

# **Light!**

**dimanche 5 juillet 2015 - samedi 11 juillet 2015**

**Strasbourg / Freiburg**

## **Programme Scientifique**

## Introduction: the nature of light

### **Quantum Light : a Brief Introduction**

Philippe Grangier (Laboratoire Charles Fabry, Institut d'Optique, Palaiseau, France)

### **Quantum Optics and Quantum Communications using Non-Gaussian States of Light**

Philippe Grangier (Laboratoire Charles Fabry, Institut d'Optique, Palaiseau, France)

### **Light, horizons, and the geometry of space-time**

Matthias Bartelmann (Institut für Theoretische Astrophysik, Universität Heidelberg)

## Interactions between light and matter

### **Light for medicine: photodynamic therapy**

Mauricio Baptista (University of São Paulo)

### **The production of \*light\* by matter – From light bulbs to monolithic blue LEDs**

Mathieu Gallart (Institut de Physique et Chimie des Matériaux de Strasbourg)

### **Synchrotron light for various applications in material sciences**

Jean Daillant (SOLEIL, CEA Saclay)

## Light as a messenger

Large scales: stars and the universe

### **Spectroscopic diagnostics in astronomy and astrophysics**

Nadine Afram (Kiepenheuer-Institut für Sonnenphysik, Freiburg)

### **What spectropolarimetry adds**

Svetlana Berdyugina (Kiepenheuer-Institut für Sonnenphysik, Freiburg)

### **Interferometry**

Oskar von der Lühe (Kiepenheuer-Institut für Sonnenphysik, Freiburg)

### **Detecting exoplanets: a subtle usage of light**

Daniel Rouan (LESIA, Observatoire de Paris)

Small scales

### **New microscopies**

Brahim Lounis (LP2N, Institut d'Optique, Bordeaux)

## Manipulating light

### **Negative refraction - bending light the wrong way**

Sylvain Lecler (ICube, Strasbourg)

### **Getting light to propagate where one thought it wouldn't: plasmonics, strong coupling**

Jérôme Wenger (Institut Fresnel, Marseille)

### **Ultra-fast laser spectroscopy: probing matter dynamics on ultra-short time scales**

Marie Barthelemy (Institut de Physique et Chimie des Matériaux de Strasbourg)

## **Public evening lecture: Light! Glorious atmospheric phenomena Jürgen Rendtel (Leibniz-Institut für Astrophysik, Potsdam)**

### **Scientific activities**

Poster presentations by the participants

Visit to the Kiepenheuer Institute for Solar Physics (Freiburg) and to the Solar Observatory at Schauinsland (near Freiburg)

Visit of experimental laboratories on the Strasbourg scientific campus (Université de Strasbourg and CNRS)

Experiments with an optical telescope at Strasbourg Astronomical Observatory (weather permitting)

### **Social programme**

Welcome reception at the Hôtel de Ville

Conference dinner followed by a trip around the town in a "bateau mouche"

Illumination of the Cathedral

One excursion to the Vosges, with a walk, a visit of a touristic highlight and a traditional meal of Alsace

Visit to the Council of Europe