

[High Precision Physics using an Optical Fibre Link and Optical Frequency Combs](#)

Peignes de Fréquences et Liens Fibrés Optiques pour les Mesures de Précision

Ecole de Physique des Houches, 22-26 april 2019

Monday		19:30 diner				
schedules	Tuesday	schedules	Wednesday	schedules	Thursday	Friday
8:30-8:45	opening session	8:30-8:45		8:30-8:45		
8:45-9:45	Fritz Riehle	8:45-9:45	Fritz Riehle	8:45-9:45	Paul-Éric Pottié	Cécilia Clivati
9:45-10:15	break	9:45-10:15	break	9:45-10:15	break	break
10:15-11:10	Fritz Riehle	10:15-11:10	Jochen Kronaeger	10:15-11:10	Nathalie Picqué	Pacome Delva
11:20-12:15	Frédéric Du Burck	11:20-12:15	Helen Margolis	11:20-12:15	Nathalie Picqué	Pacome Delva
12:30	lunch	12:30	lunch	12:30	lunch	lunch
schedules	Tuesday	schedules	Wednesday	schedules	Thursday	Friday
15:15-15:45	Frédéric Du Burck					
15:50-16:45	Fritz Riehle	15:30-17:00	Kjeld Eikema	15:30-17:00	discussion around tea and coffee	
16:45-17:00	break					
17:00-18:00	Helen Margolis	17:00-17:30	break	17:00-19:00	technical talks from OFC manufacturers	
18:00-19:00	Jochen Kronaeger	17:30-19:00	Michael Drewsen			
19:00-19:30	welcome drink					
19:30	diner	19:30	diner	19:30	diner	
20:40-21:40	poster session	20:40-21:40	Paul-Éric Pottié	20:40-21:40	poster session	

The French Optical Society (Société Française d'Optique) is happy to announce a new series of annual international thematic schools devoted to hot topics in optics and photonics, held every year at Les Houches School of Physics.

After more than 15 years of development, optical fiber links and optical frequency combs are now sufficiently mature to be spread and shared outside the time/frequency metrological institutes. The school follows on from the international development of optical fiber links and its objective is thus to broadcast among a wide community of physicist the possibilities of high precision measurement thanks to the optical fiber transfer of an optical frequency reference, coupled to a frequency comb. These setup enable any laboratory to access an ultrastable and accurate reference frequency which opens the way to high-precision experiments in a wide range of physical domain. In order to benefit from its metrological performance, the optical reference frequency disseminated by optical fiber links can then be transferred to a wide spectral range from RF to UV frequencies thanks to optical frequency combs. In addition, these combs are ideal tools for high-resolution atomic and molecular spectroscopy.

The attendants will learn both the basics, performance and limitations of these two tools and how to take advantage of them for high-precision measurements. The applications in sight concern for instance tests of fundamental physics, atomic and molecular high-resolution spectroscopy using either stabilized lasers or new spectroscopic methods, frequency transfer for radio astronomy and geodesy and novel applications concerning Earth observation.