# Conférence de lancement de la Chaire Jean-Pierre Bourguignon

# Rapport sur les contributions

ID de Contribution: **1**                                          Type: **Non spécifié**

# Stable Homotopy Group, Higher Algebra and the Telescope Conjecture

*vendredi 26 janvier 2024 09:40 (1 heure)*

A fundamental motivating problem in homotopy theory is the attempt to the study of stable homotopy groups of spheres. The mathematical object that binds stable homotopy groups together is a spectrum. Spectra are the homotopy theorist abelian groups, they have a fundamental place in algebraic topology but also appear in arithmetic geometry, differential topology, mathematical physics and symplectic geometry. In a similar vein to the way that abelian groups are the bedrock of algebra and algebraic geometry we can take a similar approach of spectra. I will discuss the picture that emerges and how one can use it to learn about the stable homotopy groups of spheres.

**Orateur:**   SCHLANK, Tomer (Hebrew University of Jerusalem)

ID de Contribution: **2**                                    Type: **Non spécifié**

# Mot du directeur

*vendredi 26 janvier 2024 09:30 (10 minutes)*

**Orateur:**   ULLMO, Emmanuel (IHES)

ID de Contribution: **3**                                    Type: **Non spécifié**

# Stacks in the p-adic Hodge Theory of Rigid Analytic Spaces

*vendredi 26 janvier 2024 11:15 (1 heure)*

I would like to explain in this talk how questions in non-abelian p-adic Hodge theory and in the theory of locally analytic representations of p-adic groups lead to consider new geometric objects attached to rigid analytic spaces, which require to go beyond the formalism of diamonds and are naturally defined in the analytic geometry framework developed by Clausen-Scholze. Based on a joint project (very much in progress) with Anschütz, Rodriguez Camargo and Scholze.

**Orateur:**   LE BRAS, Arthur-César (CNRS, Université de Strasbourg)

ID de Contribution: **4**                                              Type: **Non spécifié**

# Modularity of Abelian Surfaces

*vendredi 26 janvier 2024 13:30 (1 heure)*

We prove the modularity of a positive proportion of abelian surfaces over the rationals. This is joint work in progress with G. Boxer, F. Calegari and T. Gee.

**Orateur:** PILLONI, Vincent (CNRS, Université Paris-Saclay)

ID de Contribution: **5**
Type: **Non spécifié**

# Motives and Ring Stacks

*vendredi 26 janvier 2024 14:45 (1 heure)*

Several interesting cohomology theories can be described through (analytic) ring stacks, e.g. de Rham, Hodge, crystalline, prismatic, Betti, and even etale cohomology under some restrictions on the base. In this talk, I will recall that to any 6-functor formalism one can associate a (presentable) symmetric monoidal ($\infty$,2)-category. Adopting an extreme Tannaka duality-point of view to formulate the result, I will observe that the symmetric monoidal ($\infty$,2)-category associated to the motivic 6-functor formalism classifies (certain) ring stacks. This picture helps to explain why one has to pass to analytic geometry to find such ring stacks. (For example, the algebraic de Rham stack of $A^1$ is not a ring stack of the required form, only the analytic de Rham stack is.)

**Orateur:** SCHOLZE, Peter (MPIM Bonn)

ID de Contribution: **6**                                    Type: **Non spécifié**

# Mot de clôture

*vendredi 26 janvier 2024 15:45 (15 minutes)*

Mot de clôture de Dustin Clausen, Professeur permanent et titulaire de la Chaire Jean-Pierre Bourguignon à l'IHES

**Orateur:**   CLAUSEN, Dustin (IHES)