

# FALL SAMUEL EILENBERG

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Tuesdays at 02:40p.m.

First lecture: Tuesday, September 13, 2022

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“LECTURES ON LOCAL SYSTEMS  
IN ALGEBRAIC-ARITHMETIC GEOMETRY”



**Professor Hélène Esnault**  
(Freie Universität Berlin)

The topological fundamental group of a smooth complex algebraic variety is poorly understood. One way to approach it is to consider its complex linear representations modulo conjugation, that is complex local systems.

One fundamental problem is to recognize those coming from geometry, and more generally subloci of the moduli space of local systems with special arithmetic properties. This is the object of deep conjectures.

We'll study some consequences of those, notably integrality and crystallinity properties.

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