

# Séminaire Groupes Réductifs et Formes Automorphes

Le 19 novembre 2018 à 10h30 (Jussieu)

## Images of two-dimensional Galois representations.

Exposé de Jaclyn Lang  
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### Résumé :

There is a general philosophy that the image of a Galois representation should be as large as possible, subject to the symmetries of the geometric object from which it arose. This can be seen in Serre's open image theorem for non-CM elliptic curves, Ribet and Momose's work on Galois representations attached to modular forms, and recent work of the speaker and Conti, Iovita, Tilouine on Galois representations attached to Hida and Coleman families of modular forms. Recently, Bellaïche developed a way to measure the image of an arbitrary Galois representation taking values in  $GL(2)$  of a local ring  $A$ . Under the assumptions that  $A$  is a domain and the residual representation is not too degenerate, we explain how the symmetries of such a representation are reflected in its image. This is joint work with Andrea Conti and Anna Medvedovsky.