

# INSTITUT D'ETUDES SCIENTIFIQUES DE CARGESE

## Cargèse International School 2018

## Quantum Gravity, String AND FIELDS

June 12 - 22, 2018

Web site

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Black holes have been a source of fascination and bewilderment since their inception, which has only increased with the indirect evidence of their existence in the center of galaxies, and most recently with the direct detection of gravitational waves emitted in the last stages of their collisions. The theoretical puzzle posed by the consistency of black hole evaporation with the basic tenets of quantum mechanics has become all the more pressing. The holographic correspondence provides a consistent framework to address this puzzle, at the cost of obscuring locality. New developments indicate that quantum entanglement may be responsible for the emergence of locality, while new solvable toy models of holography give hope to describe non-extremal black holes. At the same time, new methods in quantum field theory allows to compute scattering amplitudes and correlation functions at unprecedented order in the loop or large N expansion. The Cargèse Summer school will cover recent developments in all these topics, and open problems for future research.

### Main topics will include

- Quantum Gravity,
- String Theory
- Supersymmetric Field Theories
- Holography
- Amplitudes
- Black Holes

### Eminent scientists in the field will animate the workshop. These include:

Nima Arkani-Hamed (IAS)  
Miranda Cheng (Amsterdam)  
Thibault Damour (IHES)  
Sergei Gukov (Caltech)  
Kyriakos Papadodimas (CERN)  
Radu Roiban (Penn State)  
Shlomo Razamat (Technion)  
Ashoke Sen (HRI)  
Amit Sever (CERN)  
Steve Shenker (Stanford)  
Andrew Strominger (Harvard)

### Scientific Committee and Organization Committee

Laurent Baulieu (LPTHE, Paris), Karim Benakli (LPTHE), Jan de Boer (U. Amsterdam), Boris Pioline (LPTHE), Eliezer Rabinovici (Hebrew U.), Pierre Vanhove (CEA, Saclay)

### Application and registration

<http://www.lpthe.jussieu.fr/cargese/>

Contact : See link on <http://www.lpthe.jussieu.fr/cargese/>

Deadline Application : March 15<sup>th</sup>, 2018

Registration Fees : See link on <http://www.lpthe.jussieu.fr/cargese/>



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