>	<i>Speaker</i>	<i>Place</i>
07:00-07:45	(00:45)	Breakfast		Hotel
08:00-10:00	(02:00)	Introduction to solar pumping schemes	AI	Hotel
10:00-10:30	(00:30)	Coffee break		Hotel
10:30-12:30	(02:00)	Introduction to solar pumping schemes	AI	Hotel
12:30-13:30	(01:00)	Lunch		Hotel
13:30-15:45	(02:15)	Design of solar pumping scheme: example for Buix site	AI & Lorentz	Hotel
15:45-16:15	(00:30)	Coffee break		Hotel
16:15-18:30	(02:15)	Design of solar pumping scheme: example for Buix site	AI & Lorentz	Hotel
19:30		Dinner		Hotel

Thursday 12/09/2019				
Time		Unit title	Speaker	Place
07:00-07:45	(00:45)	Breakfast		Hotel
08:00-16:00	(08:00)	Field work (3 groups): Mounting of solar pumping scheme - Solar panel configuration and installation - Command box installation, wiring, online monitoring and checklist - Solar pump installation and well-monitoring	AI, Lorentz, EM & MP	Buix site
16:00-16:30	(00:30)	Transfer to hotel & coffee break		Hotel
16:30-18:30	(02:00)	Presentation of online monitoring of solar schemes	AI, Lorentz	Hotel
19:30		Dinner		Hotel

Friday 13/09/2019				
Time		Unit title	Speaker	Place
07:00-07:45	(00:45)	Breakfast		Hotel
08:00-10:00	(02:00)	Life cycle calculations of solar pumping schemes, contracting and checklist	AI	Hotel
10:00-10:30	(01:00)	Coffee break		Hotel
10:30-12:00	(01:30)	Exercise: Life cycle calculations	AI	Hotel
12:00-13:00	(01:00)	Lunch		Hotel
13:00-14:00	(01:30)	Group exercise: linking pumping tests to solar water scheme design	AI, EM & MP	Hotel
13:00-15:00	(01:30)	Group presentations: linking pumping tests to solar water scheme design	all	Hotel
15:00-16:00	(01:00)	Recap, course evaluation & wrap-up discussion, closure ceremony	AI, EM & MP	Hotel
16:00	(03:00)	Departure		